PERCEPTIONS OF IN-SERVICE EFL TEACHERS AND TESTING AND
EVALUATION SPECIALISTS ON MOBILE ASSISTED LANGUAGE
LEARNING ASSESSMENT: A QUALITATIVE CASE STUDY

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ABSTRACT

PERCEPTIONS OF IN-SERVICE EFL TEACHERS AND TESTING AND EVALUATION SPECIALISTS ON MOBILE ASSISTED LANGUAGE LEARNING ASSESSMENT: A QUALITATIVE CASE STUDY

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The current study aimed to explore perceptions of in-service EFL teachers and testing and evaluation specialists on MALL assessment. Adopting a qualitative explanatory case study design, data were collected through semi-structured interviews with nine in-service EFL teachers working at diverse educational contexts and three testing and evaluation specialists working at higher education level in Türkiye. Findings revealed that despite their unfamiliarity with MALL assessment, teachers and specialists offered their positive perceptions on its incorporation. Regarding teachers' current practices, they highlighted that they heavily rely on traditional assessment methods and cannot integrate MALL tools/applications into their classrooms. Addressing these constraints of incorporating MALL assessments, teachers and specialists noted curricular restrictions set by MoNE, Internet connection problems, and overcrowded classrooms. On the other hand, they offered various affordances of MALL tools/applications like enhancing individualized and self-paced learning, providing constructive and immediate feedback, being practical, ubiquitous, convenient, and easy to use. Teachers suggested that effective MALL assessment tools/applications

should address students' needs in various educational contexts and language proficiency levels. Additionally, specialists raised their reliability and validity concerns regarding MALL assessment tools/applications. Highlighting recent technological advancements, especially AI tools, all teachers and specialists foresaw the future of MALL assessments promising if some required changes be made. They also highlighted the necessity for receiving in-service teacher trainings on MALL assessments. The findings of this study, providing a comprehensive view of perceptions on MALL assessments, may be a guide for EFL practitioners, MALL tools/applications developers, policy makers and administrators.

Keywords: Language assessment, MALL, MALL assessment, in-service EFL teachers' perceptions, testing and evaluation specialists' perceptions

ÖZ

İNGİLİZCE ÖĞRETMENLERİ VE ÖLÇME VE DEĞERLENDİRME UZMANLARININ MOBİL DESTEKLİ DİL ÖĞRENİMİ DEĞERLENDİRMESİNE İLİŞKİN ALGILARI: NİTEL DURUM ÇALIŞMASI

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Bu çalışma, İngilizce öğretmenlerinin ve ölçme ve değerlendirme uzmanlarının Mobil Destekli Dil Öğrenimi (MALL) değerlendirmesi hakkındaki algılarını araştırmayı amaçlamıştır. Nitel açıklayıcı durum çalışması tasarımı benimseyen araştırmada veriler, Türkiye'de farklı eğitim bağlamlarında çalışan dokuz İngilizce öğretmeni ve yükseköğretim düzeyinde çalışan üç ölçme ve değerlendirme uzmanıyla yarı yapılandırılmış görüşmeler yoluyla toplanmıştır. Bulgular, MALL değerlendirmesine aşina olmamalarına rağmen öğretmenlerin ve uzmanların, MALL'un dahil edilmesi konusunda olumlu algılarını sunduklarını ortaya çıkardı. Öğretmenler mevcut uygulamalarına ilişkin olarak, büyük ölçüde geleneksel değerlendirme yöntemlerine başvurduklarını ve MALL araçlarını/uygulamalarını sınıflarına entegre edemediklerini vurguladılar. MALL değerlendirmelerinin dahil edilmesiyle ilgili bu kısıtlamaları ele alan öğretmenler ve uzmanlar, MEB tarafından belirlenen müfredat kısıtlamalarına, İnternet bağlantısı sorunlarına ve aşırı kalabalık sınıflara dikkat çekti. Öte yandan, bireyselleştirilmiş ve kendi hızına göre öğrenmeyi geliştirmek, yapıcı ve

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anında geri bildirim sağlamak, pratik, her yerde hazır, kullanışlı ve kullanımı kolay olmak gibi MALL araçlarının/uygulamalarının çeşitli olanaklarını sundular. Öğretmenler, etkili MALL değerlendirme araçlarının/uygulamalarının, öğrencilerin çeşitli eğitim bağlamlarında ve dil yeterlilik seviyelerinde ihtiyaçlarını karşılaması gerektiğini öne sürdü. Ayrıca uzmanlar, MALL değerlendirme araçlarına/uygulamalarına ilişkin güvenilirlik ve geçerlilik kaygılarını dile getirdiler. Başta yapay zeka araçları olmak üzere son teknolojik gelişmelerin altını çizen tüm öğretmenler ve uzmanlar, gerekli bazı değişikliklerin yapılması durumunda MALL değerlendirmelerinin geleceğinin umut verici olduğunu öngördüler. Ayrıca MALL değerlendirmeleri konusunda hizmet içi öğretmen eğitimi alınmasının gerekliliğini vurguladılar. MALL değerlendirmelerine ilişkin algılara kapsamlı bir bakış sunan bu çalışmanın bulguları, İngilizceyi yabancı dil olarak öğretenler, MALL araç/uygulama geliştiricileri, politika yapıcılar ve yöneticiler için bir rehber olabilir.

Anahtar Kelimeler: Dil değerlendirmesi, MALL, MALL değerlendirmesi, İngilizce öğretmenlerinin algıları, ölçme ve değerlendirme uzmanlarının algıları

To my beloved family

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finalized this study and show all my beloved ones that their support on this journey was not in vain and I did not let them down.

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LIST OF ABBREVIATIONS

AI	Artificial Intelligence
BYOD	Bring Your Own Device
CALL	Computer Assisted Language Learning
CEFR	Common European Framework of Reference for Languages
EFL	English as a Foreign Language
ELT	English Language Teaching
ESL	English as a Second Language
EU	European Union
FLE	Foreign Language Education
IELTS	The International English Language Testing System
KPSS	Public Personnel Selection Examination (Kamu Personeli Seçme Sınavı)
MALL	Mobile Assisted Language Learning
MoNE	The Ministry of National Education
OECD	The Organisation for Economic Co-operation and Development
ÖABT	Teaching Field Knowledge Test (Öğretmenlik Alan Bilgisi Testi)
ÖSYM	Centre for Assessment, Selection and Placement (Ölçme, Seçme ve Yerleştirme Merkezi)
TÜBİTAK	Scientific and Technological Research Council of (Türkiye Bilimsel ve Teknik Araştırma Kurumu)
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	The United Nations International Children's Emergency Fund
ZPD	Zone of Proximal Development

CHAPTER 1

INTRODUCTION

1.0. Presentation

This chapter introduces the general outline of the thesis, and it is divided into five sections. In the first section, the background of the study is presented. Later, the statement of the problem and significance of the study are provided. In the fourth section, the purpose of the study is stated, and the research questions that served as the foundation of the study are presented.

1.1. Background of the Study

In recent years, technology has undergone rapid advancements that have had profound impact on people's lives, and it changed the way people interact and communicate. Mobile phones have become an essential part of our lives, and they serve as our constant companions. No matter where we go and what we do, mobile phones stand prepared to navigate us. According to the data provided by WeAreSocial and Meltwater (2023), at the beginning of 2023, the number of people using mobile phones were 5.44 billion, which constitutes 68% of world population. However, a three percent increase occurred through the end of the year with 168 million new users with mobile phones. In 1991, when the first website emerged, 4.2 million people were using the Internet; however, as of 2023, the number of Internet users in the world increased to 5.16 billion which equals to 64.4% of the global population and it continues to increase day by day. Among these Internet users aged 16 to 64, 95.9% own smartphones, 58% own laptop or desktop computer and 33.7% own tablet devices, and they use these mobile devices the most to find information (57.8%) and to stay in touch with their friends and families (53.7%) (WeAreSocial & Meltwater, 2023).

The data providing the Internet and mobile device usage in Türkiye are also consistent with those results. At the beginning of 2024, the number of Internet users were 74.41 million, constituting 86.5% of Türkiye's population. 80.69 million people, equal to 93.8% of Türkiye's population, had mobile cellular connections (WeAreSocial & Meltwater, 2024). In the research conducted with Internet users in Türkiye aged 16 to 64, it was found out that 98.9% percent of them owned any kind of mobile devices, 98.8% of which were smartphones, 62% of which were laptop or desktop computers and 42.5% of which were tablet devices. In line with the global data, these Internet users in Türkiye utilize their mobile devices the most to find information (73.5%) and to be informed about news and events (70.8%) (WeAreSocial & Meltwater, 2024).

The urge to access information with ease via mobile devices highlights the integral role of education in people's lives, enabling learning regardless of place and time. This accessibility has made a profound impact on teaching and learning opportunities, allowing learners to continuously improve themselves beyond a physical location and pursuing knowledge autonomously. As mobile devices become more intertwined with educational practices, a need emerges to intensely scrutinize the impact of mobile devices in enhancing teaching and learning practices, referred to as m-learning or mobile learning. It is defined as "any sort of learning that happens when the learner is not in a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies" (O'Malley et al., 2003, p. 6). However, Kukulska- Hulme (2009) argues that there is not a universally accepted definition of mobile learning because of rapid changes in the field and ambiguousness arising from whether "mobile" refers to mobile technologies or learner mobility. It comprises of more than just physical movement, and it encompasses the impacts and outcomes of this mobility (Kukulska-Hulme, 2009).

Kloper et al. (2002) discussed five characteristics of mobile technologies which are portability (Thornton & Houser, 2005; Wood et al., 2011), social interactivity (Lan et al., 2007; Zurita & Nussbaum, 2004), context sensitivity (Sandberg et al., 2011; Chen & Li, 2010; Liu, 2009), connectivity (Caudill, 2007), and individuality (Chang et al., 2010). Moreover, Duman et al. (2014) points out additional characteristics of mobile devices including their ability to process and store information (Saran et al., 2009),

and the fact that their utilization is often "spontaneous, personal, informal…ubiquitous…and pervasive" (Kukulska-Hulme & Traxler, 2005, p.2).

These characteristics apply to Mobile Assisted Language Learning (MALL) and influence its integration into educational practices. In the context of MALL, it is essential to realize the comprehensive perspective of mobile learning since mobility is presented as a way to enhance language learning and teaching. Kukulska-Hulme and Shield (2008) define MALL as formal or informal learning, facilitated as a result of availability and accessibility of handheld devices regardless of time and place. In another definition by Stockwell (2022), MALL is presented as a way to learn and improve second or foreign languages utilizing one or more portable electronic devices "including, but not restricted to, mobile phones (including smartphones), tablets, personal digital assistants (PDAs), MP3/MP4 players, electronic dictionaries, and gaming consoles" (p. 8).

In line with Stockwell (2022)'s definition, in the existing literature, there are various research studies conducted on how mobile devices support the language learning and teaching process by using mobile/cell phones (Bui et al., 2023; Şad et al., 2022; Forstyhe, 2017; Yudhiantara & Nasir, 2017), tablet PCs (Park & Lee, 2021; Chen, 2013; Schenker & Kraemer, 2017; Savaş, 2014), intelligent personal assistants (IPAs) (Dizon 2023; Chen et al., 2020; Tai & Chen, 2020), IPods (Liu, Navarrete & Wivagg, 2014; Liu, Navarrete, Maradiegue & Wivagg, 2014), podcasts (Phillips, 2017; Fouz-Gonzalez, 2019; Şendağ et al., 2018; Abdulrahman et al., 2018), electronic dictionaries (Alamri & Hakami, 2022; Zhang et al., 2023), wearable devices (Shadiev et al., 2018; Annamalai et al., 2023; Hoang et al., 2023) and so forth.

The integration of all these mobile devices and technologies, thanks to their aforementioned characteristics, has had notable effects on enhancing language skills and areas encompassing listening skills (Jia & Hew, 2022; Al-Shamsi et al., 2020; Andujar & Hussein, 2019; Altaş, 2023) reading skills (Sánchez-Tello & Argudo-Garzón, 2022; Hazaea & Alzubi, 2018; Wang, 2017; Valizadeh, 2022; Yu et al., 2022; Khubyari & Narafshan, 2016; Keezhatta & Omar, 2019; Naderi & Akrami, 2018), pronunciation and speaking skills (Sun et al. 2017; Xu & Peng 2017; Grimshaw &

Cardoso, 2018; Tarighat & Khodabakhsh, 2016; Schenker & Kraemer; 2017; Fouz-González, 2020; Lutfi, 2020; Ahmed et al., 2022; Chang & Lin, 2020; Rezaee et al., 2019; Zahrani, 2015; Dai & Wu, 2021; Elverici, 2023), and writing skills (Chen et al., 2017; Al-Shehab, 2020; Eubanks et al., 2018; Afshar & Zareian, 2022; Ebadi & Bashir, 2021; Rad, 2021; Kessler, 2023; Pingmuang & Koraneekij, 2022; Jeanjaroonsri, 2023). Furthermore, they have improved learners' grammar knowledge (Andujar, 2020; Khodabandeh et al., 2017; Rozina et al., 2017; Ghorbani & Ebadi, 2020), and vocabulary knowledge (Rachels & Rockinson-Szapkiw, 2018; Cheng & Chen, 2022; Chen et al., 2019; Botero et al., 2019; Yarahmadzehi & Goodarzi, 2020; Çetinkaya & Sütçü, 2018; Li & Hafner, 2022; Bakay, 2017; Gürkan, 2018; Dağdeler et al., 2020; Söğüt, 2021; Xodabande & Atai, 2022; Katemba, 2021; Rahmani et al., 2022; Zakian et al., 2022).

In language learning and teaching practices, assessment of language skills and areas plays a pivotal role to see learners' proficiency, performance and progress. Therefore, effective assessment strategies, aligned with learning goals and objectives and suitable for learners' needs, must be selected. By this way, more meaningful learning experiences can be ensured for learners. Based on the definition of The Organisation for Economic Co-operation and Development (OECD), provided by Nusche et al. (2012), assessment involves the process of evaluating, gathering, and utilizing evidence regarding the results of students' learning. P21's Framework for 21st Century Learning (2018) points out that assessment is crucial to aid students to attain the skills, knowledge and expertise important to be successful in life in the 21st century. It is crucial that there needs to be a balance between various assessment types so that learners could get a comprehensive understanding of their abilities and identify the areas they need to further improve.

In English as a Foreign Language (EFL) classrooms in Türkiye, the language proficiency of learners and their abilities are determined by using the assessment criteria provided by Common European Framework of Reference for Languages (CEFR) (Vajjala & Löo, 2014). The CEFR is recognized as a framework for language learning and teaching, and it adheres to different principles for language learners with various language levels (Wang et al., 2012). Even though several ways exist to assess

learners' language skills and areas, not all assessment types may be practical, suitable and relevant for the context in which they are implemented (Piccardo et al., 2011). Therefore, it is essential to observe the educational settings and identify their unique needs so that there is an alignment with the assessment practices.

The curricula designed by Ministry of National Education (MoNE 2018a; 2018b) in Türkiye for elementary, secondary and high school level students center the assessment, testing and evaluation processes on CEFR as well. Their philosophy is to address to all language skills/areas, and to organize assessment procedures consistent with curricula's learning and teaching approaches. Furthermore, they aim to embrace different needs and styles of learners, and to assist learners in recognizing their strengths and weaknesses.

Since assessment procedures are adaptable rather than fixed, MoNE made adjustments in assessment and evaluation regulations in 2023 to better align with the principles of CEFR for language learning and teaching. For elementary school students, it involved assessing their academic and social development through observing their performance in games and classroom-based activities. For secondary and high school students, it included transitioning from closed-response examination systems to open-ended formats to promote learners' critical thinking skills and creativity. Moreover, since the paper-based exams solely assess learners' vocabulary, grammar, and reading comprehension skills, MoNe integrated listening and speaking exams into the curricula (MoNE, 2023a). This alteration aims learners to get a more comprehensive understanding of the English language and embrace the importance of effective communication and interaction skills.

Considering the changes in assessment methods and the widespread use of mobile technologies are taken into consideration, there is a growing need to integrate both to reflect on learners' abilities and skills better, meeting 21st century learners' demands for autonomy, creativity, problem solving, and critical thinking development. This relatively new assessment approach is called as Mobile Assisted Language Learning Assessment.

Literature encompasses numerous research studies addressing to various types of assessment utilizing MALL. While many classifications exist for assessment types, the primary ones studied extensively are formative assessment (Yassin & Abugohar, 2022; Alharbi, & Meccawy, 2020; Yarahmadzehi & Goodarzi, 2020; Al-Abri et al., 2024), summative assessment (Afshar & Zareian, 2022; Arthur et al., 2014; Chou et al., 2017), dynamic assessment (Ebadi & Bashir, 2021; Rad, 2021; Rassei, 2023; Andujar, 2020; Rezaee et al., 2019; Kaveh & Rassaei, 2022; Phetsut & Waemusa, 2022; Torang & Weisi, 2023), self-assessment (Samaie et al. 2018; Pingping et al., 2021) and peer-assessment (Samaie et al. 2018; Chang & Lin; 2020; Dai & Wu, 2021).

Research studies are available regarding the perceptions of both learners and teachers on MALL. Learners hold positive perceptions towards the integration of MALL as mobile technologies are seen as facilitating a fun, enjoyable, engaging (Yudhiantara & Nasir, 2017; Soparno & Tarjana, 2021; Akman & Karahan, 2023; Gürkan, 2018; Kessler, 2023; Kohnke, 2020; Söğüt, 2021; Moncada et al., 2020; Kanat-Küçüktezcan, 2020) learning environment. Additionally, learners find MALL motivating (Moncada et al., 2020; Davie & Hilber, 2015; Gürkan, 2018; Kohnke, 2020; Söğüt, 2021; Al-Shamsi et al., 2020), productive (Forsythe, 2017; Phillips, 2017; Jeanjaroonsri, 2023), and beneficial (Lin et al., 2023; Ebadi & Raygan, 2023; Triyoga et al., 2023; Plantado & Plantado, 2021; Shadiev et al., 2018; Yudhiantara & Nasir, 2017; Azli et al., 2018; Harbelioğlu, 2020; Altaş, 2023; Kessler, 2023; Kohnke, 2020; Darsih & Asikin, 2020; Aratusa et al., 2022; Moncada et al., 2020) for their language learning experiences. They value the ease of use (Ebadi & Raygan, 2023; Shadiev et al., 2018; Azli et al., 2018; Darsih & Asikin, 2020; Jeanjaroonsri, 2023; Soparno & Tarjana, 2021), convenience, functionality (Yu et al., 2022; Kanat-Küçüktezcan, 2020), flexibility (Nuraeni et al., 2020; Soparno & Tarjana, 2021; Kohnke, 2020), and portability (Dashtestani, 2016; Harbelioğlu, 2020; Güven, 2019) of mobile devices which help learners save time (Alamri & Hakami, 2022; Jeanjaroonsri, 2023), and foster creativity, collaboration, and interactivity (Chen, 2013; Sánchez-Tello & Argudo-Garzón, 2022; Kanat-Küçüktezcan, 2020).

However, some learners have negative perceptions on MALL due to challenges such as Internet connectivity issues (Nuraeni et al., 2020; Triyoga et al., 2023; Aygül, 2019;

Güven, 2019; Aratusa et al., 2022; Sánchez-Tello & Argudo-Garzón, 2022; Al-Shamsi et al., 2020), the cost of mobile devices (Dashtestani, 2016), battery life and small screen size (Aygül, 2019; Nuraeni et al., 2020; Kohnke, 2020; Al-Shamsi et al., 2020), and they express concerns related to over-reliance (Jeanjaroonsri, 2023) on mobile technologies, affecting the efficiency of their language learning.

Similarly, research studies investigating teachers' perceptions of MALL revealed that teachers have positive perceptions due to mobile devices' perceived ease of use, accessibility, ubiquity (Nariyati et al., 2020; Aygül, 2019; Dağdeler & Demiröz, 2022; Öz, 2015; Güven, 2019; Demirer, 2017; Hişmanoğlu et al., 2017; Bozorgian, 2018), usefulness (Annamalai et al., 2023; Nariyati et al., 2020; Aygül, 2019; Öz, 2015; Sarhandi et al., 2022; Demirer, 2017) and time-efficiency (Nariyati et al., 2020; Aygül, 2019; Bozorgian, 2018; Dağdeler & Demiröz, 2022) in language learning and teaching. Additionally, teachers perceive the enhancement of motivation (Xue & Churchill, 2022; Sarhandi et al., 2022; Bozorgian, 2018; Dağdeler & Demiröz, 2022; Demirer, 2017), autonomy, and collaboration as positive aspects of MALL (Dağdeler & Demiröz, 2022; Xue & Churchill, 2022; Demirer, 2017).

However, teachers hold negative perceptions on MALL due to various barriers to integrate them into language learning and teaching contexts such as teachers' lack of knowledge and limited experience on MALL (Dashtestani, 2013; Khan et al., 2018; Bozorgian, 2018; Dağdeler & Demiröz, 2022), connectivity issues (Dağdeler & Demiröz, 2022; Güven, 2019; Bozorgian, 2018), time constraints (Annamalai et al., 2023), privacy and security issues (Xue & Churchill, 2022), difficulty in monitoring learner activities in the class since learners lose their attention on the actual learning content due to social networks (Hişmanoğlu et al., 2017; Sarhandi et al., 2022; Dağdeler & Demiröz, 2022).

Although extensive research studies have been conducted on the perceptions of learners and teachers regarding MALL, there remains a limited number of studies that explore their perceptions on MALL assessment. Some studies indicate that learners generally hold positive perceptions (Chang & Lin, 2020; Rad, 2021; Yassin & Abugohar, 2022; Yarahmadzehi & Goodarzi, 2020; Nguyen & Yukawa, 2019; Li &

Chan, 2024; Wu & Miller, 2020) even though negative perceptions have also been identified (Samaie et al., 2018; Pingping et al., 2021; Wu & Miller, 2020). Furthermore, there are studies that show a mixture of both positive and negative perceptions regarding MALL assessment (Ebadi & Bashir, 2021; Alharbi & Meccawy, 2020; Tarighat & Khodabakhsh, 2016). Notably, the study by Nguyen & Yukawa (2019) stands out to be the only one which examines teachers' perceptions along with learners.

In Türkiye, to the best of researcher's knowledge, only the studies conducted by Şükür et al. (2023) and Önal et al. (2022) address the incorporation of language assessments with mobile applications. Although the context of Şükür et al. (2023)'s study slightly differs, it explicitly explores the impact of mobile-assisted language assessment. Conversely, the study by Önal et al. (2022) indirectly addresses the utilization of language assessments through MALL, focusing primarily on the efficiency of a mobile application rather than on the effectiveness of mobile-mediated language assessment. Currently, there are no studies specifically investigating the perceptions of in-service EFL teachers and testing and evaluation specialists on MALL assessment. Therefore, this investigation is crucial as it will address this gap in the literature and contribute to further understanding in the field of MALL and MALL assessment.

1.2. Statement of the Problem

Today's learners are called as "digital natives" since they were born into an era of ever-changing technology, and they spend considerable amount of time on computers and mobile devices (Prensky, 2001). They differ significantly from their predecessors, referred to as "digital immigrants" in their eagerness to access the information rapidly, ability to multi-task, impatience with lengthy lessons and traditional teach-and-test assessment methods (Prensky, 2001). Therefore, it is unrealistic to expect learners to fit into traditional educational standards since the concepts of learning and teaching continue to evolve. Learning and teaching are no longer confined to school settings. They extend beyond its boundaries, encompassing various methods and environments (Özsarı & Saykılı, 2020). Therefore, a growing recognition arises to explore innovative ways to fully engage digital natives and meet their needs and wants.

The COVID-19 pandemic accelerated this shift, necessitating alternative methods to synchronous teaching due to the requirement for keeping physical distancing. This situation was termed as "Emergency Remote Teaching (ERT)" (Hodges et al., 2020), which also led to more extensive utilization of MALL tools/applications in language learning and teaching. Nonetheless, regarding language assessments, students, educators and parents raised concerns in terms of lack of readiness and assistance to administer effective language assessments during pandemic (Duraku & Hoxa, 2020).

Research studies investigating impacts of MALL on language skills and areas, language assessment types employing MALL, as well as the perceptions of both learners and teachers on MALL, indicate that the integration of MALL into education is increasingly prevalent on the world. Given the extensive use of mobile devices in language learning and teaching, it is inevitable that assessments are utilized to track learners' progress and identify the areas of weaknesses in their language learning journey. Nevertheless, in Türkiye, issue lies in both the integration of mobile devices into elementary, secondary and high school level contexts and the assessment methods.

As in many parts of the world, Türkiye has been undergoing significant transformation in language education due to the impact of digitalization and widespread use of mobile technologies. Nevertheless, in certain contexts, challenges outweigh the opportunities of mobile technologies, making it impractical to delve into the integration of mobile devices into classroom settings. Especially in rural or underserved areas, a reliable Internet connection cannot be provided, and high-quality devices cannot be reached. These barriers pose a problem for exploring alternative methods to make language learning and teaching process more meaningful with the help of mobile technologies. Due to unstable Internet connection, learners may miss out opportunities to access to online educational resources and collaborate with each other on online projects.

Disparities are evident across various educational settings, but they are particularly pronounced in state elementary, secondary and high schools of Türkiye. The extent to which learners can access mobile technologies to enhance their language learning depends on variables such as geographic location and socioeconomic status. Given the limited instructional time at school, learners rely on mobile technologies to address to

their weaknesses in language skills and areas beyond the classroom. They utilize language learning applications, websites, videos and online games to support their language learning. Nonetheless, these opportunities may not be accessible to learners in rural areas. Due to socioeconomic status of families, they may not offer their children mobile technologies, hindering learners' ability to access what MALL provides them at home. The sole environment where elementary, secondary and high school learners attending state schools can access mobile technologies is outside of school due to regulations established by MoNE. As stated in Türkiye's Education Vision of 2023, MoNE gives importance to support English language learning through online platforms and mobile technologies (MoNE, 2018c). Nonetheless, a recent circular report prohibits students from bringing mobile devices to school (MoNE, 2023b). This restriction limits students' access to educational resources, which are facilitated by the practicality and functionality of mobile devices, at school hours and additionally, it makes learners' practice of MALL in state school environments impractical. Due to this problem, the concept of implementing MALL-based assessments in these environments becomes even more complicated.

The challenges in effectively integrating MALL-based assessments into language lessons in state schools originate from the framework of EFL assessments currently practiced in Türkiye. Over the years, MoNE has made significant revisions to EFL assessments in elementary, secondary and high schools to align with the standards of European Union (EU) (Kırkgöz, 2008) and achieve the principles of CEFR upon which the national curricula for the English language are based. MoNE's recent regulations concerning EFL assessments in state schools necessitated assessing students not only on vocabulary, grammar and reading comprehension through written exams but also on speaking and listening skills through practice exams (MoNE, 2023a). Furthermore, the format of the written exams, excluding the nationwide ones, has shifted to open-ended questions, abandoning matching, fill-in-the-blank, True/False and multiple-choice questions (MoNE, 2023a). This change aims to enhance students' critical thinking, problem solving skills and creativity.

Despite the significant changes on EFL assessments, most high-stakes and nationwide examinations are still conducted in traditional paper and pencil format. Çimen (2022)

reveals that majority of teachers assess their learners through paper and pen exams because of the low proficiency of learners, time constraints, crowded classrooms and students' disinterest in English language learning. Kırkgöz (2007) further points out that even though traditional paper-based exams are extensively implemented in Türkiye, they are not viewed as suitable assessment tools. The underlying reason behind this issue might be the insufficient diversity of assessments according to different learner needs and expectations across various fields or areas. As an assessment method suitable for one learner might not fulfil the needs of another, familiar assessment methods might be altered to include a diverse approach and learners could be provided with choices among different assessment methods that better address their individual needs (O'Neill & Padden, 2022).

To address constraints in English language classrooms across diverse educational contexts in Türkiye with regards to language learning and assessment, there is a growing need for integrating alternative assessment methods and diverting, even if not entirely, from traditional assessment methods. Furthermore, to ensure diversity of assessments, integrating MALL assessments into English language classrooms might be an effective approach since utilization of mobile devices in education can enhance language learning and assessment practices by addressing learners' individual needs. Additionally, pedagogical characteristics mobile devices possess like portability and dynamic interactivity (Stockwell & Hubbard, 2013) which are well-suited to language learning and teaching practices can prove to be beneficial for language assessment practices as well (Samaie et al., 2018).

Empirical studies examining the perceptions of learners on MALL assessment are documented in the literature (Chang & Lin, 2020; Rad, 2021; Yassin & Abugohar; Yarahmadzehi & Goodarzi, 2020; Nguyen & Yukawa, 2019; Li & Chen, 2024; Samaie et al., 2018; Ebadi & Bashir, 2021; Alharbi & Meccawy, 2020; Tarighat & Khodabakhsh, 2016). Nonetheless, except for Nguyen and Yukawa (2019)'s study, the perceptions of teachers on MALL assessment have not yet been explored. Furthermore, there is a necessity to scrutinize the perceptions of testing and evaluation specialists as they play an important role in designing and implementing assessment strategies. Exploring their perspectives on the MALL assessment may provide

valuable insights, contributing to effective utilization of it in language learning contexts. Additionally, there is currently a gap in empirical study in Turkish EFL contexts regarding the perceptions of teachers and testing and evaluation specialists on MALL assessment. Therefore, a need arises to conduct studies in this area to inform future language education practices.

1.3. Significance of the Study

In recent years, a shift occurred from assessment *of* learning to assessment *for* learning and to assessment *as* learning (Dann, 2014). In assessment *of* learning, information gathered from measuring students' learning are used to analyze and report students' performances. Nonetheless, when it comes to improving learning for all students with diverse needs and expectations, the roles of assessment *for* learning and assessment *as* learning become significantly more important since the former utilizes formative assessments and feedback at different stages of learning and teaching and the latter enhances learners' metacognitive skills (Earl & Katz, 2006). Considering the demands of 21st century learners in terms of fostering their autonomy and critical thinking skills along with the positive impacts of feedback on motivation and engagement, especially in formative assessment processes, it is significant to incorporate MALL tools/applications into language assessment practices since this integration can support the aims of both assessment *for* learning and assessment *as* learning.

Even though the existing research studies in the literature cover the impact of MALL on language skills and areas, assessment types utilizing MALL, and affordances and constraints of MALL, there is a lack of research in understanding the perceptions of MALL assessment. Moreover, there is currently no documented research in Türkiye concerning the perceptions on MALL assessment. This study plays a significant role since it seeks to fill the aforementioned gaps by exploring the perceptions of in-service EFL teachers as well as testing and evaluation specialists on MALL assessment in Türkiye.

The study aims to acquire knowledge of overall opinions of in-service EFL teachers on language assessment, MALL and MALL assessment. It scrutinizes self-reported

current assessment practices of in-service EFL teachers in the classroom for English language skills and areas, and affordances and constraints teachers and testing and evaluation specialists encounter regarding language assessments. Furthermore, the study aims to understand whether the affordances and constraints experienced with traditional forms of assessment may persist in a classroom environment where MALL assessments are applied or if new challenges may arise. Additionally, the study aims to explore perceptions of in-service EFL teachers on how MALL assessment may address to the specific needs of learners, promoting a diversity in assessment methods.

The current study also seeks to investigate in-service EFL teachers' perceptions on the ways MALL can support the assessment of language skills and areas, including listening, speaking and pronunciation, reading, writing, grammar, and vocabulary. The study aims to delve into the insights of in-service EFL teachers regarding the effective design of MALL assessment to satisfy the needs of learners as well as their perceptions on the future of MALL assessment. Additionally, it explores testing and evaluation specialists' perceptions on the current state and the future of MALL assessment, and their recommendations for educational institutions and teachers regarding the effective integration of MALL assessment into classroom settings.

1.4. Purpose of the Study and the Research Questions

The purpose of the current study is to investigate the perceptions of nine in-service EFL teachers working in diverse school environments, encompassing state elementary, secondary and high school levels across various provinces of Türkiye, as well as three testing and evaluation specialists working at higher education contexts regarding MALL assessment. It aims to answer the following research questions:

1. What are the perceptions of in-service EFL teachers working in different school contexts in Türkiye in terms of:
    a. their overall opinions on language assessment, MALL and MALL assessment?
    b. their self-reported current practices and the implementation of technology, language assessment, MALL and MALL assessment into EFL classrooms?

    c. constraints in relation to language assessment, MALL and MALL assessment?

    d. affordances in relation to language assessment, MALL and MALL assessment?

    e. specific needs, recommendations, and future and potential of MALL assessment?

2. What are the perceptions of testing and evaluation specialists working in different higher education contexts in Türkiye in terms of:

    a. their general expertise on technology and language assessment?

    b. constraints and affordances in relation to language assessment, MALL and MALL assessment?

    c. concerns, specific needs and recommendations, and future and potential of MALL assessment?

CHAPTER 2

LITERATURE REVIEW

2.0. Presentation

This section offers a comprehensive framework for mobile learning, mobile assisted language learning and mobile assisted language learning assessment. The first part defines English language assessment and outlines the principles of language assessment and language assessment types. The second part defines mobile learning and discusses its affordances and constraints. The third part presents definition of mobile assisted language learning, its evolution, its impacts on language skills and areas, the perceptions of learners and teachers on MALL, and research studies in the Turkish EFL context on MALL. Lastly, the fourth part covers the definition of MALL assessment and research studies on MALL assessment.

2.1. English Language Learning Assessment

Language education comprises three crucial components, namely as learning, teaching and assessment (Çimen, 2022). These three elements are interconnected, with assessment playing a vital role in shaping and determining the effectiveness of language learning and teaching practices. It serves as an indispensable part of learning and teaching, influencing the extent to which desired outcomes are achieved. According to McKay (2006), classroom-based assessment may also be viewed as teacher assessment since it is the responsibility of language teacher to support students' language learning, guide them in achieving learning objectives and goals, and measure their progress within the classroom (p. 141). Language assessments offer teachers the chance to identify learners' strengths and weaknesses for improvement, provide valuable and meaningful feedback, and determine their accomplishments (McKay,

2006). By this way, teachers may arrange the classroom practices to suit the age levels, level of readiness, and motivational factors of their students. Ensuring effective assessment procedures relies on aligning them with language learning goals and objectives, and classroom activities. Figure 2.1 illustrates the cyclical and dynamic nature of this alignment to promote student learning.
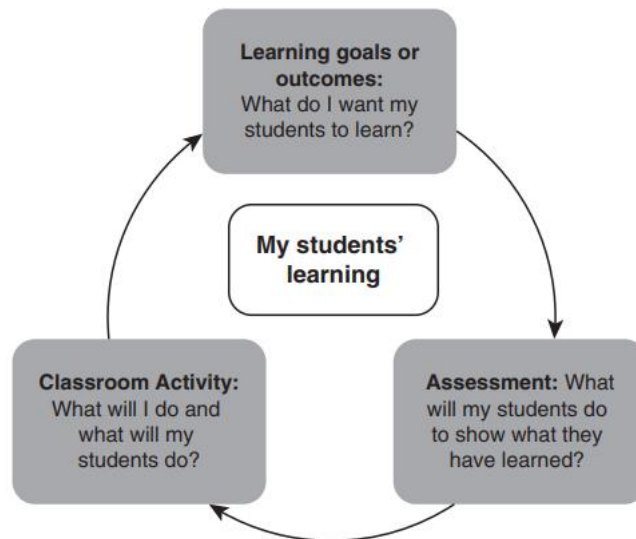
Figure 2.1 The Alignment of Learning Goals, Classroom Activity, and Assessment (Cheng & Fox, 2017)

The initial step is to clearly define the learning goals or outcomes so that learners become aware of what is expected from them. These goals or outcomes are established according to the national curriculum for English in Türkiye, which adheres to the principles of CEFR. This curriculum aims to provide learners with a motivating, engaging, and meaningful learning environment that they enhance their language skills and areas productively, creatively and autonomously (Çimen, 2022). Adopting an action-oriented approach, the curriculum enables learners to engage with the communicative aspect of English language learning and enhance their communicative competence (MoNE, 2018a; 2018b). Additionally, it promotes learner collaboration, cooperation, self-expression, while also fostering an appreciation for the target culture. Following the establishment of learning goals or outcomes consistent with the philosophies of the curriculum, the next step involves assessing the intended

improvements in language skills and areas. The crucial point of language assessments is to maintain consistency with these learning goals or outcomes, and the philosophies of the curriculum to avoid any disruptions in students' learning process (MoNE 2018a; 2018b).

The adopted language assessments also determine the classroom activities teachers choose to implement in the classroom. Nonetheless, the exam-oriented educational system of Türkiye may prioritize assessment outcomes over the overall language learning process. High school and university entrance exams in Türkiye are designed solely to assess reading comprehension, grammar and vocabulary knowledge of learners. Consequently, language instruction may become centered on preparing students for these standardized exams, neglecting other important language skills like speaking and writing. Employing such an approach in language education could potentially limit the diversity of classroom activities, and hinder a holistic language learning experience, eventually jeopardizing the achievement of language learning goals or outcomes. Additionally, it may undermine the importance of fostering creativity, critical thinking, and problem solving skills, as the focus may shift towards rote memorization (Kitchen et al., 2019).

In line with a need for reform, in 2018, MoNE introduced a new education vision for 2023, aiming to transform the national assessment process, which had been primarily focused on performance in standardized high-stakes exams. The vision sought to prioritize student-centered learning over teacher-centered instruction. Among the goals of the 2023 education vision were the implementation of a "competency-based assessment system", the use of e-portfolios to track learners' academic and social progress throughout their school years, the introduction of a more flexible curriculum and standardized high stakes tests to relieve stress, competition and pressure, and the promotion of teachers' continuous professional development through training and seminars to enhance their assessment skills (Kitchen et al., 2019, p.18).

Even though various attempts have been made to achieve these goals, the responsibility still lies with teachers to create a balance between the standardized language exams and classroom-based language assessments in EFL settings.

Acknowledging the diverse realities of language classrooms, including factors like overpopulation, and socio-economic disparities, teachers must conduct detailed classroom observations and needs analysis. They should adopt instructional strategies to promote language proficiency in a meaningful and engaging way, fostering reflective practices among learners. Additionally, teachers should incorporate diverse assessment methods and techniques, and employ authentic assessments to provide learners with real-life experiences.

2.1.1. Defining Language Assessment

Assessment is a broad concept often used interchangeably with measurement, evaluation and testing, although each has its distinct definition. Testing is a method utilized to understand learners' proficiency in a specific language skill, area or task through multiple-choice questions, essays or true/false statements. Measurement involves obtaining numerical data of a test-taker's proficiency level in a specific skill or area. Conversely, evaluation encompasses a series of procedures aimed at deciding if learners meet the required qualifications, utilizing various assessment techniques including measurement and non-measurement methods (Mohan, 2023, p.25).

Regarding assessment, various definitions have been proposed over time as there is no consensus on a single definition (Bachman, 2014). According to Clapham (2000), assessment is viewed as an umbrella term encompassing various methods of testing and measurement. Figure 2.2, designed by Lynch (2001), also illustrates the comprehensive nature of assessment. Nonetheless, this figure does not suggest that all assessment forms share identical features or characteristics with testing or measurement. The rationale behind assessment being considered as an overarching term is the utilization of information for decision-making and judgements about individuals (Lynch, 2001, p. 359).

According to Brown (2004), assessment involves continuously gathering information, whether intentionally or unintentionally, about learners' performance. Similarly, Purpura (2016) defines it as an ongoing process of obtaining test and non-test data to draw conclusions about individuals' distinct language-related traits (p.191).

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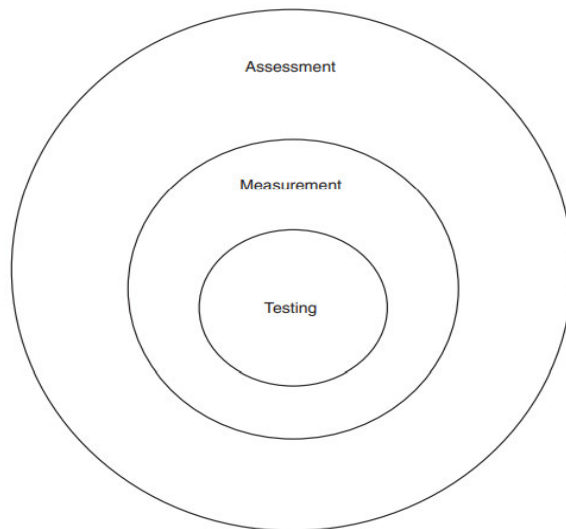
Figure 2.2 Assessment, Measurement, and Testing (Lynch, 2001)

As for Bachman (2004), assessment is "the process of collecting information about a given object of interest according to procedures that are systematic and substantively grounded" (p.7). Lambert and Lines (2000) defined assessment as the procedure in which learners' reactions to educational activities are collected, interpreted, and documented (p.4). Similarly, Huba and Freed (2000) defined it as the systematic process of "gathering, interpreting, and acting upon data related to student learning and experience for the purpose of developing a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experience" (p. viii).

In language classrooms, assessment includes "all those activities undertaken by teachers, and by their students in assessing themselves, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged" (Black and Wiliam, 1998, p. 2). Within this framework, language assessment is regarded as a multidimensional process involving various classroom activities such as tests, daily assessments, and standardized tests, conducted among teachers and students or among peers (Cheng & Fox, 2017). According to Coombe (2018), assessment offers a systematic measurement and evaluation of the data obtained from learners' skills and understanding with regards to the improvements of language learning (p.10).

Earl and Katz (2006) scrutinize the purposes of classroom-based assessment and categorizes them into three as assessment *for* learning, assessment *of* learning, and assessment *as* learning. Assessment *for* learning refers to the natural, ongoing process of gathering and analyzing information to understand students' current learning status, identify areas for improvement, and determine effective learning strategies (Cheng & Fox, 2017, p.4). It utilizes feedback to enhance students' learning (Coombe, 2018, p.10) and offers teachers insights to adapt and differentiate teaching and learning tasks. It acknowledges that individual learners have different learning styles and emphasizes the importance of careful planning and design not only to assess students' knowledge but also to understand whether, how and when students use that knowledge (Earl & Katz, 2006, p.13). Students' active engagement in utilizing assessment for improving their learning "…is taken seriously, as they are the main players of learning" (Berry, 2008, p.19).

On the other hand, assessment *of* learning is defined as the utilization of various learning activities or tools to gather evidence of learners' performance or learning level (Coombe, 2018, p.11). It aims to ascertain whether learning has taken place after assessing students' level of learning performance at a specific time (Cheng & Fox, 2017, p.4). Additionally, this process enables teachers to determine the achievement of learning goals or outcomes and provides learners with insights into their own learning, helping them identify their strengths and weaknesses (Earl & Katz, 2006, p.14). Lastly, assessment *as* learning involves fostering learners' metacognitive skills, and emphasizes learners' significant role in bridging assessment and learning. Through active engagement with the new knowledge, students enhance their constructive learning, and their future goals. Furthermore, assessment *as* learning enables learners to monitor their learning process and incorporate feedback to make significant changes and adaptations in their understanding, fostering metacognitive regulation (Earl & Katz, 2006, p.13; Cheng & Fox, 2017, p.6).

2.1.2. Language Assessment Types

Over time, various dichotomies have emerged to classify language assessment types; however, there remains no consensus on their precise categorization. Table 2.1

demonstrates some of these distinctions of assessment types utilized in language learning and teaching.

Table 2.1 Types of Assessment (Council of Europe, 2001, p.183)

1	Achievement assessment	Proficiency assessment
2	Norm-referencing (NR)	Criterion-referencing (CR)
3	Mastery learning CR	Continuum CR
4	Continuous assessment	Fixed assessment points
5	Formative assessment	Summative assessment
6	Direct assessment	Indirect assessment
7	Performance assessment	Knowledge assessment
8	Subjective assessment	Objective assessment
9	Checklist rating	Performance rating
10	Impression	Guided judgement
11	Holistic assessment	Analytic assessment
12	Series assessment	Category assessment
13	Assessment by others	Self-assessment

Brown and Hudson (1998) divided assessment types into three categories as "selected-response assessments" encompassing matching and true-false activities, and multiple-choice questions, "constructed-response assessments" including short-answer, fill-in-the-blanks, and performance-based activities, and "personal-response assessments" consisting of portfolio-based, conference, and self- and peer-assessments (p. 658).

Selected-response assessments are mostly used for receptive skills such as listening and reading as they do not require learners to produce language content (Brown & Hudson, 1998, p. 658). On the other hand, in constructed-response assessments, learners generate language content, and this type of assessment is generally suitable for productive skills like writing and speaking (Brown & Hudson, 1998, p. 660). Lastly, personal-response assessments require learners to produce language but unlike constructed-response assessments, they offer learners greater flexibility in expressing their ideas and thoughts uniquely. Even though personal-response assessments offer advantages such as personalized and individualized assessment throughout the instructional period, they pose challenges in terms of creation, management, and scoring due to subjectivity (Brown & Hudson, 1998, p. 663).

Cheng and Fox (2017) suggest another categorization of language assessment types as "teacher-made assessments", "student-conducted assessments," and standardized testing" to assess language skills and areas. In teacher-made assessments, teachers create, design and administer the assessments to learners whereas in student-conducted assessments, learners are directly involved in the assessment process. (p.76). Students' learning abilities are closely correlated with their active engagement in the learning process, and assessments serve as a crucial tool to achieve this through motivating and engaging learners.

2.1.2.1. Formative and Summative Assessment

Language assessments, based on their functions, are categorized as formative and summative assessments. Formative assessment refers to an ongoing, collaborative process of assessment aimed at understanding the extent to which students have acquired learning (Council of Europe, 2001, p. 186; Cizek, 2010, p. 6). In such a process, measurable and observable data related to learning are gathered (Coombe, 2018, p. 21), and students' strengths and weaknesses, and areas for improvement are identified to benefit students in enhancing their learning achievement and teachers in instructional planning (Cizek, 2010, p. 6). The essential aspect of formative assessment process lies in teachers' delivering and students' internalizing the constructive feedback regarding learning achievement to improve the formation of learning (Brown, 2004, p.6). Various ways of performing formative assessments include raising hands or using online polling systems to request feedback, observing learners while engaging with problem-solving activities in the classroom, or utilizing exit slips/tickets (Coombe, 2018, p.22). Additionally, informal assessment approaches like offering suggestions, commenting on learners' works, or pointing out the mistakes are regarded as formative as they aim a continuous improvement in learners' language knowledge and abilities (Brown, 2004, p.6).

In contrast, summative assessment refers to the evaluation and measurement of learners' achievement in language learning at the end of a unit, course, or lesson (Cheng & Fox, 2017, p. 5; Brown, 2004, p. 6). It is a formal process, and learners are usually graded with a mark, affecting their academic record (Coombe, 2018; Cheng &

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Fox, 2017). Even though summative assessment provides learners and teachers with insights on the achieved learning goals and objectives, it does not offer a further direction on future learning practices (Brown, 2004, p.6). Consequently, there has been a growing interest in incorporating formative assessment elements into summative assessment (Ross, 2005) since summative assessment remained inferior to formative assessment in offering personalized data to learners and teachers on language learning (Black & William, 1998). The most common summative assessment forms encompass final projects, portfolios, midterm and final exams, quizzes, course tests, and periodic review tests (Coombe, 2018; Brown, 2004).

2.1.2.2. Formal and Informal Assessment

Formal assessment is a type of assessment intentionally designed to enhance learners' skills and knowledge through structured methods or activities. It is a systematic approach aimed at providing learners and teachers with an assessment of learner achievement (Brown, 2004, p. 6), often through written tests, performance assessments based on standards, and students' works assessed using a rubric. It often contributes to learners' overall grades (Coombe, 2018, p. 21). Formal assessment is frequently associated with tests; nonetheless, not all formal assessment involves traditional testing procedures. Key distinction between them is that tests are administered within a limited period of time and assess limited range of behaviors (Brown, 2004, p. 6).

Conversely, informal assessment differs from formal assessment in that it occurs continuously during a course and relies on teachers' judgement. It involves spontaneous evaluation and feedback provided by teachers or in response to student actions, during the lessons or outside the traditional classroom setting (Coombe, 2018, p. 21). It encompasses various forms, including spontaneous comments, unplanned reactions, mentoring and feedback provided by the teachers (Brown, 2004, p.5). Additionally, informal assessments gather information on learning performance through means such as minor notes on paper, feedback on an essay draft, guidance on the improvement of pronunciation, recommendations for coping with difficulties in reading, and assistance in changing learners' note taking techniques to enhance their content retention (Brown, 2004, p.5-6).

2.1.2.3. Subjective and Objective Assessment

The distinction between subjective and objective assessment lies in the scoring procedure. Subjective assessment refers to the evaluation of the accuracy of learners' responses based on the scorer's subjective interpretation. Open-ended questions, written essays or compositions, and oral interviews can be the examples for subjective assessment. On the other hand, in objective assessment, the accuracy of learners' response is solely assessed based on predetermined criteria, eliminating the need for subjective judgement One of the most common examples to objective assessment is multiple-choice questions; however, depending on the criteria set by the scorers, cloze tests and dictations can also be assessed objectively (Bachman, 1990, p.76). Providing objective assessment is crucial in terms of reliability issues, and the more objective the scoring process is, the higher the agreement between the scorers (Hughes, 2003).

2.1.2.4. Direct and Indirect Assessment

In direct assessment, learners are assessed based on the skills, knowledge or abilities that they have acquired (Hughes, 2003, p.17; Council of Europe, 2001, p. 186). For instance, assessing speaking proficiency would require learners to engage with speaking tasks in the lessons while evaluating learners' writing skills might necessitate the integration of compositions or essay writing to the assessment process. It is also essential that the activities or tasks chosen for direct assessment are authentic. Even though assessing productive skills is regarded as challenging due to reliability concerns, direct assessment remains more feasible for these skills since it provides a clearer understanding of learners' abilities and knowledge (Hughes, 2003, p.17).

On the other hand, indirect assessment refers to the evaluation of learners' underlying abilities or skills related to the skills being assessed (Hughes, 2003, p. 18). Receptive skills like listening and reading are commonly assessed indirectly as this method provides an accurate representation of learners' abilities (Hughes, 2003, p.17). For example, learners' reading comprehension can solely be evaluated indirectly through gathering data from their performances in tasks such as selecting correct options, answering reading comprehension questions, and completing the missing sentences

(Council of Europe, 2001, p.187). Additionally, indirect assessment includes evaluating learners' pronunciation skills in a paper-based exam by providing rhyming words (Lado, 1961). Indirect assessment is considered as appealing and superior to direct assessment as it provides a more comprehensive representation for language skills and abilities. Nonetheless, despite offering an overview of underlying skills and abilities, acquiring an accurate measurement of the skills of primary interest remains a challenge. Therefore, it appears more practical to mainly depend on direct assessment (Hughes, 2003, p. 18).

2.1.2.5. Traditional and Alternative Assessment

As each assessment type or method offer their own strengths and weaknesses in language learning and teaching, language testing and evaluation specialists designed, discussed and integrated new assessment methods. The need for alternative assessments or what Brown and Hudson (1998) termed "alternatives in assessment" emerged due to the deficiencies of traditional assessment methods in fostering creativity, interaction, and communication essential for effective language learning. Traditional assessment, generally referred to as standardized testing, occurs at a definite time with the utilization of close-ended questions like true-false activities, matching exercises and multiple choice questions. It follows a formal, summative approach focused on the product. Conversely, alternative assessment is a continuous process employing open-ended questions to foster creativity, and problem-solving skills. It is formative, process based, and it integrates individualized feedback (Brown, 2004, p. 13). Various alternative assessment tools like conferences, diaries, journals, observations, interviews, projects, concept maps, fieldwork, role-play, posters, presentations (Knight & Yorke, 2003; Brown, 2004), and methods like portfolio assessment, performance-based assessments, and self-and peer assessments are commonly used in language education and more alternatives continue to emerge. Nonetheless, categorizing these alternatives, along with traditional assessment methods is challenging since some methods may exhibit the characteristics of both traditional and alternative assessments (Brown, 2004).

2.1.2.6. Portfolio Assessment

Regarded as one of the best alternative assessment methods (Fox, 2014), portfolio assessment is becoming increasingly common in language education, as they offer learners a chance to review and compile their work in a folder, either digitally or paper-based, over an extended period of time. Brown and Hudson (1998) define portfolio assessments as "purposeful collections of any aspects of students' work that tell the story of their achievements, skills, efforts, abilities, and contributions to a particular class" (p. 664). In another definition by Paulson et al. (1991), students' involvement in portfolio creation and their reflection on the ongoing process of portfolio assessment are emphasized as essential for its effectiveness (p.60). Portfolio assessment encompasses a wide range of materials like reports, journals, diaries, poetry, essays, compositions, audio-video recordings, and more (Brown, 2004, p. 256).

This type of assessment is significant for strengthening students' learning through motivating them, increasing their involvement in learning process, and enhancing collaboration and interaction with their teachers and peers. Furthermore, portfolio assessment may empower teachers by offering them a clear understanding of students' language development, transforming their role into being a mentor, and providing judgements on each individual learners' progress. Additionally, they have the potential to enhance testing processes by enabling teachers to observe learners using language authentically in various contexts, allowing the assessment of a wide range of dimensions of language learning, and facilitating collaboration (Brown & Hudson, 1998, p. 664). Brown (2004) highlights additional benefits such as encouraging responsibility and ownership among students, adapting learning according to the unique needs of learners, and promoting critical thinking and self-assessment.

Even though portfolio assessment offers various advantages, they may not result in an effective language learning experience unless the lesson goals and objectives are clearly defined, guidelines and assessment criteria are provided, time constraints are established, inconveniencies are eliminated, and progress conferences for learners are scheduled (Brown, 2004). Additionally, managing the activities, interactions and storage of portfolio assessments may pose additional challenges (Cheng & Fox, 2017).

2.1.2.7. Performance-Based Assessment

Performance-based assessment involves learners in completing authentic, real-world tasks, employing typically productive skills but also receptive skills or a blend of these skills. It encompasses tasks such as role-playing, group discussions, problem-solving tasks, essay writing and interviews (Brown & Hudson, 1998, p. 662). O'Malley and Pierce (1996) point out the key features of performance assessment as involving meaningful and authentic tasks, higher order thinking, integration of language skills, assessment of both process and product, and emphasis on learners' mastery (p.5). Performance assessment offers advantages in closely simulating authentic communication, providing more accurate evaluations of learners' capacities to handle authentic language tasks compared to traditional assessments, and predicting learners' language learning abilities in authentic contexts in the future. Performance assessment also poses challenges related to production, time, cost, security, reliability due to subjectivity and validity concerns (Brown & Hudson, 1998, p. 662).

2.1.2.8. Self-and Peer Assessment

As another commonly used alternatives in assessment, self- and peer assessment offers learners an opportunity to continue their learning process independently beyond the classroom and without the direct guidance of teachers (Brown, 2004). Coombe (2018) defines self-assessment as a form of alternative assessment that places emphasis on the learners' perspective. In this method, learners may assess themselves using criteria, descriptors or self-assessment questionnaires provided by their teachers to determine their strengths and weaknesses while learning (p.37). Self-assessment is directly linked with some theoretical principles such as autonomous learning and intrinsic motivation due to learners' motivation and desire to achieve learning content independently (Brown, 2004). Self-assessment offers advantages such as direct involvement of learners in the assessment process, fostering understanding of autonomous language learning, enhancing learner motivation, and efficient administration of assessments (Brown & Hudson, 1998, p. 666). Nonetheless, self-assessment may also be influenced by "subjective errors due to past academic records, career aspirations, peer-group or parental expectations, lack of training in self-study" (Blanche, 1988, p.81).

On the other hand, peer assessment is the type of alternative assessment in which language learners' works are evaluated and assessed by their peers based on criteria provided by their teachers (Coombe, 2018, p. 32). It is "an arrangement for learners to consider and specify the level, value, or quality of a product or performance of other equal-status learners" (Topping, 2009, p. 20). It is based on cooperative learning principles, involving learners collaborating within the classroom environment to instruct and evaluate each other (Brown & Abeywickrama, 2019). Working in pairs and small groups, learners are able to promote the development of critical thinking and evaluation skills and enhance autonomous learning (Coombe, 2018, p.32). Furthermore, peer assessment empowers learners by allowing them to provide constructive feedback to their peers in a supportive way, reducing their reliance on their teachers and fostering their communication life skills (Brown & Abeywickrama, 2019, p. 314). Nonetheless, subjectivity remains as an obstacle to provide accurate peer feedback since learners might be affected by personal biases or interpersonal relationships, leading to inconsistencies in assessment outcomes.

2.1.2.9. Dynamic Assessment

Dynamic assessment, stemming from Vygotsky's social cultural theory and Zone of Proximal Development (ZPD), is an alternative and "interactive assessment approach which integrates assessment and instruction into a unified pedagogical activity with the goal of promoting learner development through appropriate forms of mediation that are sensitive to the learner's performance during the assessment" (Lantolf & Poehner, 2004, as cited in Rezaee et al., 2019, p. 3094). It is also characterized as process-oriented and productive (Hidri, 2020, p. 9). As a key aspect of dynamic assessment, mediation involves observing and recording the examiner's hints, feedback, and leading questions to aid learners in fostering their cognitive development (Poehner & Lantolf, 2010; Poehner, 2018).

Lantolf and Poehner (2004) identified two primary approaches to dynamic assessment: interventionist and interactionist. Interventionist approach to dynamic assessment refers to a standardized procedure that prioritizes the psychometric aspects of assessment. In this approach, learners are assisted in each question; however, they are

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provided with pre-determined sets of hints and recommendations if they answer a question incorrectly. In contrast, the interactionist approach is more flexible, emphasizing collaboration and negotiation with learners. Instead of providing predetermined mediation, it adapts continuously based on learners' responses (p. 54).

2.1.3. Principles of Language Assessment

While designing a language assessment, it is crucial to consider its usefulness, effectiveness, and appropriateness in improving language learning (Bachman & Palmer, 1996; Brown & Abeywickrama, 2019). Furthermore, language assessment must accurately measure the intended constructs, offer dependable data, meet administrative requirements, benefit learners and be consistent with real-life language usage (Brown & Abeywickrama, 2019). To evaluate these qualities, this section scrutinizes four key principles of language assessment, namely as validity, reliability, practicality, and authenticity. The diverse nature of these principles creates tension and conflicts, potentially resulting in the abandonment of either one of them (Hughes, 2003). Nonetheless, it is essential to acknowledge their "complementarity", and find a suitable balance between them to ensure the usefulness of language assessment (Bachman & Palmer, 1996, p. 18).

2.1.3.1. Validity

Considered as the most crucial principle of language assessment, validity refers to "the degree to which an assessment measures what it is supposed to measure" (Coombe, 2018, p. 43; Hughes, 2003, p. 26; Henning, 1987, p. 89), providing useful and essential information about learners' language proficiency levels and abilities (Council of Europe, 2001, p. 177; Brown, 2004). In another definition by Messick (1989), validity is "an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment" (p. 13). Measuring the validity of an assessment is complex as there is not a definitive standard or criterion. The extent to which an assessment is valid varies in degree and it is crucial to take various kinds of evidence into consideration such as content validity, criterion-related

validity, construct validity, and face validity (Brown & Abeywickrama, 2019).

Content validity is concerned with the content of an assessment, and its degree is evaluated based on how comprehensively it represents the intended language skills and areas (Hughes, 2003, p.26). For instance, while administering a grammar based assessment, the content must include items controlling grammatical knowledge. Even though the assessment may cover the intended content, it is not sufficient to guarantee content validity. To establish content validity, an assessment must incorporate suitable representative structures. Furthermore, these intended structures and skills must be clearly and properly outlined before constructing the language assessments (Hughes, 2003, p.26). Bachman (1990) identifies these aspects of content validity as content relevance and content coverage. Content relevance necessitates "the specification of the behavioral domain in question and the attendant specification of the task or test domain" (Messick, 1980, p. 1017). While defining the specific abilities, it is essential not to overlook the aspects of the test method (Bachman, 1990, p. 244). On the other hand, content coverage refers to the adequate representation of intended areas, abilities or skills in the assessment (Bachman, 1990, p. 245).

The importance of content validity lies in its greater and direct influence on the degree of construct validity. Furthermore, a suitable representation of skills, areas, and abilities determines the accuracy of the assessment, consequently its positive backwash effect on language learning and teaching. Therefore, it is essential to prioritize the assessment specifications based on their value rather than their convenience in administration (Hughes, 2003, p. 27), and conduct assessments which directly evaluate performance (Brown & Abeywickrama, 2019, p.34).

Criterion-related validity is established when the results of a test are correlated with those of another greatly reliable and independent assessment. This independent assessment serves as the criterion which establishes the validation of the test. Criterion-related validity is divided into two categories as concurrent validity and predictive validity. Concurrent validity is demonstrated when both the test and the criterion are conducted simultaneously (Hughes, 2003, p. 27). It either analyzes variations in test performances of learners with different language proficiency levels

or explores interrelationships among different measures of a specific language skill or ability (Bachman, 1990, p. 248). On the other hand, the predictive validity is concerned with the extent to which a test may anticipate learners' future behavior or performance (Bachman, 1990, p. 250; Hughes, 2003, p. 29). It becomes crucial in determining whether learners are ready to advance to another level or unit, based on the scores of achievement tests, placement tests and admissions assessments (Brown & Abeywickrama, 2019 p. 35), affecting learners' academic success in the future (Fulcher & Davidson, 2007, p. 5; Brown & Abeywickrama, 2019, p. 35).

Another form of evidence supporting validity is *construct validity*, which evaluates the alignment between the performances on a test and anticipations made based on a theory of skills, abilities or constructs (Bachman, 1990, p. 255). Construct validity also considers the suitability and importance of interpretations regarding the performances on a test (Bachman & Palmer, 1996, p. 21). The word "construct" has been defined in various ways. For instance, Brown (2004) defined it as "any theory, hypothesis, or model that attempts to explain observed phenomena in our universe of perceptions" (p. 35). Similarly, Hughes (2003) referred to construct as "any underlying ability (or trait) that is hypothesized in a theory of language ability" (p. 31). Nonetheless, since construct validation represents a unique process of confirming and disproving a scientific theory, acknowledging that theories cannot be definitively proven, the validity of a test is prone to disproof as well (Bachman, 1990, p. 256). Therefore, it becomes crucial to investigate the existence of underlying abilities and their quantifiability through empirical investigation to ensure the construct validity of a test (Hughes, 2003, p. 31; Bachman, 1990, p. 256).

Face validity is concerned with how suitable an assessment seems to evaluate the intended abilities or knowledge depending on personal judgements of the test takers, administrative staff responsible for its utilization and other observers who lack expertise in psychometrics (Mousavi, 2009, p. 247). For instance, if an assessment aims learners to acquire oral pronunciation abilities but does not include any speaking tasks, it would be considered to have low face validity (Hughes, 2003, p. 33). Nonetheless, assessing face validity of a test requires intuitive judgements, justifying and measuring it as part of validity seems unrelated (Brown & Abeywickrama, 2019,

p. 37). Therefore, Bachman (1990) refers to "postmortem" on face validity and highlights criticisms on the term by other researchers (p. 285). Despite these criticisms, researchers come to an agreement that face validity has a major impact on test takers' abilities and performances, making it difficult to overlook. For instance, it affects learners' psychology regarding their stress, anxiety and self-confidence while taking a test, consequently influencing their overall performance (Brown & Abeywickrama, 2019, p. 37). Therefore, to increase face validity of classroom-based assessments, teachers might assess learners through tasks with clear and straightforward items, which are well-constructed and expected, and can be completed within a certain time limit (Brown & Abeywickrama, 2019, p. 38).

As an essential part of language assessment, *washback* is defined as "the influence of testing on teaching and learning" (Bailey, 1996, p. 256; Alderson & Wall, 1993). In the existing literature, the terms "backwash", "curriculum alignment", "test feedback", "test impact", and "measurement-driven instruction" occasionally replaced the term washback (Brown & Hudson, 1998, p. 667). Washback is regarded as a part of *consequential validity* (Fulcher & Davidson, 2007; Messick, 1989) or impact (Bachman & Palmer, 1996; Cheng et al., 2004), referring to the consequences of language assessment or a test (Brown & Abeywickrama, 2019, p. 36). Wall (1997) distinguishes impact from washback by defining it as the influence tests might have on "individuals, policies or practices, within the classroom, the school, the educational system or society as a whole" (p. 291). On the other hand, according to Messick (1996), washback is "the extent to which the introduction and use of a test influences language teachers and learners to do things that they would not otherwise do that promote or inhibit language learning" (p. 241).

The impact of washback can be either positive or negative (Brown & Hudson, 1998). Initially, it was assumed that tests only affected learners negatively; however, Alderson and Wall (1993) developed the notion of "washback hypothesis", giving an opportunity to scrutinize the concept of washback from various perspectives (as cited in Fulcher & Davidson, 2007, p. 222). These washback hypotheses explore how tests influence teaching and learning regarding content, method, sequence, rate, depth, degree and attitudes toward content and method. Nonetheless, these factors may vary

among different people, and while a test might exhibit washback effects for a single individual, it might not show these effects for another individual (Alderson & Wall, 1993). Negative washback effects tend to emerge when assessments are not aligned with course or curriculum objectives and goals (Brown & Hudson, 1998, p. 667). For instance, if curriculum aims to develop communicative competence but assessments consist of multiple-choice items, learners may become more focused on test preparation rather than engaging with the curriculum, resulting in negative washback effects. Conversely, when performance-based assessments such as interviews and role-plays are utilized to enhance communicative competence of learners, positive washback effects are more likely to occur (Brown & Hudson, 1998, p. 668).

Watanabe (2004) categorized factors influencing the process of washback as personal factors (i.e. teachers' beliefs regarding teaching and learning and their educational backgrounds), prestige factors (i.e. the significance of tests in educational system), test factors (i.e. methods, contents, purpose of the test), micro-context factors (i.e. the school setting in which tests are prepared) and macro-context factors (i.e. the society in which tests are utilized) (p. 22).

Hughes (2003) also made various suggestions for ensuring the improvement of positive washback, including assessing the desired ability or skill through direct and criterion-referenced assessments, ensuring assessments cover a wide and unpredictable range of content, ascertaining understandability of assessments by teachers and learners, considering the practicality of assessments in terms of time and cost, and providing training and support for teachers. Similarly, Brown & Abeywickrama (2019) proposed that improving washback might involve teachers providing constructive feedback and detailed comments on learners' test performances rather than solely grading their tests, which can intrinsically motivate learners and allow them to see their strengths and weaknesses.

2.1.3.2. Reliability

Reliability refers to the consistency and dependability of test scores across various testing situations (Bachman & Palmer, 1996, p. 19; Brown & Abeywickrama, 2019,

p. 29; Crocker & Algina, 1986, p. 105). In other words, learners are required to get similar results if they were to take the same assessment at different times without the interference of factors like alterations in test administration or psychological or physiological alterations like tiredness, illness, disinterest or lack of motivation (Hughes, 2003, p. 36; Bachman, 1990, 160; Fulcher & Davidson, 2007, p. 105). Therefore, it is important to eliminate any detrimental factors affecting learners' actual language abilities and test performances. The lesser the impact of these factors on test scores, the more consistent learners' test scores and hence, the more reliable and valid the test (Hughes, 2003, p. 36; Bachman, 1990, 160).

Reliability coefficients aid us in understanding the reliability of an assessment and comparing it with different assessments. These reliability coefficients range from 1 to 0, with 1 indicating the maximum level of reliability and 0 indicating a completely unreliable and undesirable test (Hughes, 2003, p. 39). According to Lado (1961), the level of reliability varies across different language assessment types. For instance, assessments with vocabulary items, structures and reading texts generally have reliability coefficients ranging from .90 and .99 while those with listening comprehension tend to have coefficients within .80 to .89 range. This variability indicates that there is not a definite level of reliability coefficient, and this level might be high for one ability and low for another ability (Hughes, 2003, p. 39).

Even though reliability coefficients may not directly show learners' true scores, true scores can be measured by calculating the average score of multiple tests conducted in various testing situations (Hughes, 2003, p. 40). To this end, Bachman (1990) proposed a theory suggesting that observed test scores are affected by true scores and error scores, with the latter consisting of unsystematic or random factors that conduce to unreliability. Brown and Abeywickrama (2019) further elaborates on these factors and reliability issues, categorizing them into student-related reliability, rater/scorer reliability, test-reliability, and test administration reliability.

Student-related reliability refers to the physiological or psychological factors such as fatigue, anxiety, stress, or illness, affecting reliability of test takers' true scores and causing deviations from observed test scores. Additionally, various test taking

strategies or "test-wiseness" for effective test taking like reading questions before referring to the reading passages that they are based, and eliminating appropriate options in multiple-choice questions before guessing the correct answer may influence learners' actual performance in tests (Mousavi, 2009, p. 804; Brown & Abeywickrama, 2019, p. 30; Bachman, 1990, p. 114).

To ensure the consistency in learners' test scores across various testing situations, it is also crucial to involve raters or scorers into the process (Hughes, 2003, p. 43). *Rater/scorer reliability* is concerned with inconsistencies or sources of errors during the evaluation of tests (Bachman, 1990, p. 178), influenced by factors such as bias, lack of experience and attention, deviation from scoring criteria, subjectivity, human error, and fatigue (Brown & Abeywickrama, 2019; p. 30). Intra-rater reliability refers to the internal consistency of a single rater while assessing learners' performances in a test whereas inter-rater reliability examines the consistency of different raters' scores for the same test (Bachman, 1990, p. 178; Brown & Abeywickrama, 2019; p. 30). Inconsistencies in intra-rater reliability might arise while scorers are grading learners' written compositions, especially regarding sequencing of scores. Initially, raters may prioritize content, cohesion, or organization; however, they may unconsciously shift focus to grammatical errors, leading to gradual changes in the criteria for scoring the papers over time (Bachman, 1990, p. 179). Another inconsistency of this evaluation process of essays or compositions might occur due to fatigue or subjectivity, and it can be addressed by adopting a cyclical method before finalizing actual scores of learners (Brown & Abeywickrama, 2019; p. 30). Similarly, inconsistencies in inter-rater reliability could emerge due from variations among different raters in their prioritization of some components such as organization, content and accuracy while grading essays (Bachman, 1990, p. 180). Nonetheless, ensuring intra-rater and inter-rater reliabilities might be achieved through administering objective items in the tests, offering a comprehensive scoring key and training scorers for objective scoring (Hughes, 2003).

Test administration reliability might be disrupted due to environmental factors in which the test is administered. These factors include variations in lighting and temperature of the room, physical state of desks and chairs, quality of the photocopies,

and external disturbances like noise. For instance, during a listening exam, students seated near the windows might be distracted from noise coming from the streets, affecting their test performance (Brown & Abeywickrama, 2019, p. 30-31). Therefore, providing an environment devoid of distractions is crucial to enhance learners' test performance, eliminate variations between various testing situations, and ensure uniformity (Hughes, 2003, p. 48).

Occasionally, tests themselves may be sources of errors, causing unreliability. Nonetheless, there are some steps taken to ascertain *test reliability,* and one of them is to avoid poorly constructed test items which are ambiguous or with multiple correct answers. Additionally, it is essential to design these multiple-choice items in a way to maintain consistency between difficulty levels, distribution and quality of distractors (Brown & Abeywickrama, 2019, p. 31). Harris (1969) points out the importance of sufficiently sampling tasks in relation to test reliability, indicating a positive correlation between the number of samples used to assess learners' performance and the reliability in understanding their knowledge and abilities. Therefore, testing and evaluation specialists have generally preferred traditional objective examinations over subjective ones since the former allows for a large number of items while the latter, such as essay writing, is limited in terms of quantity of items (p.14). Furthermore, rater bias may also contribute to this preference among both testing and evaluation specialists and teachers in classroom-based assessment (Brown & Abeywickrama, 2019, p. 31). Variations among the conditions of test administration can also influence test reliability. For instance, poorly designed tests containing excessive number of items may demotivate learners, exhaust them and cause them to answer the questions recklessly and incorrectly, thereby impacting *temporal stability* of the tests (Harris, 1969, p. 14; Brown & Abeywickrama, 2019, p. 31).

To estimate the reliability of tests, four common methods are utilized, namely as test-retest, parallel forms, split half, and Kuder-Richardson formulas. In *test-retest* method, learners take the same test twice and the correlation between the scores of two tests is examined. A high correlation between these scores indicates that the test is reliable and temporarily stable (Harris, 1969, p. 15; Fulcher & Davidson, 2007, p. 105). The fundamental assumption is that during the time interval between the two tests, there is

no learning occurring and there is no practice (or memory) effect of first test scores on the second test scores (Fulcher & Davidson, 2007, p. 105). Nonetheless, the test-retest method has its own limitations regarding the unavailability of examiners in two test administrations (Farhady, 2012, p. 40), and the length of time interval between two test administrations. If the time between two test administrations is too short, the test takers might remember the test items and their answers, making test reliability overvalued. Conversely, if the time interval is lengthy, the memory effect becomes outstanding, leading to forgetting or learning, which in turn result in varying responses to the same items. Ultimately, this situation also causes underestimation of test reliability (Hughes, 2003, p. 39; Harris, 1969, p. 15), and further influencing learners' motivation negatively due to the length of time interval (Hughes, 2003, p. 39).

Another method to evaluate test reliability is *parallel forms method*, also known as equivalent forms or alternate forms method (Henning, 1987, p. 81). In this method, two forms of a test are constructed, identical in terms of time constraints, length, format, level of difficulty or other relevant characteristics (Harris, 1969, p. 15), and the correlation between these two forms is calculated to estimate reliability (Fulcher & Davidson, 2007, p. 105). This method may be utilized to reduce memory effect or to ensure security during test administration. Moreover, it offers an advantage over test-retest method because it eliminates the necessity to administer the test twice, resolving the problem of the length of time interval. Nonetheless, it may have some drawbacks in terms of the difficulty of developing two alternate forms of a test and meeting specific logical and statistical standards (Farhady, 2012, p. 40).

To refrain from the limitations of test-retest method and parallel forms method, *split-half method* was created. This method provides a single group of examiners with an opportunity to take a single form of a test in a single test administration (Farhady, 2012, p. 40). To examine the degree of internal consistency of a test, the test items are split into two halves and the correlation between the first half and the second half is calculated, acquiring two scores for each individual (Bachman, 1990, p. 172; Fulcher & Davidson, 2007, p. 105). While dividing the test into two halves, it is essential to assume that these halves show equivalence in terms of means and variances. Furthermore, they must be regarded as separate entities, meaning that a learner's

performance on one half of the test does not have an influence on their performance on the other half. Despite this independence, there may still be correlations between the halves since they evaluate the same ability or trait (Bachman, 1990, p. 172-173).

Developed by Kuder and Richardson in 1937, *Kuder-Richardson formulas*, namely KR-20 and KR-21, are utilized to estimate the reliability of a test by analyzing means and variances of individual items (Bachman, 1990, p. 176). Just like split half method, this method relies on a single form of a test in a single administration. However, it focuses on the consistency among test items, determined by the proportion of individuals who answered the test items either correctly or incorrectly (Bachman, 1990, p. 176; Harris, 1969, p. 16).

2.1.3.3. Practicality

Practicality is a principle of language assessments different from other principles like validity and reliability in that it deals with how the tests are developed, utilized, and implemented rather than interpreting the test scores (Bachman & Palmer, 1996, p. 35). Also known as usability, practicality is concerned with the logistical and administrative aspects of creating and scoring assessments. It involves considerations such as cost, the time needed for construction and administration of assessments, ease of interpretation, administration, and scoring (Harris, 1969; Mousavi, 2009, p. 516). Regarding cost, the number of copies used to print tests and the number of administrators and scorers involved in the process must be considered (Harris, 1969, p. 21).

Additionally, to ensure efficient and rapid test administration and scoring, it is crucial to have well-defined instructions, readily available equipment in the testing area, and a scoring rubric to enable objective scoring of several papers (Harris, 1969, p. 22). If a test meets these criteria, it is considered as practical. Conversely, if the existing resources available for test administration fall behind the resources needed for carrying out the test, the test becomes impractical. In such cases, additional resources might be assigned to ensure more effective implementation of tests (Bachman & Palmer, 1996, p. 35).

2.1.3.4. Authenticity

Bachman and Palmer (1996) state that to validate the utilization of language tests, it is essential to show that learners' performance on language tests aligns with their language use in contexts beyond the test itself. Such an alignment determines the extent to which real-life use of the target language is reflected in language assessments, namely its authenticity (p. 23). Defining and measuring the authenticity of assessments is challenging since it requires subjective judgment on whether a language task incorporates real-world elements (Lewkowicz, 2000). Indeed, Chun (2006) claims that many language tasks or tests fail to replicate real-world scenarios. Nonetheless, authenticity in language assessments can be enhanced by avoiding artificiality, constructing test items that simulate real-world contexts, and connecting these items. Furthermore, it is necessary to utilize natural language in the assessments and to involve meaningful and relevant topics (Brown & Abeywickrama, 2019, p. 39) within the communicative and task-based language classrooms (Bachman & Palmer, 1996, p. 24).

2.2. Mobile Learning

Before providing a detailed presentation of MALL and MALL assessment, it is essential to delve into the existing literature to understand mobile learning. To achieve this aim, this part provides various definitions of mobile learning and offers the affordances and constraints of mobile learning.

2.2.1. Defining Mobile Learning

Offering various definitions of mobile learning from the researchers helps the readers in not only establishing a comprehensive understanding of the concept but also exploring the development of mobile learning over the years and its future direction. Due to the urge to disassociate from inadequate and limited practices of "conventional" e-learning, the researchers have attempted to define mobile learning, also known as m-learning, in different ways, assisting it in gaining its distinct identity (Traxler, 2009).

O'Malley et al. (2003) defines mobile learning as "any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of learning opportunities offered by mobile technologies" (p. 6). Furthermore, mobile learning should be facilitated "through social and content interactions" (Crompton, 2013, p. 4) by utilizing "PDAs /palmtops/handhelds, smartphones and mobile phones" (Traxler, 2009, p. 2) and additionally tablet PCs, iPod touch, game consoles, e-book readers, digital dictionaries (Çakmak, 2019, p. 31) and wearable devices including smartwatches and smart glasses.

The rapid changes in the mobile learning field may contribute to the variations in its definitions and researchers' lack of agreement on a unified definition. Nonetheless, a crucial factor creating these discrepancies is the ambiguity of defining the term "mobile" as it is unclear whether it refers to the mobility of devices or the mobility of learners (Kukulska- Hulme, 2009, p. 158). Learners engage with "fixed technologies as well as mobile devices" in various places for distinct learning experiences crossing "spatial, temporal, and/or conceptual borders" (Kukulska-Hulme et al., 2009, p. 20). This mobility enables learners to shape their learning preferences and needs, promoting engagement in not only formal but also informal education settings (Kukulska-Hulme, 2009, p. 164).

Winters (2006) classifies mobile learning perspectives into four categories as (1) "learner-centered", (2) "technocentric", (3) "augmenting formal education", and (4) "relationship to e-learning" (p. 5- 6). The first perspective, in line with O'Malley et al. (2003)'s definition of mobile learning, focuses on the mobility of learners rather than the mobility of devices. On the other hand, the second perspective focuses on the mobility of devices and defines mobile learning as learning facilitated through mobile devices such as iPods, PDAs, and mobile phones. The third perspective discusses mobile learning's role across all kinds of traditional learning formats. Lastly, the fourth perspective considers mobile learning as the extension of e-learning, placing it within "e-learning's spectrum of portability" without adequately acknowledging its unique aspects (Traxler, 2009, p.2).

While defining mobile learning, the researchers provide some fundamental characteristics of it as spontaneous, contextual, ubiquitous, portable, situated, personal, private, informal, opportunistic, pervasive, disruptive, context-aware, and bite-sized (Kukulska-Hulme, 2005, p.2; Kukulska-Hulme & Traxler, 2007, p.181; Traxler, 2009, p.5). Similarly, Jones et al. (2006) contribute to these defining characteristics, emphasizing the motivational or affective dimensions of mobile learning. These aspects are "control (over goals), ownership, fun, communication, learning-in-context, and continuity between contexts" (p. 5).

2.2.2. Affordances and Constraints of Mobile Learning

With the technological advancements over the years, the defining characteristics of mobile learning have undergone major changes, consequently influencing the advantages and disadvantages associated with mobile learning. The portability and functionality of mobile devices have increased, facilitating situated and personalized learning experiences for learners beyond formal education settings (Kukulska-Hulme & Traxler, 2007).

Mobile devices have become an indispensable part of the education process, and they have had a significant impact on lifelong learning (O'Bannon & Thomas, 2015). Sharples (2002) suggests that for an effective mobile learning experience, learners need to have "the skills of constructing and exploring knowledge, conversing and collaborating with peers, and the ability to control one's own learning" (p. 510). Without spatial and temporal constraints, learners are offered opportunities to access to knowledge easily (Arvanitis & Krystalli, 2021), contextualize learning (Stockwell, 2014), study autonomously at their own pace and learning style, manage their learning time more effectively and engage in cultural and social interactions (Akkoyunlu et al., 2018). These affordances enhance learners' flexibility, independency, responsibility (Low & O'Connell, 2006), self-confidence, creativity (Aygül, 2019), and critical thinking skills and, ultimately, boost their motivation and self-efficacy. Additionally, mobile learning fosters students' interaction with their peers and teachers, facilitates productive instructional time, instant feedback and assessment for teachers, creates a new community for learning in which learners can interact with other people, provides

opportunities for learners living in socio-economically disadvantaged areas and assistance for learners with disabilities (UNESCO, 2013).

On the other hand, mobile learning presents certain limitations that affect learning and teaching practices. Stockwell and Hubbard (2013) explore the constraints of mobile learning in three distinct domains, namely pedagogical, physical, and psycho-social (p.2). From a pedagogical perspective, there exists a discrepancy between the tasks and the affordances of mobile technologies. Just as early research presumed that paper-based activities could be directly transferred to computer-based platforms, recent research similarly assume this transferability from computer-based activities to mobile-based ones (Stockwell & Hubbard, 2013, p.3). Additionally, the expanding reach of mobile learning beyond formal classroom-based education poses challenges to finding a balance between them (Mierlus-Mazilu, 2010). To address this, teachers must meticulously plan the implementation process to maximize the effectiveness of mobile learning. Within the class, they must eliminate potential distractions that could appear in a mobile learning environment. Outside the class, they must ensure equal access to educational resources for each student, regardless of their socio-economic background, utilizing the features of mobile devices to enable this access. However, some teachers may have lack of knowledge of mobile devices and limited experience with them (Khan et al., 2018; Bozorgian, 2018; Dağdeler & Demiröz, 2022), making it difficult to keep the balance between formal and informal mobile learning practices.

Moreover, Sharples (2006) explores this balance from a socio-cultural perspective and claims that a conflict may arise if there is a tension between the two systems, i.e. the system of formal classroom education and informal social networking enabled by mobile devices, due to school policies prohibiting the use of mobile devices in schools. This conflict arises from learners' perception of classroom learning as a way to hinder informal learning, their possession of more advanced mobile devices than at their school, and schools' difficulty in adapting to mobile learning advancements (p.21). Consequently, such an imbalance and the existence of conflict create classroom management problems for teachers. Learners lose their interest in mobile-assisted lessons as they are distracted by informal social networking (Hişmanoğlu et al., 2017). Moreover, the limited instructional time (Annamalai et al., 2023) adds to this

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imbalance as teachers struggle to fully integrate mobile learning into formal education settings, prompting learners to rely on mobile learning in informal education settings.

Other than pedagogical constraints of mobile learning, there are also physical/technical constraints such as Internet connectivity issues (Nuraeni et al., 2020; Dağdeler & Demiröz, 2022; Güven, 2019), inputting methods (Stockwell, 2008), processor speed, device compatibility (Koole, 2009, as cited in Stockwell & Hubbard, 2013, p.3), small screen size, limited storage, memory, battery life, cost of mobile devices, security and privacy problems (Çalışır et al., 2022; Kukulsha-Hulme, 2007; Aygül, 2019).

Lastly, mobile learning presents psycho-social constraints. For instance, mobile games integrate fun, engaging, stimulating, and rewarding elements that capture learners' attention and enhance their target language skills and areas, either consciously or unconsciously. However, beyond their personal and social contributions, they introduce psychological limitations such as learners turning to mobile games to relieve feelings of social anxiety, loneliness, and low self-esteem (Li et al., 2022).

Additionally, various applications offer learners opportunities to autonomously acquire the knowledge and communicate with others simultaneously. The incorporation of social media platforms into mobile learning environments may facilitate such opportunities. Nonetheless, they may also lead learners to social comparison, feelings of inadequacy, and depression, affecting their well-being and motivation to get involved in mobile learning practices.

2.3. Mobile Assisted Language Learning

This section explores the evolution of MALL and outlines the definition of Mobile Assisted Language Learning (MALL). Furthermore, it reviews various research studies exploring the impacts of MALL on language skills and areas, including listening, speaking, reading, writing, grammar and vocabulary. Lastly, it examines empirical studies exploring the perceptions of learners and teachers on MALL.

2.3.1. Evolution of MALL

Throughout the history of language learning and teaching, there has been numerous changes in the presentation of new knowledge, transitioning from traditional textbook instruction to technology-based instruction. In the 1960s, drill-based computer-assisted instruction, influenced by behaviorism, gained prominence in language education. Subsequently, in the early 1970s, the advancement of computers offered a chance to interact across various locations through keyboards (Oto, 2017). On the other hand, in the 1990s, these instructional methods were replaced by a more comprehensive approach known as Computer Assisted Language Learning (CALL) (Mohammadi & Shirkamar, 2018). Levy (1997) defines it as the exploration and investigation of computer applications in language learning and teaching (p.1).

Despite its significant impact on language education, CALL has experienced a notable transformation since the emergence of mobile devices eliminated the constraints of being confined to a specific time and setting in front of the computers (Dağdeler & Demiröz, 2022). With the emergence of mobile technologies, even though MALL is regarded as a transition away from CALL, considerable differences exist between them. According to Kukulska-Hulme and Shield (2008), MALL differs from CALL "in its use of personal, portable devices that enable new ways of learning, emphasizing continuity or spontaneity of access and interaction across different contexts of use" (p.273). MALL is not only capable of transmitting the content provided by CALL but also introduces a new dimension to pedagogical methodologies (Kukulska-Hulme et al., 2015).

2.3.2. Defining MALL

MALL is a flexible concept and a broad area that is constantly evolving through the affordances unique to each mobile device and advancements in hardware and software. Therefore, its "fluid" nature makes it challenging to define it as a single term (Stockwell, 2022, p. 12). Chinnery (2006) introduced the concept of MALL, suggesting that mobile devices have the potential to serve as educational aids for language learning area (p. 9). Nonetheless, the research studies documented on the

utilization of mobile devices in foreign language education date back to 1994 (Burston, 2013).

Stockwell (2022) defines MALL as "learning a second or foreign language through the use of one or more of various mobile devices…" (p. 8). Similarly, according to Kukulsha-Hulme (2018), it refers to the application of mobile devices in language learning and it is particularly beneficial in contexts where the portability of devices and situated learning provide unique advantages. These advantages include accessing to knowledge and social networks without delay, flexibility in language learning, personalized and continuous language learning, ease of generating and sharing of multimedia content, and ease of transitioning between different learning contexts (p. 1).

The concept of MALL is outlined in three contexts which are "community as context (i.e., formal and informal education setting), a teacher-driven context ('formally designed') and a learner-driven context ('user-generated')" (Kukulsha-Hulme, 2010, as cited in Çakmak, 2019, p. 38). Similar to the balance noted in formal and informal education setting (Sharples, 2006), there must also exist a balance between learner-directed and teacher-directed learning. While teachers regulate the fulfillment of learning objectives within the instructional time, considering diverse learning styles and paces, learners also require studying autonomously. It is only through the fulfillment of learners' individual needs and preferences that balance can be restored, fostering a meaningful MALL environment.

2.3.3. The Impacts of MALL on Language Skills and Areas

This section explores research studies conducted on the impacts of MALL on receptive skills (reading and listening), productive skills (writing and speaking), and language areas (grammar and vocabulary). Realizing the effectiveness of mobile devices in enhancing language skills and areas is essential because all of these language skills and areas are interconnected. A deficiency in one skill or area may impact learners' overall proficiency level while improvement in one skill or area may have a positive influence on other language skills and areas (Nan, 2018).

Few studies in the literature exclusively utilize qualitative research design. Therefore, this study explores research that incorporate mixed methods and quantitative design to offer a more comprehensive perspective to the impacts of MALL on language skills and areas.

2.3.3.1. The Impacts of MALL on Receptive Skills (Reading and Listening)

Research studies revealed that it was effective to integrate MALL to enhance reading comprehension skills. With regards to that, Yu et al. (2022) conducted a comparative study exploring the impacts of mobile-assisted and paper-based EFL reading on improving learners' reading comprehension skills as well as their perceptions of mobile-based reading. The study employed mixed-method research design and involved intermediate level EFL students enrolled at a university in China. Ten first-year students were selected to participate in the pilot study while 84 students participated in the quasi-experiment. Six students from quasi-experiment, three of whom preferring paper-based EFL reading and three of whom preferring mobile-assisted EFL reading, agreed to participate in semi-structured interviews as well. The data were collected through tests assessing reading comprehension, questionnaire surveys and semi-structured interviews. The findings indicated that learners demonstrated a higher reading comprehension accuracy and utilized more effective reading strategies in paper-based reading as opposed to mobile-based reading. Additionally, since paper-based reading offered a better reading experience and increased engagement, most of the learners favored paper-based reading over mobile-based reading. However, they still desired the integration of mobile-based reading into the language learning due to its affordances like convenience and portability.

In a similar vein, Keezhatta and Omar (2019) carried out an experimental study comparing mobile-based and paper-based reading comprehension processes. In their study, they investigated the impacts of MALL on Saudi secondary school EFL learners' reading skills. The participants were 120 tenth grade students across four public secondary schools in Saudi Arabia, and they were equally divided into two groups as experimental and control group. The experimental group received reading materials through a mobile-based environment while the control group utilized paper-

based materials. The results of pre-and post-test indicate a notable difference between the performances of two groups, revealing the effectiveness of mobile-based reading for retaining and recognizing vocabulary items.

In another study, Naderi and Akrami (2018) investigated how EFL learners' reading comprehension enhance with the utilization of Telegram, a mobile networking service. The study employed a quasi-experimental design, and the data collection instruments were an English proficiency test, pre-and post-tests to assess reading comprehension, and the coursebook. The participants comprised of 103 intermediate level university students, divided into four groups as two experimental and two control groups. The experimental groups consisted of 29 females and 26 males while the control groups included 26 females and 22 males. Following a pre-test, over the course of fourteen sessions, the experimental groups received reading comprehension instruction through Telegram groups whereas the control group received traditional classroom-based instruction. At the end of the treatment, learners took the post-test, and the findings revealed a significant improvement in the reading comprehension abilities of the experimental groups, indicating the efficiency of MALL in enhancing reading comprehension. Additionally, no notable difference was observed between male and female groups within the experimental groups regarding their reading comprehension abilities.

In a study involving 56 EFL high school students in Ecuador, Sánchez-Tello and Argudo-Garzón (2022) explored the effects of MALL through Padlet, a tool used in educational settings, on reading comprehension. Employing a mixed methods approach, the researchers utilized pre-and post-tests, surveys and classroom observations. The participants were divided into experimental and control groups, the former with 32 students and the latter with 24 learners. Over the course of four weeks, the experimental group used Padlet for reading comprehension activities while the control group received traditional instruction. The findings revealed a notable difference between the post-test scores of learners, the experimental group outperforming the control group on reading comprehension. Additionally, learners identified advantages of MALL integration through Padlet to enhance reading comprehension such as boosting motivation, attracting attention, facilitating

collaboration and interaction; however, they also noted disadvantages like connectivity issues, and inability to continue activities independently. Furthermore, students perceived the MALL integration to improve reading comprehension as fun and stress-free.

On the other hand, research studies indicated that MALL was effective and beneficial on improving listening comprehension skills. In their mixed methods study, Andujar and Hussein (2019) explored the impact of utilizing mobile chat-based applications on enhancing learners' listening skills in EFL context. To this end, the researchers employed Mobile Instant Messaging system through WhatsApp. The study involved 61 fourth-year students from University of Almeria, and they were divided into experimental and control groups, with 20 students in the experimental group and the remaining participants in the control group. Over the course of a semester, the experimental group experienced traditional along with voice-chat based instruction while the control group solely received traditional instruction. Survey data, obtained from closed and open-ended questions, indicated that voice-chat conversations on WhatsApp enhanced learners' listening comprehension skills, providing opportunities for adapting to various accents and tones. Moreover, learners expressed the benefits of the process to their vocabulary and pronunciation.

Similarly, Al-Shamsi et al. (2020) conducted a quasi-experimental study to explore the effects of MALL on Omani EFL adult learners' listening skills and perceptions. The study comprised 31 students from a Military Educational Institute in Oman, with 15 students in the experimental group and 16 in the control group. The data collection instruments were pre-and post-tests to assess learners' listening comprehension along with a questionnaire with closed and open-ended questions to identify learners' attitudes. The findings indicated a significant difference between the listening comprehension performances of experimental and control group, with the former outperforming the latter. Furthermore, learners held positive attitudes towards MALL on improving their listening skills and they perceived the process as motivating and ubiquitous. Nonetheless, they also expressed some challenges regarding software design, small screen sizes of mobile devices, and Internet connectivity issues.

2.3.3.2. The Impacts of MALL on Productive Skills (Writing and Speaking)

Research studies scrutinizing the impacts of MALL on learners' writing and speaking skills have indicated that despite certain challenges learners encountered, they expressed high satisfaction with the usefulness and effectiveness of mobile devices in enhancing their writing and speaking skills.

Kessler (2023) employed a case study design to explore the impact of integrating a weekly reflective e- journal writing task, facilitated by a MALL application named Duolingo, on metacognitive awareness of learners in target language learning. The study also aimed to understand learners' perceptions on this writing task on Duolingo, and their overall experiences with MALL and Duolingo. Six university students in U.S.A., attending a second language acquisition course, participated in the study. The data were collected through weekly e-journal reflections, lasting five weeks, and video reflection at the end. The findings revealed that learners mostly found the writing task enjoyable and beneficial in enhancing their metacognitive awareness in target language learning. They reflected on the task, their achievements and challenges they face, linguistic aspects of the target language and strategies they employ. Furthermore, they pointed out the usefulness of the writing task as they become more aware of their own progress and strengthen their knowledge. Additionally, they highlighted the positive impact of reflection journals on acknowledging the individual differences. With regards to learners' experiences with MALL and Duolingo, they expressed enjoyment but also faced challenges. They expressed a need for clearer grammar instruction and aspired a meaningful communication along with feedback.

Similarly, Pingmuang and Koraneekij (2022) conducted a mixed-method research study to investigate the potential of MALL in enhancing writing skills of students. The researchers also integrated a Task-Based approach and gamification into the process. Initially, quantitative data were gathered from 665 EFL lower secondary students in Thailand via an online questionnaire while qualitative data were obtained from five Thai teachers through semi-structured interviews. As a result of the quantitative data, learners expressed a significant demand for effective English writing instruction, diverse tasks, and real-life content integration. Furthermore, in semi-structured

interviews, teachers pointed out aspects like content of writing tasks, features of English writing instruction and the methods of assessment. Afterwards, based on this data, the researchers established design principles for intervention and developed a mobile application to enhance learners' writing skills. Subsequently, 35 lower secondary EFL students attending to a private high school in Thailand participated in the experimental phase of the study for eight weeks. They took pre-and post-tests to identify their writing proficiencies and completed six English writing tasks. The results suggested that there occurred a significant difference between the pre- and post-test scores of learners, indicating learners' satisfaction with the MALL application in improving their writing skills.

On the other hand, Sun et al. (2017) investigated the impact of Papa, a mobile social-networking site, on learners' English-speaking skills. 72 EFL learners at a public elementary school in China gave their consent to participate in the study, with parents providing support throughout the process. The experimental group, comprising 37 students, recorded their oral assignments using the Papa application and posted them, while the control group, consisting of 35 students, recorded their assignments using their own mobile devices. The study employed a quasi-experimental design, and it utilized pre-and post-tests to assess learners' speaking skills, along with focus-group interviews to recognize learners' attitudes and perceptions. The findings indicated overall improvement on speaking skills of both groups, with the experimental group outperforming the control group in fluency. On the other hand, there was no significant difference between the two groups in terms of gains in fluency and pronunciation. Learners expressed positive perceptions on Papa application for its role of provide opportunities to be heard and to practice speaking skills, but they also noted hardware problems and instability with the application as limitations.

In a similar vein, Ahmed et al. (2022) investigated the impacts of two mobile applications, namely Duolingo and WhatsApp, on EFL learners' speaking fluency and accuracy. The study involved 90 intermediate male Iranian learners studying English at a Parsian institute, randomly divided into two experimental groups utilizing Duolingo and WhatsApp, and one control group, each comprising thirty students. A quasi-experimental design was employed in the study, and the data were collected

through pre-and post-tests to assess speaking skills. After administering speaking pre-tests, audio and video files of ten conversations were sent to one experimental group through WhatsApp, and the other group through Duolingo. On the other hand, these conversations were instructed to the control group traditionally. The findings of speaking post-test indicated that learners in both experimental groups demonstrated higher speaking accuracy and fluency than the control group. Furthermore, no significant difference was observed between two experimental groups, emphasizing the effectiveness of MALL in improving speaking skills due to its availability and ubiquity.

Lutfi (2020) conducted a classroom action research study involving 30 students enrolled in an English course at a digital university in Indonesia. The study aimed to evaluate the suitability, practicality and usability of Quizlet, a mobile flashcard-based application for vocabulary, in fostering autonomous learning in the class and enhancing learners' speaking skills. The study employed mixed methods, gathering qualitative data coming through observations and quantitative data through a questionnaire. The results suggested that learners had positive attitudes towards integrating MALL into autonomous learning environments to improve speaking skills. However, the study was limited by the absence of teacher guidance in utilizing the application for autonomous speaking activities in the classroom.

2.3.3.3. The Impacts of MALL on Language Areas (Grammar and Vocabulary)

There are limited studies on the impacts of MALL on grammar learning and they point out the effectiveness and benefits of integrating MALL to improve grammar knowledge. As one of them, Khodabandeh et al. (2017) conducted a quasi-experimental study utilizing pre-and post-tests, and smart phones, marker and whiteboard as tools to teach grammar inductively. The study involved 60 EFL junior high school students from Iran, selected out of 160 students based on their pre-test scores. The participants were equally divided into experimental and control groups. Over the course of 12 weeks, while the experimental group received grammar learning materials through an instant messaging system called Telegram, the control group received hard copies of them. The results suggested that the experimental group

outperformed the control group, indicating the positive impact of MALL on grammar learning.

Another study carried out by Ghorbani and Ebadi (2020) employs a mixed methods approach to explore the impacts of MALL on learners' grammatical development. The study involved 40 female EFL adult learners from a university in Iran, selected from an English teaching channel on Telegram. The participants were divided into experimental and control group. The experimental group comprised of 30 learners, organized into fifteen groups of three students based on their proficiency levels, while the control group consisted of 10 learners who were paired with experimental group members to receive feedback on their grammar knowledge via Telegram chats. Each group included two participants with similar grammar proficiency level and an instructor. The quantitative data were collected through pre-and post-tests while the qualitative data were gathered through semi-structured interviews. Results from the quantitative data indicated a significant improvement in grammatical accuracy among the experimental group, revealing the effectiveness of mobile chat-based learning for enhancing grammar knowledge. Additionally, findings from semi-structured interviews showed that learners held positive attitudes towards the integration of MALL to acquire grammatical knowledge, considering it beneficial and motivating. On the other hand, research studies indicated that MALL was effective on enhancing vocabulary knowledge.

With regards to that, Li & Hafner (2022) investigated the impacts of MALL on receptive and productive vocabulary acquisition through learners' engagement with mobile-based and paper-based word cards. The researchers introduced mobile-based word-cards using an application called Zhimi. 85 EFL learners studying at a university in China participated in the study and they were divided into two groups as experimental group using mobile learning and control group using paper-based methods. Data collection included pre- and post- tests on vocabulary and interviews with the participants over an instant messaging platform named QQ. The findings of quantitative data revealed that while both groups improved their vocabulary learning, the mobile learning group showed greater gains in both receptive and productive vocabulary acquisition.

In another study by Xodabande and Atai (2022), the effects of MALL on enhancing academic vocabulary through self-directed and autonomous learning were investigated. The study involved 38 Iranian EFL university students, divided into experimental and control groups, comprising of 20 students and 18 students, respectively. Adopting a quantitative research design, the data were gathered through pre-and post-tests and delayed post-test. Throughout the semester, the control group utilized hard copy materials to study 570 academic vocabulary items from the Academic Word List whereas the experimental group used an application containing the same words. The learners engaged in independent and autonomous out-of-class learning; however, the researchers maintained communication with the learners, and reminded them of their work through Telegram, a mobile social networking application. Following the intervention, the learners underwent a post-test, followed by a delayed post-test two months later. The findings revealed that the experimental group showed significant improvement in terms of vocabulary acquisition compared to the control group, emphasizing the effectiveness of MALL integration to enhance autonomous vocabulary learning. Nonetheless, a decrease in delayed post-test scores of the experimental group suggested that time was a crucial factor in receptive vocabulary acquisition, possibly reflecting a gradual decline in learners' motivation after the intervention.

Zakian et al. (2022) explored the effects of MALL learning outside the classroom on vocabulary acquisition of EFL learners. The study involved 86 EFL university students in Iran, divided into experimental and control groups, with 58 and 25 learners, respectively. Employing a quantitative design, the data were gathered through pre-and post-tests and delayed post-test. After undergoing a pre-test, learners received instructions on independent study of vocabulary items outside the class. Over the course of six months, the experimental group utilized a mobile application which contains digital flashcards of high frequency English vocabulary items. On the other hand, the control group used a hard copy list of the same words. Throughout the treatment, learners were reminded of studying independently, and at the end, they completed a post-test, followed by a delayed post-test two months later. The results revealed that the experimental group exhibited better performance than the control group in the post-test, emphasizing the effectiveness of MALL for independent, out of

class vocabulary learning. Additionally, the delayed test scores showed improvement in the experimental group compared to pre-and post-test results, highlighting the long-term effects of self-directed MALL learning on vocabulary acquisition.

Rahmani et al. (2022) replicated the study of Zakian et al. (2022) in a different setting, involving 44 adult EFL learners at a private language school in Iran. The researchers examined the impacts of self-directed, outside the class MALL learning on vocabulary knowledge, utilizing quantitative measures through pre-and post-tests and delayed post-test. The findings indicated that the autonomous, outside the class learning of digital flashcards with MALL was effective for both short-term and long term vocabulary acquisition.

In another study, Katemba (2021) explored the impacts of MALL on vocabulary acquisition among 79 eighth-grade learners at a rural school in Indonesia. The study adopted an experimental quantitative design, and the data were gathered through pre-and post-tests. The participants were divided into experimental and control groups, and over 14 weeks, the researcher sent vocabulary items along with their meanings from the textbook to the experimental group via SMS a day before the class. On the other hand, the control group received traditional vocabulary instruction. The results showed a significant difference in post-test scores, with the experimental group outperforming the control group, emphasizing the effectiveness of MALL on acquiring vocabulary knowledge.

2.3.4. Perceptions on MALL

This section delves into the research studies conducted on the perceptions of learners and teachers regarding MALL, respectively.

2.3.4.1. Perceptions of Learners on MALL

In the existing literature, learners' perceptions on MALL were scrutinized with a focus on language skills and areas. As one of them, Kohnke (2020) explored learners' perceptions on MALL by developing a mobile vocabulary application called

"Alphabet vs Aliens". The researcher aimed learners to have fun with the game-based design of the application and develop their receptive vocabulary knowledge. With 20 levels, the difficulty of activities in the application increased as learners continued to answer the questions correctly. The study involved 14 undergraduate EFL students at an English-medium university in China and adopted a qualitative case study design, gathering the data through semi-structured interviews. The results showed that learners held positive attitudes towards the application for enhancing their vocabulary acquisition, perceiving MALL as fun, motivating, engaging, flexible, and ubiquitous. Additionally, learners noted that MALL may offer them more beneficial, meaningful and efficient learning opportunities. Regarding the application, learners favored the rich content of sample sentences, opportunities for pronunciation practice, and the gamified and competitive elements of the application. However, learners expressed some issues such as small screen size and hardware-related problems with integrating mobile devices into language learning and teaching.

Another study regarding learners' perceptions on the improvement of language skills and areas through MALL was carried out by Soparno and Tarjana (2021). Adopting a qualitative case study design, the researchers aimed to investigate perceptions of five Indonesian vocational school students on enhancing their English-speaking skills with a mobile language learning application named "Learn English Conversation". The data were gathered through semi-structured interviews and observations. The results of the study indicated that students had positive perceptions towards the application to develop their speaking skills in both formal and informal learning environments. They contrasted their language learning experience through the mobile application with traditional methods, and evaluated the mobile application as interesting, fun, and motivating as it allowed them to practice speaking regardless of time and place. Moreover, the application helped learners overcome issues in speaking related to pronunciation, intonation and vocabulary, enabling them to record and repeat their speaking practices, and access various kinds of videos. Additionally, learners identified four factors that contributed to their MALL experience while practicing speaking skills and these were the novelty effect, ease of use, flexibility and minimal Internet usage requirement.

Similarly, Aratusa et al. (2022) investigated learners' perceptions on MALL to enhance pronunciation skills. Adopting a mixed methods design, the study involved 15 EFL university students in Indonesia, and the data were collected through questionnaires and interviews. The results showed that students' attitudes towards MALL in improving pronunciation were positive, and they perceived it as beneficial and effective. Nonetheless, learners noted a major problem in integrating MALL which is Internet connection issues.

As for writing skills, Jeanjaroonsri (2023) investigated the perceptions and practices of 305 Thai EFL learners at a university on MALL. Data were gathered through a questionnaire containing closed and open-ended questions. Closed-ended questions were analyzed quantitatively while open-ended questions were analyzed qualitatively. The findings revealed that learners utilized various MALL technologies such as online dictionaries, writing labs, and grammar and spelling checkers to improve their accuracy, productivity and self- confidence in their writing. Additionally, they perceived timesaving, ease of use and accessibility of MALL as advantageous features. However, they expressed concerns about the lack of authenticity and deviation from educational goals associated with these features. Furthermore, they highlighted the risk of over-reliance on MALL tools, affecting their productivity.

In a similar vein, Plantado and Plantado (2021) explored learners' perceptions regarding the utilization of mobile devices to learn English across various language skills including reading, writing, listening, speaking, and viewing. Conducted with 71 eleventh grade high school students in Philippines, the study adopted a quantitative research design. The data gathered from a survey questionnaire revealed that learners perceived the text messaging and calling features on their mobile phones as the most significant. Furthermore, on their mobile devices, they primarily utilized dictionaries and vocabulary games to improve language learning. While learners acknowledged the positive impact of MALL on enhancing all language skills, highlighting its portability, flexibility, usefulness, and ubiquity, they considered its influence on viewing skills to be particularly significant.

Various research studies in the literature examined learners' perceptions of their

overall language learning experiences in classroom settings. In his dissertation, Forsythe (2017) employed a qualitative single case study design to explore learners' perceptions of using their smartphones in classroom environment to enhance their English language learning. The study included 9 EFL university students, consisting of six females and three males, enrolled at a public university in Japan. The data were collected through in-depth interviews, and it was triangulated through observations of participants' non-verbal signs and gestures. The findings revealed that even though learners initially had little experience with the integration of MALL into EFL classroom activities, as they became more accustomed to utilizing their smartphones for English language learning, they expressed their perceptions as enjoyable, beneficial, fun and productive compared to traditional language learning practices. Moreover, learners expressed a desire to continue utilizing mobile devices for both formal and informal language learning, suggesting an interest in integrating language learning applications or websites they had utilized in the study into their future English language learning process. Nonetheless, one student expressed a preference for paper-based methods and pointed out concerns regarding lack of privacy and security when integrating MALL into classroom practices.

Moncada et al. (2020) conducted a study to explore the impacts of Kahoot, a mobile application utilizing a game-based response system, on language learning and teaching, as well as learners' attitudes and perceptions on integrating it into the EFL classrooms. The study involved 50 EFL vocational higher education learners at a technical college in Chile, divided into experimental and control groups, with 28 learners and 22 learners, respectively. Adopting a quantitative quasi-experimental design, the data were collected through pre-and-post tests, developed and administered by the researchers to assess writing, vocabulary and grammar knowledge of the learners, along with a survey to identify learners' attitudes and perceptions. Over a 4-week period, the experimental group utilized Kahoot to learn the language materials while the control group received traditional instruction to learn the same materials. The findings indicated a notable difference between the scores of pre-and-post tests in both groups; however, the experimental group had more significant gains with the utilization of Kahoot, highlighting the effectiveness of MALL. Additionally, students held positive attitudes towards Kahoot, and they perceived it as fun, engaging,

motivating and beneficial for learning, leading to enhanced language learning practices and academic performance.

In a study carried out by Shadiev et al. (2021), the researchers examined the affordances of MALL and how learners perceive it. The study included 25 EFL university students in China. To achieve their aim, the researchers designed a mobile application comprising features like a textbook, learning activities and map, a dictionary, and communication tools. The participants installed the application on their tablet PCs and engaged with various topics in informal and familiar learning environments. Data collection methods involved a questionnaire and interviews. The results revealed several advantages of learning in a familiar environment, leading to improved learning outcomes. Furthermore, learners held highly positive attitudes towards MALL, perceiving it useful and easy to use. They noted that MALL allowed them to practice learning regardless of time and place, to communicate and collaborate with their peers, and to learn from each other's mistakes, thereby facilitating a zone of proximal development.

In a similar vein, Nuraeni et al. (2020) explored learners' perceptions on incorporating MALL into EFL classrooms and their experiences regarding its challenges and benefits. The participants of the study were 70 EFL learners at a university in Indonesia with their own mobile phones. Adopting a quantitative research design, the data were collected through a questionnaire. Results suggested that most of the participants held positive perceptions on integrating MALL into EFL settings. They agreed that MALL facilitates an easy access to authentic materials, and it offers meaningful language learning opportunities with its portability, time-efficiency and flexibility. Nonetheless, learners expressed Internet connectivity as the most challenging issue in integrating MALL, followed by non-academic usage of mobile phones, small screen size and battery life. In another study by Yudhiantara and Nasir (2017) in Indonesian context, attitudes and perceptions of 70 EFL students at a university were explored. Employing a qualitative case study design, the data were collected through a questionnaire and observations. The results indicated that learners had positive perceptions and attitudes towards the incorporation of MALL into the classroom settings.

Similarly, Darsih and Asikin (2020) investigated 96 EFL learners' perceptions on MALL to enhance their English language learning. The study adopted a mixed-methods approach, with quantitative data gathered through a questionnaire and the qualitative data obtained through interviews. The findings revealed that learners utilize various applications to study English such as Google Translate, YouTube, and Zoom. Additionally, they perceived MALL as useful, beneficial and easy to use.

In another study, Azli et al. (2018) examined the perceptions of 100 private vocational college students in Malaysia regarding MALL in English as a Second Language (ESL) settings. Employing a quantitative research design, the data were collected through a survey questionnaire based on the Technology Acceptance Model, with a focus on two main constructs: perceived ease of use and perceived usefulness. The findings revealed that learners had positive perceptions on the integration of MALL in ESL settings, and they valued the perceived ease of use and perceived usefulness, which positively influenced their efforts in language learning process.

2.3.4.2. Perceptions of Teachers on MALL

Research on teachers' perceptions on MALL is relatively scarce compared to research studies carried out on learners' perceptions. One such study by Bozorgian (2018) employed a mixed-methods research design to investigate EFL Iranian teachers' attitudes and perceptions on MALL instruction in EFL settings. The quantitative data were collected through a questionnaire while the qualitative data were gathered through interviews and observations. The study involved 87 EFL Iranian teachers to conduct the quantitative phase of the study, and only 10 of them gave their consent for the qualitative phase of the study. Over the course of four weeks, the researcher observed mobile-based instruction of 10 teachers in the classroom, took field notes and audio-recordings. Following the observations, structured interviews were conducted to identify teacher perceptions. The results indicated that teachers held positive attitudes towards MALL instruction and perceived it as a motivating and effective tool to enhance language learning and teaching. Furthermore, they expressed various benefits of MALL as offering access to current information and authentic materials and using the time and energy effectively. However, data obtained from the

observations indicated that their views contradicted with their practices with MALL instruction. On the other hand, teachers perceived limitations of MALL as slow Internet speed, limited knowledge on utilizing the Internet, and insufficient Internet setup at the universities to access various academic materials.

In a similar vein, Nariyati et al. (2020) explored the perceptions 70 pre-service EFL teachers at a university in Indonesia on MALL while teaching English. The study employed an explanatory sequential mixed method design, and the data were collected through a questionnaire and interviews. The results of quantitative data revealed that the pre-service teachers were familiar with the concept of MALL, and they held positive attitudes towards it. Furthermore, they perceived it as beneficial, useful, time-efficient, accessible, easy to use, and ubiquitous.

In another study, Khan et al. (2018) explored EFL teachers' perceptions on MALL integration into EFL settings. The study involved 63 EFL teachers from various institutions in Saudi Arabia. Adopting a mixed methods approach, quantitative data were gathered through a questionnaire while qualitative data were collected through semi-structured interviews with 8 EFL teachers. Findings revealed that the majority of teachers held positive attitudes regarding MALL integration, and they expressed its affordances as portability, convenience and fast Internet connectivity, which facilitate independent and self-directed learning opportunities for learners. Nonetheless, teachers also noted some challenges like Internet connectivity issues, limited battery life, lack of knowledge and expertise in incorporating MALL into classrooms, and learners' inability to manage their academic learning through mobile devices.

Another study exploring the perceptions of EFL teachers in Saudi Arabia was conducted by Sarhandi et al. (2022). The participants were 120 male university teachers and, the researchers employed a concurrent embedded mixed methods approach, gathering quantitative data through closed-ended questions in a questionnaire and qualitative data through open-ended questions. The results showed that the majority of teachers valued the incorporation of mobile devices into EFL settings to enhance language learning both inside and outside the classroom. They believed that MALL could benefit learners by attracting their attention and motivating

them. However, some teachers refrained from allowing the use of mobile devices in classroom settings due to school policies and concerns about their potential to be a distraction in the language learning process.

Even though its context is slightly different, it is worth mentioning the study carried out by Xue and Churchill (2022). The researchers scrutinized a Chinese teacher's perceptive on the potential of WeChat, a mobile social media platform, to enhance language learning and teaching through the educational affordances it provides. The study also aimed to make connections with teachers' private theories, which encompass their beliefs and assumptions about learners, teachers, and instructional practices. Employing a qualitative single case study design, the study involved a lecturer, working at a university in China, with 10 years of teaching experience. Data collection methods included classroom observations and online observations to evaluate the Chinese teacher's utilization of WeChat in both formal and informal learning contexts, along with face-to-face semi-structured interviews conducted with the teacher in three distinct occasions, documents and artifacts. In the first interview, the teacher's background information and initial views and beliefs were gathered. The second interview focused on the affordances of observations and challenges of incorporating WeChat. The third interview documented any shifts in the teacher's assumptions and beliefs following the implementation of WeChat in educational settings. The findings revealed that MALL provides opportunities to search for diverse language learning materials and share them with others. It also fosters interaction in a motivating, engaging and autonomous learning environment. Additionally, learners can generate and present diverse language learning materials and receive feedback on their progress via mobile social media platforms. The Chinese teacher perceived the mobile social media integration in language learning and teaching as motivating and aimed to align instructional practices with the course objectives to ensure quality teaching. Nonetheless, concerns regarding privacy and security were raised as the limitations. After integrating WeChat into language learning and teaching, a shift was observed in the teacher's assumptions and beliefs. Rather than adopting a student-centered approach with the assistance of mobile technologies, the teacher prioritized direct instruction due to the factors such as fatigue resulting from other responsibilities beyond teaching and students' lack of interest.

Regarding teachers' perceptions on MALL, it is also noteworthy to point out Hafour (2022)'s study, which explores 33 pre-service and 31 in-service EFL teachers' perceptions on MALL training and their mobile technology use. Employing a pre-and post-test experimental mixed methods design, data were gathered through a close-ended perception survey and a closed- and open-ended mobile technology use survey. Both pre-service and in-service EFL teachers took these surveys as pre-and post-tests to identify their perceptions and mobile technology use. As a result of MALL training teachers received for six weeks, it was found out that both pre-service and in-service teachers had similar perceptions on MALL before and after training. Nonetheless, in-service teachers were more eager to receive MALL training compared to pre-service teachers. Additionally, the findings revealed a significant improvement in the perceptions of both groups and MALL use of in-service teachers, highlighting the importance of MALL training.

2.3.5. Research Studies in the Turkish EFL Context on MALL

This section examines research studies in the Turkish EFL context, focusing on the impacts of MALL on various language skills and areas, alongside the perceptions of learners and teachers regarding MALL.

2.3.5.1. Research Studies in the Turkish EFL Context on the Impacts of MALL on Language Skills and Areas

With regards to the impacts of MALL on language skills and areas, vocabulary is the most studied area in Türkiye. In Turkish EFL context, Gürkan (2018) conducted a descriptive case study to investigate the effects of a MALL application named Vocastyle, developed by the researcher, on learners' vocabulary learning. The participants of the study were ten 10th grade students who were attending to a state elementary school in Kocaeli. Initially, the researcher employed a questionnaire to determine various learning styles, revealing five aural learners and five visual learners. Later, the researcher selected words from learners' coursebook to utilize in Vocastyle application, extracting the ones learners were familiar with. Different annotations of the words were offered as well. The data were collected through semi-structured

interviews and analyzed thematically. The results of the study indicated that students perceived mobile vocabulary learning as beneficial, effective and motivating. Additionally, the annotation of words benefitted learners' proficiency in target vocabulary. Furthermore, there were differences in auditory and visual learners' preferences regarding annotation types, with video and graphics annotations being favored more than text and audio annotations as they attracted learners' interest and motivated them more.

In another study, Çetinkaya and Sütçü (2018) investigated the impacts of two mobile social networking services, WhatsApp and Facebook, on Turkish EFL learners' English vocabulary success. Employing an explanatory mixed method research design, the study collected quantitative data through an achievement test, pre-and post-tests and qualitative data through open-ended questions. 93 ninth-grade learners from three different classes at a state high school were selected for the study based on their pre-test results. Furthermore, students' technical backgrounds were scrutinized, and it was decided that learners with the most mobile devices and with better access to the Internet formed the two experimental groups while remaining learners formed the control group, with each group comprising 31 students. The experimental groups utilized WhatsApp and Facebook, respectively and they were sent information messages through those mobile networking services in which the descriptions, Turkish equivalents and sample sentences of vocabulary items were included. After a 70-day implementation period, learners took a post-test and opinions of 62 learners about the process were gathered one week later. The findings of pre-and post-tests showed a significant improvement in vocabulary acquisition for all three groups, emphasizing the influence of varying learning environments on vocabulary acquisition of learners. Additionally, even though there was no significant difference between the Facebook group and the control group, the WhatsApp group exhibited superior success in vocabulary acquisition compared to the other two groups. Furthermore, the qualitative data revealed that despite encountering a few challenges regarding the timing and irrelevancy of messages, learners generally held positive attitudes towards the integration of mobile-based tools in their vocabulary learning process.

In his dissertation, Bakay (2017) employed a mixed methods research design to

explore the effects of a mobile-based learning environment on learners' vocabulary acquisition. The quantitative data were obtained through pre- and post- tests utilizing a quasi-experimental design along with a motivation survey. Additionally, the qualitative data were collected through semi-structured interviews. The participants of the study were 37 elementary level students enrolled at METU English preparatory school, who were divided into experimental and control groups. Over the course of six weeks, the experimental group received vocabulary instruction through a mobile-based platform while the control group utilized printed booklets to acquire vocabulary items. The results of the quantitative data revealed that learners in the experimental group acquired more vocabulary items than those in the control group. Furthermore, learners in the experimental group exhibited higher levels of motivation than those in the control group. On the other hand, the qualitative data indicated that all learners favored the mobile-based language learning and expressed its opportunity to offer a meaningful and permanent learning experience. Conversely, learners also revealed challenges of mobile-based vocabulary learning as limited vocabulary learning opportunities and perceived it as frivolous.

In the context of Turkish EFL learning, Dağdeler et al. (2020) conducted research to explore how MALL affects vocabulary acquisition, specifically focusing on collocations. The study employed a quantitative quasi-experimental design, and the participants of the study were 73 junior university students from Cumhuriyet University and Gazi University in Türkiye. They were divided into experimental and control groups, the former consisting of 36 students from Cumhuriyet University and the latter consisting of 37 students from Gazi University. As pre-tests, learners took an achievement test to assess collocations and a scale to assess their receptive and productive vocabulary knowledge. Afterwards, the experimental group underwent a nine-week treatment period utilizing CollocatApp, a mobile app designed to practice collocations. Conversely, the control group received instruction on the same collocations using worksheets. At the end, learners took a post-test and three weeks later, a delayed post-test. Findings revealed a notable difference between experimental and control groups in their receptive vocabulary knowledge in the post-test, but no such difference was observed in the delayed post-test. Furthermore, regarding productive vocabulary knowledge, no significant difference was noted between

utilization of mobile applications and worksheets, highlighting effectiveness of MALL on improving receptive vocabulary knowledge only for short-term memory retention.

In his thesis, Söğüt (2021) examined the effects of MALL on vocabulary acquisition among 30 Turkish EFL learners at a state secondary school. To this end, the researcher utilized Duolingo, a mobile language learning application to develop learners' language skills and areas. Adopting a mixed methods design, the study gathered quantitative data through pre-and post-tests while qualitative data were collected through a post-treatment questionnaire and semi-structured interviews. The participants were divided equally into experimental and control groups, undergoing a pre-test to assess their initial vocabulary knowledge. Over an eight-week treatment period, the experimental group learned vocabulary items via Duolingo while the control group received vocabulary instruction traditionally. At the end of the treatment, both groups underwent a post-test. To identify learners' perceptions on MALL integration for vocabulary acquisition, the experimental group completed a post-treatment questionnaire and participated in semi-structured interviews. The results indicated a notable difference between post-test scores of the two groups, with the experimental group outperforming the control group, highlighting the effectiveness of MALL on vocabulary learning. Additionally, learners expressed positive perceptions of MALL to learn vocabulary, describing it as motivating, easy to use, effective, fun and enjoyable. With its ubiquity and support for independent learning, learners in this study were able to acquire vocabulary items autonomously.

As for speaking skills, in the study carried out by Elverici (2023), the impacts of MALL on Turkish EFL learners' English-speaking proficiency and satisfaction were explored in a blended learning environment through a descriptive study. 36 students from a foundation university in Istanbul were divided equally into experimental and control groups. Over an eight-week period, while the experimental group utilized Voki, a tool designed to enhance speaking, the control group received traditional instruction. The data were collected through a standardized test to assess learners' English proficiency levels, a speaking exam, and a satisfaction test evaluating learners experience with Voki. The results of the study showed that the integration of Voki significantly improved learners' speaking skills as well as their satisfaction levels.

With respect to listening skills, Altaş (2023) investigated the impacts of MALL on Turkish EFL learners' listening comprehension skills along with their perceptions, utilizing a mobile language learning application named Cake. The study adopted mixed methods research design and the data were collected through pre-and post-tests to assess listening comprehension, an attitude questionnaire, and semi-structured interviews. 30 A1 level EFL learners from a public high school in Diyarbakır, Türkiye participated in the study, and they were divided into two groups as experimental and control groups, each of which involving 15 students. Over the course of eight weeks, the experimental group enhanced their listening skills through Cake while the control group adhered to the English curriculum. The results revealed a significant improvement in the listening comprehension skills of the experimental group, indicating the positive impact of MALL on enhancing learners' listening comprehension skills. Furthermore, even though learners mostly had positive perceptions on MALL, they expressed limitations regarding the design and functionality of Cake application.

2.3.5.2. Research Studies in Turkish EFL Context on Learners' Perceptions on MALL

Various research studies in Turkish EFL context examined the perceptions of learners regarding MALL, revealing positive perceptions as well as acknowledging certain challenges. One such study by Akman and Karahan (2023) examined the perceptions of 110 EFL learners enrolled in an ELT program at a state university in Türkiye, focusing particularly on motivation and autonomy aspects of MALL. The study employed a mixed methods design, and the data were collected through an online questionnaire and open-ended written interview questions. The results showed that learners generally held positive attitudes towards MALL, considering it enjoyable and easy to use. Additionally, they emphasized the importance of vocabulary learning over other language skills and areas when utilizing mobile technologies for English language learning. Furthermore, participants highlighted the significance of MALL in enhancing motivation and autonomy in their language learning process.

Kanat-Küçüktezcan (2020) conducted a study with 30 B1 level EFL learners at a

foundation university in Türkiye to investigate their perceptions and attitudes towards MALL. Employing a mixed methods design, quantitative data were gathered through pre-and post-tests while the qualitative data were collected through semi-structured interviews and reflections by the researcher. In the study, the participants were divided into experimental and control groups, each consisting of 15 learners. Following the pre-test, the experimental group underwent a mobile-based learning process over four weeks while the control group received traditional instruction. At the end of the treatment, learners took a post-test, followed by the interviews with eight of the participants. The findings revealed that positive attitudes of the experimental group towards MALL significantly increased after the treatment. They pointed out that MALL provided them with opportunities for easy self-expression, active and independent learning in a ubiquitous and flexible environment, access to learning materials and revision irrespective of time and place. Moreover, they perceived MALL as convenient, entertaining, and useful for collaboration. Nonetheless, despite their favorable views, they remained hesitant to completely transition away from traditional instruction due to its potential challenges.

In a similar vein, Harbelioğlu (2020) explored the perceptions of 195 English as a Specific Purposes (ESP) students at a private university in Türkiye. The study adopted a mixed methods design, with quantitative data gathered through a survey and qualitative data collected through semi-structured interviews with 15 participants. The results showed that learners utilized various applications and social media platforms for entertainment, knowledge acquisition, and leisure activities. They valued the importance of mobile technologies in language learning as it offers them opportunities to learn whenever and wherever they desire. Furthermore, they viewed the integration of MALL as accessible, user-friendly, and beneficial for improving English proficiency in areas like vocabulary, pronunciation, and syntax.

2.3.5.3. Research Studies in Turkish EFL Context on Teachers' Perceptions on MALL

Research studies carried out on teachers' perceptions regarding MALL were mainly positive, highlighting various benefits and challenges. As one of them, Dağdeler and

Demiröz (2020) investigated 24 EFL instructors' perceptions on MALL from various universities in Türkiye. The study employed a qualitative research design, collecting the data through an open-ended questionnaire. The findings indicated that based on their definitions, Turkish EFL instructors were familiar with the concept of MALL. Furthermore, they highlighted the affordances of MALL as enabling language learning without the constraints of time and place, boosting motivation, attracting attention, offering personalized, collaborative and autonomous learning opportunities for learners in an enjoyable setting, and saving time and energy. Nonetheless, teachers also acknowledged certain challenges of MALL like Internet connection issues, classroom management difficulties, distractions, limited technological expertise, and limited number of mobile technologies.

Similarly, Hişmanoğlu et al. (2017) explored EFL teachers' perspectives and opinions regarding utilization of mobile language learning technologies and tools in teaching. Adopting a mixed methods design, quantitative data were gathered through a questionnaire while qualitative data were collected through open-ended questions. The study involved 50 EFL teachers teaching preparatory level students across three state universities in Türkiye. The quantitative data revealed that teachers utilize MALL in the classrooms to teach various language learning content. Moreover, while they appreciate the value of MALL in enhancing learners' vocabulary skills, they remain neutral regarding its impact on improving other language skills and areas. The qualitative data findings identified five benefits of MALL, including ease of access, ubiquity, timesaving, enjoyment, and pronunciation practice via online dictionaries. Nonetheless, teachers also perceived weaknesses of MALL in EFL settings such as challenges in classroom control and management, distractions affecting learner attention, and the potential for excessive usage of mobile phones and social media, ultimately diminishing effectiveness.

In her thesis, Aygül (2019) explored perceptions and practices of pre-service EFL teachers regarding MALL. Employing a mixed methods design, the study included 142 pre-service EFL teachers for the quantitative phase and 10 teachers for the qualitative phase. Data collection involved a questionnaire and semi-structured interviews. The results indicated that teachers mostly utilized MALL to enhance their

own vocabulary knowledge and listening skills outside the classroom, with less emphasis on their grammar knowledge and writing skills. They valued MALL since it provided them with authentic and collaborative learning opportunities. Furthermore, MALL offered a ubiquitous, meaningful, motivating, encouraging, engaging and enjoyable environment in which the teachers may enhance their creativity, autonomy and self-confidence. Nonetheless, concerns were raised regarding Internet connection issues, battery life, and small screen size. Additionally, the pre-service EFL teachers in the study offered recommendations concerning effective MALL integration into EFL settings, including application choice, self-regulation and self-discipline in language learning, fostering interaction, and acknowledging the affordances and constraints of MALL more.

Demirer (2017) explored the attitudes and perceptions of 15 EFL instructors working at a state university in Türkiye regarding MALL. The study adopted a descriptive mixed methods design, gathering the data through a survey and semi-structured interviews. The findings indicated that instructors valued the utilization of mobile devices in EFL settings and expressed their eagerness to incorporate them into language learning process, feeling confident in providing instruction based on MALL. Moreover, they held highly positive attitudes towards MALL, perceiving it as interesting, motivating, beneficial, and convenient. Additionally, they noted MALL's potential to enhance learner motivation and attention, provide skills-based learning, increase the quality of education, foster creativity, collaboration, interaction and communication, ultimately contributing to an improved language learning experience.

2.4. MALL Assessment

This section defines the concept of MALL assessment and explores research studies carried out on MALL assessment.

2.4.1. Defining MALL Assessment

In the existing literature, definitions of mobile learning (O'Malley et al., 2003, p. 6; Kukulska-Hulme, 2009), mobile assisted language learning (Kukulska-Hulme &

Shield, 2008; Stockwell, 2022) and the distinct types of language assessments have been offered such as formative assessment (Council of Europe, 2001, p. 186; Cizek, 2010, p. 6) and summative assessment (Cheng & Fox, 2017, p. 5; Brown, 2004, p. 6), formal assessment (Brown, 2004, p. 6) and informal assessment (Coombe, 2018, p. 21), direct assessment (Hughes, 2003, p.17; Council of Europe, 2001, p. 186) and indirect assessment (Hughes, 2003, p. 18), portfolio assessment (Brown & Hudson, 1998; Paulson et al., 1991), dynamic assessment (Lantolf & Poehner, 2004), self-assessment (Coombe, 2018) and peer assessment (Coombe, 2018, p. 32; Topping, 2009, p. 20). Nevertheless, the definition of MALL assessment remains unexplored since it is one of the least researched topics in the field (Duman et al., 2014). With regards to that, MALL assessment might be conceptualized based on Nikou & Economides (2018)'s definition of Mobile-Based Assessment (MBA). The researchers consider it as a relatively new area and refer to it as "the assessment that is delivered with the use of personal electronic mobile devices such as Personal Digital Assistants, smart phones or tablets" (p. 102). By incorporating the term "language" into this definition, it is possible to generate a definition for MALL assessment.

2.4.2. Research Studies on MALL Assessment

In this section, research studies on MALL assessment are explored with a particular focus on the assessment of language skills and areas with MALL, as well as learners' and teachers' perceptions of MALL. Lastly, research studies conducted in the Turkish EFL context on MALL assessment are investigated.

2.4.2.1. Research Studies on the Assessment of Language Skills and Areas with MALL

Self and peer assessments are among the most frequently used types of language assessments for assessing learners' language skills and areas within MALL. Various empirical studies have demonstrated the effectiveness of these assessments when implemented through MALL. Regarding peer assessment, Dai and Wu (2021) conducted a mixed methods study focusing specifically on the improvement of pronunciation while practicing speaking. The study aimed to investigate the impacts

of Automatic Speech Recognition (ASR) and peer feedback on mobile-assisted pronunciation learning. The quantitative data were collected through pre-and post-tests and perception questionnaires, while the qualitative data were gathered through interviews. The study involved 84 Chinese EFL university learners, and after undergoing a pre-test to assess their pronunciation, learners were divided into three classes. The first group received solely peer feedback, while the second group received peer feedback and ASR feedback. Additionally, the third group received autonomous ASR feedback via WeChat, a mobile social networking application utilized in China. Following the treatment, learners underwent a delayed post-test without prior notification, and 18 of them volunteered for semi-structured interviews. The findings revealed notable improvements in pronunciation regarding accuracy in word stress, segmental accuracy, and comprehensibility across all three groups. Nonetheless, post-test results showed that the first and second groups outperformed the third group, highlighting the importance of peer feedback on enhancing pronunciation. Additionally, despite providing detailed and immediate feedback to learners, autonomous ASR feedback via WeChat left learners uncertain about addressing their pronunciation challenges. Conversely, groups receiving peer feedback were able to adapt their pronunciation effectively, benefitting from the supportive scaffoldings provided.

Similarly, Chang and Lin (2020) explored the impacts of mobile-based peer-assessment tasks, utilizing instant response systems, on learners' oral proficiency. Employing a quasi-experimental research design, the study involved 60 EFL university students, divided equally into experimental and control groups, and the data were gathered through rubrics to assess oral performance, a perception questionnaire, and informal interviews. Over a 12-week period, both the experimental and the control groups were instructed on how to record oral videos and upload them using the ZUVIO system. Afterwards, they formed groups of three within each group. Participants in the experimental group provided feedback to their peers within ten groups while the control group received feedback from their instructor. The findings revealed a significant difference between the oral performance of experimental and control group, the former outperforming the latter. It confirmed that peer assessment through mobile-based tasks improves learners' engagement and active participation. Furthermore,

mobile-based peer assessment facilitated learners to reflect on both their peers' work and their own, receive valuable feedback, and engage with the assessment procedure. Nonetheless, learners also expressed some problems regarding the integration of mobile-based peer assessments into the classroom like time-consuming nature, the demanding process and discomfort with assessing their peers.

Research studies have also indicated that MALL assessments through self-and peer-assessments are inefficient in improving learners' language skills and areas. In this regard, Samaie et al. (2018) carried out a study to evaluate the effectiveness of WhatsApp in enhancing learners' speaking proficiency through self and peer-assessments. The study involved 30 Iranian EFL learners from a private school and the data were collected through questionnaires including open and closed ended questions. During the research, the participants were instructed on the concepts of self and peer-assessments and were requested to fill the initial questionnaires. Afterwards, they assessed their own and peers' recordings on a topic chosen by the researchers. The study concluded with final questionnaires and semi-structured interviews with selected participants. Findings revealed that participants tended to give higher scores to their peers compared to themselves. Nonetheless, despite varying scores of participants, there was no procedural difference between self- and peer assessments. Furthermore, utilization of WhatsApp for carrying out these assessments did not influence how learners assigned their grades. Additionally, participants expressed their dissatisfaction with engaging in mobile-based assessments, holding negative attitudes towards them. Their reasons behind this choice included disbelief in the efficiency of WhatsApp, the belief in the necessity to assess oral proficiency through face-to-face interactions, concerns regarding privacy, and considerations of individual relationships.

Formative and summative assessments are other types of language assessments used with MALL. Al-Abri et al. (2024) carried out a study to investigate the impact of learning-oriented formative assessments through MALL on improving learners' lexical fluency. The study included 275 EFL university students in Oman, divided into experimental and control groups, the former with 135 students and the latter with 140 students. The experimental group participated in mobile-based formative assessments

through the Student Response System named Mentimeter, including a range of activities such as polls, word clouds, and quizzes. Conversely, the control group received traditional classroom-based instruction. Employing a mixed-methods design, data were collected through semi-structured interviews and formative assessments via Mentimeter. Over a 14-week period, students accessed the platform and completed an oral speaking test similar to the International English Language Testing System (IELTS) speaking test. Results suggested that the experimental group achieved better lexical fluency and overall speaking performance than the control group, highlighting the importance of formative assessments through MALL. Additionally, the experimental group felt more flexible in expanding their vocabulary knowledge due to vast lexical resources and they performed better in vocabulary quizzes due to the continuous assessment process. Semi-structured interview data with teachers revealed high satisfaction with MALL assessments as they provided learners with opportunities to participate actively in speaking activities, offered anonymity, and supported student-centered learning.

In a similar vein, Yassin and Abugohar (2022) explored the effect of MALL using gamified formative assessments on the overall language proficiency of 598 EFL university students attending preparatory school in Saudi Arabia. The study adopted a quasi-experimental design, gathering data through pre-and post-tests. Over 14 weeks, learners underwent different types of assessments in two research cycles. In the first cycle, formative assessments were carried out in a traditional classroom environment, followed by a pre-test. In the second cycle, formative assessments were implemented utilizing gamified mobile apps named Kahoot! and Quizziz, and a post-test was administered. The results showed a notable difference between the scores of pre-and post-tests, indicating the effectiveness of formative assessments through MALL in improving learners' overall language proficiency.

In another study carried out by Yarahmadzehi and Goodarzi (2020), the effectiveness of mobile-based formative assessment was compared to paper-based ones in enhancing learners' vocabulary knowledge. The study involved 40 pre-intermediate EFL university students in Iran attending to General English class. Using a quasi-experimental design, data were collected through pre-and post-tests, a treatment test

and an attitude questionnaire. Participants were divided into two groups as formative mobile-based group and formative paper-based group. Study lasted ten sessions and at the end of each session, learners in both groups received a multiple-choice vocabulary test based on the words covered in the course book. The formative mobile-based group took the tests using Socrative application while formative paper-based group used pen and paper. Results from post-tests revealed that the formative-mobile-based group outperformed formative paper-based group, suggesting the effectiveness of formative assessment with MALL in improving learners' vocabulary knowledge. Moreover, learners expressed positive attitudes towards mobile-based formative assessments.

Although the context differs slightly, it is worth noting the study conducted by Afshar and Zareian (2022). Employing a mixed methods study, the researchers aimed to investigate the impact of raising awareness about writing strategies through MALL on IELTS candidates' writing performance and anxiety levels. Participants of the study were 72 upper-intermediate level EFL learners in Iran, divided into two as experimental and control groups, with the former consisting of 42 learners in four classes and the latter consisting of 30 learners in three classes. Data were collected through five writing tasks, Oxford Quick Placement Test, anxiety questionnaires, and think-aloud protocol. Initially, IELTS candidates took a placement test to assess their language learning proficiency and were informed about the think-aloud protocol. Afterwards, they completed an anxiety questionnaire, wrote their compositions and documented the strategies they utilized. Over a six-week period, the experimental group engaged in online discussions about these strategies on Telegram while the control group did not get involved in such discussions. After the treatment, the candidates took the anxiety questionnaire again. The findings indicated that raising awareness about writing strategies through MALL had a positive impact on writing accuracy and complexity but a negative impact on their writing anxiety levels. Additionally, the think-aloud protocols highlighted the importance of strategies like "planning, monitoring, revising, retrieving and compensating" (He et al., 2011) for learners' accomplishment in writing compositions.

Conversely, the existing literature documented the ineffectiveness of MALL assessment on language learning. In a comparative study of formative and summative

assessments, Chou et al. (2017) explored the influence of "Bring Your Own Device" (BYOD) approach on students' English language learning. The study involved 46 junior high school students in Taiwan and employed a quasi-experimental research design, gathering data through quizzes for formative evaluation, learning achievement tests for summative and delayed summative evaluation, a questionnaire, and informal interviews. The participants were divided into two as experimental and control groups. The experimental group received the quizzes through Socrative application while the control group used paper-based tests. Over four weeks of experimentation, both groups completed a quiz after each lesson, comprising of multiple-choice and short-answer questions. At the end of the experiment, learners took an achievement test, and one month later, they received another test to evaluate the long-term retention of language learning. The formative assessment findings revealed that the control group performed considerably better than the experimental group due to the unfamiliarity with the BYOD approach. Even though the control group also outperformed the experimental group in the summative assessments, the difference was not significant. However, the results of delayed summative assessments indicated that the BYOD approach was effective for long-term retention of language learning. Additionally, learners using BYOD approach expressed enjoying the MALL assessments since they attracted their attention and facilitated a motivating learning experience.

The existing literature extensively comprised of research studies investigating the impacts of dynamic assessments with MALL on various language learning skills and areas. Specifically, regarding writing skills, these studies indicated that using dynamic assessments with MALL is effective. Ebadi and Bashir (2021) carried out a study to explore the influence of mobile-based dynamic assessment on writing skills of 30 intermediate level EFL students from a private language school in Iran. The study adopted a sequential explanatory mixed- methods design, collecting the quantitative data through pre-and post-tests and the qualitative data through semi-structured interviews. The participants were equally divided into three groups, two experimental groups and one control group. One of the experimental groups received text-based mediation while the other group received voice-based mediation through WhatsApp. In contrast, the control group received face-to-face instruction without any dynamic assessment mediation. Initially, learners took a pre-test to assess their writing

proficiency levels. Following instructions on the session procedures, the experimental groups were asked to write essays on topics selected by the instructor, submit them via Google Docs, and send them to their instructor through WhatsApp. After completing ten sessions of getting feedback on the problematic areas, the learners underwent a post-test and semi-structured interviews. The results suggested a notable difference between the pre-and post-test scores of the experimental and control groups in writing skills. Specifically, the difference between the pre-and post-test scores in the text-based mobile dynamic assessment group was greater than that of the other two groups. However, the voice-based mobile dynamic assessment group outperformed the other two groups in their post-test scores. These findings highlighted the importance of dynamic assessment through MALL in enhancing learners' writing skills.

Rad (2021) conducted a study with 30 Iranian intermediate level EFL learners attending to an English course to explore the impact of mobile-based hybrid dynamic assessment, a relatively new approach combining both interactionist and interventionist models, on descriptive writing skills. Employing a mixed-methods approach, data were gathered through DIALANG, an online English language test to diagnose language proficiency, two descriptive essays as pre-and post-tests, and semi-structured interviews. Participants were evenly divided into experimental and control groups. The experimental group participated in mobile-based hybrid dynamic assessment environment via Edmodo application while the control group received the assessments in a traditional format. After submitting their descriptive essays, semi-structured interviews were conducted with the experimental group to examine their perceptions of mobile-based hybrid dynamic assessment. The results of the study indicated that incorporating MALL into the process of hybrid dynamic assessment enhanced the importance of dynamic assessment and reduced the drawbacks identified in the previous studies. Substituting traditional assessments, it also offered an opportunity to investigate learners' ZPD, and subsequently, a more comprehensive evaluation of the descriptive writing process. Additionally, the use of Edmodo enabled learners to easily and quickly analyze their errors and mistakes in their writings.

Comparing the dynamic assessments in mobile-mediated and face-to-face environments, Kaveh and Rassaei (2022) aimed to investigate the impacts on learners'

writing fluency and strategy awareness. Adopting a socio-cultural perspective and using an experimental design, the data were gathered through pre-and post-tests, and a questionnaire to assess learners' writing strategies. The study involved 45 Iranian EFL university students, divided equally into two experimental groups and one control group. One experimental group received mobile-mediated dynamic assessment via WhatsApp while the other received face-to-face dynamic assessment. The control group received traditional instruction without any treatment. After taking pre-tests, the experimental groups attended to treatment sessions, and all three groups were asked to write on topics provided to them. At the end of the treatment sessions, participants were administered a post-test, followed by a delayed post-test two weeks later. The findings revealed that while the experimental groups outperformed the control group in writing fluency, the mobile-mediated dynamic assessment group demonstrated the highest performance in writing fluency among all groups. Moreover, dynamic assessment through MALL improved learners' writing strategies.

Research studies have also highlighted the effectiveness of dynamic assessments with MALL in enhancing speaking skills. In this regard, Rezaee et al. (2019) aimed to investigate the influence of mobile-based dynamic assessment on learners' oral accuracy. The study involved 120 pre-intermediate level EFL learners from a university in Iran, divided equally into two experimental groups and one control group. One experimental group received mobile text-based dynamic assessment, and the other received mobile voice-based dynamic assessment through WhatsApp. The control group participated in traditional classroom-based instruction. To collect data, the Oxford placement test, pre-and post-tests, and communicative tasks were utilized. After taking the Oxford placement test, all three groups attended a pre-test. Over four weeks, the experimental groups underwent treatment sessions outside the classroom and completed eight communicative tasks while receiving dynamic assessment. On the other hand, the control group continued with traditional classroom-based speaking tasks without engaging in any out-of-class activities. At the end of the treatment sessions, all three groups were asked to complete a post-test. The results suggested that mobile-based dynamic assessment significantly improved EFL learners' oral accuracy, facilitating learners to get immediate feedback on their oral performance. Additionally, text-based mobile group outperformed the voice-based mobile group in oral accuracy.

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Similarly, Phetsut and Waemusa (2022) conducted a study to explore the effectiveness of dynamic assessment through MALL in enhancing learners' oral accuracy. The study involved 80 lower intermediate secondary level EFL learners in Thailand. Employing a quasi-experimental design, the data were gathered through oral pre-and post-tests, oral tasks, and a questionnaire. Learners were requested to complete a questionnaire to evaluate their daily usage of mobile devices. Afterwards, they underwent a pre-test and during the five-week intervention, they completed five oral tasks, recorded their voice and sent the recordings to their instructor through WhatsApp. At the end of the treatment sessions, learners received a post-test. The findings revealed a notable impact of mobile-based dynamic assessments on improving Thai EFL learners' oral accuracy.

Dynamic assessments through MALL have also been proven to be effective in enhancing learners' vocabulary knowledge. Andujar (2020) carried out a study to investigate the influence of mobile-mediated dynamic assessment on learners' overall second language development. The study involved 60 Spanish B1 level university students enrolled at an English course. Employing a mixed-methods approach, data collection instruments included grammar and vocabulary tests, teacher prompts, and a mark sheet. The participants were evenly divided into experimental and control groups. Over five-weeks, although both groups received the same content and instruction, and attended to the same traditional grammar and vocabulary assessments, the experimental group differed from the control group in that their second language development were evaluated through mobile-mediated dynamic assessment through WhatsApp, along with teacher prompts. At the end of the course, learners received grammar and vocabulary tests to assess their second language development. The findings highlighted the pedagogical value of dynamic assessments. Additionally, learners in the experimental group required less explicit teacher prompts by the end of the course, indicating an improvement in their second language learning.

Although its context slightly differs, the study carried out by Torang and Weisi (2023) is still noteworthy since it highlights the importance of dynamic assessment through MALL on learners' vocabulary learning. The researchers aimed to explore the impact of dynamic glosses, a technique where learners are provided with hints and prompts to

help them identify the definitions of unfamiliar words themselves, on learners' vocabulary learning through MALL. The study employed a quasi-experimental design, and data were gathered through pre-tests, immediate post-tests, and delayed post-tests. The study involved 75 novice EFL learners, divided equally into two experimental groups and one control group. Through WhatsApp, one experimental group received mobile-mediated dynamic glossing including hints and prompts, and the other one received mobile-mediated non-dynamic glossing. The control group received no glosses. After taking the pre-test, all three groups encountered underlined or highlighted vocabulary items in reading passages over ten treatment sessions. At the end of the treatment sessions, they took two immediate post-tests, followed by two delayed post-tests two weeks later. The results revealed the effectiveness of mobile-mediated dynamic glossing on the improvement of EFL learners' vocabulary knowledge. Moreover, the study highlighted the significance of utilizing mobile devices on vocabulary learning since they offer learners a chance to moving beyond the limits of the classroom-based learning due to their ubiquity.

2.4.2.2. Research Studies on the Perceptions of Learners and Teachers of MALL Assessment

Research studies on MALL assessment have mostly documented learners' perceptions. Wu and Miller (2020) aimed to explore the influence of mobile-assisted peer assessments on enhancing learners' speaking skills. The study involved 25 EFL university students from a business school enrolled in an ESP course in Hong Kong. Using a mixed-methods approach, data were gathered through a questionnaire consisting of closed and open-ended questions, focus group interviews, and a teacher journal. To prepare learners for their teacher-assessed assignment, the instructor decided to utilize an application named PeerEval. The assignment and application were introduced to the learners, who were later divided into groups of five to practice mock meetings similar to the upcoming teacher-assessed assignment. Afterwards, all students assessed their peers' oral performance through peer feedback via PeerEval. The findings revealed two broad themes as the provision of peer feedback and the use of mobile technology. Learners expressed positive attitudes towards integrating mobile-based peer assessment into the classroom to foster speaking skills. They

perceived PeerEval as advantageous due to its usefulness, user-friendliness, immediacy and anonymity in offering peer feedback, and convenience. Nonetheless, they also noted limitations such as insufficient class time for detailed feedback, the crowded nature of the class, and small screen size of mobile devices.

Pingping et al. (2021) conducted a study with 300 EFL university students in China to investigate the impact of self-assessment through MALL on improving overall language learning and to explore learners' perceptions. Adopting a mixed methods approach, data were gathered through a questionnaire and semi-structured interviews. The results suggested that even though learners valued the importance of self-assessment for improving their English, the effectiveness of self-assessment through MALL was rated as medium or lower. The reasons behind this result were learners' lack of motivation and desire to improve their English language skills independently, lack of applications that promote self-assessment, and distractions within the applications.

Regarding the learners' perceptions on mobile-based formative assessment, Alharbi and Meccawy (2020) conducted a study utilizing Socrative application with 35 intermediate level EFL university students in Saudi Arabia. Data were collected through pre-and post-experiment surveys, and a Socrative quiz. The results of pre-and post-surveys indicated a significant change in learners' attitudes towards mobile-based formative assessments. Learners held positive attitudes towards the study itself before participating in the mobile-based formative assessments. However, they were conflicted about whether to prefer mobile-based formative assessments over paper-based ones as they were more accustomed to the latter. After participating in the study, they expressed positive perceptions, noting that Socrative saves time, provides instant feedback, offers a user-friendly environment, and relieve anxiety and stress with picture clues or explanations for answers. Even though the advantages surpassed the disadvantages, learners mentioned issues related to Internet accessibility and battery life.

Adopting a survival analysis approach, Bacca-Acosta and Avila-Garzon (2020) aimed to measure learners' engagement with mobile-based formative assessment systems and

their influence on language development and motivation. The study involved 86 EFL university students enrolled in English language courses. Data were gathered through two self-reported instruments and an automatic monitoring mechanism incorporated to the application named K-English. This mobile-based formative assessment application was designed to prepare learners for the Cambridge Key English Test, and it comprised of questions assessing learners' reading, writing and listening skills. Over a five-week period, learners used the application at their own pace while the application gathered data regarding the amount of time spent and user actions. At the end, learners were asked to complete a questionnaire to assess their acceptance and motivation regarding mobile-based formative assessments. The results suggested that acceptance, ease of use, usefulness and behavioral intention positively affected learners' engagement with the mobile-based formative assessments while feedback and user interface did not significantly impact engagement. Even though learners with positive perceptions used the application for longer periods, approximately half of the learners disengaged from the mobile-based formative assessment application within 25 to 50 minutes of use.

With regards to summative assessments through MALL, Li and Chan (2024) explored IELTS test takers' attitudes towards the use of mobile applications in a high-stakes speaking test. Integrating the theory of Technology of Acceptance Model, the study involved 235 Chinese test takers who had experience with an exam-oriented mobile application using artificial intelligence. Afterwards, these participants were asked to fill out a questionnaire including closed and open-ended questions. The findings revealed that perceived usefulness and ease of use determined test takers' attitudes towards using mobile applications to study IELTS speaking test. Additionally, learners expressed the advantages of exam-based mobile applications as usefulness, convenience, accessibility and ubiquity. They further evaluated the incorporation of artificial intelligence as useful, helpful and interesting. However, they also noted some limitations such as Internet connection problems and lack of resources.

Exploring teachers' perceptions along with learners' perceptions, Nguyen and Yukawa (2019) carried out a study to investigate the effect of testing and assessment through a mobile application named Kahoot on language learning and teaching. The study

involved 20 teachers and 20 university students in the English department in Vietnam. Quantitative data were gathered through questionnaires and after completing a pre-survey questionnaire, the participants received another questionnaire during the study, followed by a final one at the end of the study. On the other hand, qualitative data were collected through interviews with both teachers and students. The pre-survey questionnaire results showed that neither teachers nor students had previously used Kahoot for testing and assessment. However, after participating in the study, all teachers decided that they would use Kahoot to assess their students' language learning process as it is useful, beneficial, time saving, and motivating. The interview data revealed that even though learners were generally not allowed to use their mobile phones in class to avoid distractions, the permission to use them for Kahoot during the study excited them. At the conclusion of the study, teachers expressed that Kahoot was flexible, easy to use, and secure. Furthermore, students had positive perceptions and felt motivated to continue using to Kahoot for revisions and assessments.

2.4.2.3. Research Studies in Turkish EFL Context on MALL Assessment

Research studies conducted on MALL assessment in Türkiye are quite scarce. To the best of the researcher's knowledge, only two studies have been conducted in Türkiye on the use of language assessments through mobile applications. Among these, the study carried out by Şükür et al. (2023) is particularly noteworthy as it is the only one in Türkiye that explicitly addresses the utilization of mobile-assisted language assessments in language learning. The researchers aimed to compare mobile-assisted dynamic assessment with face-to-face dynamic assessment to investigate their impacts on speaking skills, specifically focusing on mediational moves and reciprocity behaviours. The study involved four tertiary-level EFL learners and one of the researchers in the study as the mediator. Adopting a qualitative descriptive design, data were gathered through WhatsApp, YouTube videos for storytelling, and an interview form to gather information on learners' views of dynamic assessment sessions. The findings revealed that the mediator often utilized dialogical moves in both mobile-assisted and face-to-face dynamic settings. Furthermore, the mediator favoured implicit mediational moves over explicit ones to provide learners with opportunities for self-correction, thereby supporting their ZPD. Notably, the implicit mediational

moves were used more often in face-to-face dynamic assessment sessions. With regards to reciprocity behaviours, learners were able to overcome their problems without the help of the mediator more often in face-to-face dynamic assessment sessions. Additionally, participants noted that both face-to-face and mobile-assisted dynamic assessment sessions were useful for enhancing their speaking skills as they offered them a chance to self-correct their mistakes and solve their problems on their own. Nonetheless, they also highlighted limitations such as Internet connection problems and feeling stressed while communicating with the mediator through WhatsApp.

The other study conducted in Türkiye that indirectly addresses the use of mobile-assisted language assessments in language learning is by Önal et al. (2022). The researchers aimed to investigate the influence of a mobile game-based application named SOS Table on learners' motivation, acceptance and attitudes towards mobile-based language assessments. The study involved 110 EFL preparatory level university students in Türkiye. It adopted a mixed-methods approach, gathering the data through three different scales as pre-and post-tests, and semi-structured interviews. Over eight weeks, students practiced "Tenses in English" through SOS Table application and self-assessed their grammatical knowledge. The findings demonstrated an improvement in the post-test compared to the pre-test, proving the effectiveness of using the SOS Table application for self-assessment and English language learning. Furthermore, the application had positive influence on their acceptance of, motivation and attitudes towards mobile-based language learning through self-assessments. The participants expressed their perceptions on the application, highlighting its role in facilitating language learning and assessment. They observed that the application was easy to use, enjoyable, useful, ubiquitous, beneficial for enhancing speaking skills, fostering repetition and productivity, and offering visualized and permanent learning.

In conclusion, literature identifies types and principles of language assessment. It consists of a range of studies on the impacts of MALL on improving language skills and areas as well as perceptions of learners and teachers on MALL. Additionally, it scrutinizes effectiveness of language assessment types such as formative assessment, self- and peer assessments, and dynamic assessments through MALL. Even though

existing literature highlighted learners' perceptions on MALL assessments, to the best of the researcher's knowledge, there is only one global study which explores teachers' perceptions on MALL assessment. In Türkiye, two studies have examined learners' perceptions on MALL assessments, revealing a notable gap in terms of addressing teachers' perceptions and highlighting the need for further research in this area.

CHAPTER 3

METHODOLOGY

3.0. Presentation

This chapter provides research questions and thoroughly scrutinizes the research design, sampling and selection of the participants as well as data collection tools, data collection procedures, and data analysis. Furthermore, it addresses trustworthiness and ethical considerations.

3.1. Research Questions

Aligned with the purposes and aims of the current study, the research questions developed and intended to be answered were stated below.

1. What are the perceptions of in-service EFL teachers working in different school contexts in Türkiye in terms of:

    a. their overall opinions on language assessment, MALL and MALL assessment?

    b. their self-reported current practices and the implementation of technology, language assessment, MALL and MALL assessment into EFL classrooms?

    c. constraints in relation to language assessment, MALL and MALL assessment?

    d. affordances in relation to language assessment, MALL and MALL assessment?

    e. specific needs, recommendations, and future and potential of MALL assessment?

    2. What are the perceptions of Testing and Evaluation specialists working in

different higher education contexts in Türkiye in terms of:

    a. their general expertise on technology and language assessment?

    b. constraints and affordances in relation to language assessment, MALL and MALL assessment?

    c. concerns, specific needs and recommendations, and future and potential of MALL assessment?

The current study aims to scrutinize two main research questions. The first question focuses on the perceptions of in-service EFL teachers while the second question focuses on the perceptions of testing and evaluation specialists regarding language assessment, MALL and MALL assessment. To investigate these research questions, qualitative case study design was selected.

3.2. Research Design

The current study utilizes an explanatory case study research design, which is one of the approaches to qualitative inquiry. Qualitative inquiry focuses on how individuals build their worlds, interpret their experiences and comprehend the meanings of those experiences (Merriam, 2009, p. 5). It prioritizes perceiving "the meaning of human action" (Schwandt, 2007, p. 248) or the underlying aspects of a specific phenomenon. Qualitative researchers seek not to confine a phenomenon, but they aim "to break it open, unfasten, or disrupt it so that a description of the phenomenon, in all its contradictions, messiness, and depth, is (re)presented" (Mayan, 2023, p. 3). Through the (re)presentation of qualitative data, a comprehensive analysis of participants' diverse views and multiple perspectives is provided (Mayan, 2023, p. 3; Yin, 2016, p. 9). Based on Creswell (2013), several key characteristics of qualitative inquiry can be summarized as follows:

- Qualitative inquiry should be conducted in a natural setting where researchers interact directly with the participants and observe them closely.
- Qualitative researchers develop their own instruments through gathering data from various sources rather than relying on other researchers' instruments.
- Qualitative inquiry requires a thorough process of reviewing and organizing data based on the information obtained from multiple data sources.

- Qualitative researchers use complex reasoning skills, employing inductive and deductive logic, to develop a detailed set of categories and themes for the data.

- Qualitative inquiry presents a holistic understanding of the issue or problem being studied (p. 45-47).

Creswell (2013) also highlighted that these characteristics of qualitative inquiry have developed over the years, and they do not offer a fixed set of elements. Nonetheless, qualitative research requires focusing on the interpretative aspects and placing the study in researchers' cultural, social, and political backgrounds, and "the reflexivity or 'presence' of the researchers in the accounts they present" (p. 45).

Qualitative case study research focuses on investigating the "case" itself and recognizing its complexities (Mayan, 2023, p. 132). The case could be a single individual, an institution, a program, a group, or a community (Merriam, 2009, p. 40), and the case study research aims to define "the blurred boundaries between the phenomenon (e.g., case) and the context where it is embedded (for instance, a project, program, or organization)" (Mayan, 2023, p. 132). It is the unit of analysis characterizing the case study research rather than the topic of investigation (Merriam, 2009, p. 41).

Qualitative researchers offered various definitions for case study research. Yin (2003) defined case study as an empirical inquiry that "investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 13). Similarly, Creswell (2013) offered a comprehensive definition of case study as:

> *a qualitative approach in which the investigator explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audiovisual material, and documents and reports), and reports a case description and case themes. The unit of analysis in the case study might be multiple cases (a multisite study) or a single case (a within-site study) (p. 97).*

Additionally, Bromley (1986) highlighted the significance of the case study approach, noting that:

> *…it deals directly with the individual case in its actual context. … Case studies get as close to the subject of interest as they possibly can, partly by means of direct observation in natural settings, partly by their access to subjective factors (thoughts, feelings, and desires) (p. xi & 23).*

Since the current study aims to investigate the perceptions of in-service EFL teachers and testing and evaluation specialists on MALL assessment by having an "access to subjective factors" (Bromley 1986, p. 23), a qualitative case study approach is adopted. This approach is chosen to facilitate a comprehensive exploration and develop a general understanding of the participants' perceptions on MALL assessment. The study's participants consist of nine in-service EFL teachers actively engaged in diverse educational contexts encompassing elementary, secondary and high school levels. From each context, three participants are selected to ensure a uniform presentation. Furthermore, the integration of three testing and evaluation specialists adds to the study's credibility and validation.

Even though qualitative researchers presented various kinds of classifications for case study research, Yin (2018) proposed three types of case studies based on the purpose of the research as descriptive, exploratory and explanatory case studies. In descriptive case studies, the purpose is to depict a phenomenon (the case) within the authentic, real-life setting. On the other hand, exploratory case studies aim to determine the research questions or procedures which will be utilized in the following research studies, irrespective of their design. As the third type of case studies, the purpose in explanatory case study is to clarify "how" and "why" questions regarding the incidents or conditions in the study (p. 297-298), scrutinizing "causal factors to explain a particular phenomenon" (Priya, 2021, p. 96). According to Thomas (2021), in explanatory case studies, "the phenomenon in which you are interested needs 'unpacking,' the connections between different parts of the issue need unravelling, and the case study offers a route to explanation" (p. 142). Aligned with Yin (2018)'s case study types, the current study employs explanatory case study as the research design to offer comprehensive explanations on MALL assessment through the perceptions of in-service Turkish EFL teachers and testing and evaluation specialists.

3.3. Sampling and Selection of the Participants

Current study employs purposeful sampling method to select participants. According to Stake (1995), while selecting the cases, the primary criterion should focus on maximizing capacity for learning the specific case rather than dealing with how this specific case is or is not strongly representing other cases since "case study research is not sampling research" (p. 4). In line with this principle, this study meticulously explores cases by selecting participants who can provide rich and diverse insights. The study was conducted on the spring semester of 2023-2024 academic year, and the participants were in-service EFL teachers working in diverse public school contexts, including elementary, secondary and high schools. Another group of participants involved testing and evaluation specialists from different higher education contexts working in one of the biggest cities in Türkiye. In the current study, the term "testing and evaluation specialists" were used to refer to these participants who get involved in the design and implementation of assessments even though they are also regarded as "measurement and evaluation specialists" and "assessment and evaluation specialists" in the literature. To provide "information-rich" (Patton, 2002) data on identifying the "causal factors" (Priya, 2021, p. 96) behind assessment through MALL in different levels of state schools, and to provide explanations for the current practices, affordances and constraints of its implementation into classroom environments, in-service EFL teachers and testing and evaluation specialists were purposefully selected.

Purposive (Chein, 1981) or purposeful (Patton, 2002) sampling refers to the process of deliberate selection of samples to provide maximum variation or information-rich perspective on the phenomenon (Kuzel, 1992, p. 37; Yin, 2016, p. 93-94; Mayan, 2023, p. 145). Nonetheless, the distinction between purposive and purposeful sampling lies in the type of research design. Purposive sampling is utilized in quantitative studies while purposeful sampling is employed in qualitative inquiries (Patton, 2015; as cited in Mayan, 2023, p. 146). Therefore, the current qualitative study refers to the term purposeful sampling.

There exist various purposeful sampling types such as "maximum variation", "snowball or chain", "stratified purposeful", "criterion", "convenience" or

"combination or mixed" (Miles & Huberman, 1994, p. 28). In the current study, nine in-service EFL teachers were categorized into three groups according to the educational contexts they are currently employed which are elementary, secondary and high school. The fourth group involved testing and evaluation specialists working in various higher education contexts. Furthermore, within the in-service EFL teacher groups, participants were further categorized based on their years of teaching experiences.

Gatbonton (2008) defined novice teachers as individuals who have recently begun their training, are currently undergoing training or have recently started teaching, with less than two years of experience. On the other hand, experienced teachers are defined as individuals with five or more years of teaching experience (Freeman, 2001; Gatbonton, 1999). Berliner (1988) provided another classification for teachers' years of experience, categorizing student-teachers and first-year teachers as novice, second and third-year teachers as advanced beginners, third and fourth-year teachers as competent, fifth-year teachers as proficient, and those with more than five years of teaching experience as experts.

Aligned with these classifications, the current study categorized three in-service EFL teachers from each educational level with 0-2 years of teaching experience as novice, 2-6 years of teaching experience as competent, and more than 6 years of teaching experience as experienced. Since the participants of the study were purposefully chosen based on a certain, "predetermined criterion of importance" (Patton, 2002, p. 238), namely the expertise of the teachers, the criterion sampling method was employed in the study. Additionally, to select some participants, convenience sampling method was utilized who were easily accessible regarding time and location (Merriam, 2009, p. 79), and accepted to voluntarily participate in the research. The current study also employed maximum variation strategy as it utilized "common patterns that emerge from great variation" (Patton, 2002, p. 234) by incorporating variables of teachers' years of teaching experience and the diverse educational contexts they work in, including elementary, secondary, and high school levels.

3.3.1. Demographic Information of In-service EFL Teachers

The current study involved nine in-service EFL teachers working at elementary, secondary and high school contexts in various cities of Türkiye in various geographical regions. At the beginning of the interviews with in-service EFL teachers, demographic information was obtained including their age, current educational context, years of teaching experience, and educational background. Table 3.1 presents the teacher answers to the first four interview questions.

Table 3.1 Demographic Information of In-service EFL Teachers

Participants	Age	Current Educational Context	Geographical Region of Teaching Context	Years of Teaching Experience	Educational Background
Teacher 1	24	Elementary School	Black Sea	2	B.A. in FLE
Teacher 2	26	Elementary School	Mediterranean	4	B.A. in FLE
Teacher 3	30	Elementary School	Aegean	9	B.A. in FLE
Teacher 4	26	Secondary School	Mediterranean	6 months	B.A. in ELIT
Teacher 5	27	Secondary School	Southeastern Anatolia	3	B.A. in FLE
Teacher 6	32	Secondary School	Southeastern Anatolia	8	B.A. in FLE
Teacher 7	26	High School	Southeastern Anatolia	2	B.A. in FLE
Teacher 8	27	High School	Southeastern Anatolia	3	B.A. in FLE
Teacher 9	32	High School	Southeastern Anatolia	9	B.A. in FLE

The teachers' ages ranged from 24 to 32. They were currently working as in-service EFL teachers in state schools across various cities of Türkiye in Southeastern Anatolia region, with the largest group of teachers, as well as Black Sea, Mediterranean, and Aegean regions. Regarding the educational contexts and the settings, some of the teachers made additional explanations. Teacher 1 (T1) works at an elementary school in Black Sea region with 700 students from diverse backgrounds. Furthermore, T1

describes the school's facilities and opportunities as average. Teacher 3 (T3) works at an elementary school in a moderately populated area of a province in Aegean region with low and high profile students. Teacher 6 (T6) works at a crowded, single-session secondary school with around 1400-1500 students in a rural area of a province in Southeastern Anatolia region.

He describes both the student and parent profiles as academically low, noting that they could see the reflections of parents' low level of education in the students' academic success. Similarly, Teacher 9 (T9) is employed at a high school in a crowded and economically disadvantaged district of a province in Southeastern Anatolia region and Teacher 7 (T7) in an all-boys high school in a moderately populated district of a province in Southeastern Anatolia region.

The teachers were classified based on their educational contexts into elementary, secondary and high school levels. Furthermore, within these contexts, they were grouped according to their years of teaching experience into three categories as 0-2 years, 3-6 years and more than 6 years. With the exception of one teacher who graduated from the department of English Literature, all teachers graduated from Foreign Language Education departments of various universities in Türkiye.

Furthermore, the teacher interviews gathered information including whether they took any courses related to integrating technology into EFL/ELT field as pre-service teachers, and whether they use these devices for educational purposes. While the answers for the initial Yes/No questions were included in the demographic information section, the further detailed information related to the classroom practices were discussed in the Findings section. Table 3.2 presents teacher answers to these questions.

For the question "While you were a pre-service teacher at university, did you take any courses related to the integration of technology in EFL/ELT field?", five of the teachers said "Yes" and four of the teachers said "No". For the question "Do you use your mobile devices for educational purposes?", all of the teachers said "Yes".

Table 3.2 Demographic Information of In-service EFL Teachers about Technology Education at University and Educational Use of Mobile Devices

Participants	While you were a pre-service teacher at university, did you take any courses related to the integration of technology in EFL/ELT field?	Do you use your mobile devices for educational purposes?
Teacher 1	Yes	Yes
Teacher 2	Yes	Yes
Teacher 3	No	Yes
Teacher 4	No	Yes
Teacher 5	No	Yes
Teacher 6	No	Yes
Teacher 7	Yes	Yes
Teacher 8	Yes	Yes
Teacher 9	Yes	Yes

The teachers were asked their mobile device use for personal language skill improvement. Figure 3.1 illustrates the language skills and areas they improve with their mobile devices. They reported that they primarily improve their speaking skills using mobile devices, but writing was not mentioned at all.
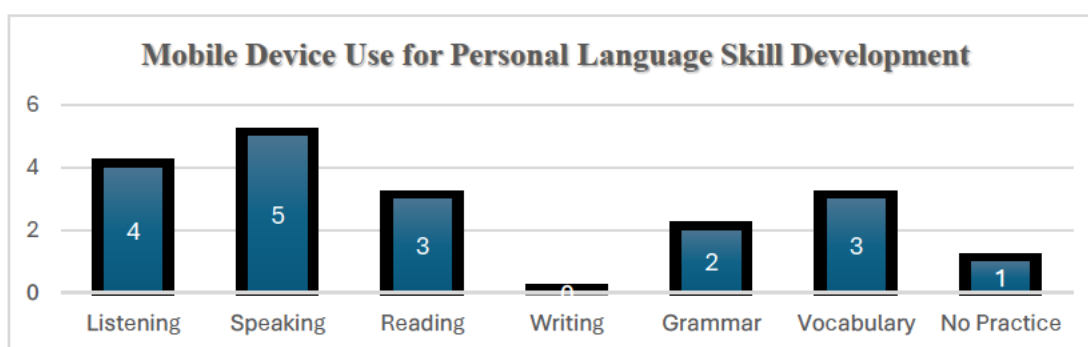
Figure 3.1 Demographic Information of In-service EFL Teachers about Mobile Device Use for Personal Language Skill Development

The details for the frequency of mobile device use of the teachers to improve their language skills are shown in Table 3.3. Given the variety of responses to the question, the frequencies have been presented in their original form.

Table 3.3 Demographic Information of In-service EFL Teachers about Frequency of Mobile Device Use

Participants	Frequency of Mobile Device Use
Teacher 1	Once or twice every two weeks
Teacher 2	Every week
Teacher 3	A few days in a week
Teacher 4	Always, one hour every day
Teacher 5	Every week
Teacher 6	Twice a week
Teacher 7	One or two hours a day
Teacher 8	10-15 minutes a day, every day
Teacher 9	Rarely

The semi-structured interviews with the participants gathered information with regards to their self-reported proficiency levels in integrating technology into their classes. The majority of the teachers considered themselves as experienced while two of them as novice and one of them as proficient, illustrated in Figure 3.2.
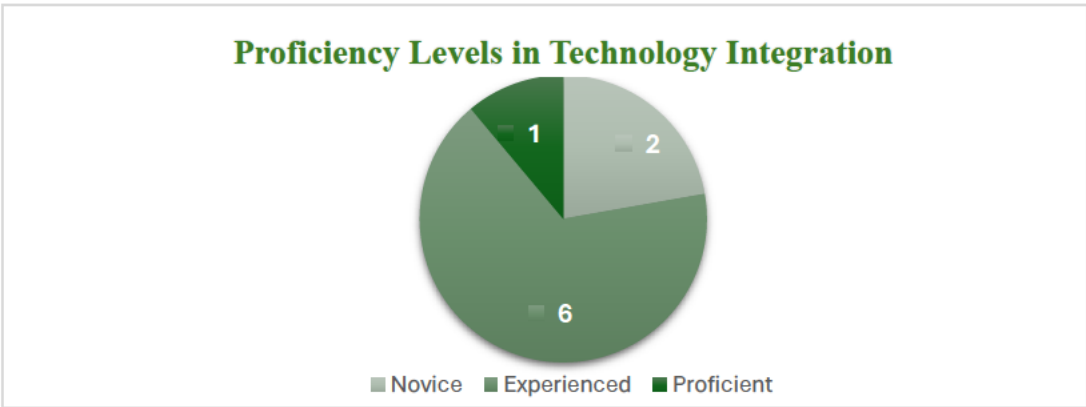
Figure 3.2 Teachers' Proficiency Levels in Technology Integration

Additionally, all of the teachers had smartphones and laptops. Four of the teachers had tablets, and one of the teachers had a smartwatch. Figure 3.3 illustrates the types of mobile devices teachers own.
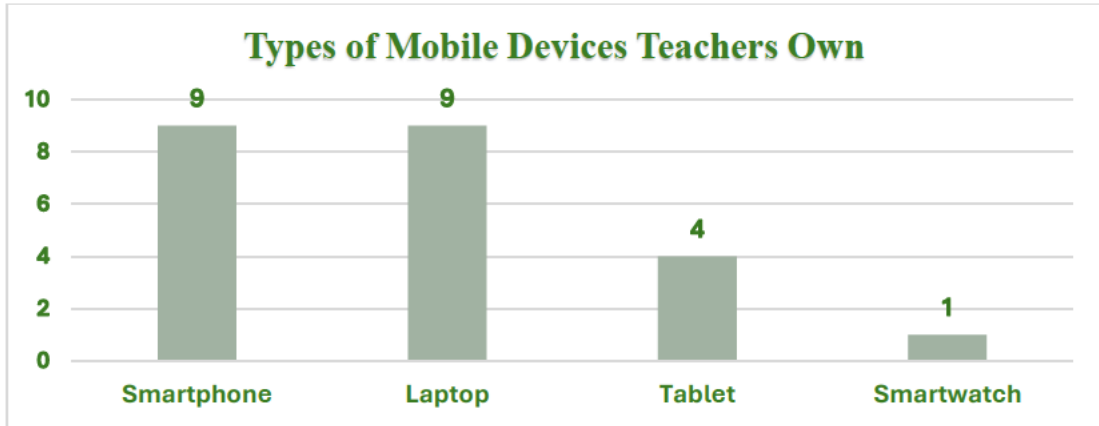
Figure 3.3 Types of Mobile Devices Teachers Own

The participants were asked whether they took any professional development training for MALL assessment. Only one participant said "Yes" while the other eight participants said "No". Figure 3.4 presents the distribution of teacher answers to this question.
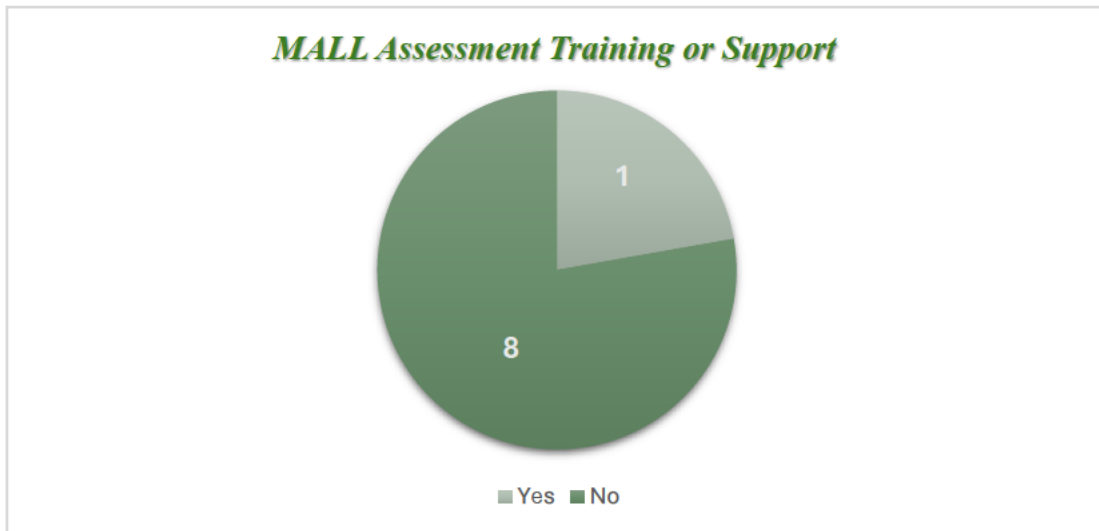
Figure 3.4 Demographic Information of In-service EFL Teachers about MALL Assessment Training or Support

Additionally, these eight teachers who responded "No" were asked whether they would like to receive any training or support on MALL assessment and they presented their positive views on participating in such trainings.

3.3.2. Demographic Information of Testing and Evaluation Specialists

The current study included three testing and evaluation specialists working at various higher education contexts in one of the biggest cities of Türkiye. At the beginning of the interviews, their demographic information was gathered regarding age range, educational background, professional background, educational levels and settings/institutions they worked before becoming a testing and evaluation specialist. To ensure anonymity, ages of the specialists were provided within a range, varying from 35 to 50. All three specialists completed their M.A. and PhD. in various programs encompassing Linguistics, English Language Teaching, and Secondary Science and Mathematics Education. Regarding their B.A. degree, except for Specialist 3 (S3), Specialist 1 (S1) and Specialist 2 (S2) graduated from English Language Teaching program. All three specialists currently work in various higher education settings.

S1 holds a PhD. in Linguistics and with a background in ELT, she has extensive experience in creating exams, teacher training and teaching various courses encompassing linguistics and testing and evaluation, collaborating with MoNE and Centre for Assessment, Selection and Placement (ÖSYM), and participating in an international project. She noted that she has been using her knowledge in testing and evaluation to evaluate students' knowledge and to benefit them from various aspects. She also integrates her knowledge on the various projects she attends. Although S1 has an experience with primary and secondary level students, she mainly teaches undergraduate and graduate level university students.

S2 holds a PhD. in ELT and her professional background includes teacher training in ELT programs, editing books and writing chapters on language testing and assessment, and writing exam questions for Teaching Field Knowledge Test (ÖABT) in Public Personnel Selection Examination (KPSS). She currently works with undergraduate and graduate level university students.

S3 holds a PhD. in Secondary Science and Mathematics Education and completed his associate professorship in the field of testing and evaluation. Even though S3 had not had his major on a teaching-based program, since his educational background relies

on faculty of education and he works as a teacher trainer, he made various observations on teachers, encompassing language teachers. Additionally, his professional background involves training teachers, especially graduate level university students within International Baccalaureate (IB) program, teaching various courses encompassing statistics, and testing and evaluation at faculty of education, working at various projects at ÖSYM, working as a consultant at TÜBİTAK, working at an international project, and writing the measurement and evaluation document of K-12 program.

Even though S3 spends some of his time on high school levels as a part of pre-service teacher training courses, he mainly teaches undergraduate and graduate level university students. Table 3.4 presents detailed demographic information about testing and evaluation specialists with their diverse backgrounds in education and language assessment.

Table 3.4 Demographic Information of Testing and Evaluation Specialists

Participants	Age Range	Educational Background	Professional Background	Educational Settings/ Institutions worked in before becoming a specialist	Educational Levels Worked with
Specialist 1	45-50	-B.A. in English Language Teaching -M.A. in English Language Teaching -PhD. in Linguistics	- Creating exams in Turkish language and culture program -Collaboration with MoNE in creating various exams and books on formative assessment -Working at an international project with MoNE -Collaboration with ÖSYM	Higher education	-Primary and secondary level students - Undergraduate and graduate level university students

Table 3.4 Demographic Information of Testing and Evaluation Specialists (continued)

Participants	Age Range	Educational Background	Professional Background	Educational Settings/ Institutions worked in before becoming a specialist	Educational Levels Worked with
Specialist 2	35-40	-B.A. in English Language Teaching -M.A. in English Language Teaching -PhD. in English Language Teaching	-Giving teacher training courses in ELT programs -Book editions and writing chapters in the field of language testing and assessment -Writing essays and questions for ÖABT in KPSS	Higher education	-Undergraduate and graduate level university students
Specialist 3	45-50	-B.A. in Physics -M.S. in Secondary Science and Mathematics Education -PhD. in Secondary Science and Mathematics Education	-Teacher training within International Baccalaureate (IB) program -Teaching statistics, testing and evaluation courses at faculty of education -Working at various projects at ÖSYM -Consultant at TÜBİTAK -Working at an international project -Writing the measurement and evaluation document of K-12 program	Higher education	-High school students -Undergraduate and graduate level university students

In addition to demographic knowledge of testing and evaluation specialists regarding their age, educational and professional background, educational settings/institutions and levels worked in, similar to in-service EFL teachers, they were also asked whether they took any courses at university related to the integration of technology in EFL/ELT field and technology use in the assessment/testing of EFL. Regarding university courses on technology integration in EFL/ELT field, only S3 reported taking such courses while S1 and S2 did not. For courses specifically on technology use in EFL testing and assessment at the university level, all specialists indicated that they had not taken any. Table 3.5 presents specialist answers to these questions.

Table 3.5 Demographic Information of Testing and Evaluation Specialists about Technology Education at University

Participants	While you were a pre-service teacher at university, did you take any courses related to the integration of technology in EFL/ELT field?	While you were a pre-service teacher at university, did you take any courses related to technology use in the assessment/ testing of EFL?
Specialist 1	No	No
Specialist 2	No	No
Specialist 3	Yes	No

Interviews with testing and evaluation specialists also gathered information on their proficiency in technology integration into their classes. While S1 described her proficiency in technology integration into her lessons as novice, S3 considered himself as proficient. On the other hand, S2 identified varied proficiency and indicated that she is proficient with Web 1.0, experienced with Web 2.0 tools, and novice regarding rapid advancements in technology, giving AI tools as example. Table 3.6 presents their answers to this question.

Table 3.6 Demographic Information of Testing and Evaluation Specialists about their Proficiency Levels in Technology Integration

Participants	Proficiency Levels in Technology Integration
Specialist 1	Novice
Specialist 2	Varied proficiency
Specialist 3	Proficient

Additionally, teachers were asked whether they had received any special training related to the integration of MALL tools/applications to assess English language skills. While S1 noted that she had participated in training as part of a project, S2 and S3 indicated that they had not received such training. Table 3.7 presents teacher answers to this question.

Table 3.7 Demographic Information of Testing and Evaluation Specialists about MALL Assessment Training

Participants	Have you received any special training related to the integration of Mobile Assisted Language Learning tools/applications to assess English language skills?
Specialist 1	Yes
Specialist 2	No
Specialist 3	No

Despite not having taken MALL assessment training, both S2 and S3 expressed a desire to receive such a training to enhance their comprehension of MALL assessment. S2 expressed interest in attending seminars, whether online or face-to-face with high utility, as well as workshops tailored to current needs. In a similar vein, S3 emphasized his interest in receiving in-service training to comprehend the fundamental logic of MALL and MALL assessment.

3.4. Data Collection Tools

To collect data, the current study utilized semi-structured interviews with nine in-service EFL teachers and three testing and evaluation specialists. Stake (1995) states that data collection process requires thoughtful consideration and likely the development of a data-gathering plan, "a plan that protects time for the less attractive work...It needs to be a plan rooted in research questions" (p. 51). Furthermore, Creswell (2013) points out the extensive nature of data collection in the context of case studies. In order to ensure the validity and credibility of the case study, six distinct types of data collection tools have been identified, namely documents, archival records, interviews, direct observations, participant observation, and physical artifacts (Yin, 2009, p.114). In this study, the employed data collection tools consisted of interviews.

In qualitative studies, the emphasis is on exploring and presenting diverse perspectives within a case, and the interviews serve as the primary means to access these multiple realities (Stake, 2005, p.64). Saldana (2011) sees interviewing as "an effective way of

soliciting and documenting, in their own words, an individual's or group's perspectives, feelings, opinions, values, attitudes, and beliefs about their personal experiences and social world, in addition to factual information about their lives" (p. 32). Interviews are considered as effective if they provide rich, detailed information and progress smoothly (Dörnyei, 2007, p. 140).

Interview formats vary, encompassing highly structured interviews to unstructured interviews. Structured interviews consist of predetermined and specific questions posed to each participant in a particular sequence while unstructured interviews involve a general list of topics to scrutinize. On the other hand, semi-structured interviews are more flexible than structured interviews, and more systematic than unstructured interviews. According to Rubin & Rubin (2005), "it allows depth to be achieved by providing the opportunity on the part of the interviewer to probe and expand the interviewee's responses" (p.88). In semi-structured interviews, even though the researchers have predetermined sets of questions, the additional questions might be added if necessary. This type of interview might give the participants opportunity to express their ideas and perceptions more clearly and the researcher might also gain a better understanding of the questions.

Based on Polkinghorne (1989)'s recommendation for conducting interviews from 5 to 25 participants, in the current study, the semi- structured interviews were administered to nine in-service EFL teachers working in elementary, secondary and high school levels in various provinces within Türkiye. Additionally, semi-structured interviews were conducted with testing and evaluation specialists to deeper the comprehension of MALL assessment and to gather information from multiple sources of evidence. This dual approach ensured the validation and the trustworthiness of the data gathered from in-service EFL teachers by juxtaposing it with that of specialists. This process is called as "triangulation" and it is defined as "mostly a process of repetitious data gathering and critical review of what is being said" (Stake, 2006, p.34). The number of people with whom the triangulation approach is validated needs to be at least three (Stake, 2006) and, in this study, three specialists in Testing and Evaluation field were selected to conduct semi-structured interviews.

The semi-structured interviews conducted with both in-service EFL teachers and testing and evaluation specialists comprised of two parts: demographic information and insights on MALL and MALL assessment (see Appendix C for English version and Appendix D for Turkish version). The initial ten questions of teacher interviews along with the 32nd question, and the first eight questions of the testing and evaluation specialist interviews, as well as the 14th question, were designed to gather participants' demographic information. The demographic questions for the participants involved their age, current educational context, years of teaching experience as English teachers, their field or department of graduation, proficiency in integrating technology into their classes, pre-service training in technology integration, and any current training or seminars on MALL assessment.

Unlike the demographic interview questions for testing and evaluation specialists, those for in-service EFL teachers included questions about the mobile devices they own, the purposes they use these mobile devices (for educational or non-educational purposes), and the frequency of their mobile device usage. The remaining questions focused on exploring participants' current practices in EFL classrooms, their perceptions on MALL and MALL assessment regarding specific language learning needs, opportunities that would be offered, challenges that would be addressed, recommendations for effective implementation and their anticipations for the future of MALL assessment. Furthermore, teachers' perceptions on the integration of MALL assessment to enhance various language skills and areas were investigated.

3.5. Data Collection Procedures

The study was conducted during the spring semester of 2023-2024 academic year. It involved in-service EFL teachers working at public schools encompassing elementary, secondary and high school levels, and testing and evaluation specialists working at tertiary level in one of the biggest cities in Türkiye. First, data collection instruments, were developed. Second, the instruments were piloted and at the end, semi-structured interviews with teachers and testing and evaluation specialists were conducted. Figure 3.5 illustrates the overall data collection procedure.

	• Development of Data Collection Instruments
1	
2	• Piloting
3	• Conducting the Interviews with In-service EFL Teachers
4	• Conducting the Interviews with Testing and Evaluation Specialists
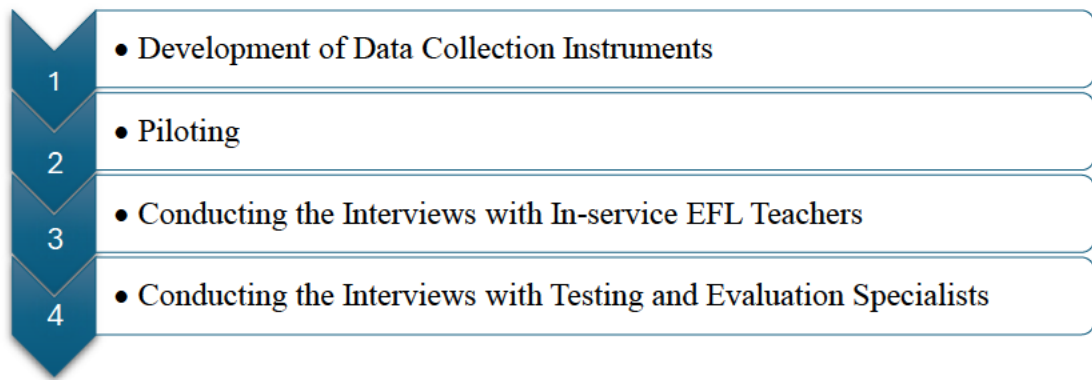
Figure 3.5 Overall Data Collection Procedure

Data collection instruments, which consisted of interviews, were developed by the researcher to align with the research questions. These interview questions were generated based on a detailed scrutinization of existing literature on language assessment, MALL, and MALL assessment. After noting the key aspects to incorporate into the study, the interview questions were piloted and finalized for administration to in-service EFL teachers and testing and evaluation specialists.

3.5.1. Piloting

The current study involved a piloting process with three in-service EFL teachers. Pilot interviews are essential for "trying out" the questions developed for the sake of the study (Merriam, 2009, p. 95). They proceed formatively, helping to clearly understand the key ideas or concepts within the study (Yin, 2018, p. 106). They allow researchers to refine the interview questions, adjust the wording, arrange the sequence of the questions, include questions that were previously overlooked, and eliminate questions that may yield irrelevant data (Merriam, 2009, p. 95).

Following the development of interview questions, the researcher's thesis advisor initially reviewed the questions to clarify ambiguous sentences and to identify and include any missing questions. After making the necessary changes, the interview questions were piloted with three in-service EFL teachers at the end of March and the beginning of April 2024. These teachers were all working at state high schools, and they had three years of teaching experience. They were chosen based on

convenience and ease of access, and upon receiving the approval from the Human Subjects Ethics Committee at Middle East Technical University (see Appendix A), they were contacted through e-mails or their phone numbers. All three teachers agreed to participate in the piloting phase of the study, and while two of the teachers were interviewed via Zoom platform, the other teacher was interviewed face to face at a time appropriate for his working schedule. The interviews were conducted in English to more easily identify any issues regarding the organization and wording of the questions.

All participants expressed satisfaction with the sequence and organization of the questions. They noted that no questions needed to be included or removed. One participant was initially confused with the word "opportunities" in the 21st and 22nd questions but understood it after further explanation. Consequently, it was decided to keep the term but provide additional explanation using synonymous words. Another participant pointed out the repetitive nature of the questions from 26 to 31, suggesting that they could be combined into one single question. Regarding these questions, the third participant recommended asking the initial question and reiterating the subsequent one if no answers were provided. After consulting with the advisor, it was concluded that each of these questions was uniquely essential to the scope of the study as it focuses on the enhancement of language skills and areas through MALL assessment. Therefore, the decision was made to keep them separate and not combine them.

3.5.2. Conducting Interviews with In-service EFL Teachers

Upon the completion of pilot interviews, semi-structured interviews were carried out with nine in-service EFL teachers. As mentioned earlier, these teachers were chosen through criterion sampling based on their years of teaching experience and convenience sampling due to their availability and ease of access. The researcher contacted with the teachers through their telephone numbers or e-mails, inviting them to participate voluntarily to the study. Furthermore, to reach out to more participants, the researcher posted announcements in various online groups or communities consisting of EFL teachers from different educational settings (see Appendix H for

English version and Appendix I for the Turkish version). The participants who volunteered to participate in the study were checked for suitability based on their years of teaching experience, and whether they were working in state elementary, secondary and high schools, ensuring they met the criteria. Prior to the interviews, the teachers were sent informed consent forms (see Appendix B) to ensure that they understood the purpose, aims and the procedure of the study. Only one teacher was interviewed face to face in a place devoid of any possibility of disturbance while the others were interviewed online via the Zoom platform due to factors such as availability, long working hours, and geographical distance. A mutual agreement was ensured for interview times, and participants received Zoom invitation links in advance.

As conducting interviews in participants' native languages might reduce the impact of their proficiency on the quality and quantity of the data (Mackey & Gass, 2005, p. 174), participants were offered the choice to carry out the interviews in either Turkish or English. Two of the participants preferred English while the remaining seven participants chose Turkish. At the beginning of the interviews, participants were informed that their involvement in the study was entirely voluntary, and they had the freedom to withdraw or decline to answer any questions if they felt discomfort. They were also assured that their personal information would not be shared with others, and the interview data would be kept confidential and used solely for scientific purposes. With the permission of the participants, the interviews were audio-recorded for transcription and subsequent analysis. Table 3.8 presents the duration of the interviews with in-service EFL teachers.

Table 3.8 Duration of the Interviews with In-service EFL Teachers

Participants	Interview Time	Duration of the Interviews
Teacher 1	25/05/2024	36:04
Teacher 2	27/04/2024	47:16
Teacher 3	12/05/2024	29:04
Teacher 4	05/05/2024	36:43

Table 3.8 Duration of the Interviews with In-service EFL Teachers (continued)

Participants	Interview Time	Duration of the Interviews
Teacher 5	19/05/2024	27:23
Teacher 6	20/05/2024	51:08
Teacher 7	06/05/2024	48:21
Teacher 8	05/05/2024	59:28
Teacher 9	10/05/2024	46:18
TOTAL		6:21:45

The semi-structured interviews with in-service EFL teachers took place between the end of April and the end of May 2024 and the duration of these interviews ranged from 27 minutes to 59 minutes.

3.5.3. Conducting Interviews with Testing and Evaluation Specialists

In the current study, semi-structured interviews were conducted with three testing and evaluation specialists. The purpose and the aims of the interviews carried out with testing and evaluation specialists were also aligned with those of in-service EFL teachers, focusing on gathering demographic information and exploring their perceptions of MALL and MALL assessment. Interviewing testing and evaluation specialists was crucial for obtaining data from multiple data sources, methods, theories or investigators for triangulation (Yin, 2018; Creswell, 2013, p. 251). Triangulation is an important process in case studies as it ensures the internal validity of the research (Merriam, 2009, p. 215). In the current study, triangulation offered the researcher an opportunity to compare and verify the perceptions, recommendations or views of teachers regarding assessment through MALL with those of testing and evaluation specialists, thereby enriching the overall understanding and depth of the findings.

Testing and evaluation specialists, like the teachers, were selected using criterion and convenience sampling methods. The selection criteria included their current roles as testing and evaluation specialists as well as their ongoing or prior experience in

teaching English. Furthermore, their selection was based on their availability and ease of access. The participants were contacted through e-mails or their phone numbers to request their voluntary participation. Following their agreement to take part in the study, the participants were sent informed consent forms to fully inform them about the aims, purpose and procedures of the study.

Considering their busy working schedules and the geographical distance between the researcher and the participants, semi-structured interviews were carried out via the Zoom platform at a mutually convenient time. One participant was interviewed in English while the other two participants preferred to be interviewed in Turkish. As with the teachers, at the beginning of the interviews, testing and evaluation specialists were informed about confidentiality and the ethical considerations. They were offered the freedom to skip any questions or withdraw from the study if they felt uncomfortable. With their consent, the interviews were audio-recorded for later transcription and analysis. The Table 3.9 shows the duration of the interviews conducted with testing and evaluation specialists.

Table 3.9 Duration of the Interviews with Testing and Evaluation Specialists

Participants	Interview Time	Duration of the Interviews
Specialist 1	25/05/2024	35:07
Specialist 2	21/06/2024	29:10
Specialist 3	06/07/2024	20:20
TOTAL		1:24:37

The semi-structured interviews with testing and evaluation specialists took place between the end of May and the beginning of July 2024. Duration of these interviews ranged from 20 minutes to 35 minutes.

3.6. Data Analysis

Data analysis is an ongoing process which requires a simultaneous accompaniment with data collection. Such a process is essential for the sake of maintaining the data

focused, varied and manageable (Merriam, 2009, p. 171). It involves interpreting participants' remarks and making meanings on the researcher's insights and expertise (Merriam, 2009, p. 176). Creswell (2013) presents a spiral model for the data analysis process to illustrate "analytic circles rather than using a fixed linear approach" (p. 182). According to this model, the process starts with the text or image data and ends with a descriptive narration. During the process, the researcher repeatedly revisits various sides of data analysis (Creswell, 2013, p. 182). For case studies, the steps of the spiral model are illustrated in Figure 3.6 as follows:
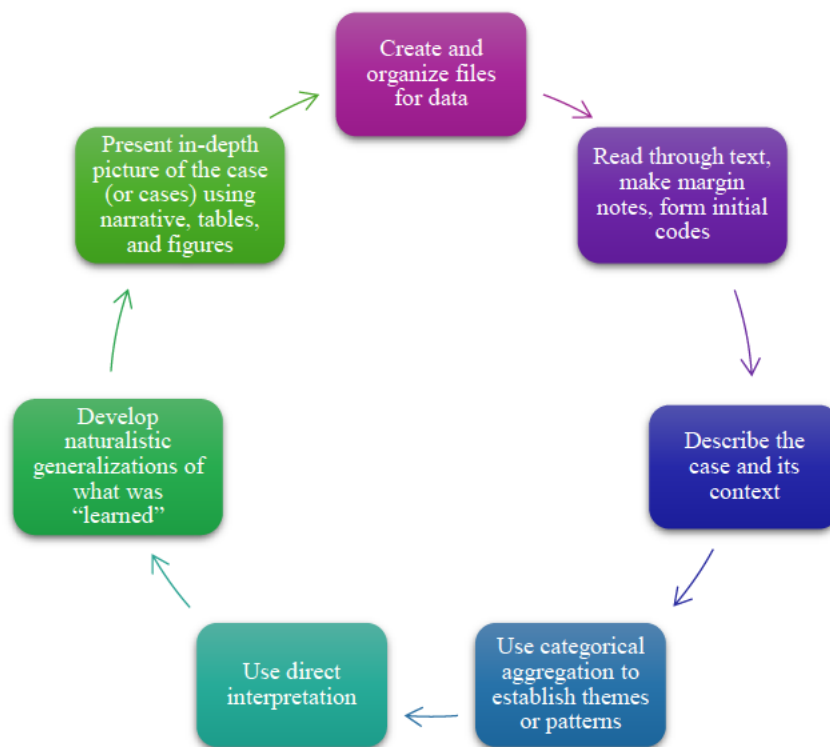
Figure 3.6 Steps of Spiral Model for Data Analysis (Creswell, 2013, p. 190-191)

The current study follows similar steps while analyzing the data. After organizing the interview data separately as computer files, they were transcribed verbatim. As suggested by Agar (1980), the researcher read the transcriptions several times to get a comprehensive understanding of the interviews prior to dividing them into segments (p. 103). Furthermore, detailed notes were made during the transcript review process. While generating the codes, *constant comparative method* was utilized. This method was initially developed for grounded theory studies; however,

it is not restricted to them and can be applied into all qualitative inquiries (Merriam, 2009; Mayan, 2023, p. 192). Constant comparative method refers to the inductive process of continuously comparing various segments of data with one another to identify similarities and differences (Merriam, 2009, p. 30). The compared data segments encompass various aspects like:

> *data between participants, including their views, situations, actions, accounts, and experiences; data from the same participant at different points in time; incident with incident across all data; data within an evolving category; a category with other categories and so on (Mayan, 2023, p.192).*

Constant comparative method also aims to create analytic distinctions, enhance the data analysis process, and progressively determine a conceptual framework for the data (Charmaz, 2014). In this method, the categories initially generated are altered, merged or eliminated, and new categories are created (Goertz and LeCompte, 1981, p. 58). To construct the categories, data is analyzed through assigning codes to the relevant pieces (Merriam, 2009, p. 178). The current study employs Strauss and Corbin (1990)'s coding procedures as *open coding*, *axial coding*, and *selective coding*. Open coding is the first step of analyzing the data and defined as "breaking data apart and delineating concepts to stand for interpreted meaning of raw data" (Strauss & Corbin, 2015, p. 243). In the second step, the categories created in open coding process are scrutinized and identified a central phenomenon (Creswell, 2013, p. 286). This "process of relating categories to their subcategories" is called as axial coding (Strauss & Corbin, 1998, p. 123). Selective coding, the final step of data analysis, involves "integrating and refining the theory" (Strauss & Corbin, 1998, p. 143), by connecting the central phenomenon with other categories (Creswell, 2013, p. 289).

While analyzing the data, it was ensured that theoretical sampling method, which refers to a continuous, circular process of data collection to develop concepts regarding their properties, dimensions, and relationships between each other, has led to reaching "data saturation." Even though d*ata saturation* basically refers to the emergence of no new categories or themes, it is a process of in-depth exploration of each category and theme by examining diverse dimensions and properties across

various conditions. This study ensures that data saturation is achieved by well-defining the categories and themes and incorporating significant variation into them (Corbin & Strauss, 2015). Additionally, the rich data offered in this qualitative case study through triangulation directly supported the achievement of data saturation (Fusch & Ness, 2015).

In the current study, the qualitative data obtained from interviews with in-service EFL teachers and testing and evaluation specialists were transcribed verbatim from the audio-recordings. The transcriptions were then analyzed initially through open and axial coding. These transcripts were uploaded to MAXQDA, a software program which assists researchers in interpreting and analyzing the qualitative data (Creswell, 2013, p. 203). The transcriptions, available in either Turkish or English, were reviewed several times to identify initial codes during the open coding stage, with all codes being assigned in English. In the axial coding stage, these codes were organized into broader categories. Finally, based on these categories, in the selective coding stage, overarching themes were created. At the end of the analysis, relevant Turkish excerpts from the interviews were translated into English and reviewed by an expert to ensure accuracy and eliminate any translation errors or mistakes.

Aligned with the methodology outlined for the current study, Table 3.10 provides an overview of research questions, data collection instruments, research method and data analysis procedure.

Table 3.10 Research Questions, Data Collection Instruments, Research Method and Data Analysis

Research Questions	Sub-Research Questions	Instrument	Method	Analysis
1. What are the perceptions of in-service EFL teachers working in different school contexts in Türkiye in terms of:	**a.** their overall opinions on language assessment, MALL and MALL assessment?	Interview (Teachers) (Questions 11, 14, 16, 17, 20, 32, 34)	Qualitative	Constant Comparative Analysis

Table 3.10 Research Questions, Data Collection Instruments, Research Method and Data Analysis (continued)

Research Questions	Sub-Research Questions	Instrument	Method	Analysis
	b. their self-reported current practices and the implementation of technology, language assessment, MALL and MALL assessment into EFL classrooms?	Interview (Teachers) (Questions 5, 8, 12, 13, 18, 19, 25, 26, 27, 28, 29, 30, 31)		
	c. constraints in relation to language assessment, MALL and MALL assessment?	Interview (Teachers) (Questions 23, 24)		
	d. affordances in relation to language assessment, MALL and MALL assessment?	Interview (Teachers) (Questions 21, 22)		
	e. specific needs, recommendations, and future and potential of MALL assessment?	Interview (Teachers) (Questions 15, 25, 33, 35)		
2. What are the perceptions of Testing and Evaluation specialists working in different higher education contexts in Türkiye in terms of:	**a.** their general expertise on technology and language assessment?	Interview (Specialists) (Questions 3, 4, 14)		
	b. constraints and affordances in relation to language assessment, MALL and MALL assessment?	Interview (Specialists) (Questions 9, 10, 11, 12, 13)	Qualitative	Constant Comparative Analysis
	c. concerns, specific needs and recommendations, and future and potential of MALL assessment?	Interview (Specialists) (Questions 15, 16, 17)		

This study aims to address two research questions. The first question explores perceptions of in-service EFL teachers while the second question investigates perceptions of testing and evaluation specialists regarding language assessment, MALL and MALL assessment. In the current study, interviews were utilized as the

data collection instrument, with interview questions aligned with each sub-research question provided. Additionally, the study employs a qualitative research design, and the data were analyzed through constant comparative analysis.

3.7. Trustworthiness

The concept of trustworthiness, coined by Lincoln and Guba (1985), aims to evaluate the quality of qualitative inquiry by investigating whether the study's findings are significant and worth consideration (p. 290). Therefore, the qualitative researchers need to utilize multiple sources of data or strategies to ensure the trustworthiness of the study. Lincoln and Guba (1985) proposed four key criteria for this purpose: "credibility", "dependability", "transferability", and "confirmability" (p. 300). In the current study, *credibility* was achieved through data triangulation, a method suggested by Denzin (1978), which involves the use of multiple data sources to validate the findings from various perspectives (Denzin, 2009, p. 301; Creswell, 2013, p. 251). Specifically, data triangulation was established through semi-structured interviews with testing and evaluation specialists to identify their perspectives on MALL assessment.

The second criterion used to achieve trustworthiness in a study is *transferability*, referring to generalizability of research findings and their transfer to other contexts (Forero et al., 2018; Liamputtong, 2019). This study utilized purposeful sampling methods of criterion sampling by selecting in-service EFL teachers based on their years of teaching experience. Additionally, to select testing and evaluation specialists, convenience sampling method was utilized. In terms of employing variables of years of teaching experience and diverse educational contexts, maximum variation strategy was used. In the current study, thick descriptions were also presented to enhance the transferability of findings by gathering detailed information about the participants and the interactions with them (Mayan, 2023, p. 240).

On the other hand, *dependability* is concerned with the qualitative inquiry process and the researcher's duty to confirm its well-documented, logical and traceable nature (Schwandt, 2007, p. 299). The last criterion, which is *confirmability,* refers to

the connection of the researcher's interpretations and the findings of the study with the collected data (Liamputtong, 2019, p. 20). Guba and Lincoln (1989) state that confirmability is ensured when the other three criteria are all met, and the strategies to achieve it include an audit trail, which documents "the researcher's decisions, choices, and insights" throughout the study (Morse & Field, 1995, p. 144). In this study, confirmability and dependability were established by creating an audit trail since the researcher tried to reflect a broad perspective on the research design, sampling methods, and the procedural steps, documenting each aspect systematically. Additionally, to ensure dependability, a peer briefing strategy was employed, involving an "external check of the research process" (Lincoln & Guba, 1985; as cited in Creswell, 2013, p. 251) with both the researcher's advisor (Mayan, 2023, p. 243) and an in-service EFL teacher interested in MALL and MALL assessment. This strategy aimed to decrease researcher bias and enhance the accuracy of the research findings (Ahmed, 2024).

3.8. Ethical Considerations

In qualitative inquiries, protecting the rights of the participants is crucial for maintaining the ethical standards. To address ethical considerations, prior to the data collection, all relevant documents were sent to the Human Subjects Ethics Committee at Middle East Technical University. Following the committee's approval, voluntary participants were contacted and provided with informed consent forms to fully inform them about the purpose, aims and the procedures of the study. After participants signed the forms, they were assured that during the interviews, they had the option to skip any questions or withdraw from the study at any time if they felt uncomfortable. With their permission, the interviews were audio-recorded, and the recordings were kept in a password-protected computer. Participants were also assured that their personal information and participation would remain confidential, and the collected data would only be used for scientific purposes without being shared with others. To maintain anonymity, the participants were assigned numbers instead of using their names.

CHAPTER 4

FINDINGS

4.0. Presentation

This chapter presents the findings of the study under two main sections. The first section comprises of semi-structured interview data with the in-service EFL teachers, identifying five main themes in line with the research questions as (1) Overall opinions on language assessment, MALL and MALL assessment, (2) Self-reported current practices and implementation of technology, language assessment, MALL and MALL assessment, (3) Perceptions on constraints with implementing language assessment, MALL and MALL assessment, (4) Perceptions on affordances of language assessment, MALL and MALL assessment, and (5) Perceptions on needs, recommendations, and future and potential of MALL and MALL assessment. The second section includes the findings of semi-structured interviews with testing and evaluation specialists, focusing on three main themes as (1) Perceptions on general expertise on technology and language assessment, (2) Perceptions on constraints and affordances of language assessment, MALL and MALL assessment, and (3) Perceptions on concerns, needs and recommendations, and future and potential of MALL assessment.

4.1. Findings in Relation to Perceptions of In-service EFL Teachers

In this chapter, research findings related to in-service EFL teachers' perceptions on technology, language assessment, MALL and MALL assessment are presented. Figure 4.1 summarizes the themes and categories.
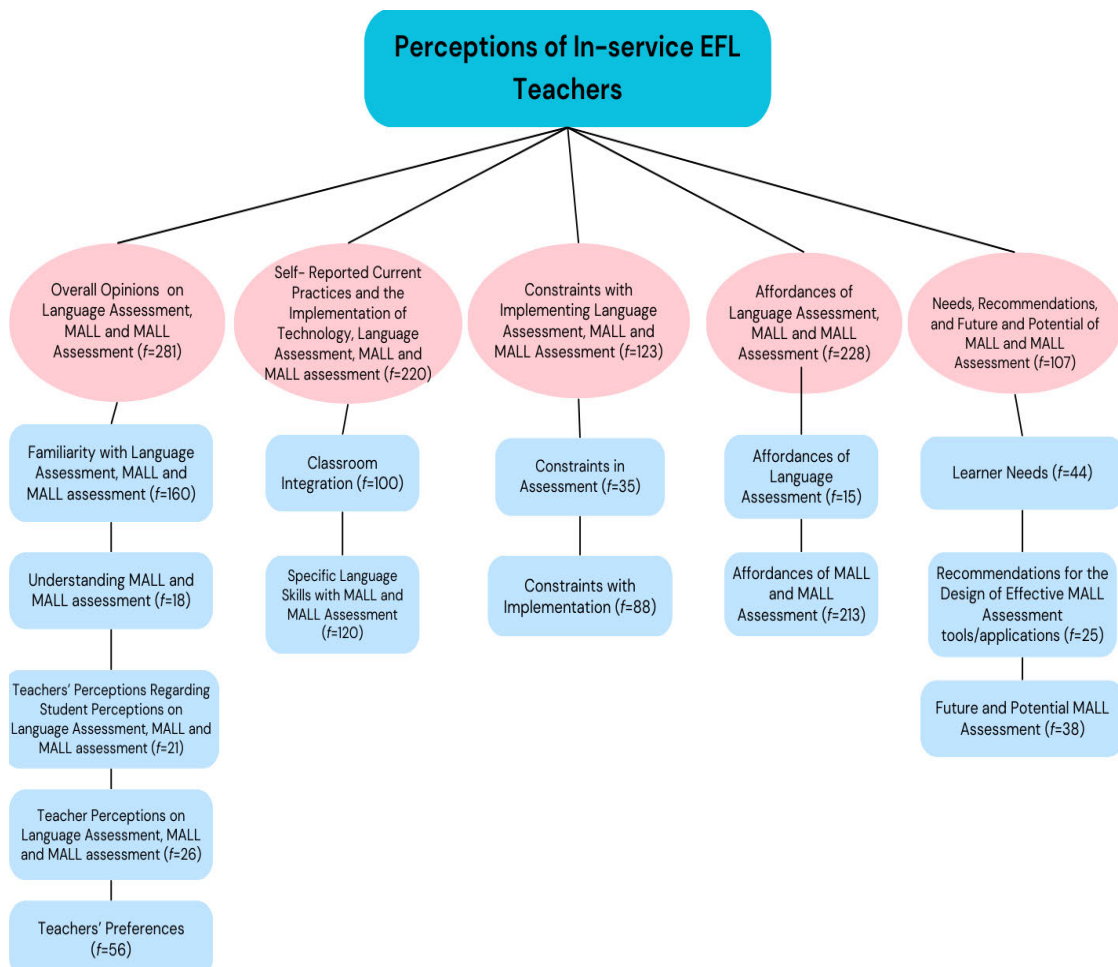
Figure 4.1 Themes and Categories for Perceptions of In-service EFL teachers

To offer a more organized representation, the concept map was color-coded. Pink colors represent the five themes emerged from the interviews with in-service EFL teachers while blue colors denote the categories within each theme.

Under the relevant themes and categories, each excerpt of in-service EFL teachers is presented with the numbers assigned to them at the end of each excerpt. Additionally, the excerpts end with the details of classifications according to their teaching experience, educational context they currently work, and their self-reported proficiency levels in technology integration. Table 4.1 presents these classifications for each teacher and abbreviations in parentheses. The following chapters refer to each teacher's information in the following sequence such as (Teacher 1, novice, ES, experienced in tech. integ.).

Table 4.1 Overview of Teachers' Teaching Experience, Educational Context and Proficiency Levels in Technology Integration

	Teaching Experience	Educational Context	Proficiency Level in Technology Integration (Tech. Integ.)
Teacher 1 (T1)	Novice	Elementary School (ES)	Experienced
Teacher 2 (T2)	Competent	Elementary School (ES)	Experienced
Teacher 3 (T3)	Experienced	Elementary School (ES)	Experienced
Teacher 4 (T4)	Novice	Secondary School (SS)	Novice
Teacher 5 (T5)	Competent	Secondary School (SS)	Novice
Teacher 6 (T6)	Experienced	Secondary School (SS)	Experienced
Teacher 7 (T7)	Novice	High School (HS)	Experienced
Teacher 8 (T8)	Competent	High School (HS)	Proficient
Teacher 9 (T9)	Experienced	High School (HS)	Experienced

T1, T2, and T3 are teachers from elementary school contexts, and they identified themselves as experienced in integrating technology into their lessons. Furthermore, T4, T5, and T6 are teachers from secondary school contexts and while T4 and T5 identified themselves as novice regarding technology integration, T6 identified himself as experienced. Additionally, T7, T8 and T9 are teachers from high school contexts and while T8 identified himself as proficient in terms of technology integration, T7 and T9 identified themselves as experienced.

4.1.1. Findings in Relation to Research Question 1a Regarding Overall Opinions of In-service EFL Teachers on Language Assessment, MALL and MALL Assessment

Research Question 1: What are the perceptions of in-service EFL teachers working in different school contexts in Türkiye in terms of:

> *a. their overall opinions on language assessment, MALL and MALL assessment?*

In line with the research question 1a, five categories emerged as familiarity with language assessment, MALL and MALL assessment, understanding MALL and MALL assessment, teachers' perceptions regarding student perceptions on language assessment, MALL and MALL assessment, teacher perceptions on language assessment, MALL and MALL assessment, and teachers' preferences. Table 4.2 presents an overview of categories, codes and frequencies for overall opinions on language assessment, MALL and MALL assessment.

Table 4.2 Overview of Categories, Codes and Frequencies for Overall Opinions on Language Assessment, MALL and MALL Assessment

Categories	Codes	Frequency (f)
Familiarity with Language Assessment, MALL and MALL assessment	familiarity with MALL tools/applications that could be used in language assessment	77
	familiarity with MALL tools/applications	32
	limited knowledge on MALL assessment tools/applications	15
	assessment types-formative assessment	10
	unfamiliarity with MALL assessment	7
	assessment types-summative assessment	5
	assessment types-formal assessment	3
	unfamiliarity with MALL	3
	limited knowledge on MALL assessment	3
	assessment types-informal assessment	1
	assessment types-proficiency assessment	1
	assessment types-diagnostic assessment	1
	assessment types-direct assessment	1
	assessment types-indirect assessment	1
TOTAL		160
Understanding MALL and MALL assessment	definition of MALL	10
	definition of MALL assessment	8
TOTAL		18

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Table 4.2 Overview of Categories, Codes and Frequencies for Overall Opinions on Language Assessment, MALL and MALL Assessment (continued)

Categories	Codes	Frequency (*f*)
Teachers' Perceptions Regarding Student Perceptions on Language Assessment, MALL and MALL Assessment	students' positive perceptions on MALL	10
	students' positive perceptions on MALL assessment	9
	students' negative perceptions on language assessment	2
TOTAL		21
Teacher Perceptions on Language Assessment, MALL and MALL Assessment	value of MALL integration to class	9
	teachers' positive perceptions on MALL assessment	7
	teachers' positive perceptions on MALL	6
	no need for mobile devices	3
	teachers' positive perceptions on language assessment	1
TOTAL		26
Teachers' Preferences	preferring assessment by MALL tools/applications	16
	preferring grading by themselves	10
	preference for traditional language assessment	9
	preferring grading by MALL tools/applications	7
	preference for MALL assessment	6
	technology over tradition	5
	preferred assessment types	2
	preferring assessment by themselves	1
TOTAL		56

For the first category, code with the highest frequency was familiarity with MALL tools/applications used in language assessment (*f*=76). For the second category, it was definition of MALL (*f*=10) while for the third category, it was students' positive perceptions on MALL (*f*=10). For the fourth category, it was value of MALL integration to class (*f*=9) while for the fifth category, the code preferring assessment by MALL tools/applications (*f*=16) had the highest frequency.

4.1.1.1. Familiarity with Language Assessment, MALL and MALL Assessment

Familiarity with the concept of MALL and MALL assessment:

Regarding familiarity with the concept of MALL, three teachers stated that they had not previously heard the term; however, they inferred its meaning from the terminology of the concept. Conversely, the remaining six teachers expressed that they were familiar with the concept of MALL and provided a definition for it. However, when it came to MALL assessment, the numbers reversed. While three teachers had previously encountered the concept of MALL assessment, the remaining six teachers were unfamiliar with it. Nonetheless, other than two teachers, four teachers still interpreted the concept and offered a definition for it.

Familiarity with language assessment types:

When asked about the types of assessments they were familiar with, the majority of teachers mentioned formative and summative assessments since they actively integrate them into their English language classrooms while assessing their learners. They also identified formal and informal assessments, proficiency assessment, diagnostic assessment, direct and indirect assessments. T5 identified formative and summative assessments along with proficiency assessment:

> *There is a type of evaluation that we do to measure the students' levels before we provide any training, but I can't remember the name exactly. There are evaluations that we do during the process, and we do evaluations at the end of the process. I remember there were three. (Teacher 5, competent, SS, novice in tech. integ.)*

T7 similarly expressed that she was familiar with formative and summative assessments as well as direct and indirect assessments.

> *So, what I remember is that there was a formative and a summative. Apart from that, there were things we measured directly and indirectly. (Teacher 7, novice, HS, experienced in tech. integ.)*

T6 remarked that he had the knowledge of formal and informal assessment types and several techniques used:

Generally, what we call formal informal, in other words, if we expand on it a little more, projects such as written work or open-ended questions, multiple choice answers, fill-in-the-blank tasks or portfolio assignments. These can be counted... What else can we count as informal? For example, we can count individual meetings. (Teacher 6, experienced, SS, experienced in tech. integ.)

To conclude, teachers were mostly familiar with formative assessments, followed by summative assessments. They also mentioned other types of language assessments in the interviews.

Familiarity with MALL tools/applications:

Regarding their familiarity with MALL tools/applications, the teacher participants listed various mobile tools/applications which can be utilized in language learning settings and incorporated into MALL assessment processes. Table 4.3 presents the names of these tools/applications. The most frequently mentioned MALL application was Duolingo (f=7), followed by Kahoot (f=5), VoScreen (f=5), Cambly (f=4), EBA Mobile (f=4), Wordwall (f=4), YouTube (f=4), ChatGPT (f=2), Grammarly (f=2), Memrise (f=2), Microsoft Word (f=2), Taboo (f=2), and WhatsApp (f=2). Other MALL tools/applications were each mentioned by only one teacher.

Table 4.3 MALL Tools/Applications Teachers were Familiar with

Tool/Application Names	Frequency (f)	Tool/Application Names	Frequency (f)
Duolingo	7	BBC Six Minute Talks	1
Kahoot	5	Bamboozle	1
VoScreen	5	Freerice	1
Cambly	4	Rosetta Stone	1
EBA Mobile	4	Busuu	1
Wordwall	4	Open English	1
YouTube	4	Google	1
Quizlet	3	PowerPoint	1
ChatGPT	2	Dialect	1
Grammarly	2	Hello Talk	1

Table 4.3 MALL Tools/Applications Teachers were Familiar with (continued)

Tool/Application Names	Frequency (*f*)	Tool/Application Names	Frequency (*f*)
Memrise	2	Elsa Speak	1
Microsoft Word	2	Zoom	1
Taboo	2	Telegram	1
WhatsApp	2	Kindle	1
Google's voice recognition software	2	Google Drive	1
Wordle	1	Voice of America	1
Instagram	1	Mobile Dictionaries	1
Audiobooks	1	A Word A Day	1
Raz Plus	1	Ted Talk application	1
Edmodo (now Moodle)	1	Canva	1
Vapi AI	1	Hot Potatoes	1
TOTAL			77

Even though teachers were familiar with a variety of MALL tools/applications, the greatest difficulty was in offering such tools/applications for assessing specific language skills and areas. For the assessment of writing skills, while T1 noted that she did not know any MALL tools/applications specifically for enhancing writing skills, T7 noted her limited knowledge on them due to the difficulties she experienced in the writing assessment process in class:

> *So, we almost never use mobile tools for writing because writing is our biggest problem right now, so I try to go with more traditional methods. (Teacher 7, novice, HS, experienced in tech. integ.)*

In a similar vein, T9 highlighted that due to his focus on using MALL applications for listening and reading skills, he had limited knowledge on naming such applications for writing skills:

> *There is no mobile tool or mobile application that I use right now. I use it more for listening and reading, but I haven't used it much in terms of writing. (Teacher 9, experienced, HS, experienced in tech. integ.)*

For enhancing reading skills, T3, T4 and T5 mentioned that they were not familiar with any MALL tools/applications whereas T6 referenced smartboard applications but highlighted his limited knowledge on offering specific application names for reading:

> *So, smart board applications for books for reading skills can be given as examples. I mean, I don't know much about reading skills, to be honest. (Teacher 6, experienced, SS, experienced in tech. integ.)*

Similarly, T7 indicated her limited knowledge in identifying MALL tools/applications specifically for improving and assessing reading skills apart from a few websites she incorporates to her classes:

> *I use some sites when finding reading passages, but I don't have anything that I use on my mobile during the assessment. What I know is the same, just the sites. (Teacher 7, novice, HS, experienced in tech. integ.)*

In conclusion, although teachers were familiar with various MALL tools/applications, they had difficulties identifying such tools/applications especially in terms of reading skills.

Familiarity with MALL assessment through training/support:

To familiarize themselves with MALL assessment, only one teacher indicated that he received MALL assessment training or support while the remaining eight teachers highlighted that they have not received such a training for their professional development. While T2 expressed that she had received some webinars or courses on instructional technology, T3 highlighted that she had only involved in Movement to Increase Opportunities and Improve Technology (FATİH) project and had not received any professional development training/support on specifically MALL assessment. T1 noted that even though she had not received such a training, she would like to familiarize herself with MALL assessment tools/applications and techniques to incorporate in English language classrooms:

> *Unfortunately, I have not received it, but I would love to. It does not matter whether it is within the scope of National Education or outside, if there are such trainings and English-based methods and tools that we can use, I would*

love to be informed about them. (Teacher 1, novice, ES, experienced in tech. integ.)

T4 and T5 also highlighted that they had not received a training/support on MALL assessment; however, T4 desired participating in such a training by stating, *"I would like to receive it. I think adapting to technology should be a career goal for every teacher."* Similarly, T5 expressed her desire by saying *"I mean, I would like to receive it. I would like to be beneficial for learners."*

Likewise, T7 and T9 indicated their unfamiliarity with MALL assessment due to not having participated in professional development training/support and expressed a desire to receive such training. T9 highlighted his desire with the following words:

> *No, I haven't received any training on this... Of course, I would like to receive it because these days, we are heading to a place where mobile devices take up a lot of space in our lives, and why shouldn't we use it in teaching English language? (Teacher 9, experienced, HS, experienced in tech. integ.)*

Just as other teachers, T6 mentioned that he had not received training/support specifically focused on MALL assessment. Nevertheless, he noted that the professional development trainings he attends through MoNE utilize some mobile tools/applications that could be applied to language assessment practices. He further highlighted that through these trainings along with self-development and research, he tries to familiarize himself with MALL assessment:

> *I have not received any special training or support regarding their integration. However, in the professional trainings we go to, trainers definitely try to include them [MALL tools/applications]. You know, I prefer to do research on this subject myself. For example, the tools we call Web 2.0 tools that we can apply very simply at school, applications that turn vocabulary teaching into a bit more of a game, applications such as Wordwall where students can express their ideas, or using the wall section of EBA are beneficial. Apart from these, in the in-service trainings we attend, for example, they include digital tools, even if it is on a different subject. For example, today, let's say, we can use a program that can digitally reflect what we have learned from this seminar or training, or use an application such as Kahoot to measure the level of information learned in a multiple-choice test, but in a slightly more entertaining way. I'm personally trying to do research on these. (Teacher 6, experienced, SS, experienced in tech. integ.)*

Conversely, T8 highlighted that he had received trainings at both undergraduate and graduate levels through courses on instructional technology, CALL and MALL for assessing language skills/areas in classrooms. Additionally, T8 mentioned receiving support by participating in professional development communities organized by MoNE, where they exchange their knowledge, offer some suggestions and discover new tools, as well as by collaborating with his colleagues at school:

> *Yes. I have taken some courses in undergraduate at university, also in Masters. I have taken, I believe, three courses. One with literally technology implementation in English language teaching, other was specifically on computer assisted language learning. We also spent lots of time on MALL in that course because MALL was a derivative of computer assisted language learning. Yes, I have taken support. I also joined some…professional development communities where 10-15 teachers get together to discuss some topics, to create some suggestions for each other, to discover new tools. We also get support from other teachers, from these professional development communities. Also, I have my colleagues that I'm working with in my school. We are six English teachers. We also help each other. This is also a kind of support… (Teacher 8, competent, HS, proficient in tech. integ.)*

To conclude, even though only T8 received training or support on MALL assessment, all the other teachers recognized its benefits and expressed a desire to receive such trainings or support on MALL assessment for their professional development.

4.1.1.2. Understanding MALL and MALL Assessment

To identify teacher participants' understanding of MALL and MALL assessment, they were asked to provide definitions of them. Regarding the definition of MALL, among the three teachers who were not familiar with the concept of MALL, T3 identified it as "language learning through technological devices", T5 identified it as "the integration of technology into English lessons". On the other hand, T4 offered a definition for MALL by stating its benefits:

> *What is my definition? Thanks to developing technology, I think everyone can learn something through both formal and informal education. I can comment that mobile-supported language learning also provides this. (Teacher 4, novice, SS, novice in tech. integ.)*

Other six teachers who were familiar with the concept of MALL provided definitions for it pointing out to various aspects and characteristics. T1 highlighted the interactive and effective environment offered thanks to MALL:

> *The applications that can be accessed through these mobile devices in English language teaching provide children with access to various tools and thus provide a more effective, more interactive learning method. I can define it this way. (Teacher 1, novice, ES, experienced in tech. integ.)*

T2 made a comparison with the past and the present while defining MALL and mentioned its characteristics of ubiquity and personalization:

> *...before us, older generations were using paper-based language learning, teaching. They had dictionaries, they had ELT materials, books. But right now, we have smart devices like smart phones where we can easily, I mean, carry with us or, you know, laptops. So, if you are learning a language, sometimes without a teacher through an application, I guess this is mobile assisted language learning, not like all the time teacher assisted or book assisted. This is like my definition. (Teacher 2, competent, ES, experienced in tech. integ.)*

Similarly, T6 noted ease of access, and ubiquity of MALL by offering individualized and self-paced learning:

> *If I were to define it, how would I define it? I would define it as an interactive learning environment that allows a person to learn at their own pace, provides instant feedback, and can be accessed from any device, at any time, under any conditions. At the same time, it is an application that offers equal opportunities. (Teacher 6, experienced, SS, experienced in tech. integ.)*

T7 and T9 provided definitions for MALL as the name suggests:

> *Mobile-assisted language learning can be the use of mobile tools to learn any language. That would be my definition. (Teacher 7, novice, HS, experienced in tech. integ.)*

> *I think it is more like computer assisted language learning, that is, with mobile devices. (Teacher 9, experienced, HS, experienced in tech. integ.)*

Similar to T9, T8 connected MALL with CALL, discussed its origins, and gave examples for a variety of ways of mobile device usage to enhance different language skills:

As far as I know, it derived from Computer Assisted Language Learning. And in fact, mobile devices are just small computers, and it is a sort of a new type of Computer Assisted Language Learning, but that is focused on mobile devices rather than computers. So mobile assisted language learning would be defined by me as a process where mobile devices are used to teach different language skills through some apps, applications, programs, or even, you know, using them for writing, blogging, vlogging. (Teacher 8, competent, HS, proficient in tech. integ.)

When it came to the definition of MALL assessment, only three teachers were familiar with the concept. In her definition, T2 drew a distinction between paper-based and mobile-based assessments and pointed out interactivity and peer feedback offered while assessing learners through MALL:

…at the end of the lesson, teacher needs to have some assessment like formative assessment, summative assessment, not paper based, but…you do this through some applications like where students can contact to each other, right?...students give peer feedback to each other over these applications. They can write comments. They can see their results. So…if you assess your students through some mobile applications, this is…MALL assessment. (Teacher 2, competent, ES, experienced in tech. integ.)

T6 highlighted the reliability principle of MALL assessments in which immediate feedback is provided to learners:

If I were to define it, we can think of it as an instant feedback system that can provide instant feedback, has a low margin of error, where the probability of the evaluator making a mistake is reduced to a much lower level, even almost to zero. (Teacher 6, experienced, SS, experienced in tech. integ.)

While offering a definition of MALL assessment, T8 gave Kahoot and Duolingo as example mobile applications to assess learners' language skills and areas:

Mobile assisted language learning assessment is, again, using mobile tools for assessing the language skills, for basic skills, and plus vocabulary and grammar, I believe. Using those tools for assessment, at the top of my head, for example, Kahoot is a type of mobile assessment tool. There are lots of other things. Duolingo does that too. It gives you scores, points or it punishes your mistakes. It shows what you did right, what you did wrong and at the end of the day, you get a point or a score. And this type of assessment is, I think, mobile assisted language learning assessment. (Teacher 8, competent, HS, proficient in tech. integ.)

To conclude, six teachers familiar with the concept of MALL provided unique definitions, highlighting its affordances such as interactivity, ease of access, individualized learning, ubiquity and self-paced learning. For the definition of MALL assessment, three teachers familiar with the concept mentioned some MALL tools/applications to assess language skills/areas, highlighting the affordances of MALL assessment in providing feedback, and enhancing interactivity and reliability.

4.1.1.3. Teachers' Perceptions Regarding Student Perceptions on Language Assessment, MALL and MALL Assessment

Teachers' perceptions regarding students' perceptions on language assessment:

Regarding students' perceptions on language assessment, T7 indicated that while assessing listening skills, students complained that the audio-recordings were so fast that they could not comprehend what the speaker said:

> *…We always encounter the same problem in listening. "The speaker speaks very fast." "We don't understand this, can we slow him down?" "Well, sir, if you read it yourself and slower"… (Teacher 7, novice, HS, experienced in tech. integ.)*

T7 further remarked students' lack of motivation and interest in writing assessments due to unfamiliarity with these assessments and cultural distances with the target language:

> *... for example, when doing writing, there is an objection to writing an essay, "Why do we write so long", "I can't write so long" or for example, I give a topic. The topic is parties. I say, "You will write an invitation card." There is a failure to adapt to the culture. Students say, "We don't write invitations, we have never written in our lives, how is this written?" There can be difficulties like that. (Teacher 7, novice, HS, experienced in tech. integ.)*

To sum up, with regards to listening and writing assessments in language classrooms, T7 mentioned her perceptions on students' negative perceptions and difficulties they face.

<u>Teachers' perceptions regarding students' perceptions on MALL:</u>

Teacher participants also mentioned students' perceptions on integrating MALL tools/applications into classroom environments as motivating, engaging and beneficial. T1 valued the integration of these tools/applications into class and pointed out its efficiency:

> *…I think it would be beneficial for children because they love trying different things… (Teacher 1, novice, ES, experienced in tech. integ.)*

Similarly, T8 mentions how his learners perceive the incorporation of ChatGPT into the English language lessons:

> *You know, I open ChatGPT, I blast it on the speaker, I use my internet connection and mobile phone and I tell them, "Just talk with the program, talk with the AI" and students love them. (Teacher 8, competent, HS, proficient in tech. integ.)*

T3 integrated mobile devices into classroom environment to enhance young learners' speaking skills and mentioned how her learners perceived the experience:

> *For example, I had the students talk to my foreign friends so that they could talk to a foreigner... They liked it. They tried to talk. I mean, it wasn't much because my group was small, but they liked it. (Teacher 3, experienced, ES, experienced in tech. integ.)*

T6 pointed out alterations in students' needs and interests due to technological developments and how MALL tools/applications attract learners' attention more:

> *To attract students' attention and provide more focus in language teaching, more interactive applications attract students' attention more. Now, the student profile is also changing. Previously, even coming to the board and touching the smart board motivated students. But now, instead of this, students want to do more and more things day by day. For example, let's say a digital tool, they want to use it themselves. They want to do things completely with their own intervention. (Teacher 6, experienced, SS, experienced in tech. integ.)*

Regarding the use of MALL tools/applications for enhancing reading skills, T6 also stated that they boost learners' motivation and facilitate effective learning:

...students enjoy reading different interactive things. It is more productive when the resources are interactive, where they can find different things, access visuals, or when they get stuck, they can say what this is, watch a video, and then read the text. (Teacher 6, experienced, SS, experienced in tech. integ.)

Similar to T6's comments, T7 pointed out how learners find CALL or MALL integration into language learning engaging, especially after pandemic:

Recently, after the pandemic process, children have become more interested. If I show something on the phone, it definitely becomes more valuable for them... or if I open it on the smart board... Actually, there is nothing, only questions appear, but clicking on those boxes there creates extra interest for them. (Teacher 7, novice, HS, experienced in tech. integ.)

T9 indicated that students perceive learning with paper-based materials as tedious and therefore, he prefers using MALL tools/applications since they attract students' attention more:

I send them [reading texts] from their phones because they [students] are more interested in them because they have a smart phone. When we give them a written book, students do not spend much time with it, or they do not use it because they get bored. That is why, I send reading passages to their smart phones… Sometimes, I send homework from EBA. (Teacher 9, experienced, HS, experienced in tech. integ.)

With regards to MALL, teachers highlighted students' positive perceptions thanks to its affordances of boosting motivation, enhancing engagement and ensuring beneficial language learning opportunities.

<u>Teachers' perceptions regarding students' perceptions on language assessments through MALL:</u>

When discussing teachers' integration of MALL tools/applications to assess learners' language skills and areas, a few teachers noted that students might find assessments through these tools/applications both motivating and engaging. T1 emphasized how learners might enjoy language assessments through MALL:

…it can make the process fun, it can actually contribute to the process in a nice way without students realizing that it is an evaluation… (Teacher 1, novice, ES, experienced in tech. integ.)

T4 mentioned his efforts to promote self-directed learning of his students through Duolingo and how students perceive their self-assessment experiences:

> *...there are many applications for mobile devices. I recommend them to students as much as possible. If I were to give an example, it would be Duolingo. Some students use these applications, and when they respond to me, they tell me that they were able to learn a few things in English, basically, and that they were more comfortable memorizing and learning words. (Teacher 4, novice, SS, novice in tech. integ.)*

In conclusion, teachers predominantly expressed students' positive perceptions on MALL and MALL assessment with their motivating, engaging, and beneficial aspects.

4.1.1.4. Teacher Perceptions on Language Assessment, MALL and MALL Assessment

Teachers' perceptions on language assessment:

Teachers expressed their perceptions on integration of language assessments into classrooms. T4 indicated importance of simultaneous implementation of four-skills:

> *…I think that all four language skills should be taught at the same time in language learning. We are just trying to teach traditional methods… (Teacher 4, novice, SS, novice in tech. integ.)*

Conversely, supporting the views of T4, T1 stated that regarding assessment of these four skills, it is more beneficial to assess them individually rather than collectively:

> *...If I think in terms of English, I think it is healthier to evaluate speaking or other skills separately. At least, students can improve themselves by measuring and evaluating each skill within themselves and getting feedback from it. (Teacher 1, novice, ES, experienced in tech. integ.)*

When it comes to language assessments, teachers noted their perceptions with regards to their effective integration.

Teachers' perceptions on MALL:

When asked about how much value they attribute to the integration of MALL tools/applications into the classroom, all teachers highlighted its significance for

ensuring meaningful learning experiences for students. T1 stated that even though she values the incorporation of mobile devices into classroom environment, she feels restricted by MoNE:

> *I think it is a good method, but it is a limited method within Ministry of National Education. I think it is a method that can change according to your knowledge and competence in the applications that you can access and do with your own efforts. (Teacher 1, novice, ES, experienced in tech. integ.)*

T2 mentioned alterations in the student profiles with the development of technology and how integrating MALL into classrooms might benefit both learners and teachers:

> *Actually, it is really crucial to integrate mobile assisted learning tools into the classroom environment because students are changing. They're really active. They don't like boring materials, but when they see these kinds of tools, they get motivated. And it is also easy for the teacher. We don't have to spend so much time in preparing materials. We can easily find some online materials in applications. (Teacher 2, competent, ES, experienced in tech. integ.)*

T4 pointed out that diverting from traditional methods and embracing new ways of language learning through mobile devices could be beneficial for learners:

> *Escaping traditional education can be very advantageous for students. For example, if we consider language teaching, it may be more beneficial for students to use technological devices in the classroom instead of notebooks or books. (Teacher 4, novice, SS, novice in tech. integ.)*

T6 referred to a past project aimed at promoting MALL and given that he greatly values MALL integration into classroom environments, he expressed a desire for revival and expansion of such initiatives:

> *I value it very much. I think it is long overdue, I wish there were more. There was actually a project done on this subject before. Few years ago, tablets were distributed to all students. Classes were transformed into an interactive classroom environment with smart boards accordingly. For example, a visual or a statement we opened on the smart board could be reflected as a screen image on the tablet of the student at the back. The books were inside these tablets. The whole class could do an activity at the same time. I personally would like these to be repeated and developed, but unfortunately it was not continued, and it remained that way. (Teacher 6, experienced, SS, experienced in tech. integ.)*

In a similar vein, T9 indicated that he highly values MALL due to learners' positive perceptions towards mobile devices for both personal and educational use and he believed that this positive perception transfers to language learning as well:

> *I value this a lot because I think that phones and smart devices are very popular with students today and therefore, they are useful in terms of adapting to the lesson. I think that students reading a reading passage from their phones, underlining it and sending a question about it to the teacher from there is more appealing to them because they already have phones, and I don't think they will have any trouble with this since they do activities such as playing games or watching videos. In other words, I think it is useful in terms of adapting to the lesson and ensuring that it is interesting. (Teacher 9, experienced, HS, experienced in tech. integ.)*

In line with T9's remarks, T8 highlighted the crucial role of integrating mobile tools/applications into educational settings due to learners' growing interest and attachment to their mobile devices. He further stated that even though he could instruct without these devices, learners' preference for new language learning methods through mobile tools/applications makes the inclusion of MALL in classroom instruction highly beneficial:

> *I sort of see this as a must because our students are Generation Z students. They already use mobile phones. You know, I can make do without using the mobile phones for my instruction at all. I don't need mobile phones to teach them English, but they really love using mobile phones because it's sort of like their life. They already use mobile phones very frequently and they feel a personal attachment to their mobile phones... It's sort of like a friend to them… Students love using mobile phones. That's why, it's important. It's valuable to use them in education as well, not just in English. (Teacher 8, competent, HS, proficient in tech. integ.)*

To sum up, all teachers expressed that they highly value the incorporation of MALL tools/applications into language learning and teaching practices.

Teachers' perceptions on language assessments through MALL:

With regards to teachers' perceptions on integration of MALL tools/applications into language assessment practices, they mostly had positive views. T1 highlighted its possibility but felt restricted due to limited use of MALL assessment:

...for example, I think about what it would be like if it was mobile supported. Maybe because it hasn't been used yet, I can't think of a practical method, but if there was an application or a tool like that where we could record our progress, and we could see our own shortcomings and then they could evaluate us that way, I think it could happen, but of course, I can't think of anything specific, unfortunately. (Teacher 1, novice, ES, experienced in tech. integ.)

On the other hand, T8 perceived the importance of MALL assessments and suggested that traditional paper-based assessments could be integrated with MALL tools in classroom settings. By provided an example involving a speaking assessment to illustrate his comments, T8 highlighted the affordances of MALL assessments, emphasizing their usefulness and the ability to provide creative feedback:

...all of the paper-based assessment types can be used in mobile assisted language learning...For example, let's say, acting out scenario where one student is a waiter and the other orders food. You put your phone, the phone records you, watches you, listens to you. And thanks to the artificial intelligence, through its cameras and microphones, it analyzes that. How true to life was that, how accurate, you know, how fluent was your speaking, how was your interaction? ... I believe these types of assessments will be possible through mobile assisted language learning assessment, and these types of assessments will be the ones that push MALL assessment over the top, make it more useful than paper-based assessment or at the end of day, they can even give creative feedback to students. (Teacher 8, competent, HS, proficient in tech. integ.)

To sum up, teachers predominantly valued the integration of MALL tools/applications into classrooms to assess language skills and areas effectively and to provide better learning experiences for students.

4.1.1.5. Teachers' Preferences

Teachers' preferences for technology integration into classrooms:

With regards to teachers' preferences, several teachers chose integrating technology into their lessons. The reason behind T2's preference lies in alterations on student profiles with the technological developments:

> *…I am trying to follow new applications, new websites. I am trying to integrate technology to my classroom. I know what I can use, how I can use, how I can integrate these tools into my lessons according to the changing profiles of the students…(Teacher 2, competent, ES, experienced in tech. integ.)*

T4 incorporates technology into his lessons due to his disbelief in traditional teaching methods:

> *I try to use technology as much as possible because I do not think students can learn a language with traditional methods. (Teacher 4, novice, SS, novice in tech. integ.)*

Similar to T4, T6 prefers integrating technology into his lessons to attract learners' attention and boost their motivation, which tends to diminish with traditional teaching methods:

> *For example, when you teach a lesson using a traditional method on a normal flat board, you notice that the student's concentration starts to deteriorate after a certain period, they lose interest in the lesson... You know, a video can be shown before this, you can show something visually. You know, it can be a listening text or something that will help students get an idea about the subject... (Teacher 6, experienced, SS, experienced in tech. integ.)*

To conclude, several teachers highlighted that they integrate technology into their classrooms by presenting diverse reasons.

Teachers' preferences for traditional or MALL assessments:

When teachers were asked whether they would prefer using traditional language assessments or MALL assessments to enhance learners' language skills and areas, they were equal in number. They expressed the rationale behind their preference for traditional language assessments as curricular limitations they face or their familiarity with them. T3 simply stated that she would prefer traditional language assessments while T5 preferred traditional language assessments due to her familiarity:

> *Since I haven't measured any students or done anything through any mobile-supported application, I prefer the traditional one because I'm not familiar with it. (Teacher 5, competent, SS, novice in tech. integ.)*

T8 believed that MALL assessment is required to be more available to each learner in each educational setting:

> *I favor traditional assessment methods because MALL has some ways to go, it needs to develop a little bit more. And it needs to become more available for students. (Teacher 8, competent, HS, proficient in tech. integ.)*

T9 favored traditional assessment types as they better suit to the educational setting he teaches. However, he also stated he would be open to use MALL assessment in his lessons if the appropriate conditions are met:

> *For now, traditional assessment methods are a bit more suitable for the current educational environment because I don't think mobile-assisted language learning can be used for assessment since there is no preparation for this... but if an infrastructure for this is ready in the future, we would, of course, prefer to use mobile applications. (Teacher 9, experienced, HS, experienced in tech. integ.)*

T2 indicated that her preference alters according to student profiles, levels, and educational settings she teaches:

> *Actually, this can change according to the student and where you teach. If you have limited access to Internet or limited access to your mobile devices or technology, traditional assessment is the best way, but you can enrich the content of it. But for example, if you're working with adult learners or high schoolers, they like this kind of technological things more. So, for that environment, for that type of students, mobile assisted language learning assessment is the best way. (Teacher 2, competent, ES, experienced in tech. integ.)*

T2 further expressed that she favors either traditional language assessments or MALL assessments for different language skills and areas:

> *I guess for writing, for handwriting, I favor traditional assessment. For vocabulary, for speaking or practicing how you use this vocabulary, how you create some dialogs, I favor mobile assisted one. (Teacher 2, competent, ES, experienced in tech. integ.)*

Among other teachers who favored the use of MALL assessments over traditional language assessments, T4 identified MALL assessments as a better option. Similarly, T1 indicated that assessments through MALL tools/applications might meet learners'

individual needs and help teachers to provide better feedback:

> *I think mobile supported methods can be more useful, especially for children because each of them has different needs, each of them has a different learning style, and if we apply a specific measurement and evaluation to them traditionally, I think we do not measure their needs enough and we do not actually evaluate them. Therefore, mobile methods are more beneficial for us in terms of capturing this diversity and I think it will be more beneficial for children. I think mobile supported teaching methods will definitely be better in terms of both giving them feedback and being able to evaluate their performance. (Teacher 1, novice, ES, experienced in tech. integ.)*

T6 pointed out advantages of MALL assessments for ensuring reliability, objectivity, practicality and saving time:

> *I prefer mobile-assisted language learning assessment more because the margin of error is very small. It is very fast. It saves a lot of time. It minimizes the error of the reader-evaluator, almost to zero. Fast evaluation provides instant feedback. It is much better in this regard. (Teacher 6, experienced, SS, experienced in tech. integ.)*

Similar to T6's comments, T7 favored MALL assessments, suggesting that they would allow more objective evaluations:

> *I think I might prefer mobile-assisted if I am thinking correctly because we have some trouble when evaluating traditionally because, frankly, our objectivity can slip… Maybe mobile-assisted assessment can break the motivation of some students, it can be harsher, but in terms of objectivity, it can be a more objective evaluation. It can give better results to teachers. (Teacher 7, novice, HS, experienced in tech. integ.)*

To sum up, the number of teachers who favored traditional assessment methods was equal to those who favored MALL assessments. Teachers favored traditional assessment methods due to their familiarity and curricular limitations while they preferred MALL assessments thanks to their affordances.

Teachers' preferences for assessments and grading by MALL tools/applications:

When asked whether they would prefer MALL tools/applications to both assess and grade students or they would prefer these tools/ applications to conduct the assessment but to leave the grading and analysis to them, the majority of teachers preferred the

second option. T3 highlighted the importance of affective factors, especially while assessing young learners and stated that they could grade learners more effectively through their observations:

> *It should leave the grading to us… I think we can do better because we see the children ourselves… We observe the child in the classroom. The child may be excited at that moment and may not be able to do it, do we want him to be evaluated with a one-time thing or should we spread it out? (Teacher 3, experienced, ES, experienced in tech. integ.)*

T4 does not favor using mobile tools/applications for grading students due to their perfectionist nature and pointed out the need to recognize that making mistakes is part of being human:

> *I would prefer that the grading be left to the teacher because an application that is going to be done… is generally expected to seek perfectionism. In other words, everything is wanted to be done flawlessly and completely, but after all, we are learning a foreign language, and everyone can have mistakes and flaws. That's why, I think that some of these… small mistakes should be ignored, and the teacher should grade them in this way… I think that it would be better if the grading was left to the teacher and the evaluation was done with mobile support. (Teacher 4, novice, SS, novice in tech. integ.)*

T7 was certain about using MALL tools/applications for assessing learners but when it came to grading, she preferred doing it herself due to the high-stake exams her learners are preparing for, where their school exam scores are combined with their scores in these exams:

> *I mean, I definitely want it to assess. I'm definitely sure of that, but because of the environment I work in, and also some of my other experiences... I think I would like to grade myself. I mean, let it give an evaluation, but I would like to grade myself... Right now, since my kids are in high school and they're going to take the university exam, I'm a little hesitant about grading them like this, to be honest. That's why, I would like to grade them myself. (Teacher 7, novice, HS, experienced in tech. integ.)*

T9 stated that MALL tools/applications could assess learners more objectively and accurately, leading to practical, time-saving and motivating evaluations for learners. However, in terms of grading, he pointed out the importance of providing feedback to learners through individual meetings:

When assessing mobile tools, I think they should conduct the assessment but leave the grading to the teacher because this can have the following benefits. Now, mobile applications can do objective evaluation. They can evaluate students' performance objectively. Here, thanks to some algorithms, they can provide fast feedback in evaluating students' answers according to certain criteria, saving time. They can do this process automatically. They can help the teacher save time and space. They can increase student motivation. They can benefit from fast and instant evaluation and feedback. They can increase student motivation. Students see that their performance has increased. They can see that what they did was right immediately, but I think the teacher should do it at the grading level because the teacher also needs to have a few things to say because it would be better to see it there and meet with the student one-on-one for feedback, so they should conduct the assessment but leave the grading to the teacher. (Teacher 9, experienced, HS, experienced in tech. integ.)

On the other hand, some teachers were in the middle, and they had different views about assessing and grading by MALL tools/applications. They stated that these tools can assess students; however, they believed that the tools should not autonomously conduct grading entirely but rather assist teachers in the grading process. T2 preferred assessing learners herself but get support from MALL tools/applications to grade learners so that based on those grades, she could give more meaningful feedback:

…these applications can guide me to assess, to provide feedback through them. Also, for grading, I can get help from these applications. Instead of I grade them, by saving my time, they can easily do this. Over these grades, I can assess the performance of the student and where they lack. According to this, I can try to improve my teaching. So, the analysis provided by the application, actually, it's a great opportunity for myself as a teacher… I cannot say the first one or the second one,…for some goals of the lesson, for some objectives of the lesson, both grading and assessing. But… mainly, I can assess my students… (Teacher 2, competent, ES, experienced in tech. integ.)

Similar to T2's remarks, T8 stated that MALL tools/applications can conduct simpler grading tasks and assist teachers in grading the students, but they should leave more complicated grading and analysis tasks to the teachers themselves:

For example, for grammar, for multiple choice, for fill in the blanks, true-false, yes, the tool can grade the student. But for reading, for writing, for speaking, listening, for more interactive types of assessments, it should leave the grading to the teacher. It can also say, "I have analyzed the assessment. I have come up with an overall grade for a student, but hey, take a look for yourself. You

can change that". For example, the tool can say, "The student, for me, got 70 out of 100 points but take a look at the assessment for yourself and see if you would like to change my grading" and you can check up on the work of the tool. You know, you wouldn't need to assess all of the paper, but you can analyze how the tool assessed the student, and you can make changes upon the analysis of the tool, or it can even just say that, "Okay, these types of questions were multiple ended, here is my grade. I leave the open-ended types of questions to you". (Teacher 8, competent, HS, proficient in tech. integ.)

Likewise, T1 stated that there needs to be a reciprocal relationship with MALL tools/applications in terms of both assessing and grading students rather than relying entirely on one over the other:

Of course, these tools can be very helpful in assessment. I think they can actually contribute in terms of fairness in grading, but maybe we can achieve a common intersection. In other words, by taking the evaluation and measurement results obtained from there and filtering them ourselves, maybe we can create such a synthesis because directly taking and using what those types of tools give or directly reflecting them may not be healthy to some extent. (Teacher 1, novice, ES, experienced in tech. integ.)

As teachers who chose MALL tools/applications to both assess and grade students, T5 and T6 mentioned the importance of these tools to ensure reliability and objective scoring during assessments:

I would prefer it to both evaluate and grade. Why? It would be much more objective. As I mentioned, instead of saying "Oh, let me give a slightly higher grade", it would give grades according to the student's actual level. It would eliminate the evaluator's mistake. It would be a fairer evaluation, more equal for the students. (Teacher 6, experienced, SS, experienced in tech. integ.)

Despite expressing their positivism using MALL tools/applications for assessing students, most teachers preferred to grade their students themselves as they could provide more constructive feedback to their learners.

4.1.2. Findings in Relation to Research Question 1b Regarding Self- Reported Current Practices of In-service EFL Teachers and the Implementation of Technology, Language Assessment, MALL and MALL assessment

Research Question 1: What are the perceptions of in-service EFL teachers working in different school contexts in Türkiye in terms of:

b. their self-reported current practices and the implementation of technology, language assessment, MALL and MALL assessment into EFL classrooms?

Aligned with the research question 1b, two categories emerged as classroom integration, and specific language skills with MALL and MALL assessment. Table 4.4 presents the overview of categories, codes and frequencies for implementation and practices of technology, language assessment, MALL and MALL assessment.

Table 4.4 Overview of Categories, Codes and Frequencies for Implementation and Practices of Technology, Language Assessment, MALL and MALL Assessment

Categories	Codes	Frequency (*f*)
Classroom Integration	current language assessment practices in class	17
	current use of mobile devices in education	14
	ways of mobile device integration into class	14
	administering assessment with MALL in class	10
	educational purpose of mobile devices	8
	current MALL assessment practices	8
	benefits of technology education in university to EFL teaching	6
	integrating CALL into classroom	6
	technology integration in education	5
	informal language assessment in class	5
	educational activities with MALL tools/applications	4
	benefits of university education in technology use	1
	formal assessment with MALL	1
	potential use of MALL assessment	1
TOTAL		100
Specific Language Skills with MALL and MALL Assessment	assessing vocabulary through MALL	15
	assessing writing through MALL	15
	assessing reading through MALL	14
	assessing speaking through MALL	13
	assessing grammar through MALL	11
	speaking skills with mobile devices	11
	language skills developed with mobile devices (students)	9
	listening skills with MALL	8

Table 4.4 Overview of Categories, Codes and Frequencies for Implementation and Practices of Technology, Language Assessment, MALL and MALL Assessment (continued)

Categories	Codes	Frequency (*f*)
	vocabulary through MALL	5
	writing skills with MALL	3
	reading skills with MALL	2
	audio-visual aids in MALL	1
	variety of MALL tools	1
TOTAL		120

For the first category, code with the highest frequency was current language assessment practices in class (*f*=17) while for the second category, the codes assessing vocabulary through MALL (*f*=15) and assessing writing through MALL (*f*=15) both had the highest frequency.

4.1.2.1. Classroom Integration

In the interviews, teachers elaborated on their current technology integration practices into classrooms, their methods for conducting language assessment, and their experiences using technology or mobile devices for language assessments. They also cited examples and discussed potential usage of MALL tools/applications in language assessments.

Impact of university education on technology integration into classrooms:

Regarding technology integration into classroom environments, some teachers mentioned how technology courses they took at university had a positive impact on shaping their current English language teaching practices using technology. T1 highlighted the significance of such courses for both her learners and herself:

> *I think it definitely adds a vision to keep up with today's age. By seeing various teaching methods and techniques, and integrating new tools into lessons, we can plan extremely diverse lessons and prepare lesson materials. I think it is*

very useful and to establish a current connection with students, to make language learning more fun and more interactive, I think integrating technology is a very useful method. I can say that it has contributed positively to me in this respect. (Teacher 1, novice, ES, experienced in tech. integ.)

T2 and T8 indicated that these technology courses enabled them to provide better learning experiences for their students:

Actually, right now I'm trying to use some websites and applications in the classroom. So, what I am using right now in my language teaching classes, I learned this software, other useful websites from these courses, and I learned useful applications. We had demo teachings on them. We gave feedback. So, all of them, actually, I can say, shaped my learning and teaching. (Teacher 2, competent, ES, experienced in tech. integ.)

They have provided me with some tools and accessories that I can use during my teaching or class hours, more effectively making use of my time and allowing my students to learn in a more fun, engaging, and creative atmosphere. (Teacher 8, competent, HS, proficient in tech. integ.)

Similarly, T7 mentioned how she applies technological tools learned from these courses in her lessons:

I mean, I still use some of the applications I learned there. For example, they showed Canva there, there are applications that I use especially for visual purposes when preparing something like this... (Teacher 7, novice, HS, experienced in tech. integ.)

T9 benefitted from these courses by learning to leverage lesser-known features of some software for educational purposes and exploring educational applications to integrate into classroom environments:

For example, in a one-term course, our teacher showed some of the less-used features of some programs on computers, such as office programs, Word, and Excel. For example, the Review feature. How can we use this in education? We were brainstorming about this. When I did research, I found other programs related to education, such as an application called Hot Potatoes. I saw an application that I hadn't seen before. With this application, you can create applications for web-based education. For example, you can do Crossword and then you can do matching activities. In other words, these kinds of different things can be done. Most people do not know these things because they are not aware of them. In other words, these less-used features can be used in education. (Teacher 9, experienced, HS, experienced in tech. integ.)

On the other hand, despite not having taken any courses related to integrating technology into EFL settings, due to his personal interest in technology, he does not feel any negative impact from not taking these courses and tries to integrate technology into his lessons as much as possible. He further pointed out positive impact of being an English teacher on his technology integration practices:

> *I don't think it will affect me too much because personally I am a bit interested in technology. I try to use technology as much as possible in my daily life and at work... I haven't had any disadvantages so far because I didn't take a course on this at university. Of course, being an English language teaching graduate also has an effect here because when I try to use applications, considering that most of the applications are in English, I don't have any difficulty using the application or finding something in that application. It's not a waste of time for me. Therefore, it doesn't have any negative effects on my use. (Teacher 6, experienced, SS, experienced in tech. integ.)*

To conclude, most teachers had taken courses at university regarding technology integration into EFL and highlighted their positive impacts in their language teaching practices.

<u>Ways of mobile device integration for educational purposes:</u>

When asked about using mobile devices in education, all the teachers described their ways of mobile device integration into classroom settings for educational purposes. They noted that they mainly rely on smartboards in classrooms, and even though they try to utilize their own mobile devices for educational purposes whenever possible, they encounter difficulties due to curricular limitations in their teaching environments. T1 presented her ways of mobile device integration into classes for enhancing her young learners' language skills with games, pictures, flashcards or videos:

> *Both for myself and sometimes, I integrate it into my lessons, but in general, we can progress with smart boards in the classrooms, I mean, the vast majority, but sometimes, I include phones or tablets like this... For example, there are some applications, such as interactive flash cards, or even certain YouTube videos that we can use in English listening. We do activities with voice recordings, play games, or for example, since tablets have larger screens, we sometimes make the lesson fun with applications where children can come and interact interactively with pictures. (Teacher 1, novice, ES, experienced in tech. integ.)*

In a similar vein, T2 expressed how she uses her mobile devices to enhance learners' speaking skills and vocabulary knowledge, and to attract their attention with various applications:

> *...For example, when I search, there are some...video recording activities. I see them, I just take the idea and...I'm just adapting that idea to the classroom, like speaking activities or, while I'm starting to the lesson...I use the activities that I see in these applications or online websites or like we learn some vocabulary items to revise them over the topic. I'm getting help from these mobile applications...I'm taking my laptop. I'm trying to show them [students] pictures. We have...360...degree museums. I'm showing them, and I'm getting help from my laptop. (Teacher 2, competent, ES, experienced in tech. integ.)*

T3 highlighted that even though she primarily uses smartboards in her classrooms, she sometimes relies on her mobile devices to ensure Internet connectivity and quickly search for information:

> *... I use the smart board. Of course, I also use my phone if I need to. Since there is a smart board, it already functions as a tablet and a computer... I use my mobile device when I need to research something quickly. If there is no internet on the smart board or if I want to open the internet on any device in the classroom, I use it. (Teacher 3, experienced, ES, experienced in tech. integ.)*

T4 and T5 further elaborated on their purposes for mobile device integration in the classroom settings:

> *In classes… I generally use EBA or try to present information to students more easily by using artificial intelligence programs. (Teacher 4, novice, SS, novice in tech. integ.)*

> *I use it mostly on my laptop for activities during class. I use it when creating activities. I also play games on it most of the time during class. (Teacher 5, competent, SS, novice in tech. integ.)*

T6 pointed out that with regards to mobile device integration for language learning, he urges his students use their mobile devices in virtual classrooms to express their ideas on a topic assigned by the teacher:

> *For example…if we are going to do a brainstorming, if we are going to exchange ideas on a task and we have time for this, we can do this. For*

example, there are applications like WordWall, there are many applications where students can express their ideas on a board… There is also the EBA platform provided by the Ministry of National Education… For example, we can share a question there and ask students to write answers related to this topic or vote on the answer. (Teacher 6, experienced, SS, experienced in tech. integ.)

T7 indicated that she uses MALL tools/applications to create slides for vocabulary learning, find suitable listening videos for her learners. T7, T8, and T9 also pointed out that mobile devices allow for internet connectivity:

I use my computer especially before exams when preparing exams or while giving words, sometimes I prepare slides or sometimes I use Canva for things I will give as examples, or I use applications like Kahoot and Bamboozle for other jobs. Sometimes, I use my tablet to search for a listening text on YouTube so that I don't have to open the computer. The same goes for my phone at school, sometimes on the smart board, when I have a problem with the internet, I open it from my own phone and have the children listen to something. (Teacher 7, novice, HS, experienced in tech. integ.)

All teachers noted that they utilize their mobile devices for educational purposes. They mentioned that they mainly ensure Internet connectivity and create new materials or activities or utilize the existing ones.

Current language assessment practices and MALL integration:

Regarding learners' language assessment practices in classroom settings, all the teachers stated that they have to assess their learners using traditional methods and cannot heavily rely on MALL assessment due to curricular constraints. T1, T2 and T3 noted their informal assessment practices with young learners and as these learners are not evaluated through exams, T1 devises her own methods for assessing them through classroom observations:

Since I am currently working within the scope of [Ministry of] National Education, unfortunately, we generally use classical methods... I make long-term evaluations that will cover a period with the scales I have created because we do not have exams. We evaluate the child at the end of the period with certain options, but of course, since this is spread over a period, it is a method we have created for ourselves in terms of giving feedback. (Teacher 1, novice, ES, experienced in tech. integ.)

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T1 further stated that she does not rely on any MALL tools/applications to assess her learners:

> *…I actually try to analyze each child's performance within the lessons and their language skills in general and turn that into an evaluation criterion, but I don't think I use any mobile devices. I mean, I don't apply a specific application or a specific test to children… (Teacher 1, novice, ES, experienced in tech. integ.)*

Just like T1, T3 indicated that she does not rely on mobile devices to assess learners' language skills by saying *"Like I said, I observe my students in class, and I do not get help from any mobile devices."*

Conversely, T2 stated that she uses her mobile devices to better assess her learners:

> *…for…the content of the assessment, I'm getting help from the applications…For example, I am checking other teachers' works. I'm just adapting these tests or quizzes to the level of my students. I'm taking the colorful pictures there. (Teacher 2, competent, ES, experienced in tech. integ.)*

T4 noted his traditional assessment practices with formative and diagnostic assessments:

> *Generally, during the course, for example, if I am going to move on to a unit, I do a diagnostic assessment. This can be a quiz, a question and answer. Then, towards the end of the unit, I usually do a formative assessment. I provide this either with quizzes or I can provide it in the same way in the form of questions and answers. (Teacher 4, novice, SS, novice in tech. integ.)*

T4 and T9 pointed out curricular limitations by MoNE regarding restrictions on mobile device usage by students in class and T9 mentioned his current assessment practices through traditional methods:

> *We generally use traditional assessment methods as the use of mobile devices in the classroom is prohibited… We use quizzes in the classroom. (Teacher 9, experienced, HS, experienced in tech. integ.)*

T5 and T7 noted that they assess their learners' listening skills through traditional assessment methods:

I do traditional assessment on paper, but this year, of course, since the system has changed a lot, we are also giving the student an exam on paper by having them listen to listening texts, for example, via audio recordings. We continue with the traditional assessment method. In other words, unfortunately, we cannot evaluate the student through any application. (Teacher 5, competent, SS, novice in tech. integ.)

I assess it traditionally. I only use the mobile device when I open the listening test from the phone, but other than that, we do not use any mobile device. (Teacher 7, novice, HS, experienced in tech. integ.)

Like other teachers, T8 primarily relies on traditional assessment methods due to curricular limitations. However, he also mentioned that he incorporates assessments through not only MALL but also CALL tools:

We have to use traditional methods because it's what the ministry wants from us. But I use not just MALL assessment, but also CALL assessment, computer language learning assessment in forms of quizzes, mini tests and placement exams, proficiency exam, these types of, you know, not very formative but a summative exam types, you know, to understand whether the students have achieved what you have been trying to teach them. I make use of quizzes together with traditional assessments, but the results of the quizzes stays with me and the traditional assessments is what determines their eventual scores. (Teacher 8, competent, HS, proficient in tech. integ.)

Teachers noted that they currently rely on traditional assessment methods and cannot incorporate MALL assessments into their classrooms due to curricular limitations.

Potential MALL integration into language assessment practices:

Regarding the integration of MALL tools/applications for language assessments, several teachers provided examples of how these tools might be incorporated into classroom environments. The majority of teachers pointed out possibility of assessing traditional assessment types such as exams and quizzes through MALL. T1 suggested that language assessments could be more motivating and engaging for students by using various applications to conduct quizzes or provide feedback:

So, there could be interactive quizzes or interactive methods where children can get feedback. Especially when we think about it skill-based, practical applications like this, fun applications for children, I think these could be nice.

In other words, it both draws their attention, and they can see it as a tool based on self-development without actually being an evaluation, and with the elimination of stress, they can perform better, for example. (Teacher 1, novice, ES, experienced in tech. integ.)

In a similar vein, T3 and T9 mentioned that MALL tools/applications could be utilized in classrooms to administer language assessments such as quizzes and exams with which learners can evaluate themselves:

Of course, if everyone has a tablet or access to technology over the internet, quizzes can be done like Kahoot. (Teacher 3, experienced, ES, experienced in tech. integ.)

As a type of assessment for students in mobile-assisted language learning, we can do quizzes. Again, we can do exams, quizzes, etc. where they can evaluate themselves. (Teacher 9, experienced, HS, experienced in tech. integ.)

T4 and T5 pointed out that MALL could be used for formative assessments to identify learners' weaknesses in language learning:

MALL can be included in the process in order to develop the students' skills, at least each student can be aware of their own level or where they are. We include them in the process. They may have deficiencies... If they have deficiencies, they will be aware of them and see them themselves. (Teacher 5, competent, SS, novice in tech. integ.)

T7 pointed out how MALL assessments could be practical for assessing learners' language skills:

In mobile assisted ones, especially when assessing language, maybe it can be more easily separated into parts like listening, speaking, writing and reading. I think there can be things other than what we use traditionally, for example, I don't know, a random question can come up and the child can answer it while speaking or a listening text can come to each of them separately. (Teacher 7, novice, HS, experienced in tech. integ.)

Even though all teachers expressed that they predominantly use traditional assessment methods in the classroom, they provided potential ways to integrate MALL tools/applications to language assessment processes.

4.1.2.2. Specific Language Skills with MALL and MALL Assessment

Concerning the language skills and areas teachers aim to improve through MALL in classrooms, it was found that state school teachers can only enhance learners' language skills and areas using their personal mobile devices. Since students are not allowed to bring their mobile devices to school, teachers instead focus on developing these skills and areas through CALL, utilizing virtual classrooms and facilitating outside-of-class learning, where students can use mobile devices. T1 indicated that she enhances her young learners' listening and speaking skills, and expand their vocabulary knowledge through MALL:

> *...for listening, for example, sometimes I play the songs for words for the children to recognize, or we play games like that. I can say listening is the most important thing in that regard. Secondly, vocabulary comes with it. I also sometimes have them do role plays in speaking. For example, sometimes, I put a character on the phone and make him talk, sometimes they talk to each other, they do fun things. For example, sometimes, there are voice-over applications, you write a sentence, you press something, it says it. I do those things. That's fun too, kids like it that way. If we think about it on that basis, I can say listening, vocabulary and speaking. Writing and reading are not that common. (Teacher 1, novice, ES, experienced in tech. integ.)*

In a similar vein, by incorporating mobile devices, T2 aimed to improve her young learners' reading and listening skills, and expand their vocabulary knowledge while T3 focused on improving speaking skills:

> *...Sometimes we don't have internet connection in the classroom. So, we have some reading applications, and there are great stories there, suitable for the age of my students. I'm just opening those readings, and the students listen to them. I stop it, and then, we just repeat it for reading... If we don't have internet connection, I use it for reading. For vocabulary revision, I take the pictures, I take the photos of the application. I show them. Generally, we are using it like this. (Teacher 2, competent, ES, experienced in tech. integ.)*

> *Speaking... for example, I had my students speak with foreigners, or rather with my foreign friends... (Teacher 3, experienced, ES, experienced in tech. integ.)*

T7 mentioned that she primarily uses her smartphone to enhance learners' listening and speaking skills, and expand their vocabulary knowledge; however, she continues to rely on smartboards for improving these skills as well:

When integrating the phone... I mostly use listening... When I need to visually support the vocabulary, I still use the phone. From the smart board, I use listening-focused skills... For a week or two, I've been working with mobile applications, games, games like Taboo for the kids, thinking that maybe they could contribute to their English speaking skills a little bit because they can't speak very much. I can't say that I use it much for listening, speaking, reading. I don't use it much for grammar either... If there's no internet problem, as I said, I try to open listening, speaking, those kinds of games from the smart board. (Teacher 7, novice, HS, experienced in tech. integ.)

On the other hand, due to curricular limitations, T8 and T9 focus on enhancing learners' language skills and areas through outside-the-class learning. T8 aims to develop listening and speaking skills, and expand their vocabulary knowledge while T9 concentrates on improving reading skills:

For example, there is a flashcard app...There are some words with their flashcards, with their synonyms, antonyms and sample sentences. I just assign my students 30-40 words a week, so they use that for vocabulary. There is also EBA application. We use that for, there is a pre-recorded class, pre-prepared texts, exams, quizzes. Those are all on their mobile phones. I assign them homework through that EBA mobile application for listening and speaking. (Teacher 8, competent, HS, proficient in tech. integ.)

...I send some short texts to students. I send them [reading passages] from mobile phone because all the children have mobile devices... I send homework from time to time. I sometimes send homework from EBA. (Teacher 9, experienced, HS, experienced in tech. integ.)

Teachers noted that they aim to improve learners' specific language skills and areas through MALL. Teachers were also asked how MALL could facilitate the assessment of language areas of vocabulary knowledge and grammar, receptive skills of reading and listening, and productive skills of writing and speaking skills.

Assessing vocabulary knowledge through MALL:

Regarding the assessment of vocabulary knowledge through MALL, teachers mostly stated that students would perceive their experience as motivating and engaging. It would also provide practical and meaningful learning opportunities for students to revise their vocabulary knowledge. T1 suggested that MALL assessment could motivate learners, save time and effort:

…it provides great benefits in terms of speed. It can save the time and effort we would spend on evaluating each student's vocabulary skills separately. Apart from that, it can make the process fun. As I said, children can actually do it without realizing that it is an evaluation. It can also contribute to the process in a nice way. (Teacher 1, novice, ES, experienced in tech. integ.)

Just like T1, T2 mentioned how MALL assessments would be motivating and beneficial for language learners by addressing to their needs:

…it is really important for English vocabulary. You are testing the vocabulary on a specific topic. You can prepare your own material in that application [Memrise] according to your students or you can use already prepared materials there. So, you are teaching some vocabulary based on a specific topic, and at the end of the lesson, you can use these applications or mobile assisted tools to revise these topics. Also, for spiral learning, at sometimes you just make your students remember this vocabulary in a fun way, in an interactive way. (Teacher 2, competent, ES, experienced in tech. integ.)

Similarly, T4 and T7 pointed out that learners would perceive assessments through MALL as fun and engaging through colorful pictures:

…My students love the site called WordWall and I think it is also useful in terms of vocabulary because they can see the words visually and learn how to pronounce them. In this way, instead of just memorizing the words, I have seen that students can learn more clearly in terms of vocabulary, both visually and in terms of pronunciation, and it is more fun. (Teacher 4, novice, SS, novice in tech. integ.)

…So I think mobile devices are a blessing in terms of vocabulary because even showing a photo, even just opening that photo from Google, has a huge impact in my opinion. Of course, this can be more fun in younger age groups, the games they use can be more diverse…as I said, I think it benefits them while using it…in terms of measurement and evaluation, especially these mobile devices are easy to use. (Teacher 7, novice, HS, experienced in tech. integ.)

Like other teachers, T6 highlighted the motivating aspect of MALL assessments and mentioned the practicality and ease of using MALL tools/applications such as Quizlet for conducting language assessments:

…It will offer the student many options in terms of evaluating vocabulary. For example, writing the English version and asking for the Turkish version is a very traditional method now. Instead, it can even be expressed with a visual… Quizlet… For example, we can ask for the word by just showing the visual or

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we can have it done like double-sided cards, English on one side and Turkish on the other... We can present this to the student as a test, we can present it as a fill-in-the-blank, for example, we can present it within a game. It contributes a lot in this regard. The student also learns by having fun. (Teacher 6, experienced, SS, experienced in tech. integ.)

T5 suggested that MALL assessments could aid teachers see learners' language proficiency and support self-paced learning:

So, we can see the level of their vocabulary, which words they know, at what level they know them if we use such an application. I remember there was an application called Memrise. We used to use it like this when we were in high school. We can see the level of the students. The teacher can see it, and the student can progress at his own pace anyway. (Teacher 5, competent, SS, novice in tech. integ.)

To conclude, all teachers highlighted their positive perceptions on the impact of MALL tools/applications to facilitate the assessment of vocabulary knowledge by highlighting their ability to motivate learners, enhance practicality and usefulness for language learning.

Assessing grammar through MALL:

When asked how MALL could facilitate the assessment of grammar, several teachers mentioned that traditional techniques such as fill-in-the-blank activities and multiple choice questions could be integrated into MALL tools/applications. Moreover, teachers noted that MALL assessments could allow both learners and teachers to identify mistakes and errors more efficiently, enabling them to adapt the learning and teaching environment accordingly. According to T1, MALL could motivate learners during grammar-based assessments and allow them to learn at their own pace:

...I think maybe it can make the grammar topics that children listen to in boredom in daily life or during class more fun. We can present it to students with applications that have games or make it seem like an activity. They can also take it and learn it at their own pace. In this way, I think it can contribute. (Teacher 1, novice, ES, experienced in tech. integ.)

T2 mentioned that MALL assessments enable teachers to identify weak and strong students in language learning and provide more meaningful feedback:

I can assign a test, online test in the application to my students wholly based on grammatical sentences. Which sentence is grammatically true? The simple one. They choose and I just see their results and in the feedback session, I go to my students and say, "You like this grammar point? You have to work more on this structure." To another student, I say, "I see your result on this test. You like this point. You like these structures. So, I will give you further worksheets." So, like this for grammar. (Teacher 2, competent, ES, experienced in tech. integ.)

T5, T8, and T9 pointed out how learners and teachers could identify grammatical mistakes and errors more efficiently:

Again, it could be Duolingo, in fact, I think it is an application that is very effective in evaluating grammar. Here, the student becomes aware of his mistakes in grammar, sees them. She also sees how she should construct which sentence. (Teacher 5, competent, SS, novice in tech. integ.)

Machines can understand grammar mistakes and can either fix them for you or just provide suggestions for you to fix your mistakes. And it can even assess the student's grammar through test, quizzes and other types of activities and provide them with a proficiency level depending on their grammar success. (Teacher 8, competent, HS, proficient in tech. integ.)

T9 highlighted the increased reliability provided by MALL tools/applications while administering language assessments:

It can also make the assessment of grammar easier in the following way: Sometimes, when we evaluate students quickly, we can ignore or fail to see the mistakes they make. I think that such individual mistakes will not occur in mobile applications. (Teacher 9, experienced, HS, experienced in tech. integ.)

Using EBA mobile application as an example, T6 mentioned various activities within it that help learners revise their grammar knowledge:

I can offer EBA as an example of a mobile application that I am familiar with, because it is an application that is accessible to all students and supported by the state, by the Ministry of National Education. There are fill-in-the-blank activities related to grammar topics, there are tests... In this way, it is especially beneficial in terms of repetition and providing activities to students. (Teacher 6, experienced, SS, experienced in tech. integ.)

Similar to T6, T7 described various activities that could be incorporated into MALL tools/applications; however, she found it challenging to provide specific examples, noting that grammar is hard to assess directly:

…since we cannot measure grammar directly, it is a bit problematic…I try to put it in reading materials or if I want to measure past tense, I ask "What did you do last summer?" … How else can you use it? Since I am not using MALL at the moment, I have a hard time thinking about it. (Teacher 7, novice, HS, experienced in tech. integ.)

Regarding the assessment of grammar knowledge through MALL tools/applications, all teachers noted their positive perceptions and mentioned that traditional techniques could be incorporated to these tools/applications.

Assessing reading through MALL:

When it comes to the assessment of reading skills through MALL, all teachers except one believed that MALL tools/applications could facilitate reading assessments, as illustrated by various examples they provided. Teachers mainly highlighted audiobooks or reading-based applications for their practicality and convenience as they can be used anytime and anywhere. T1 mentioned such aspects of MALL assessments and how they facilitate saving time and effort:

…I think it's a very good method for them [students] to have easy access in the region they are in... If they can access things at their own level, books or, it doesn't have to be books, you know, there are mini stories or certain applications that offer opportunities to make a positive contribution to language development, that can also be useful, it saves a lot of time and effort. (Teacher 1, novice, ES, experienced in tech. integ.)

T2 also highlighted that administering reading assessments through MALL tools/applications would be convenient given the time limitations at school:

I guess this is so simple. You are just sitting. The students are sitting at home. I assign them some reading passages, not in the classroom because we have limited time. I say them, "When you go home, you go to this application." And our topic was, like, how to use some machines. You find a reading passage about this, and you read it, and then after you read it, you try to summarize it to me. For these activities, I can use mobile assisted language learning and assessment. (Teacher 2, competent, ES, experienced in tech. integ.)

In a similar vein, T8 and T9 provided examples for practical and convenient use of MALL tools/applications and pointed out that it would be cheaper and more accessible to learners to administer reading assessments:

Reading, I believe reading is also advantageous because to read something, you need a book, right? But to read something on your mobile phone is very easy. You don't need to carry heavy books. You don't need to go and buy a book from a store. It is much cheaper and much more accessible for students to use mobile phones or tablets or even e-readers to do some reading and it is very easy to complement these reading texts with comprehension questions…There are lots of news from the world available right under their hand. It's really easy to use reading with MALL, I think, because the material is literally limitless thanks to the technology and the Internet. (Teacher 8, competent, HS, proficient in tech. integ.)

I think there is a mobile device called Kindle. These users can download e-books and read them. You can read newspapers anywhere you want and I think the prices are reasonable. I think it is a very nice application and you can read e-books, I think it is very useful for reading. It has a reasonable price, and students can use it everywhere. They can use it at work, on the bus, in the car, when they go on a picnic, outside... You can fit thousands of your books in it. So, I think every student should have one... (Teacher 9, experienced, HS, experienced in tech. integ.)

Similar to T1, T2, T8, and T9's remarks, T6 discussed how MALL assessments would benefit learners with visual impairments by providing convenience and offer ease of access to various materials. Nonetheless, he argued that in terms of assessment, reading would lag behind other skills:

Students will be relieved of much more burden since they can access resources or books related to reading skills from a mobile device, this is the first. Apart from that, for example, for students with visual impairments, the option to enlarge the font in reading texts, the ability to zoom in and out, or since we do not have to fit digital content on a page, it will contribute to the formation of a main idea of the text when they look at it in general, since it includes various visuals. I think it will be a little behind the others in terms of evaluation, but it will definitely contribute. In other words, it will attract the student's attention. (Teacher 6, experienced, SS, experienced in tech. integ.)

T4 proposed that by utilizing the read-aloud feature of a reading application, assessments could become more effective for learners to provide more valuable feedback and improve learners' pronunciation accuracy during reading:

The evaluation of reading skills. Maybe this can be done with tests aimed at understanding what is read or by reading aloud, learning pronunciation mistakes... The student will read aloud, but if any application is developed on a mobile device, it will be able to give feedback, the student will do it, the

mobile application will give feedback, in this way. (Teacher 4, novice, SS, novice in tech. integ.)

Considering the ease of administering traditional assessment types through MALL tools/applications, T7 indicated that MALL assessments would prevent students from taking shortcuts, thereby ensuring active engagement in assessments:

Reading evaluation, again, the questions that come during reading, matching, true-false, I think they can be asked very easily on mobile assisted as well... For example, when you choose false, a section may appear underneath it, asking you to correct the false. For example, normally, no matter how many instructions I write there, those falses are not corrected, they just write false, and they pass, but on mobile, they may have to write it because they cannot progress. (Teacher 7, novice, HS, experienced in tech. integ.)

Unlike all other teachers, T3 believed that there would be no distinction in assessing reading comprehension whether utilizing MALL tools/applications or not:

I don't think it will make a difference in reading... I mean, he/she reads from there or from a book, it's the same. I mean, I don't think it will make it easier. I mean, I don't think there will be a difference. (Teacher 3, experienced, ES, experienced in tech. integ.)

To conclude, all teachers except one noted their positivity on the impacts of MALL tools/applications to facilitate reading assessments by highlighting their affordances like practicality, convenience and ubiquity.

Assessing listening through MALL:

Teachers predominantly mentioned how using individualized mobile tools for assessing listening skills would facilitate better and more effective learning experiences for students since assessing listening using smartboards in classrooms might hinder some students' actual listening abilities. In the interviews, T1, T6, and T7 pointed out these aspects:

...when we try to assess listening in a classroom environment, we try to ensure that a certain tool addresses the entire class and that everyone can hear equally, and this is very difficult. Those classical methods are already on everyone's mind, tape recorders, boards, etc. Apart from these, it would be fair

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for each student to have a personal mobile device and to conduct this assessment with these tools. It can provide this convenience so that each can access it under equal conditions and transfer their skills, and it can also be practical. (Teacher 1, novice, ES, experienced in tech. integ.)

It would contribute a lot to listening exams. In listening exams, we have students listen to their texts via a smart board or a speaker, but of course, the sound that goes to the front and the sound that goes to the back are not the same. When each student listens individually with a headset or a mobile device nearby, it will be much easier for them to hear. (Teacher 6, experienced, SS, experienced in tech. integ.)

I think the best thing is listening because when they all listen together in a classroom environment, there can be a humming noise, like "We didn't hear it", "Can we slow it down?", etc. Since they will all probably be connected to a headset in the mobile evaluation, such a problem will be eliminated. (Teacher 7, novice, HS, experienced in tech. integ.)

T5 pointed out that learners could access to reading materials during assessments more easily and they could get instant feedback:

As I said earlier, the student reaches the text and the answers very quickly. In other words, I can actually call this rapid feedback. (Teacher 5, competent, SS, novice in tech. integ.)

According to T9, assessing listening through MALL tools/applications would provide learners better opportunities compared to other skills and areas due to time restrictions. T9 also mentioned that these tools/applications could enhance assessments by enabling features such as pausing, rewinding, listening multiple times and taking notes outside the classroom, thereby making the assessments more meaningful for learners:

I think this is the aspect where mobile applications will be most beneficial in English teaching and assessment. I think they improve listening the most because we cannot give students anything about listening in class or outside of class or the listening activities we do in class are very limited and restricted… This is a huge deficiency in my opinion because I think students learn English the most by listening and reading. They can use some mobile applications like Duolingo to do their listening because you can listen to them a few times, rewind, pause. You can pause and take notes and play them repeatedly. I think this has a huge benefit. They can do things that are limited in the classroom more comfortably outside of class and by themselves. (Teacher 9, experienced, HS, experienced in tech. integ.)

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T2 and T8 highlighted the convenience of assessing learners' listening skills using specific applications. T2 mentioned considering backwash effect when administering assessments through applications like BBC six-minute talks and adjusting her teaching accordingly. On the other hand, T8 suggested using listening applications like VoScreen, YouTube or Instagram for assessments, providing engaging content to enhance learners' listening skills:

> *...there are so many applications where they have access to the listening to other speakers, to learn other accents of English. For example, there are some mobile applications provided by BBC six minute talks. They are listening there. They are having a quiz after listening. So, by looking at their results, I can shape my teaching. (Teacher 2, competent, ES, experienced in tech. integ.)*

> *VoScreen. It is perfect for listening and let's say, a sequence from a movie, 10-15 seconds sequence is played and there is a vocabulary in a sentence and students are asked to understand that vocabulary, write that and if it's correct, it moves, it moves on with the second one and at the end, it gives you a score. It's really engaging because students get to learn from real life content. and there are millions of videos on YouTube, on Instagram that can be used for listening skills. Again, it's, I keep saying the same thing, but mobile tools are perfect for all of the things that we have talked about. (Teacher 8, competent, HS, proficient in tech. integ.)*

By highlighting the difficulties emerging in the classroom environments during listening assessments, teachers noted that MALL tools/applications could offer practicality, convenience, and better and meaningful learning experiences for students.

Assessing writing through MALL:

When asked how MALL tools/applications could facilitate assessment of writing skills, all teachers except one believed that these tools/applications could aid writing assessments. Several teachers highlighted the evolving needs of learners due to technological developments and the significance of these tools/applications in offering meaningful feedback to them. T2 mentioned that since learners might perceive paper-based writing as tedious, MALL tools/applications would offer more engaging and motivating writing assessments, also promoting peer assessment:

> *If we leave handwriting aside, I guess writing, sometimes, could be the boring part of English learning and teaching. So, and today's students, they like*

typing. They like messaging. For writing, we can, through mobile assisted way, with these applications, we can turn this writing to the fun way for them. Instead of me scoring their writing, their typos, these applications can do it for me... and they can easily comment on each other's works. So, this is a great feature. (Teacher 2, competent, ES, experienced in tech. integ.)

Similar to T2's remarks, T6 and T9 noted that learners prefer writing through their mobile devices to writing on paper. Therefore, T9 suggested that MALL assessments would attract their attention more:

Students are already familiar with writing on their phones because they are constantly messaging their friends and commenting on social media. I think today's students are more interested in writing on their phones rather than writing with pen and paper. I think that if we give them a writing assignment and they do it directly from mobile applications or their mobile phones, it will also interest them. (Teacher 9, experienced, HS, experienced in tech. integ.)

Likewise, T6 indicated that MALL assessments would overcome issues with handwriting quality and allow for quicker error detection and correction:

First, it eliminates the difference in writing style because there are those who write very small, those who mix up the letters. In other words, we have students who still have not reached the desired level in terms of writing skills, but when we look at it, these students can write on the keyboard without any mistakes. Therefore, it eliminates the factors that negatively direct the evaluation due to handwriting.... At the same time, again, errors can be seen instantly and quickly or errors can come to the fore much more easily because there are software or applications that can analyze these, see errors or find them automatically. (Teacher 6, experienced, SS, experienced in tech. integ.)

Given the growing preference for writing through MALL tools/applications among students, T8 offered specific examples such as blog writing and short story writing to assess learners' writing skills, highlighting the significance of these tools/applications today:

Blog writing, at the top of my head, and even WhatsApp messaging, in a group chat, for community language learning activities, group chats where students interact with each other, write messages or come up with, you know, topics to write blogs about. Some short stories, again, I keep saying the same thing, but I believe it is also very easy to integrate writing skill in MALL too. But I don't know why we are not doing them more frequently. (Teacher 8, competent, HS, proficient in tech. integ.)

T4 and T5 mentioned that MALL assessments could offer learners quicker and more meaningful feedback on areas where they struggle in their assessments:

> *…I think some applications can provide positive things for students' writing skills. Again, I think that some applications can provide feedback to the student, whether they are right or wrong, and evaluate this, show them what they need to correct in their work or what they did wrong, and provide them with a correct roadmap. (Teacher 4, novice, SS, novice in tech. integ.)*

> *For example, when I think about grammar, I think that if the student gets quick feedback about where he/she made a mistake, he/she can make things better. He/she can see where he/she made a mistake. (Teacher 5, competent, SS, novice in tech. integ.)*

In a similar vein, T7 stated that MALL tools/applications would prevent learners from taking shortcuts and more effectively identify their spelling or punctuation mistakes or errors:

> *So, in writing, again, this can be easier in terms of complying with the instructions we give, because for example, I want them to write fifty words. There are those who give up at twenty, those who give up at ten, those who don't write at all, or spelling, punctuation can be easier when evaluating them. Sometimes, even if we correct them with a pen, they don't want to understand it very much. They can see this more easily on mobile, especially when giving feedback. (Teacher 7, novice, HS, experienced in tech. integ.)*

Even though T1 was initially uncertain about how MALL could facilitate the assessment of writing skills, she pointed out its practicality in saving time and effort as well as its environmental benefits by saving paper:

> *Frankly, I'm not sure about that. I mean, if we look at it from the perspective of making it easier in terms of language, we can save paper, things like that. Again, time and effort can probably be saved. It can also contribute to the environment. Other than that, I can't think of anything specific, unfortunately. (Teacher 1, novice, ES, experienced in tech. integ.)*

Unlike all other teachers, T3 believed that there would be no distinction between assessing writing skills traditionally or through MALL tools applications since she also prefers assessing learners through traditional methods:

I don't think it will make much of a difference... I'm a traditionalist, I guess, I prefer paper in terms of evaluation... in terms of writing skills. (Teacher 3, experienced, ES, experienced in tech. integ.)

Regarding the assessment of writing skills through MALL, all teachers except one expressed their positivity in their ability to eliminate some problems in traditional writing assessments and pointed out that MALL assessments could enhance practicality, address learners' evolving needs and offer more meaningful feedback.

Assessing speaking through MALL:

Regarding the assessment of speaking through MALL tools/applications, most teachers highlighted the effectiveness of using Chatbots, like ChatGPT and other Artificial Intelligence (AI) tools/applications. They noted that these tools could improve speaking assessments by providing automated feedback on pronunciation and grammar errors, allowing learners to feel at ease without the constraints of a specific time and place. Among these teachers, T1 suggested using Chatbots with young learners, pointing out their practicality in reducing the effort required for one-on-one speaking assessments:

I think artificial intelligence can be used to develop speaking skills like this. If students have versions of chatbots that can do speaking, for example, I always think of such things in this regard, I think it could be nice, or if there are tools or websites where they can do questions and answers, give them feedback, I think it would be very useful if there is a tool where they can study and practice on their own, even at home. Again, since it is very tiring and time-consuming for teachers to deal with each child individually and do these kinds of exams separately, it can be very useful in this context. (Teacher 1, novice, ES, experienced in tech. integ.)

Similarly, T4 gave an AI tool he uses in his lessons, explaining how it provides learners opportunities to identify their grammar and pronunciation mistakes or errors through the feedback it provides:

I can give examples for this from artificial intelligence programs. For example, there is a program that I use in class. It is called Vapi AI. The advantage of this application is that when the student talks to the application, it is as if there is a normal person in front of him, and when the student talks to the application, it can give feedback to that person. It gives feedback to the student

in terms of pronunciation and grammar where he made a mistake or where he did it right. In this way, the student can see his rights and mistakes more clearly. (Teacher 4, novice, SS, novice in tech. integ.)

Just like T1 and T4, T8 highlighted the importance of MALL tools/applications in improving speaking skills. However, T8 argued that while integrating these tools/applications for enhancing speaking skills is straightforward, assessing them through applications like ChatGPT or Cambly and providing feedback might pose challenges:

> *Thanks to some newly developed voice recognition technologies, and even thanks to some applications such as Cambly, where you are talking with native speakers, with real people on your mobile phone, video chatting. Ten years ago, you didn't have that chance. Of course, it is a paid subscription application, but if you have the money, the means to subscribe to that service, it's amazing. You get to talk with real native speakers from…all over the world…Again, if they [students] do not have a chance to get that tool, they can also just as easily use even Google's own voice recognition software. They can try whether they can pronounce the words, make sure that the machine understands them. They can chat with Chatbots such as ChatGPT. It is also very easy, but assessing the speaking skill is the harder part. They can speak with the tool, but getting meaningful feedback from the tool would be the challenging part. (Teacher 8, competent, HS, proficient in tech. integ.)*

Like T8, T9 listed various MALL tools/applications such as Zoom, WhatsApp, and Telegram, and AI tools like Hello Talk and Elsa Speak, which could be used for assessing speaking skills. He further suggested that MALL assessments could cross the boundaries of time and place, creating comfortable and stress-free learning environments for learners:

> *Mobile assisted applications can be used for speaking assessment. Especially since space and time are not enough for speaking, in schools, this can be done with visual and audio tools and applications such as Zoom by connecting from students' homes where they are more comfortable. We can evaluate students directly at their homes where they are comfortable, especially with some applications such as WhatsApp, Zoom, Telegram…. I think there are some applications for this, such as Hello Talk, Elsa Speak, where you can talk directly to some native English speakers, and they can evaluate you… Google has an artificial intelligence speaking assistant. This can make the student feel like they are in a more comfortable environment because they are talking to an artificial intelligence instead of a real person. Because the tool will evaluate them objectively, they may not be too excited. (Teacher 9, experienced, HS, experienced in tech. integ.)*

Similar to T9's remarks, MALL assessments enable learners to practice speaking without being restricted to a specific time and place, allowing them to practice whenever and wherever they desire. Moreover, T6 noted that MALL assessments could offer learners to practice speaking at their own pace, revise repeatedly, and save time:

> *If we expect the student to pronounce correctly, it allows multiple repetitions, repetitions at their own pace. It will be beneficial in terms of occasionally encountering these as reminders. In other words, when we think of this as a face-to-face conversation, speaking can be practiced using digital tools. You know, a teacher or a native speaker, a target language speaker can be provided for conversation. It saves time. In other words, learners do not have to be tied to a place. Apart from that, since they can use this application whenever they want, it allows for continuous development. For example, they can use this application at night, during the day, or on their vacation. They do not have to be tied to a time limit in terms of self-development. (Teacher 6, experienced, SS, experienced in tech. integ.)*

Regarding providing feedback on learners' speaking assessments, T2 provided an example scenario where she could evaluate their pronunciation and identify the overall clarity of their speech:

> *I don't know if we have this kind of application, but students can record their voices where they speak and they can upload it to the application, and application can evaluate their speaking, like, warn them in terms of some pronunciations maybe, or in terms of intelligibility of their speaking. (Teacher 2, competent, ES, experienced in tech. integ.)*

Similarly, T5 noted that the meaningful feedback offered by MALL tools/applications could potentially decrease students' anxiety levels:

> *I think it can mostly improve the anxiety or worry of the student. As the student will be very familiar and will be used to speaking, I think this will be a plus for the student and also, when he/she gets feedback from the application, he/she can improve himself/herself in this way. (Teacher 5, competent, SS, novice in tech. integ.)*

In conclusion, all teachers noted their positive perceptions on the potential of MALL tools/applications to facilitate speaking assessments by highlighting recent technological advancements, especially AI tools.

4.1.3. Findings in Relation to Research Question 1c Regarding Perceptions of In-service EFL Teachers on Constraints with Implementing Language Assessment, MALL and MALL Assessment

Research Question 1: *What are the perceptions of in-service EFL teachers working in different school contexts in Türkiye in terms of:*

> **c.** *constraints in relation to language assessment, MALL and MALL assessment?*

Aligned with the research question 1c, two categories emerged for in-service EFL teachers as constraints in assessment and constraints with implementation. Table 4.5 presents overview of categories, codes and frequencies for constraints with implementing language assessment, MALL and MALL assessment.

Table 4.5 Overview of Categories, Codes and Frequencies for Constraints with Implementing Language Assessment, MALL And MALL Assessment

Categories	Codes	Frequency (*f*)
Constraints in Assessment	challenges with language assessment	12
	challenges in assessing speaking	5
	lack of opportunities with language assessment	4
	deficiency of MALL tools	4
	disadvantages of traditional language assessment	3
	difficulty in providing feedback	3
	difficulty in observing students with MALL assessment	2
	challenges in assessing listening	1
	challenges of MALL assessment	1
TOTAL		35
Constraints with Implementation	limitations of classroom environment	14
	limitations on mobile device integrations	14
	curricular limitations on MALL	11
	reasons of limited use of mobile devices	11
	limited use of mobile devices	10
	curricular limitations on assessment practices	8
	limitations of students' background	7

Table 4.5 Overview of Categories, Codes and Frequencies for Constraints with Implementing Language Assessment, MALL And MALL Assessment (continued)

Categories	Codes	Frequency (*f*)
	time limitations	4
	curricular limitations on MALL assessment	4
	limitations of mobile devices	2
	age restrictions on MALL	1
	curricular limitations on technology integration	1
	physical limitations on language assessment	1
TOTAL		88

For the first category, code with highest frequency was challenges with language assessment (*f*=12) while for the second category, the codes limitations of classroom environment (*f*=14) and limitations on mobile device integrations (*f*=14) both had the highest frequency.

4.1.3.1. Constraints in Assessment

During the interviews, teachers noted that they face various challenges while assessing learners' language skills and areas. However, the majority specifically highlighted challenges with assessing listening and speaking skills, especially after MoNE's recent regulations. They mentioned such challenges regarding anxiety level, crowded classrooms, instructional time, providing feedback, and language barrier. Furthermore, they noted that traditional language assessment methods are limited in addressing to individual student needs and have validity issues. Regarding speaking assessments, T5 pointed out the most challenging aspect as increased anxiety level:

> *The most difficult thing I encounter is anxiety. I try to measure the student's skills, but I also have students who do not want to talk at all. In other words, I have students who even risk getting a 0 in order not to talk, and they are very anxious. I think the biggest difficulty stems from here... (Teacher 5, competent, SS, novice in tech. integ.)*

Referring to the regulation of MoNE on language assessments, T8 highlighted the challenges in speaking assessments posed by crowded classroom environments, and

noted that conducting these assessments and providing feedback afterward is time-consuming and tiring:

> *The biggest challenge I encounter is with speaking because we have crowded classrooms, assessing speaking, you know, becomes nearly impossible. The ministry expects us to make a written exam for reading and writing, a listening exam and a speaking exam. Reading and writing exam is okay. It can be done very easily. Listening exam is also okay because all of the students can take the exam simultaneously but speaking exam takes a lot of time and it is really tiring. I have nearly…250 students and it takes me at least 2-3 weeks to go through all of the classes with… speaking exam. I think biggest challenge is assessing speaking and also speaking is problematic for another side. After assessing the student, you need to be able to give that student a lengthy, sometimes very lengthy feedback so that he or she can fix the problems. Feedback also takes a lot of time. It is not like writing a score on the paper. (Teacher 8, competent, HS, proficient in tech. integ.)*

Similarly, T9 highlighted challenges in listening assessments caused by poor sound systems and increased anxiety level in speaking assessments in crowded classrooms:

> *For example, when giving a listening exam, some smart boards have problems with their sound systems, so not all students hear the same way, or they are not heard clearly and distinctly… Again, in speaking exams, because our classes are crowded, when we are giving an exam to a student, all the other students are in the same class, the student gets excited in front of 40 students and cannot speak. If we take those students outside and take them to another environment, different kinds of problems arise. (Teacher 9, experienced, HS, experienced in tech. integ.)*

T7 pointed out students' views on the assessment of specific language skills and areas, noting that the most frequently complaints concerned writing, speaking and listening:

> *… while evaluating four different skills, especially after the regulation of the Ministry of National Education… for example, there is an objection to writing an essay, …In speaking, while I expect them to make long sentences or at least to make sentences, it can only be in the form of answering a question… However, I want them to make sentences there, it is a bit difficult for me. We constantly encounter the same problem in listening. "This one is talking too fast.", "We don't understand this, can we slow him down?" …They cannot object much to the questions about grammatical rules because we squeeze them into reading and other topics, so they cannot realize that it is a grammar topic. But I have similar problems in all the others. (Teacher 7, novice, HS, experienced in tech. integ.)*

Just like T7 and T8, T4 referred to MoNE's recent regulations on language assessments and discussed the difficulty of assessing learners due to language barriers:

> *First of all, children's native language in the school I am in is Arabic and their Turkish is weak. Since they do not know Turkish very well, they have great difficulty in a foreign language they encounter. I have great difficulties in terms of both teaching and evaluation. (Teacher 4, novice, SS, novice in tech. integ.)*

T6 mentioned validity issues of traditional assessment methods and how these methods could not reflect learners' true language proficiency in specific skills and areas:

> *We are currently evaluating all four skills separately using the traditional method. Let's say a student gave a blank sheet in the reading-writing exam. This does not mean that the student knows nothing or is zero in writing and reading skills. When we evaluate with the traditional method, we get stuck here, but when we do the student's speaking exam one-on-one, we see that the child can really express himself/herself well. This child is good at speaking skills, but is he/she very bad at writing or reading, in other words, is he/she 0? (Teacher 6, experienced, SS, experienced in tech. integ.)*

On the other hand, among those working with young learners, T3 identified shy students in her classes as a significant challenge while T1 noted the limitations of classroom-based language assessments in meeting the unique needs of learners:

> *Because they want an evaluation like "good", "very good" from us and because this is our scale for evaluating children, it seems very limited. Each child has their own learning style, needs and performance and we cannot evaluate each one individually. Since we are not provided with such a variety of opportunities and we do not have such tools, this is a bit limited because it does not help much in analyzing the needs of children. (Teacher 1, novice, ES, experienced in tech. integ.)*

To sum up, teachers expressed that they mostly face challenges while assessing listening and speaking skills, primarily due to learners' level of anxiety, time constraints in conducting assessments and providing individual feedback, crowded classrooms, and language barriers.

4.1.3.2. Constraints with Implementation

Regarding constraints with implementing MALL and MALL assessment into language learning settings, teachers predominantly pointed out issues such as Internet

connectivity, time constraints, student background, and curricular limitations. T2 and T5 highlighted that they cannot connect to the Internet in classrooms, thereby to the smartboards while T9 mentioned such Internet connectivity issues as a challenge to integrate MALL into lessons:

> *…There is still a lack of infrastructure right now. We cannot connect to the internet in the classrooms. We do not have a wireless network. Some classrooms have wired internet, some do not. We cannot use [mobile devices] due to lack of infrastructure. (Teacher 9, experienced, HS, experienced in tech. integ.)*

Similarly, T1 identified time constraints as a challenge to integrate MALL into classroom environments. She also noted that the presence of smartboards often limits the use of MALL tools/applications in classrooms:

> *I can say that I cannot [integrate] [mobile devices] very often because smart boards cover most needs. Also, because the duration of our lessons is very limited… it is not a method that I use very often. (Teacher 1, novice, ES, experienced in tech. integ.)*

Regarding the classroom environment, T1 and T9 highlighted significant challenges in assessing learners' language skills and areas. T1 mentioned the difficulty in ensuring equal listening conditions for all students while T9 noted that crowded classrooms and time limitations affect the effective conduct of language assessments:

> *…when we think collectively, when we try to evaluate listening in a classroom environment, we try to ensure that a certain tool appeals to the whole class, that everyone can hear equally, and this is very difficult. (Teacher 1, novice, ES, experienced in tech. integ.)*

> *We experience the following difficulties when evaluating language skills: Especially the crowdedness of our classes limits us in terms of time. Time is not enough, and we also have difficulties due to the inadequacy of the physical environment, in other words, we can call it a lack of infrastructure. (Teacher 9, experienced, HS, experienced in tech. integ.)*

For assessing learners' language skills and areas through MALL tools/applications, T4 pointed out that students' backgrounds significantly influence their effective use:

> *…for example, if I prepare a quiz for students and want them to do it online, I need to check if everyone has a phone or a mobile device… For example, when*

I assign a quiz or an exam to class groups, unfortunately not every student can do it because some of them do not have a phone or a mobile device because of their financial situation. Some of them have these tools but skip it because they do not have any interest or motivation for the lesson. (Teacher 4, novice, SS, novice in tech. integ.)

In a similar vein, T6 noted that students' backgrounds, classroom environment and curricular limitations, including MoNE prohibition on students bringing mobile devices to school, pose challenges to the integration of MALL tools/applications:

For example, there is an application with which we want to measure skills or make the lesson more fun. We can use these on smart boards, tablets or mobile devices, we can use them on phones, but as I mentioned at the beginning, unfortunately, due to the profile of the school, our students have problems especially in terms of accessing the internet. They do not have their own mobile devices, tablets, or phones. Therefore, if we add the fact that it is forbidden to bring mobile devices such as mobile phones and tablets in formal education, we have a hard time in terms of integration. (Teacher 6, experienced, SS, experienced in tech. integ.)

Just like T6, the majority of teachers (T1, T4, T5, T7, T8, T9) emphasized that the prohibition on students bringing mobile devices to school hinders the integration MALL tools/applications into lessons. They also noted that these curricular limitations on MALL negatively impact their language assessment practices. Highlighting these points, T8 also stressed out that for MALL assessments to be effectively implemented in classroom environments, MoNE's restrictions on both students and teachers should be lifted, and there should be active support from MoNE for integrating MALL tools/applications into the classroom:

…unless the ministry, you know, urges students to use mobile assisted language learning, we cannot really incorporate it in our classrooms because we have a syllabus, we have some rules and ministry right now says, students cannot use mobile devices in the classroom. They can, but for many reasons, mostly security, it is forbidden for them to bring their mobile devices to classrooms. So, until that becomes, you know, not a problem anymore, until the students get their phones, we cannot really use MALL assessment more than the traditional assessment. (Teacher 8, competent, HS, proficient in tech. integ.)

In conclusion, while implementing MALL and MALL assessment into classrooms, teachers echoed that they face Internet connectivity problems, time limitations, limitations of students' backgrounds, and curricular limitations set by MoNE.

4.1.4. Findings in Relation to Research Question 1d Regarding Perceptions of In-service EFL Teachers on Affordances of Language Assessment, MALL and MALL Assessment

Research Question 1: What are the opinions, perceptions, and recommendations of in-service EFL teachers and Testing and Evaluation specialists in terms of:
> *d. affordances in relation to language assessment, MALL and MALL assessment?*

In line with research question 1d, two categories emerged for in-service EFL teachers as affordances of language assessment and affordances of MALL and MALL assessment. Table 4.6 presents an overview of categories, codes, and frequencies for affordances of language assessment, MALL and MALL assessment.

Table 4.6 Overview of Categories, Codes, and Frequencies for Affordances of Language Assessment, MALL And MALL Assessment

Categories	Codes	Frequency (*f*)
Affordances of Language Assessment	affordances of language assessment	8
	affordances of providing feedback	7
TOTAL		15
Affordances of MALL and MALL Assessment	affordances of providing meaningful feedback through MALL assessment	28
	enhancing practicality of MALL assessment	19
	boosting motivation of students with MALL	20
	affordances of integrating MALL assessment	18
	conveniency of MALL assessment	14
	outside the classroom, self-directed learning	14
	dealing with assessment challenges with MALL	11
	self-paced learning	11
	practicality of mobile devices	11
	time efficiency of MALL assessment	11
	reliability of MALL assessment	10
	self-learning through MALL	8
	equal opportunities in education	7

Table 4.6 Overview of Categories, Codes, and Frequencies for Affordances of Language Assessment, MALL And MALL Assessment (continued)

Categories	Codes	Frequency (*f*)
	Internet connectivity of mobile devices	6
	authentic language exposure thanks to MALL	4
	examples of opportunities with MALL assessment	4
	peer assessment	4
	adaptability of MALL assessment	4
	MALL is environmentally friendly	2
	availability of materials with MALL	2
	affordances of MALL	2
	time efficiency of mobile devices	2
	washback effect	1
TOTAL		213

For the first category, the code with the highest frequency was affordances of language assessment (*f*=8) while for the second category, it was affordances of providing meaningful feedback through MALL assessment (*f*=28).

4.1.4.1. Affordances of Language Assessment

Regarding the affordances of language assessments, several teachers highlighted the benefits of identifying learners' mistakes and errors and providing meaningful feedback. T1 identified feedback as a key opportunity in her language assessments and according to her, assessments should primarily focus on providing learners with constructive feedback rather than merely grading them:

> *I think the most advantageous part is to analyze the right learning methods for them and their shortcomings and give them feedback, because in my opinion, the purpose of measurement and evaluation should be based entirely on development. Just giving children a certain grade or evaluation and not contributing to them is not useful to us. I think I observe an advantage in useful, constructive feedback... (Teacher 1, novice, ES, experienced in tech. integ.)*

Like T1, T8 viewed the main opportunity in language assessments as providing meaningful feedback, enabling him to create individualized teaching methods for unique needs of learners:

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The biggest advantage that you get from assessing students is providing them with meaningful feedback. Thanks to different types of assessment, I can actually see whether my teaching is useful or not, and…I can change and make adjustments, and I can also see what types of problems students are facing, and I can help them in a more meaningful way. I can create guidelines for the whole classroom or even for a couple of students…I can create personalized plans for them…and thanks to the feedback that I provide them with, students also get the chance to fix their mistakes or develop themselves even more. (Teacher 8, competent, HS, proficient in tech. integ.)

T5 noted that learners could identify their mistakes and errors in the areas they struggle the most during listening or speaking assessments:

Students can see their own deficiencies… it can be listening or speaking in terms of skills. In general, my students' deficiencies are in these two skills because they are more familiar with the others, the traditional system, writing and reading. Therefore, they can focus more on these skills that they are lacking in. (Teacher 5, competent, SS, novice in tech. integ.)

In spite of viewing the crowded classroom environment as a challenge to advancing opportunities in language assessments, T9 identified error correction as a significant opportunity in the language assessments he conducts in his classes:

Since they [students] are in the classroom, we can directly correct their mistakes after the exams or quizzes we make, but of course, since the exams are long… the feedback comes a little later. So, this is actually a disadvantage for us. If there were classes where there were less exams and the classroom environment was not crowded, this would be a better opportunity for us because the student wants to see why the mistake they made was wrong… and if we correct the mistake they made right away… they will have an easier time remembering what they learned and this would be an advantage for us.. (Teacher 9, experienced, HS, experienced in tech. integ.)

On the other hand, T4 and T7 argued that constraints in language assessments outweigh affordances; therefore, aside from T7 mentioning learner motivation, they could not identify any significant opportunities:

There are many points where I encounter disadvantages rather than opportunities… since my school is extremely unsuccessful, the disadvantages are much more than the advantages no matter what the situation is. So, I cannot say any advantages for now. (Teacher 4, novice, SS, novice in tech. integ.)

I don't see many advantages during the evaluation... maybe just when I first evaluated them... I mean, maybe seeing their motivation and effort a little more, but other than that, I don't see anything else during the evaluation. (Teacher 7, novice, HS, experienced in tech. integ.)

It can be concluded that most teachers expressed the significant advantages of language assessment as providing meaningful feedback and identifying learners' mistakes and errors. However, some teachers noted that the constraints of administering language assessments outweigh these advantages.

4.1.4.2. Affordances of MALL and MALL Assessment

<u>Affordances of mobile devices to foster language learning:</u>

Regarding the affordances of MALL, teachers predominantly perceived practicality, time efficiency, ubiquity, and internet connectivity of MALL tools/applications as motivating and beneficial for language learning. By giving Duolingo as an example application to enhance language learning, T1 pointed out practicality and ubiquity of mobile devices in vocabulary learning:

There are many more…applications like Duolingo that are aimed at developing vocabulary. I think, for example, being mobile is very useful in this regard…for example, having it always available to me while I was on the bus, at school, going somewhere or waiting for something and being practical was very useful for me in learning vocabulary. I think such applications can be useful for students as well. (Teacher 1, novice, ES, experienced in tech. integ.)

T4 mentioned how MALL tools/applications could motivate students and offer them more extensive and meaningful learning opportunities:

I think we can put MALL into action to prevent boredom in class because if we can prevent boredom and make things fun, I think both the interest and motivation of the students will increase… we can ensure that all four main language skills are supported by MALL and students can enter a more comprehensive learning path… (Teacher 4, novice, SS, novice in tech. integ.)

T7, T8, and T9 mentioned that they use mobile tools/applications due to their convenience of providing internet connectivity during lessons. In the following

excerpt, T8 highlighted how mobile tools/applications are practical and convenient to integrate into students' language learning:

> *But mobile phones are already being used by those students, and it's really practical. You have Internet connection, you have the touch screen, you have the speaker, you have the microphone. You have everything you need from a technological system. (Teacher 8, competent, HS, proficient in tech. integ.)*

Additionally, T8 highlighted availability and ease of use of MALL tools/applications to enhance reading skills:

> *There are lots of news from the world available right under their hand. It's really easy to use reading with MALL, I think, because the material is literally limitless thanks to the technology and the Internet. (Teacher 8, competent, HS, proficient in tech. integ.)*

Similarly, T9 noted that using MALL tools/applications for language learning is practical and time-saving for both him and his students:

> *...when I send a homework assignment, I share it with the students on [Google] Drive. It makes it very easy for me because it takes a long time to print a written text and you don't waste time with paperwork, photocopying, etc. (Teacher 9, experienced, HS, experienced in tech. integ.)*

To sum up, teachers recognized the affordances of MALL as practical, ubiquitous, motivating, beneficial, convenient, available, easy to use, and time efficient.

Addressing affordances with MALL assessment

In the interviews, the majority of teachers consistently highlighted that using MALL tools/applications for language assessments could save time and effort, and could be convenient, practical and easy to use both inside and outside the classroom, allowing learners to engage in self-directed learning at their own pace. Furthermore, they noted that these tools/applications could provide learners with opportunities to see their mistakes or errors and give them instant and meaningful feedback. When asked whether the integration of MALL tools/applications continue to offer the opportunities they encounter in language assessments, all the teachers gave affirmative answers. T1

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indicated that MALL tools/applications could offer better opportunities for learners if they address to their unique needs and expectations and offer individualized assessments:

> *...it would be much better for children if we proceed with an individualized method. Now, when we think collectively, it does not appeal to diversity, but I think separate mobile-assisted assessment methods will be a much more constructive method for children and will contribute to their development. (Teacher 1, novice, ES, experienced in tech. integ.)*

With regards to individualized and self-learning opportunities, T4 offered examples of training programs or AI tools that learners could utilize:

> *...I think that students can catch up with their friends or complete their own shortcomings in some of the subjects they are lacking in, with some mobile-assisted applications or courses or artificial intelligence programs, because it can provide a kind of self-study for students. (Teacher 4, novice, SS, novice in tech. integ.)*

T6 highlighted various opportunities that could be offered with MALL tools/applications such as time-efficiency, ease of scoring, instant and meaningful feedback, self-paced learning, equal opportunities for learners and enhanced scorer reliability:

> *First of all, it saves a lot of time for teachers because reading a paper with traditional methods is a very long process, but there is no such situation in digital. Mistakes, errors can be seen instantly, scoring can be done... It provides instant feedback and provides great benefits in terms of students seeing their deficiencies especially during the education and training process because our general problem with students is that they see their deficiencies but do not work on them... But with the method we mentioned, it provides instant feedback and directs them to work on that subject or offers students opportunities in this regard... It offers a more equal learning opportunity to all students because there are many applications or assessment types that allow them to learn at their own pace... There is also a situation where the grader gives more points than they deserve. It also prevents that. Therefore, both the teacher and the student can get clearer, more accurate results. (Teacher 6, experienced, SS, experienced in tech. integ.)*

Regarding self-paced learning, T6 further pointed out affordances in terms of providing equal access for learners with special needs:

It allows them to continue at their own individual pace because, for example, we also have inclusion students in our classroom environment. You know, these students also need to improve themselves. We are trying to teach the lesson at a certain level...considering the inclusion students I mentioned, but as I said, each student's learning style or speed is not equal. It will contribute a lot to them in terms of determining their own learning methods, working on this issue, and progressing at their own pace. (Teacher 6, experienced, SS, experienced in tech. integ.)

Like T6, T7 also mentioned that enhanced grader reliability of MALL assessments could further motivate students in their language learning by offering more objective evaluations:

I mean, I can say that it can start to offer opportunities for myself… I think they will get a more objective and accurate result in mobile assessment… this can also provide an advantage to some. Maybe, it increases their motivation because they are aware that they have received a higher evaluation from me. Maybe, it can be good to hear the opposite, it can guide them. (Teacher 7, novice, HS, experienced in tech. integ.)

T8 highlighted the practicality, convenience, timesaving and environmentally friendly aspects of MALL assessments compared to paper based assessments that use natural resources:

It would be much easier, I think, because most of the time, the analysis that I need to do by looking at the pen and paper made exams, it's really hard. I cannot remember all of the mistakes of all students, but through the use of technology, a tool can say that 60% of the students are okay with this question, but 40% made it wrong. But they can also say, this student A is okay within this subject, but he or she struggles with this and it can really report the students' developments in an instant way and it would be much more convenient for me and we have to think about this. It would be much more environmentally friendly because we waste so much paper, thousands of papers in a year, and it is just for one class, for one teacher. There are many teachers and many classes. If you combine them, the paper waste is really, you know, humongous. So, if we use MALL assessment or even CALL assessment, it would be much better for the environment, too, much more practical, much more time efficient and environmentally friendly. (Teacher 8, competent, HS, proficient in tech. integ.)

Similarly, T9 emphasized the practicality of saving time and effort and the convenience of administering language assessments through MALL tools/applications within the classroom environment:

Of course, it can continue to offer these opportunities in some ways… When a student makes a mistake, we go to the students one by one and check. This can be done in mobile applications as follows: If we check the student from our tablet, we can directly see which student made a mistake and where. This can be an opportunity for us in terms of time. Especially since there are crowded classes, without looking at the mistakes they made one by one… if something like a notification comes in the mobile application, we can directly correct that mistake. (Teacher 9, experienced, HS, experienced in tech. integ.)

In conclusion, all teachers noted that affordances they identify in language assessments could continue to be addressed through MALL assessments by highlighting their ability to offer individualized and self-paced learning, constructive and instant feedback, and enhance practicality, motivation, and engagement.

Addressing language assessment challenges with MALL

Teachers reported various challenges in language assessments, especially with listening and speaking. When asked if MALL could address such challenges encountered during language assessments, all the teachers expressed positive views. During the interviews, they predominantly pointed out that MALL assessments could offer individualized and self-paced learning for the unique needs of students, deliver meaningful feedback on students' mistakes or errors, save time and effort, and offer convenience, practicality, and ease of use. While T3 mentioned the psychological affordances of MALL tools/applications by saying *"If the child is shy, he/she can improve herself with individual learning."*, T1 highlighted their ability to address to different learning needs and styles in language assessments:

I think that if assessment methods that address each student's own level and their own learning needs and learning styles were used, a great deal of progress could be made. I think this would at least be useful because it would reduce the limitations and make a separate needs analysis for each child, in other words, it could reduce these limitations. (Teacher 1, novice, ES, experienced in tech. integ.)

Similar to T1, considering listening and speaking assessments, T5 pointed out psychological aspect and how MALL assessments could help learners overcome anxiety and receive meaningful feedback:

When we include mobile-assisted language learning, I think we can see this as an advantage. The student can at least overcome his anxiety in speaking skills. For example, if there is a speaking activity in any application, if the student constantly talks to it or if there is an application that measures his pronunciation skills, that is, whether he reads incorrectly, he will definitely improve it. Again, if we consider listening skills, since he will constantly listen to something… The student will at least be aware of his deficiencies and focus on them. (Teacher 5, competent, SS, novice in tech. integ.)

Regarding feedback, T8 also emphasized the affordances of MALL tools/applications, including AI tools, which could assist both teachers and learners in language assessments:

For example, instead of me analyzing the student speaking, if a tool, it is quite a catchy phrase, but I am going to say artificial intelligence again, but I don't think artificial intelligence is a magical tool that can do all of the things. But I am just saying that if, you know, the tool can check the pronunciation of the word, can check the duration of the speaking, if it can check at least the coherence of the word, and it can even provide me with a transcript of the student speaking so that I can provide more clear feedback, if it gets developed more, it can even make suggestions on, for example, "Do not use this word in this context, use this word". It is already possible with today's technology. It can really help me with the challenges of speaking assessment because every student has a phone, every phone has a microphone, and every current mobile phone will also run AI tools through the cloud or through the internet. So, it can be done, and it can really help. I hope it will be done. (Teacher 8, competent, HS, proficient in tech. integ.)

T6 noted that MALL tools/applications could make language assessments more convenient and practical. He also mentioned that they could meet the individual needs of learners while saving time and effort in preparing assessments:

If we evaluate it with comprehensive applications, I think it will overcome it to a large extent. For example, let's say that these mobile applications we mentioned or use determine the level of students in a certain way after they answer a few questions. They continue with appropriate expressions or make the question more difficult or simple. They are much better at determining the level. This is something we cannot do with the traditional method, I mean, yes, of course, more than one section is created in the exam, but in the end, the number of questions in it is up to a certain point, that is, as long as the pages allow, we can ask questions. Of course, we do not prepare ten-page or twenty-page exams, we cannot prepare them, and the student cannot answer them in that much time, but in the mobile application, this can be done in a much shorter time with much more questions and many skills can be measured much more easily. (Teacher 6, experienced, SS, experienced in tech. integ.)

Like T6, T2 highlighted the time efficiency of MALL tools/applications in assessing learners and addressing classroom assessment challenges like cheating and being overwhelmed with grading:

> *For example, there could be some chaos in the classroom while I'm trying to assess them, or maybe copy issues, but the application can hinder this chaos, like paper…scoring because it [MALL] saves the time… for assessment. (Teacher 2, competent, ES, experienced in tech. integ.)*

T9 emphasized that MALL tools/applications could overcome challenges in listening assessments by ensuring all students to hear properly, thereby providing a more equitable and effective assessment environment thanks to individualized mobile devices:

> *…If all students had a tablet and they all wore headphones while taking a listening exam, they could hear the text they were listening to more comfortably and closely. For example, when a person sitting closer to the smart board hears the question more clearly, the one at the back hears it less. This problem could have been prevented. As long as there is no disconnection when students are connected, it will be a great convenience for us in terms of time and physical terms, and I think we will see the benefits. In other words, we can overcome these problems in certain ways. (Teacher 9, experienced, HS, experienced in tech. integ.)*

Conversely, T4 suggested that while MALL tools/applications have the potential to address language assessment challenges, their effectiveness depends on learner motivation and interest:

> *It may be beneficial, but I think it depends on the student… I think the more motivation and interest the student has, the more they can benefit from technology or MALL… (Teacher 4, novice, SS, novice in tech. integ.)*

All teachers pointed out that MALL tools/applications could address constraints in language assessments, especially in listening and speaking skills, by providing learners self-paced and individualized learning, enabling them to identify their weaknesses through meaningful and instant feedback, and thus better addressing learners' individual needs.

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4.1.5. Findings in Relation to Research Question 1e Regarding Perceptions of In-service EFL Teachers on Needs, Recommendations, and Future and Potential of MALL and MALL Assessment

Research Question 1: What are the perceptions of in-service EFL teachers working in different school contexts in Türkiye in terms of:

> *e. specific needs, recommendations, and future and potential of MALL assessment?*

Aligned with the research question 1e, three categories emerged for in-service EFL teachers as learner needs, recommendations for the design of effective MALL assessment tools/applications, and future and potential of MALL assessment. Table 4.7 presents an overview of categories, codes, and frequencies for needs, recommendations, and future and potential of MALL and MALL assessment.

Table 4.7 Overview of Categories, Codes and Frequencies for Needs, Recommendations, and Future and Potential of MALL and MALL Assessment

Categories	Codes	Frequency (*f*)
Learner Needs	individual needs/wants of students in language learning	15
	learner needs in different educational contexts	9
	learner needs in different student levels	7
	need for listening with MALL	4
	need for speaking with MALL	4
	need for parental guidance with young learners	2
	multiple learning styles	1
	need for writing with MALL	1
	need for reading with MALL	1
TOTAL		44
Recommendations for the Design of Effective MALL Assessment tools/applications	designing MALL assessment tools/applications according to learner needs	9
	pedagogical considerations while designing MALL tools	6
	need for better MALL assessment tools/applications	2

Table 4.7 Overview of Categories, Codes and Frequencies for Needs, Recommendations, and Future and Potential of MALL and MALL Assessment (continued)

Categories	Codes	Frequency (*f*)
	ensuring practicality of MALL assessment	2
	designing affordable MALL tools/applications	2
	teacher role in MALL assessment	1
	teacher cooperation with MALL tools/applications	1
	ensuring validity of MALL assessment	1
	ensuring cyber security	1
TOTAL		25
Future and Potential of MALL Assessment	improvement of MALL assessment in the future	19
	Artificial Intelligence	11
	need for teacher training on MALL integration into classroom	5
	progress of technology	2
	improvement of MALL in the future	1
TOTAL		38

For the first category, code with the highest frequency was individual needs/wants of students in language learning (*f*=15) and for the second category, it was designing MALL assessment tools/applications according to learner needs (*f*=9). For the third category, the code with the highest frequency was improvement of MALL assessment in the future (*f*=19).

4.1.5.1. Learner Needs

Addressing student needs with MALL:

When asked about the language learning needs they identify among students at various educational levels in the context of MALL, the majority of teachers emphasized a focus on listening and speaking skills. While T3 and T5 highlighted the significance of integrating MALL tools/applications to address to listening and speaking skills, T1

and T2 noted that students have different needs across each language skill and area. T2 further mentioned that students often utilize MALL tools/applications for academic purposes or to prepare for high-stakes exams:

> *In fact, each student has very different needs, especially in crowded classes like mine. In other words, if I think in terms of needs, there is actually a lot of variety. In other words, some have problems with pronunciation, some have problems with listening and understanding completely or there are children who cannot learn vocabulary easily. Therefore, there are many different skills… I cannot say directly, but… I can say that each skill has a different need. (Teacher 1, novice, ES, experienced in tech. integ.)*

> *They [students] have different needs. Some of them are trying to practice their speaking skill. Some of them are trying to develop their writing skill or messaging,… some of them like revising grammar structures…, some of them like just getting some friends to practice their speaking, some of them like academic reasons or even… some students are using some applications to get ready for some national language exams. (Teacher 2, competent, ES, experienced in tech. integ.)*

Similar to T2's comments, T7 discussed different needs of learners at various educational levels encompassing elementary, secondary and high schools. Moreover, for tertiary level students, T7 mentioned how MALL tools/applications could be used to prepare for high-stakes language exams such as TOEFL or IELTS:

> *So, there can be more visual support in primary school... Again, in primary and secondary school, games attract their attention... These tools can also be used for things like determining the level... I don't know, for TOEFL, IELTS practice... (Teacher 7, novice, HS, experienced in tech. integ.)*

Regarding the use of MALL tools/applications to meet diverse needs of learners, T9 similarly noted that these tools/applications could offer learners with opportunities that are often lacking in crowded and time-constrained classroom environments:

> *The benefit of mobile devices is this. Students at different levels can determine their own levels with some applications like Duolingo. When they make mistakes, the application classifies them according to their levels and they can see the areas they are lacking in… I think it will be useful especially in the development of pronunciation…speaking and listening skills because students can listen to it with headphones or develop their speaking skills with some applications. Since classes are crowded, it is not very possible in the classroom environment. (Teacher 9, experienced, HS, experienced in tech. integ.)*

Conversely, even though T8 highlighted students' needs on listening and speaking skills, he discussed that MALL tools/applications are currently limited in terms of addressing to those skills properly since they are "just a machine…not a real human that is understanding you.":

> *I must say listening and speaking…there is a lack of interaction with the tool. Maybe it will get better. Not maybe, it will probably get better but right now, if I have to speak about right now, there is a lacking side in terms of interaction because at the end of the day, it is just a machine, it is just a phone that you are interacting with and when you are speaking to its microphones, it is not a real human that is understanding you. So, it cannot 100% judge your pronunciation or even coherence. That's, these are the things that I can say about needs. (Teacher 8, competent, HS, proficient in tech. integ.)*

Regarding student needs, another point highlighted by T6 was that MALL tools/applications could address to different learning styles such as visual and auditory learners. Furthermore, according to T6, MALL tools/applications could be effective in motivating learners, overcoming their bias on learning English, addressing to their interests, and giving more instant feedback:

> *First of all, students have prejudices, to overcome this… teaching a foreign language in a more colorful, more fun and more interactive way motivates students extra. For example, when you teach a lesson with a traditional method on a normal flat board, you notice that after a certain period of time, the student's concentration starts to deteriorate, they lose interest in the lesson. But by showing different content, appealing to every sense, appealing to every learning style… it provides benefits at this point. Plus, we discover that some of the students are interested in technology or give faster feedback… (Teacher 6, experienced, SS, experienced in tech. integ.)*

In conclusion, teachers primarily identified the need to improve listening and speaking skills and expressed their positive views on using MALL tools/applications to address learners' individual needs in diverse educational contexts and language proficiency levels.

Addressing student needs with MALL assessment:

In terms of meeting individual needs of students through MALL assessments, all the teachers provided positive views. They mainly highlighted that these needs vary across

different educational levels encompassing elementary, secondary and high school. According to T2, it is challenging to address to each student's individual needs during classroom-based language assessments; however, MALL tools/applications could simplify this process:

> *As a teacher, we have different students at different levels in the class. So, for all of them, keeping the track of their performance through the assessment could be hard. But with this mobile assisted way, with the application, it is really easy for a teacher... (Teacher 2, competent, ES, experienced in tech. integ.)*

Similarly, some teachers mentioned that MALL tools/applications could offer learners individualized and self-paced language assessments in which they could identify their strengths and weaknesses. The following excerpt of T5 presents such points:

> *Every student is special, every student's level is different, their shortcomings are different. The areas they are good at are also different. That's why, these applications can design a separate system for each of them. That's how they progress better. Everyone is at least aware of their own level, and what they need. That's why, it makes it easier for them to learn a language. (Teacher 5, competent, SS, novice in tech. integ.)*

In addition to T5's comments, T6 noted that MALL tools/applications can provide with immediate feedback during assessments and offer a variety of materials to address their weaknesses:

> *First of all, it provides the opportunity to learn at their own learning pace. They can see their mistakes or deficiencies much more easily… since instant feedback is provided, the student does not have to wait for the result. Regarding the points they are lacking or making mistakes, and with many more activities suitable for them, the student can develop. They can develop these skills with different activities… (Teacher 6, experienced, SS, experienced in tech. integ.)*

Similar to T5 and T6's remarks, T7 offered the following comments regarding various learning needs all across different educational levels:

> *If we give homework using mobile assisted applications, they can progress more individually. They can control their own individual speed. Apart from that, it can also be good to provide extra material for children who are sometimes ahead in class, who finish faster or who are more interested. I think the same thing applies at the primary school and middle school levels. I think*

it would be better for those who want to progress individually in high school, especially in the language class. I think it can accelerate them, especially those who are interested in language. (Teacher 7, novice, HS, experienced in tech. integ.)

Likewise, T8 provided various ways in which MALL tools/applications such as Grammarly or AI could enhance language assessments to meet the individual needs of learners. He mentioned that these tools/applications might differ across elementary, secondary, high school, and tertiary level learners:

For children, it can provide audio-visual, engaging materials with many colorful characters, with animations, with videos… for high school students, it can be much more academic, but it can be useful to connect with them on their interests, for example, music, sports, technology, what types of interests they have. It can be made according to them. For example, if a student is a fan of some group, that person's voice, that person's face can be used to create an artificial friend to help them through the journey of learning the language or any types of education. For academic level, there are lots of tools such as Grammarly. They are already being used by university or post graduate students. For every level, we can come up with some new tools, and I believe we can find some attractive ways to bring the students into the classroom thanks to these tools. (Teacher 8, competent, HS, proficient in tech. integ.)

T9 highlighted that it is challenging to identify learning needs across various educational levels and MALL tools/applications such as AI could improve language assessments by generating questions according to learners' language proficiency levels:

We sometimes have difficulty in identifying individual needs of students, especially those at different levels of education, because our classes and physical environments are things that limit us. Recently, I think that especially with development of artificial intelligence, students' individual differences and needs will be detected more easily. When these tools give us feedback, we can give feedback to the student more easily and prepare more difficult questions for the student in need, lower-level questions for the student with lower levels, and especially when taking exams, we can prepare different types of questions because the students' levels are different. In this way, we can help students with different needs. (Teacher 9, experienced, HS, experienced in tech. integ.)

Regarding the individual needs of young learners, T3 highlighted that MALL tools/applications offer individualized language assessments, especially beneficial for shy but emphasized that the parental guidance is necessary:

It can make learning easier for those who want to learn on their own because it creates a comfort zone... primary school students may require a little family help. With the help of their family, if the child is shy and embarrassed in the classroom environment, they can open something on the internet and learn at home. (Teacher 3, experienced, ES, experienced in tech. integ.)

To sum up, regarding addressing learners' individual needs through MALL assessments, teachers offered their positivism and highlighted their potential to address these individual needs by offering individualized and self-paced learning and allowing learners to get instant feedback.

4.1.5.2. Recommendations for the Design of Effective MALL Assessment Tools/Applications

When asked teachers' recommendations for designing effective MALL tools/applications for language assessments, they mainly highlighted that these tools/applications need to address to learners' individual needs, wants and styles, and consider different learner levels. Emphasizing these aspects, T1 mentioned that MALL tools/applications should cater to auditory or visual learners with motivating, engaging and interactive content they provide. Furthermore, T1 noted that they need to be reliable, practical, easy to use, and accessible:

First of all, I would like to have a variety of tools that appeal to each student because they have different characteristics, needs, learning skills, and learning styles. It would be great if something like this was designed. If it were something that could measure different skills separately and keep up with the diversity of children, it would also be important for it to be usable, practical, and reliable. Apart from that, it also needs to be a little bit useful to contribute to teachers' evaluations. It should be something that we can easily use so that it has the same effect on children... It would be advantageous if it could appeal to many senses and sensory organs. It could be visual, auditory, or something that is current that can attract children's attention, that is fun and interactive. (Teacher 1, novice, ES, experienced in tech. integ.)

T2 emphasized that the content on MALL assessment tools/applications should be adaptable to the student profile and organized according to different proficiency levels. T2 also suggested that these tools/applications should be designed to focus on individual language skills rather than assessing multiple skills simultaneously since it

can pose challenges for inaccurately evaluating each specific skill:

> *I think the changing level of the students…all applications have this feature, I guess, you can just easily select your level like elementary, pre-intermediate or proficient. For this assessment, there should be some adaptable features. There should be some prepared tests and teachers can adapt them to their own teaching environment, like, number of the questions, easiness of the questions. Teacher should change them, I guess, in a MALL assessment application. Also, there should be some specific assessment tools, like just for speaking, just for writing, because some of them, yes, they are trying to assess, but in a way, they are integrating the skills. So sometimes it can be hard for some teachers to see the exact results, I guess. (Teacher 2, competent, ES, experienced in tech. integ.)*

Just like T2, T3 also discussed the importance of organizing content in MALL assessment tools/applications to align with different student levels. Meanwhile, T4 recommended that these tools/applications need to address to student needs, identify learner weaknesses, and provide engaging and motivating content:

> *First, the program we will design should take into account individual differences among students. Second, it should be able to measure students' deficiencies. Third, it should be a program that can take students out of a monotonous curriculum and increase their interest and motivation. (Teacher 4, novice, SS, novice in tech. integ.)*

In line with T1, T2, T3, and T4's recommendations, T6 noted that MALL assessment tools/applications need to be designed to meet individual needs of learners, provide comprehensive and interactive learning content that can be accessed even without Internet connection, be affordable, offer student-teacher communication to facilitate easy and immediate feedback from teachers:

> *First, it is necessary to determine the student levels well. For example, in cases where students are at a disadvantage, such as in the region we are currently working in, when you download mobile applications… they can work independently of the internet. For example, in cases where the internet does not work or when internet access is not always available, it can make learning easier. Well, this would be an advantage. Apart from that, it would be good for it to be interactive, have much more visuals and include much more activities. For example, if we think of applications as teachers and students, having an application or digital environment where the teacher and the student can communicate and be in constant dialogue will again be of great benefit to the student in terms of motivation. Of course, the teacher will also follow up, "How*

is the student's development, how is it going, can they work on this, can they do it, to what extent?" It will be very convenient for the teacher in terms of seeing their mistakes or deficiencies. It will be visible instantly and of course, some of these applications I mentioned are paid. It would be good for these fees to be at levels that students can buy and use. (Teacher 6, experienced, SS, experienced in tech. integ.)

According to T7, MALL assessment tools/applications should facilitate individualized learning and include a feedback mechanism that teachers can update to keep track of learners' progress:

For example, there could be a system where they [students] can progress individually, which they can use at home… it could be an application where we can give feedback and make sure we get that too. Like, "Did they read the feedback?", "What do they think about it?" because sometimes, they say they read it, but they don't actually read it, for example, some questions can be asked about it. Apart from that, especially for speaking and listening, when listening is done in class, of course, they all need a separate mobile device. In those applications, there should be something that we can track. Maybe the child has progressed, progressed a little more in reading, or fallen behind. When we update it, there could be such activities that will come up accordingly. We should also give the feedback anyway, but I think it's better for them to see it there. (Teacher 7, novice, HS, experienced in tech. integ.)

Aligned with other teachers' recommendations, T9 noted that MALL assessment tools/applications should be developed based on a needs analysis to identify varying needs and styles of learners. They should offer engaging and motivating content with audio-visual materials and activities and incorporate authentic language scenarios applicable to real-life situations. Moreover, these language assessments should be accessible to all learners and just like T7 mentioned, should include a feedback system where teachers have a final say on assessing learners' progress:

…especially analyzing the needs of the students. Each student's language learning or learning period is different. Therefore, learning materials or learning assessment materials can be developed by taking into account the students' language level, goals, learning styles, etc. Various assessment tools can be used, such as written, oral, visual and auditory, and related assessment tools can be used. Again, realistic and functional scenarios that are useful from life can be created, especially in daily communication situations, such as shopping, going out, asking for directions. It should be original, especially interesting because our students get bored of something quickly, now when they buy something, they look for things that will motivate them and attract

attention. Especially feedback and students need to be able to see where they are going wrong. Assessment materials need to encourage student participation. Otherwise, they can get bored easily. Especially accessibility, they need to be things that students can easily access. Finally, I think teachers need to provide feedback in terms of guidance and support. (Teacher 9, experienced, HS, experienced in tech. integ.)

While highlighting most of the points previously recommended by teachers, T8 emphasized the significance of ensuring security in MALL assessment tools/applications. T8 noted that designers of these tools/applications need to collaborate with teachers regarding pedagogical insights and with testing and evaluation specialists for accurate language assessment. Additionally, T8 recommended that these tools/applications should be accessible, affordable, practical, and valid. In line with T7 and T9's views, T8 also supported the presence of a feedback mechanism which assists teachers in delivering meaningful feedback:

> *Firstly, we need better security for students. These mobile tools have lots of potential dangers for students in terms of security. They can get quite personal data on students, and most of the students are underage… Secondly, these mobile assessment tools need to be created with teachers. A computer programmer can write a program and can market that program for students. It can get quite popular, but it may lack some serious pedagogical background… Specialists need to work together to create these tools. We also need equality for educational opportunity, for all students. These tools need to be accessible for all of the students at a reasonable or even very cheap prices so that opportunity can be equally available for all of the students. Another thing is that, and I believe one of the most important things is feedback, these tools should help teachers in providing the feedback... And these tools need to practical to use. The user interface of the tools needs to be clear for students. If we are trying to assess a student on their grammar skill, the tool itself shouldn't hinder the students' ability to conduct that assessment… (Teacher 8, competent, HS, proficient in tech. integ.)*

T7 echoed T8's views on the need for collaboration with teachers and testing and evaluations specialists in designing effective MALL tools/applications, offering the following comments:

> *I think that first of all, experts in the field of assessment and evaluation should design… for example, in the field of grammar, we received very good training on these subjects when we were at school, but since assessment and evaluation are not my area of interest right now and since some time has passed, it may not be right to have me design something, but they can take the opinions of*

teachers, these difficulties can be collected in a pool… I think it would be better for more experienced teachers who are experts in these areas and have more areas of interest to design. (Teacher 7, novice, HS, experienced in tech. integ.)

It was concluded that for the effective design of MALL assessment tools/applications, teachers recommended addressing learners' individual needs, wants, and styles, providing engaging, motivating, and interactive content, and ensuring reliability, practicality, and validity principles. They also highlighted the importance of ease of use, accessibility, affordability, and providing instant feedback.

4.1.5.3. Future and Potential of MALL Assessment

Regarding the future of MALL assessment, teachers offered their insights, and all the teachers anticipated its future as promising. Considering the rapid and immediate advancements in AI technology, they foresaw that in the near future, MALL assessment tools/applications will become increasingly prevalent and effectively integrated into classroom environments. Nonetheless, some teachers also expressed their concerns about its implementation within the context of MoNE, given the current regulations prohibiting learners from bring their mobile devices to school. They highlighted that under these conditions, they might still rely on traditional language assessment methods. Even though T1 shared similar concerns, she emphasized the necessity to divert from traditional language methods towards new methods in language assessment, given the technological developments worldwide. Additionally, T1 pointed out the importance of teacher training on how to integrate MALL tools/applications into language assessments, addressing to learners' individual needs, adapting to changes, and saving time, energy or effort:

So, if teachers are going to be trained in such areas and this system is going to be widespread, I think the assessment and evaluation section will progress in a very positive way. Everyone needs to move away from this traditional method as soon as possible and turn to methods that can both keep up with the times and meet the needs of children because the world is changing, everything is changing, the education system is changing day by day and children's perception is constantly changing... Therefore, I think it would be very good if we switch to methods that can definitely keep up with the times and minimize both time, labor, energy and material damages and are beneficial and economical for both our environment and our personal energy. I think these

methods support this anyway. To what extent can they be widespread within the scope of National Education, for example? There are a few question marks on that issue… (Teacher 1, novice, ES, experienced in tech. integ.)

Just like T1, T2 emphasized the need for training teachers on MALL assessment, foreseeing its future as optimistic. Nonetheless, she highlighted that without proper training, teachers might continue to use traditional assessment methods:

> *If you have means to get access to MALL as a teacher, if your environment is suitable for this, if your students can use MALL in a proper way under your guidance as a teacher or control not to mislead them or not to cause any misuse of these applications, teachers are very open to use them, why not? They can grade their students over these applications, and, over these results, they can assess their students. So also, if teachers are very well and much more informed about the use of this MALL assessment, they will be more open to use them. But if they are not informed about this, if they don't have the access, they will still continue to use the traditional ways. (Teacher 2, competent, ES, experienced in tech. integ.)*

In line with T2's remarks, T6 emphasized that even though he desires MALL assessment tools/applications becoming prevalent in educational settings for delivering reliable scores, he anticipated the continued integration of traditional assessment methods for a foreseeable future:

> *Future of English language assessment will still depend on teachers, that is, of course, digital environments will come into play, but final grading will be done by the teacher. Would I want it to be the other way around? Yes, I would. I would prefer an application or a digital environment to do both the assessment and grading. This will make it easier for the teacher in terms of workload and will also provide more objective, more accurate and clearer results for the student. So, I think that traditional methods will probably continue for a long time to come. (Teacher 6, experienced, SS, experienced in tech. integ.)*

T3 and T5 anticipated the future of MALL assessment as promising while T4 expressed a need for the integration of MALL tools/applications into language assessment practices to alleviate workload of teachers:

> *I think that teachers' responsibilities may now shift to mobile assisted language learning, because I think it is necessary to integrate these with developing technology and stop the teacher from taking full responsibility. (Teacher 4, novice, SS, novice in tech. integ.)*

T7 highlighted that MALL assessment will gradually improve over time by saying "*...It will gradually get better, and I think it will become an easier and more willing tool for us teachers and especially for children who are interested in it.*" Meanwhile, T9 emphasized the importance of MALL assessment in offering individualized evaluations, identifying learners' strengths and weaknesses, and providing meaningful feedback. T9 further mentioned the potential of MALL assessment tools/applications to support teachers in their language teaching practices:

> *I think mobile applications will be used more in the classroom environment in the future because we can evaluate students in a personalized way, that is, individually. We can see the strengths of the students, we can understand their weaknesses, and they can understand them better. Since they will give instant feedback, they can be used better when the infrastructure is ready in the classroom with easier technology integration, we can use various assessment tools for this. We can use them to evaluate spoken, written, visual, language skills, different language skills. And I think this will become more common in the coming years. I think we will use it in developing and evaluating language skills with better guidance and more effectively. (Teacher 9, experienced, HS, experienced in tech. integ.)*

Regarding the future of MALL assessment, T8 echoed some of the remarks shared by other teachers. He mentioned significant advancements in AI technology and expressed his optimism on the future of MALL assessment due to its practicality, affordability, ease of use, and accessibility. T8 advocated that with ongoing advancements, MALL and MALL assessment have the potential to become primary methods for language teaching and assessment:

> *If you had asked me this question last year, I would say very different things. But now, I have seen what AI can do, how creative it can be, how effective it is at convincing itself as being intelligent. I must say that future is very bright for mobile assisted language learning because it will only get better. The internet speeds will only get faster. The mobile phones, tablets or laptops will only get faster and lighter and cheaper, and the AI will only get better. We will learn from our mistakes, and we will create better tools. Students will learn to use the tools better because they will adapt to that environment. And as teachers, we will get better at implementing the tools. So, I think the future of mobile assisted language learning and using mobile assisted language learning for assessment is quite bright because it is practical, it is easy, it is cheap, it is applicable for many students at the same time. I cannot say that mobile assisted language learning will succeed 100% but if the things keep*

progressing the way they are, I am sure that mobile assisted language learning and mobile assessment will be one of the main ways of teaching and assessing a language. (Teacher 8, competent, HS, proficient in tech. integ.)

In conclusion, even though teachers foresaw the future of MALL and MALL assessment as bright and promising with the advancements in technology and recent developments in AI tools, they had concerns for its integration in state school contexts due to curricular limitations set by MoNE.

4.2. Findings in Relation to Testing and Evaluation Specialists

In this chapter, research findings related to perceptions of testing and evaluation specialists on language assessment, MALL and MALL assessment are presented. Figure 4.2 summarizes the themes and categories.
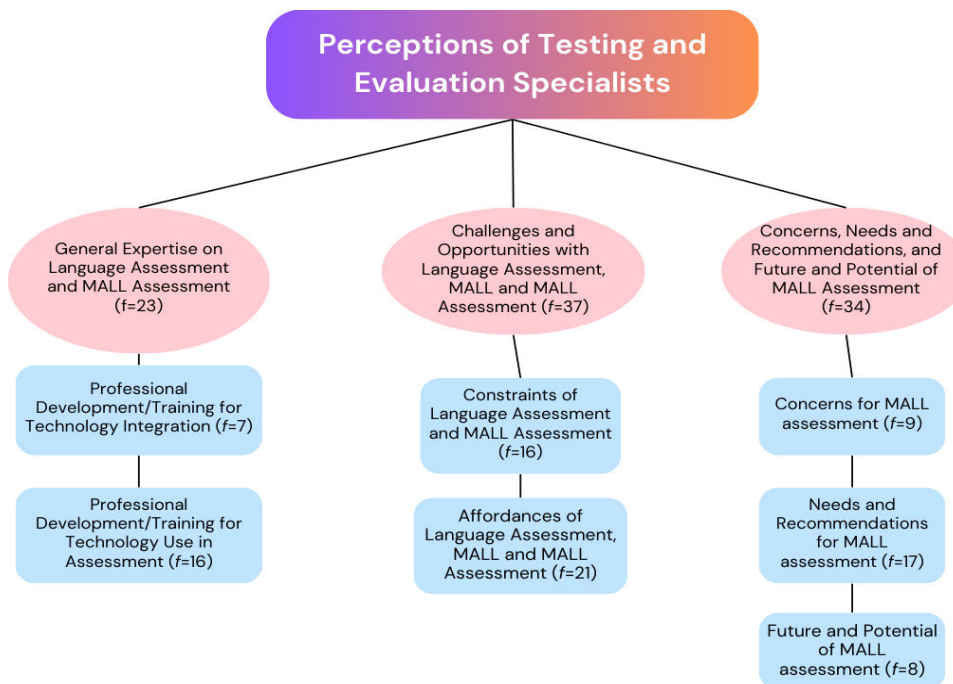
Figure 4.2 Themes and Categories for the Perceptions of Testing and Evaluation Specialists

To offer a more organized representation, the concept map was color-coded. Pink colors represent the three themes emerged from the interviews with testing and evaluation specialists while blue colors denote the categories within each theme.

4.2.1. Findings in Relation to Research Question 2a Regarding Perceptions of Testing and Evaluation Specialists on General Expertise on Technology and Language Assessment

Research Question 2: What are the perceptions of Testing and Evaluation specialists working in different higher education contexts in Türkiye in terms of:
    a. their general expertise on technology and language assessment?

Aligned with the research question 2a, two categories emerged for testing and evaluation specialists as professional development/training for technology integration and professional development/training for technology use in assessment. Table 4.8 presents an overview of categories, codes, and frequencies for general expertise on technology and language assessment.

Table 4.8 Overview of Categories, Codes, and Frequencies for General Expertise on Technology and Language Assessment

Category	Codes	Frequency (*f*)
Professional Development/Training for Technology Integration	absence of technology integration courses at university	4
	positive impact of taking technology integration courses at university	2
	positive impact of professional development on technology integration	1
TOTAL		7
Professional Development/Training for Technology Use in Assessment	absence of courses on technology use in assessment at university	5
	lack of participation in professional development training on MALL assessment	4
	MALL assessment tools/applications	2
	receiving courses on assessment at university	1
	mobile device integration while assessing learners	1

Table 4.8 Overview of Categories, Codes, and Frequencies for General Expertise on Technology and Language Assessment (continued)

Category	Codes	Frequency (*f*)
	MALL assessment practices in language education	1
	integrating technology for assessment practices	1
	participating in training on MALL assessment	1
TOTAL		16

For the first category, code with the highest frequency was absence of technology education courses at university (*f*=4) while for the second category, it was absence of courses on technology use in assessment at university (*f*=5).

4.2.1.1. Professional Development/Training for Technology Integration

To scrutinize the initial step of professional development, testing and evaluation specialists were asked whether they took any courses at university on technology integration into their teaching and except for S3, all responded negatively. Regarding their perceptions of the impact of these courses on their teaching, S1 noted that even though she could not take such courses due to the limited prevalence of technology at the time, she has been developing her skills in this area through her involvement in various projects:

> *…I did not take any classes while I was a pre-service language teacher, but I participated either as a researcher or as a leader at a number of different…projects where we were focusing on the use of technology in the teaching and testing, but also in the creation of materials in the field of teaching foreign languages. (Specialist 1)*

Additionally, S1 shared a memo from her participation in an international project regarding the successful implementation of technology to assess learners' language skills:

...I'm involved with a special...project. And there,...we're using different platforms. And we are developing different exercises that will help both teachers and students first to learn foreign languages and then to evaluate those skills. I was really surprised because I started with the use of, for instance, Excel, right, or Word. And I thought that we cannot use Excel and Word to teach foreign languages or to assess foreign languages successfully...I created a reading text...about the weather forecast in different parts in Türkiye. And there, I had lots of different numbers, lots of different percentages. So, I asked the students to read the text and then in the Excel program to create diagrams to represent the material that was presented to them...I did not know...whether it would work, but it worked actually, and it was really interesting to see how we can test reading that could turn into the speaking and maybe listening because they[students] were trying to discuss the material in English, trying to use the program to create the diagrams and stuff. So, it was really interesting. (Specialist 1)

Similar to S1, S2 emphasized that she has been developing herself professionally through research, attending seminars and conferences, and collaborating with colleagues. Nonetheless, S2 still feels the deficiency of not being able to take such courses at the time as they could have provided her with a fundamental perspective:

Even if we had taken the lessons, technology is a field that constantly renews and develops itself and has made serious progress especially in the last ten years but I think they could have provided us with a basic perspective,... I can consider myself as a digital immigrant due to my age. When I encounter something new, for example, an application or even a new phone, let's say. Even when I buy it, I feel like I don't feel competent enough, I feel like I need different support, I feel like I need to do extra reading. So, I can say that I need such extra support other than digital natives. (Specialist 2)

On the other hand, S3 initially found the technology integration courses he took at university to be illogical and abstract but later, with the advancement of technology, he realized that all the experience he gathered was actually beneficial. S3 emphasized that he currently utilizes this knowledge in his teaching:

...At the time, it seemed ridiculous to me. What are we learning? We are just being abstract, but over the years, I realized that technology or products change. We don't use the software we used before anymore. Maybe in 5 years, we will be using brand new software, programs, and technologies. In that respect, it helped me a lot because it opened my horizon theoretically at first... I started to find it very logical later. Now, I apply the same thing in my own lessons. (Specialist 3)

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To conclude, apart from S3, the other testing and evaluation specialists mentioned that they had not taken any courses on technology integration to EFL at university. Nonetheless, all of them noted that they attended seminars and conferences and participated in various projects to enhance their professional development.

4.2.1.2. Professional Development/Training for Technology Use in Assessment

When testing and evaluation specialists were asked if they took any courses on technology use in the assessment of EFL, all of them stated that they did not. Regarding the impacts of not taking such courses on them as testing and evaluation specialists, S1 noted that she has not perceived it as negative since as a specialist, her primary role involves creating quality test questions and understanding the theoretical aspects of testing and evaluation:

> *…whenever I think about my experience, because the testing that we are doing does not require that much technology, what is required for me is to be good in the field of testing and evaluation, to know the theory and behind the preparation of good questions and then other people are, in a way, taking those questions and putting them into the system. So, I obviously, I don't know much about the use of technology in foreign language testing evaluation, but up to that point, I haven't felt that I needed it too much because I was asked as an expert in testing and evaluation. (Specialist 1)*

Conversely, S2 highlighted that not taking such courses at that time sometimes makes her feel her somewhat inadequate. She noted that she would have desired to take such courses back then to establish a fundamental understanding and a baseline for her teacher competency. Additionally, she emphasized that with the rapidly evolving nature of technology, the areas of language teaching and assessment needs to be constantly updated:

> *I mean, I would have liked to have taken it at that time… because you are creating the background, the base line of something when you are creating teacher competency. But again, it will come to this point…when we think about the technological developments of that time, we could only benefit from what was available at that time. So, I think it is an area that needs to be updated, constantly updated, I think competence is a phenomenon, but I can say that it makes you feel the perception of inadequacy as a direct result of not taking it. (Specialist 2)*

Just like the other specialists, S3 did not take courses specifically focused on the use technology in the assessment of EFL. However, he emphasized that he took various statistics and testing and evaluation courses at the M.A. and PhD. levels even though they were not directly technology focused. He expressed his experience as follows:

> *Now, since I came from a physics background, my undergraduate degree is not education, I have some information that is hearsay or self-indulgent, but taking these assessment and evaluation courses opened my horizon. I mean, I didn't even know how to write a simple question, how to write a question, what is measurement, what is evaluation? I realized that I wasn't even aware of these concepts... In that respect, they opened my horizon very much... (Specialist 3)*

Most specialists mentioned that they had not taken any training or support on MALL assessment, except for one specialist who had participated in an international project for its training. Nonetheless, they expressed a desire to attend It was concluded that none of the testing and evaluation specialists had taken courses on using technology in the assessment of EFL at university. However, S2 felt this gap in her professional development while S1 did not, as her primary role is in testing and assessment. On the other hand, S3 highlighted the significance of university courses he took on statistics and testing and evaluation for his professional development.

4.2.2. Findings in Relation to Research Question 2b Regarding Perceptions of Testing and Evaluation Specialists on Constraints and Affordances of Language Assessment, MALL and MALL Assessment

Research Question 2: What are the perceptions of Testing and Evaluation specialists working in different higher education contexts in Türkiye in terms of:

> **b.** *constraints and affordances in relation to language assessment, MALL and MALL assessment?*

In line with the research question 2b, two categories emerged for testing and evaluation specialists as constraints of language assessment and MALL assessment, and affordances of language assessment, MALL and MALL assessment. Table 4.9

presents an overview of categories, codes, and frequencies for constraints and affordances of language assessment, MALL and MALL assessment.

For the first category, code with the highest frequency was lack of experience with MALL assessment (f=3) while for the second category, increasing practicality through MALL assessment (f=4) had the highest frequency.

Table 4.9 Overview of Categories, Codes, and Frequencies for Constraints and Affordances of Language Assessment, MALL, and MALL Assessment

Category	Codes	Frequency (f)
Constraints of Language Assessment and MALL Assessment	lack of experience with MALL assessment	3
	curricular limitations on MALL	2
	parents' interfering in teaching and testing	2
	infrastructure problems with technology	2
	lack of teacher motivation caused by administrative interference with MALL	2
	teachers' negative perceptions on creating assessments	2
	challenges with teaching testing and assessment	1
	excessive workload while assessing learners	1
	lack of practicality in language assessment	1
TOTAL		16
Affordances of Language Assessment, MALL and MALL Assessment	increasing practicality through MALL assessment	4
	dealing with challenges with MALL assessment	3
	benefits of content knowledge assessment	2
	providing meaningful feedback	2
	motivating students with MALL assessment	2
	potential benefits of MALL assessment tools	2
	increasing validity and reliability through MALL assessment	2
	benefits of formative assessment in classroom	1
	learner opportunities in testing and assessment	1
	decreasing workload through MALL assessment	1
	positive impact of MALL assessment on teaching and learning	1
TOTAL		21

4.2.2.1. Constraints of Language Assessment and MALL Assessment

When asked about the challenges they identified while assessing language skills, all testing and evaluation specialists indicated that they mainly assess learners' content knowledge instead of directly assessing reading, writing, speaking and listening skills. Therefore, their insights were based on their observations. S2 highlighted that ensuring practicality in the context of crowded classrooms and managing workload are key challenges in assessing learners effectively. She mentioned the recent regulations of MoNE which require assessing four language skills simultaneously and noted that these challenges lead teachers to indirect testing rather than direct testing:

> *I would say the most important is practicality. Especially considering the context of Türkiye, the crowded classrooms make it a bit difficult to measure language skills as it should be, especially the four language skills, and especially directly. This difficulty is that the workload is high, directing teachers more towards indirect testing rather than direct testing, and unfortunately, instead of assessing all four language skills, they can make them think about which one is the easiest. The new regulation is a good development in that it aims to measure all four skills, but the most important difficulty is the workload and the simultaneous implementation of the four language skills... (Specialist 2)*

S3, who has been observing teachers in private schools, noted that because English language teachers focus more on verbal skills, they struggle with quantitative aspects of assessment, leaving them somewhat behind. Additionally, S3 mentioned that parents' opinions on what teachers do and how they assess their learners might have a negative impact on teachers. Regarding the integration of MALL and MALL assessment, S3 also emphasized additional challenges he observed like Internet connectivity problems, especially in eastern Türkiye, and the curricular limitations of MoNE, prohibiting students from bringing their mobile devices to school. S3 also mentioned that school administrations may sometimes discourage young teachers from incorporating MALL:

> *…I see a problem with language teachers' assessment and evaluation. Generally, English teachers are more verbal based, so they cannot get into the quantitative dimension of assessment and evaluation… they say, "Teacher, I haven't studied mathematics for years, I haven't done these things for years,"*

etc., in other words, our teachers are actually a little behind where they should be, but as technology develops, we can take this assessment and evaluation from the teacher and upload it to the software, maybe something will happen. Apart from that, limited use of mobile phones in schools, due to MoNE rules. Internet connection, I mean, we live in big cities, but when you go to the east, connection is a problem. Some teachers have negative attitudes at work. A teacher says, "Let me do something with technology, mobile technology", and this is usually a young teacher. When other senior teachers at school say, "Teacher, don't create new problems for us", for some reason, the administration tries to balance things on the side of other senior teachers. In this case, new and motivated teachers lose their motivation a little. The parents are a little bit intrusive about this measurement and evaluation… In other words, our parents know everything about everything. "Why is multiple choice used in measurement and evaluation? Let it be like this, let it be like that." These can create a little bit of a negative situation for the teacher, unfortunately... (Specialist 3)

To sum up, all testing and evaluation specialists noted that they do not assess learners' language skills and areas but assess their content knowledge. Therefore, they offered their insights based on their observations and identified the constraints regarding practicality and curricular limitations set by MoNE.

4.2.2.2. Affordances of Language Assessment, MALL and MALL Assessment

Regarding the affordances identified by testing and evaluation specialists in language assessment, they shared their insights based on their own content knowledge assessment processes and observations from other settings or institutions they are involved with. S2 emphasized that classroom-based language assessments provide opportunities for dynamic assessments within the context of formative assessments, allowing learners to be directly assessed and receive instant feedback on their language use. S2 also emphasized the potential of dynamic assessments to enhance writing and speaking skills:

…If I look at it in the context of formative assessment, we can say that it is a rich environment for the use of dynamic assessment, for example, for classroom-based assessment. Here, there are techniques for directly measuring language skills, such as asking and answering questions. Since we have the chance to directly observe the student's use of language and evaluate it in the context of formative assessment by giving instant feedback, we can

evaluate its contribution to teaching as an opportunity. Apart from that, I can define an opportunity to directly measure in-class activities, especially writing activities, communicative activities, in other words, writing and speaking skills. (Specialist 2)

S1 noted that she currently teaches a testing and evaluation course, where she assesses learners' content knowledge by evaluating *"their ability to create various tests and then to give feedback to the test created by their classmates."* She mentioned that in this course, students initially receive theoretical knowledge related to testing and evaluation. They then evaluate the books used by MoNE in groups, generate an exam based on these books, send it to their instructor, give feedback to each other, and revise their exams based on the feedback they received from their peers and instructors. S1 noted that this flipped classroom experience provides learners with opportunities for peer assessment, receiving meaningful feedback, and chances of individualized learning:

> *...we're using the so-called flipped classroom in our testing evaluation course and in the first 4 or 5 weeks of the term,...I am lecturing and I am introducing some of the basic terms such as validity, reliability, item analysis, the writing of the multiple choice questions but at the same time, I'm asking my students to form groups and to start reading about testing and evaluation, and also to evaluate the books that are used by the Ministry of National Education. So, they have an idea of the type of exam that they are going to create. So, while I'm lecturing on various theoretical materials, they have to look at all those different sources and to start writing their exams. They write their exams, then they send them to me, and I see them but also the different groups give feedback to each other, and the students are required to revise their tests after they receive feedback. And then, they revise it, we look at it again. They revise it once again. So, what is the advantage of using the flipped classroom? And I also call it, the 360 degrees feedback procedures in our course, is that they are learning by themselves... (Specialist 1)*

Regarding the affordances of MALL, S3 observed that today's learners can adapt to technological advancements more quickly than older generations. He also noted that thanks to MALL's affordability and ubiquity, it will continue to provide numerous opportunities in education:

> *...When I was 10 years old, I didn't know anything about technology, but now...we have cell phones, computers, virtual glasses...The new generation is*

adapting to technology very quickly from a very young age. I mean, I learned PowerPoint in my life at university. When my son was in first grade, he could use PowerPoint, of course not competently, but he knew what PowerPoint was and could use it. That's why, students are very familiar with technology from a young age, they can integrate very easily, and as senior teachers retire and new teachers come from below, the teacher generation is also getting younger. Their aptitude for technology is much more than the old teachers. In that respect, I think this mobile-assisted language teaching will continue to integrate crazily. In fact, being mobile makes it even better. As long as everyone has a cell phone, a small, portable tablet, etc., these opportunities will definitely continue. (Specialist 3)

When discussing affordances of MALL assessment, S3 highlighted that mobile devices enable learning and assessment flexibility without the constraints of time and place. S3 further emphasized that this flexibility also facilitates reliable and valid language assessment through MALL tools/applications such as Kahoot, shifting away from paper-based assessments:

It is wonderful that the assessment takes place outside of the classroom environment, without the pressure of a specific time or location. The student will be able to do their own assessments under any conditions and at any time. Instead of putting everyone in the same classroom and doing a standard, monotonous exam like the ones with pen and paper, we can do the assessment and evaluation in a valid and reliable way, wherever they want, with the opportunities provided by technology… Competitions like Kahoot, forums where children can participate independently from anywhere provide great opportunities. (Specialist 3)

While S1 and S2 acknowledged their limited experience with the integration MALL to enhance language skills, they both expressed that MALL tools/applications would continue to offer opportunities emerging in language assessment. S1 highlighted these opportunities in terms of peer assessment and identifying learners' strengths and weaknesses while S2 emphasized the potential of MALL assessment in terms of enhancing motivation and student-engagement, and reducing teachers' workload, ultimately maximizing teaching and learning practices:

I think it can, okay. I don't have experience unfortunately in integrating…mobile assisted language learning. But I think that because students give each other feedback via the Google program and they're using technology to revise, to check their mistakes, to talk to each other. As I said,

I'm not experienced in using the mobile assisted language learning system, but I think that the things that I talked about could be done via that system as well. (Specialist 1)

I don't have any experience. But I believe that its implementation will both reduce the workload for the teacher and maximize the positive effect of evaluation on learning and teaching. Apart from that, I think it will have a positive impact on both teaching and evaluation because it significantly increases motivation. So, I can say that it is a factor that will increase student engagement here... (Specialist 2)

When discussing the potential of MALL assessment to address challenges in language assessments, all three specialists expressed optimism. S1 highlighted that MALL assessment could help identify and address learners' weaknesses by facilitating interaction among learners:

...I think as in every field, technology might be useful. It could be useful, for instance, whenever the students try to interact with each other, to be able to identify the problems that or to find the answers to the questions that they are not sure about in the classes... (Specialist 1)

According to S2, MALL assessment can address challenges by providing real-time feedback to students and enhancing practicality in terms of scoring and marking. Additionally, S2 noted that assessments through MALL tools/applications have the potential to reduce anxiety and increase learner motivation:

It can be overcome... [traditional methods] especially create problems in terms of practicality, as I said, the real-time feedback provided by the tools in mobile-assisted language learning assessment will provide students, and in the scoring and marking sections, it will provide teachers with an opportunity with increased practicality. Therefore, it can eliminate difficulties in this sense. Apart from that, since assessment has an anxiety-increasing feature, I think that mobile-assisted teaching motivates, increases motivation in teaching, and here, it can reduce the student's anxiety with a negative correlation. It can have such a contribution. (Specialist 2)

S3 pointed out that MALL assessment could help parents comprehend the significance of the testing and evaluation process and alleviate teachers' workload by transitioning from classroom-based assessments to MALL:

They [parents] interfere in these [exams] but most of the time, they do not see what is happening while they are intervening. They do not know what is happening in the classroom. Maybe even if they know, they may not understand it as an expert job. Maybe as long as there is mobile support, they will understand the issue a little more closely as they see these assessment and evaluation activities at home, so I think it can overcome these difficulties. Similarly, it will be beneficial for teachers for mobile-assisted language learning. As I said, when you transfer assessment and evaluation from the classroom to the mobile environment, it will be very beneficial for the teacher. I think it will be of great benefit in terms of easing the activities in the classroom. (Specialist 3)

It was concluded that aligned with their content knowledge assessment practices, testing and evaluation specialists identified the affordances of conducting language assessments, especially in providing meaningful feedback and identifying learners' weaknesses. Furthermore, they noted that MALL tools/applications could facilitate motivating, reliable, valid, and practical assessment practices for teachers, thereby minimizing the constraints of traditional language assessments and enhancing language learning.

4.2.3. Findings in Relation to Research Question 2c Regarding Perceptions of Testing and Evaluation Specialists on Concerns, Needs and Recommendations, and Future and Potential of MALL Assessment

Research Question 2: What are the perceptions of Testing and Evaluation specialists working in different higher education contexts in Türkiye in terms of:

> *c. concerns, specific needs and recommendations, and future and potential of MALL assessment?*

Aligned with the research question 2c, three categories emerged for testing and evaluation specialists, namely as concerns for MALL assessment, needs and recommendations for MALL assessment, and future and potential of MALL assessment. Table 4.10 presents an overview of categories, codes, and frequencies for concerns, specific needs and recommendations, and future and potential of MALL assessment.

Table 4.10 Overview of Categories, Codes, and Frequencies for Concerns, Specific Needs and Recommendations, and Future and Potential of MALL Assessment

Category	Codes	Frequency (*f*)
Concerns for MALL assessment	ensuring validity of MALL assessment	4
	ensuring reliability of MALL assessment	3
	ensuring practicality of MALL assessment	1
	importance of careful evaluation	1
TOTAL		9
Needs and Recommendations for MALL assessment	need for teachers to self-develop through attending trainings on MALL assessment	4
	need for organizing teacher trainings for MALL assessment	2
	needs of testing and evaluation	2
	MALL assessment tools/applications that address student needs	2
	need for developing new ways of assessment	2
	teacher-specialist cooperation	2
	importance of assessment training for teachers	2
	need for organizing student training on MALL assessment	1
TOTAL		17
Future and Potential of MALL assessment	enhanced MALL assessments in the future	3
	Artificial Intelligence	3
	negative specialist perception on summative assessments through MALL	1
	addressing new language skills and areas through MALL assessment	1
TOTAL		8

For the first category, code with the highest frequency was ensuring validity of MALL assessment (*f*=4) while it was need for teachers to self-develop through attending trainings on MALL assessment (f=3). For the third category, enhanced MALL assessments in the future (*f*=3) and Artificial Intelligence (*f*=3) both had the highest frequency.

4.2.3.1. Concerns for MALL Assessment

In terms of concerns for reliability and validity of effective implementation of MALL assessments, testing and evaluation specialists offered their insights. Regarding validity of MALL assessments, S1 emphasized the importance of appropriately matching various MALL platforms with students' individual needs, wants or expectations in language learning, ensuring that the exercises on these platforms are well-suited to the specific topics aimed to teach. Additionally, S1 raised reliability concerns by giving the example of ChatGPT and mentioned the necessity for analyzing the tools before integrating them into grading process:

> *So, because we have different platforms, but we also have different students with different levels of proficiency, different ages, different interests in learning foreign languages, different expectations from the technology and the foreign language classes, the first concern should be to matching the appropriate platform with the appropriate group of students... So again, depending on the needs of the students and depending on the aims of the teacher and the specific kind of unit in which they are planning to use it, we need to match the platforms and the exercises on those platforms with that specific topic. And another thing, if you don't think carefully about the creation of the questions on the exam, the evaluation of the answers might be a problem. So, the third thing we should think about is, okay, I created this exam, but who is going to evaluate them? Do you think that technology is going to be enough, right, just to reliably and validly evaluate the answers of the students? We know about ChatGPT, for instance, nowadays. We give ChatGPT one input or we ask it one question and we end up with sometimes a correct answer but sometimes ChatGPT is creative. We end up with an answer that does not exist or with a source that does not exist. So, I think we should know the technology very well, and we should decide in advance who is going to do the evaluation of the answers provided by the students… (Specialist 1)*

S3 differentiated the roles of testing and evaluation specialists and teachers with regards to the design and application of MALL assessment tools/applications. Nonetheless, S3 offered optimism and noted that with teacher-specialist collaboration, validity and reliability concerns could be diminished. Additionally, S3 shared his concerns about the limited number of testing and evaluation courses for teachers and highlighted the importance of collaborating with testing and evaluation centers to offer teachers trainings on effectively analyzing the validity and reliability of MALL assessment tools/applications:

In terms of reliability and validity, if our own teachers developed the mobile application, I would be skeptical in terms of their assessment and evaluation knowledge, of course they certainly have expertise, but validity and reliability are a different dimension than developing the instrument itself. You can develop the instrument, but whether or not you can provide validity and reliability evidence or to what extent you can provide it is another thing… In other words, the mission of the teacher is different, the mission of the assessment and evaluation is different, in this language or mobile language learning application, but I think this will work with the integration of the two and their close working. Apart from that, there are some applications that we use on the internet, on mobile phones. They generally provide validity and reliability evidence in some way… If our teachers are knowledgeable enough, that is, if they know how to analyze validity and reliability evidence of a mobile application that comes their way, there will not be a big problem, but teachers may not have enough knowledge on their own because teachers do not take many courses on measurement, this can be at the provincial national education level. There are measurement and evaluation centers there, on a provincial basis. I think these things can be solved by working closely with them. I am not saying they cannot be solved. (Specialist 3)

On the other hand, S2 offered her perspective on using MALL tools/applications merely for formative assessments rather than summative assessments. S2 discussed that these tools/applications can contribute to students' language learning while ensuring reliability for formative assessments. Nonetheless, she pointed out that incorporating these tools/applications into summative assessments may pose challenges due to ethical considerations and the need for appropriate settings:

In fact, I think that mobile assisted language learning assessment can only be used with the logic of formative assessment. It may be a slightly orthodox point of view, but otherwise, I think its reliability will be low if we consider it as a summative assessment. In other words, beyond directly showing what the student knows, it may also create teaching opportunities for the student. Therefore, it is an application that I think is reliable in the context of formative assessment and will contribute greatly to teaching and learning. Of course, its validity depends entirely on how the content is prepared. That's why, I'm commenting on its reliability, assuming it has validity. I think ethical issues should be taken into consideration and if it is going to be used from a summative assessment perspective, it should be ensured that a real evaluation and measurement environment is created. Of course, I don't know how to achieve that right now. I don't think it will be provided much. (Specialist 2)

It was concluded that testing and evaluation specialists raised their concerns for reliability and validity of effectively implementing of MALL assessment. They also

pointed out the significance of addressing individual learner needs, institutions organizing teacher training on MALL assessment, teachers self-developing by attending these trainings, and fostering collaboration between teachers and testing and evaluation specialists.

4.2.3.2. Needs and Recommendations for MALL assessment

Regarding the concepts of testing, evaluation, and assessment, S1 mentioned the needs and requirements of foreign language testing and evaluation and discussed that since it is a difficult field to study, they need more courses to combine theoretical knowledge with practice in a better way; however, students only take one course throughout their academic life:

> *Testing and evaluation…is a difficult field to study. Why? Because on one hand, it is a very theory-laden, which means we have this specific field, and we need to know the theory. We need to know the techniques. We need to know the terminology. We need to know the skills, right? And that is the theoretical part. But that is not enough. We also need to practice a lot. So, what are the problems that I identify in the classroom is it's very difficult for the students because this is the only course that they have. It is difficult for me as well. We need to balance theory with practice, okay? And this is one of the biggest difficulties in the testing and evaluation course and I think we need other extra courses. So maybe in some of the courses we focus, let's say, if we had two classes, maybe in the first one, we could have focused just on theory, and then in the second one, just practicing the things that we have learned in our first course. And I think it would have been much easier both for the students and the teachers…(Specialist 1)*

S1's concern about the limited number of testing and evaluation courses in higher education is also echoed by S2. S2 emphasized that research studies have defined language teachers as "assessment illiterate" due to insufficient number of courses they have taken on testing, assessment or evaluation, combined with a lack of ongoing professional development to update their knowledge. Therefore, she identified a need for teacher training to improve their assessment literacy and to broaden their understanding of assessment as an important part of teaching:

> *…the most important challenge is this workload and the application of four language skills simultaneously… Although this can be done, we observe that*

the competence of teachers is low, not sufficiently developed… studies say that teachers are called "assessment illiterate" in the context of assessment of language degrees. Their proficiency is low because they either did not take courses at the university or the courses they took remained there and they did not develop or update what they learned there and had difficulty in adapting it to the classroom environment. In other words, I think teachers should consider assessment as a part of teaching, not just teaching, and their assessment literacy should also be improved. There is such a need…(Specialist 2)

S2 further highlighted the need for teacher training through self-updating or in-service seminars and online conferences organized by MoNE. S2 emphasized the necessity of keeping up with the latest MALL tools/applications to ensure effective MALL assessments and avoid inadequacy and inefficiency:

It should be underlined that both the teaching and evaluation of mobile assisted language assessment should be followed and updated with the new equipment and applications that are actively developed that year. In other words, if you depend on the advanced equipment of that year in which it is used, this may result in congestion and inadequacy. That's why, I constantly see the necessity of this here. It is the duty of teachers to either update themselves by self-learning, or of institutions and organizations, which is, of course, the duty of the Ministry of Education if we talk about the institutions affiliated with the Ministry of Education. Since we are talking about in-service training or mobile-supported training and evaluation, you can benefit from online conferences, I believe that constant updating is necessary...(Specialist 2)

During the interviews, testing and evaluation specialists also offered recommendations to teachers and educational institutions on incorporating MALL assessments into classroom settings. Addressing the needs of language assessment, all specialists highlighted the importance of organizing in-service trainings for teachers. S1 emphasized the necessity of attending in-service training on using MALL tools/applications to enhance language assessments for learners and effectively teach the acquired knowledge. S1 also pointed out that integrating MALL tools/applications into education represents the future. She recommended that just as society has embraced transformative inventions such as wheel and electricity, education must also progress and adapt to new technological innovations:

I think we should receive lots of in-service training related to that because if we want our teachers to use the mobile or the AI for the teaching and for the

assessment of their students, I think, first, we as instructors should know about it. We should teach those skills to our undergraduate students because this is the future, right? Think about whenever the people created the wheel. No culture went back and said, "I'm not going to use the wheel" or whenever the electricity was introduced, no culture rejected it, right? We move on. So, they say a number of years ago, mathematics teachers were very much against the using of the calculators in the classrooms. But now, my daughter is in grade 11 at the moment and they have two different math exams. One is where the calculators are required. The teachers ask them to bring the calculators in one where they are not allowed to use the calculator. So, we cannot turn the wheel of history. We have to move on. We have to learn as much as possible about this new technology, and then we have to make use of it. (Specialist 1)

In a similar vein, S2 provided recommendations for educational institutions to conduct in-service trainings and conferences aimed at enhancing teachers' professional development. Furthermore, S2 suggested teachers to apply their acquired knowledge in classroom environments to explore the most effective techniques and methods for MALL assessment. S2 also emphasized the significance of student-teacher collaboration and recommended students to receive training on effectively utilizing their mobile devices in classrooms:

Educational institutions must provide in-service trainings and conferences that have serious content and are highly useful and can be delivered immediately. Apart from that, teachers need to integrate everything they have learned into the classroom, the classroom environment and the evaluation process, and realize how best to use it through trial and error… Apart from that, support can also be obtained from students in the classroom because the audience we teach and evaluate is ultimately digital native, that is, we are talking about a generation where smartphones are in every sense of their lives. I think they should also be integrated into the classroom environment by benefiting from their opinions and active participation, by collaborating and negotiating, but in some cases, students may also need to receive training. Even though they constantly use their phones and smartphones, they may be inadequate in terms of skill in using them during class in some subjects. I think they will also need training. (Specialist 2)

By citing examples of in-service trainings provided by MoNE or projects organized by UNICEF, S3 recommended that educational institutions or the government should invest in teachers' professional development or training, highlighting the impact on the society itself:

First of all, investing in teacher training. This can be something the teacher can do themselves, there are many certification sites on the Internet. Apart from that, the school may provide in-service training. It would be very beneficial for the Provincial National Education Departments or the Ministry to invest in teacher training. The Ministry of National Education already provides education…through platforms such as ÖBA. These are amazing too. These will also be very useful. Apart from that… UNICEF is currently running a project called "Digital Teacher Ecosystem". They have modules. One of them is about measurement and evaluation… But here, it doesn't make sense to leave this job only to the teacher because it has a cost. It would be nice if the teacher's expenses were covered either by the state or by the school budget. Ultimately, even though the teacher pays the bill for the investment he makes in himself, we all see the benefits. (Specialist 3)

In summary, testing and evaluation specialists emphasized the absence of testing and evaluation courses in higher education, resulting in teachers being defined as "assessment illiterate." Consequently, they noted the need for teachers self-developing by attending trainings and recommended institutions to organize such trainings on MALL assessment to support teachers' professional development.

4.2.3.3. Future and Potential of MALL Assessment

Regarding the future of MALL assessment, all three specialists shared their optimism. S1 highlighted the recent advancements in ChatGPT, an AI tool, by citing an example from her discussion with one of her M.A. level students. She shared her student's interest in studying with AI tools in which students will analyze an AI-generated text, the original text and the text revised by AI, do some research and provide their explanations regarding the similarities and differences. S1 further noted that AI tools and MALL assessment tools/applications could help learners enhance their language learning and become more autonomous:

…I am optimistic. Why? She [my M.A. level student] was talking about this idea where she wanted to use ChatGPT. So, students write something. Then, we put that written text into, let's say, ChatGPT and ChatGPT gives us feedback, okay. But also, we ask the ChatGPT with all the input provided to the student to create the ideal text. That is not just the revised version of the original, but the ideal version according to ChatGPT. And then, we give those two versions, the initial version, the version revised by ChatGPT and the ideal one to the students. And we say, "Tell us about the differences and similarities

between those three texts." … And then… we ask the student, "Do you need time to research a little bit and… to try to improve your original version yourself?" Then, … they do the research, they talk to their friends… They come back and they talk about the similarities and differences, what they have learned, why they think, for instance, that the revised version is better. They say, "I accept X because of X and Y, but I think Y is not good because, so this is the ideal." This is the project that my student is going to work on, and I think I'm optimistic. We can find creative ways to use technology to help our language learners to become both better learners, to learn faster, but also to be to become more autonomous learners with the help of AI and as you put, mobile assisted language learning. (Specialist 1)

Similarly, S2 expressed that AI tools would reduce the need for teachers in the assessment process by providing instant and valuable feedback, thereby maximizing practicality and decreasing workload. Nonetheless, as an academician, S2 also shared her concern about keeping up with the rapid pace of all these technological advancements:

> *They are talking about Web 3. I think that we will not be needed in the assessment section, as everything will be AI-supported, with natural language processing also improved. So, more precisely, I think it is very practical for us, evaluators and teachers, it will reduce the workload and the evaluation process can be carried out with maximum useful feedback in a short time. But since it will develop at a tremendous speed and intensity, it is of course also thought-provoking how easy it will be to keep up with these developments. It will be a bit challenging for educators in terms of keeping up, but we can think of it as an opportunity as it will speed up and facilitate the evaluation process. (Specialist 2)*

S3 offered her perspective on future of MALL assessment and noted that due to diverse needs and interests of learners, the CEFR framework, which emphasizes the enhancement of four main language skills, will gradually give way to other specific skills, thereby altering language assessment practices:

> *…There is such a thing as CEFR… But today, people's needs can shift to different places other than these four skills such as reading, writing and listening. Now the world is very mobile, people can have much more unique and specific characteristics. I think, over time, other than these four basic language skills, more specialized skills or frameworks that will support and enable us to demonstrate them will emerge. That's why, I predict that language assessment will also shift here, towards assessment and evaluation activities aimed at more specific needs. (Specialist 3)*

It was concluded that testing and evaluation specialists foresaw the future and potential of MALL assessment as promising, highlighting recent developments in AI tools. They mentioned that MALL assessments could decrease the workload, maximize practicality and create individualized language learning experiences catering to learners' needs.

To sum up, findings of the current study presented a comprehensive data on the perceptions of in-service EFL teachers on language assessment, MALL and MALL assessment regarding their overall opinions, self-reported practices, constraints and affordances, needs, recommendations and future and potential of MALL assessment. Furthermore, it scrutinized perceptions of testing and evaluation specialists on language assessment, MALL and MALL assessment regarding their general expertise, constraints and affordances, concerns, needs and recommendations, and future and potential of MALL assessment.

CHAPTER 5

DISCUSSION

5.0. Presentation

In this chapter, findings of the current study are discussed aligned with the main and sub research questions. This chapter comprises of three sections. In the first section, an overview and synthesis of the findings are presented by identifying similarities and differences between in-service EFL teachers based on their teaching experiences and educational contexts they currently work. Afterwards, the common themes and categories emerged from the interviews with in-service EFL teachers and testing and evaluation specialists are compared and contrasted. In the second section, the findings of the current study are discussed by referring to the research studies in the existing literature. In the third section, implications for EFL practitioners, policymakers and administrators are presented.

5.1. Overview and Synthesis of Findings

In this section, an overview and synthesis of findings are presented by comparing and contrasting in-service EFL teachers based on the educational contexts they work encompassing elementary, secondary, and high school as well as their classifications based on their teaching experience as novice, competent and experienced. Furthermore, this section presents similarities and differences between the perceptions of in-service EFL teachers and testing and evaluation specialists regarding technology, language assessment, MALL and MALL assessment.

Figure 5.1 shows the percentages of perceptions of nine in-service EFL teachers regarding affordances and constraints of MALL and MALL assessment. This figure

reveals that affordances (*f*=213) outweigh constraints (*f*=79) of MALL and MALL assessment with 73% and 27%, consecutively.

Teacher Perceptions on Affordances and Constraints of MALL and MALL Assessment

27%

73%

■ Affordances   ■ Constraints
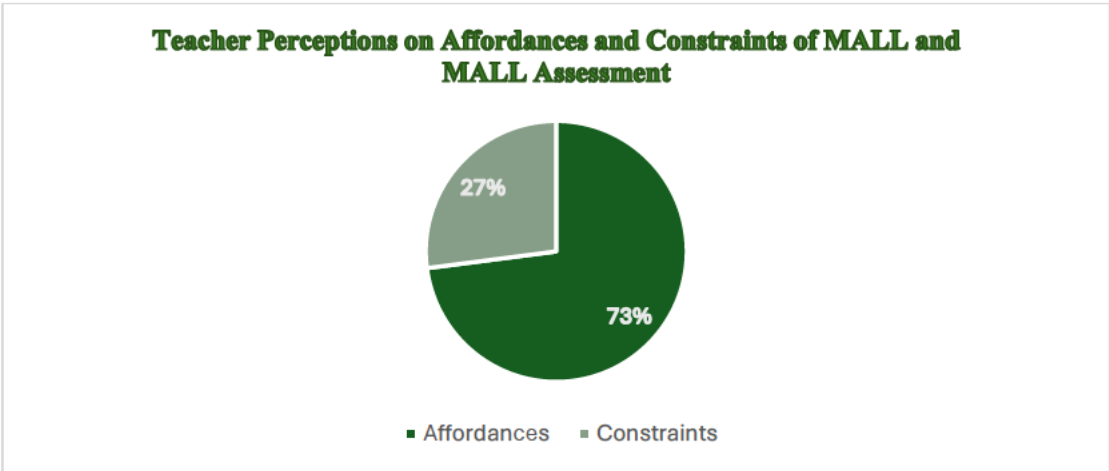
Figure 5.1 Pie-chart of In-service EFL Teachers' Perceptions on Affordances and Constraints of MALL and MALL Assessment

In a similar vein, Figure 5.2 shows the percentages of perceptions of three testing and evaluation specialists regarding affordances and constraints of MALL and MALL assessment. Just like teachers, this figure uncovers that affordances (*f*=15) outweigh constraints (*f*=9) of MALL and MALL assessment with 62% and 38%, consecutively.

Specialist Perceptions on Affordances and Constraints of MALL and MALL Assessment

38%

62%

■ Affordances   ■ Constraints
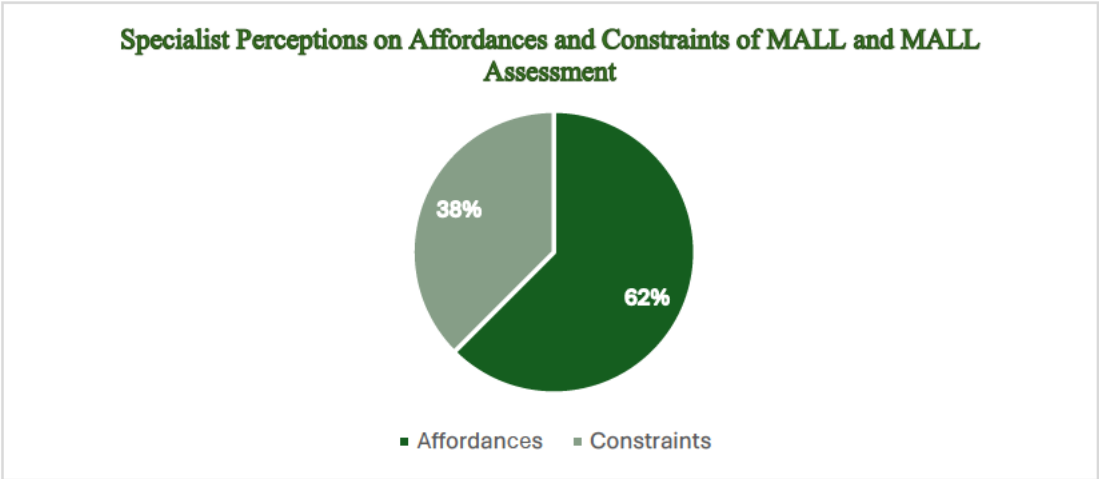
Figure 5.2 Pie-chart of Testing and Evaluation Specialists' Perceptions on Affordances and Constraints of MALL and MALL Assessment

Figure 5.3 presents a general summary of perceptions of in-service EFL teachers and testing and evaluation specialists on MALL assessment. It provides variations in their perceptions separately while giving the common perceptions in the middle section.

PERCEPTIONS ON MALL ASSESSMENT

Common Perceptions

- They are familiar with MALL
- They have lack of training on MALL assessment
- They have positive perceptions on MALL
- MALL assessment increases students' motivation and engagement
- MALL assessment is practical, ubiquitous and flexible
- It decreases teacher workload
- It is suitable for different student levels
- It fosters self-paced, individualized learning
- It provides instant feedback
- There is a need for collaboration between teachers and specialists
- There is a need for better rules and regulations
- There is a need for teacher training
- They have positive perceptions on future of MALL and MALL assessment
- AI will improve MALL and MALL assessment

Teacher Perceptions

- They are unfamiliar with MALL assessment
- They have more practice with MALL
- They have positive perceptions on MALL assessment

Specialist Perceptions

- They are familiar with assessment
- They have less practice with MALL
- They have varying opinions on MALL assessment, but their perceptions are mostly positive
- Teachers need more training on language assessment in general

Figure 5.3 Summary of Perceptions of In-service EFL Teachers and Testing and Evaluation Specialists on MALL Assessment

Initially, overall opinions of in-service EFL teachers on language assessment, MALL and MALL assessment are investigated and it was found out that six teachers were familiar with concept of MALL while only three teachers had heard the concept of MALL assessment. When asked which language assessment types they were familiar with, they mostly mentioned formative and summative assessment, followed by formal, informal, proficiency, diagnostic, direct and indirect assessments. Teachers also mentioned various MALL tools/applications to be utilized in language assessment practices such as Duolingo, Kahoot, VoScreen and so forth; however, some teachers had difficulties in naming such applications for specific language skills and areas, especially for reading. When asked their participation in training or support to

familiarize themselves with MALL assessments, all teachers, except for one competent teacher, noted that they had not taken such trainings despite highlighting their significance in the language teaching process. Therefore, they were all willing to receive such trainings for their professional development. Similarly, most testing and evaluation specialists also mentioned that they had not participated such MALL assessment trainings.

When it comes to their definition of MALL, three teachers familiar with the concept of MALL mentioned the affordances of mobile devices in their definitions such as interactivity, ubiquity, ease of access, and the ability to offer individualized and self-paced learning. Additionally, two high school teachers linked MALL with CALL. Regarding the definition of MALL assessment, two competent and one experienced teacher emphasized the affordances of MALL tools/applications in enhancing language assessments, particularly through providing meaningful and instant feedback.

In-service EFL teachers also identified students' perceptions of language assessment, MALL and MALL assessment. One novice high school teacher mentioned the challenges she faces during language assessments, noting students' lack of motivation and interest in listening and writing assessments and suggested that integrating CALL and MALL into language learning could attract learners' interest and boost motivation. The majority of teachers highlighted the motivating, engaging and beneficial aspects of MALL tools/applications in offering better language learning experiences for students and expressed positive perceptions of students. Moreover, two novice teachers stressed these affordances either in classroom-based assessments or self-assessments outside the classroom.

Teachers also reported their own perceptions of language assessment, MALL and MALL assessment. Regarding language assessments, a novice teacher supported the simultaneous implementation of four skills while another novice teacher perceived these assessments as being conducted individually rather than collectively. Furthermore, all teachers highly valued the incorporation of MALL tools/applications into classroom settings and highlighted its importance on language learning due to

changing profiles of students and their growing interest in these tools/applications. Therefore, one novice teacher pointed out diverting from traditional assessment methods even though another novice teacher felt restricted in integrating MALL assessment due to recent regulations of MoNE. Teachers generally viewed MALL assessments positively due to their usefulness and ability to provide creative feedback. Nonetheless, they also felt constrained by the limited use of MALL assessments.

The findings of the study also revealed that even though numerous teachers preferred to integrate technology into their lessons, in the assessment process, the number of teachers who favored traditional assessment methods were equal to those who favored MALL assessments. Two competent and two experienced teachers favored traditional assessments over MALL assessments due to their familiarity with them and curricular limitations set by MoNE. On the other hand, all three novice teachers favored MALL assessments over traditional assessments along with one experienced teacher since they could address individual learning needs better and offer advantages of practicality, time-efficiency, and reliability. When asked whether they would prefer MALL tools/applications to conduct language assessments, the majority of teachers expressed their positive views due to these advantages. Nonetheless, they mostly preferred grading their students themselves since they believed they could provide more meaningful feedback through their observations.

Another aspect this study explored was in-service EFL teachers' implementation and self-reported practices related to technology, language assessment, MALL and MALL assessment. The majority of teachers expressed that they had taken courses at university on technology integration into EFL classrooms, unlike testing and evaluation specialists who reported the absence of such technology integration courses into EFL and its assessment during their education. Nonetheless, all specialists reported attending various projects, conferences, seminars and collaborating with their colleagues to enhance their professional development. Consequently, it was found out that both teachers and specialists incorporate technology into their lessons.

When teachers were asked if they use their mobile devices for educational purposes, all of them responded positively and shared their methods. Two elementary school

teachers highlighted that they use their mobile devices at school to engage young learners through pictures, games, flashcards and videos while the other experienced elementary school teacher noted that she primarily relies on smartboards, using her mobile phone mainly for Internet connectivity. Similarly, all high school teachers reported using their mobile devices mainly for ensuring Internet connectivity. Additionally, a novice high school teacher and all secondary school teachers described their ways to utilize various MALL tools/applications to create and present educational activities in classrooms.

Regarding teachers' language assessment practices and MALL integration into lessons, all teachers reported that they predominantly use traditional assessment methods in classroom settings and are unable to integrate MALL assessments due to MoNE's prohibiting regulations on students' mobile device usage at school. Unlike other educational contexts, all elementary school teachers mentioned using informal, formative assessment practices, assessing students through observations during classroom-based activities or games rather than summative assessments. Even though the majority of teachers felt restricted in incorporating MALL assessments in classroom settings, they indicated that summative assessments such as quizzes and exams as well as formative assessments could potentially be conducted using MALL tools/applications due to their practical, engaging, motivating aspects and their ability to identify learners' strengths and weaknesses in language learning. Nonetheless, teachers' comments on the effective integration of summative assessments through MALL contrasts with the insight of one specialist, who discussed the low reliability of such methods.

The current study also examined teachers' current practices to enhance specific language skills and areas through MALL. While teachers frequently mentioned focusing on improving speaking, listening, and reading skills as well as vocabulary knowledge both inside and outside the classroom, they did not mention writing skills and grammar knowledge at all.

Additionally, teachers were asked how MALL tools/applications could facilitate the assessment of specific language skills and areas. In terms of assessing vocabulary

knowledge through MALL, all teachers expressed its positive impact on enhancing vocabulary knowledge by ensuring motivating, engaging, practical and meaningful learning experiences for students. Additionally, teachers mentioned that it can save time and effort, and offer self-paced learning. Duolingo, Memrise, Quizlet, WordWall, YouTube, Taboo, Freerice, Kahoot, Bamboozle and Voice of America were amongst MALL applications they identified that could be used to assess vocabulary.

With regards to the assessment of grammar, teachers expressed that traditional assessment techniques such as fill-in-the-blanks, True/False activities and multiple-choice questions could be integrated into MALL tools/applications to enable learners to see their weaknesses through the meaningful feedback they get, and learn at their own pace. They identified Duolingo, Microsoft Word, Grammarly, WordWall, YouTube, and EBA mobile as MALL applications that could be incorporated to assess grammar knowledge.

When it comes to the assessment of reading skills through MALL tools/applications, all teachers except an experienced elementary school teacher believed that these tools/applications could facilitate reading assessments. They highlighted that it would be convenient, accessible, affordable, practical, engaging and beneficial for learners, considering the time constraints in the classrooms and students with individual needs.

Regarding MALL tools/applications for assessing reading skills, teachers mentioned fewer tools/applications compared to other skills and areas and these were RazPlus, Google Read Aloud, Kindle and AI tools.

When discussing the challenges they face during listening assessments due to crowded classrooms and sound quality, all teachers except for an experienced elementary school teacher noted that MALL tools/applications could facilitate the assessment of listening skills. They pointed out that these tools would offer more practical, convenient, engaging and individualized learning experiences through personal mobile devices. VoScreen, BBC six minutes talks, Busuu, Cambly, YouTube and Duolingo were the MALL applications teachers uttered for facilitating listening assessments.

For assessing writing skills through MALL tools/applications, all teachers except for an experienced elementary school teachers noted that these tools/applications could facilitate writing assessments. Most teachers highlighted the changing needs of students, mentioning that students perceive paper-based assessments tedious since they are more familiar with typing or messaging on their mobile devices. Consequently, teachers noted that MALL assessments could attract students' attention more effectively, provide more instant and meaningful feedback on punctuation and spelling mistakes, and offer practicality by saving time, effort and paper. WhatsApp, Edmodo (now Moodle), Duolingo, Busuu, Rosetta Stone, and Cambly were MALL applications that they identified for aiding writing assessments.

Lastly, for the assessment of speaking skills through MALL tools/applications, all teachers expressed positive views, highlighting the effectiveness of AI tools such as ChatGPT. Most teachers noted that MALL assessments could provide instant and meaningful feedback on students' pronunciation and grammar mistakes. They also mentioned affordances of MALL assessments, including ubiquity, practicality, motivation, engagement and support for individualized and self-paced learning. Writing was the skill for which teachers identified the most MALL tools/applications, including Cambly, Google's voice recognition software, AI tool such as ChatGPT and Vapi AI, Duolingo, Rosetta Stone, Open English, Zoom, WhatsApp, Hello Talk and Elsa Speak.

The next aspect explored the perceptions of teachers and testing and evaluation specialists in relation to constraints with language assessment, MALL and MALL assessment. Teachers primarily encountered challenges while administering assessments for listening and speaking skills while testing and evaluation stated that they assess learners' content knowledge rather than language skills and areas. Most teachers highlighted the challenges of assessing listening and speaking skills, arguing the recent regulation of MoNE on assessment. In a similar vein, one specialist referenced this regulation on assessment and the difficulties of simultaneously conducting assessments for all four language skills. For listening assessments, two high school teachers mentioned constraints posed by the classroom environment such as poor sound systems and the speaker's rapid speech while the other high school

teacher found the implementation of these assessments not challenging. Regarding speaking assessments, all high school teachers noted constraints due to crowded classrooms such as students' reluctance or anxiety to speak and difficulties in providing meaningful and instant feedback, leading to time management problems. Based on her observations, one of the testing and evaluation specialists also pointed out crowded classrooms as a significant constraint in administering language assessments. She stated that since teachers' workload is high due to simultaneous implementation of all four language skills in crowded classrooms, teachers might be directed towards indirect testing rather than direct testing. Another specialist noted constraints language teachers face in tests and assessments since they may not delve into the quantitative dimensions due to their verbal intelligence. Based on his observations, he also expressed that parents' interfering with testing and assessment process in classroom might decrease teachers' motivation. Additional constraints mentioned by teachers for traditional assessment methods included language barriers, addressing individual needs of students and concerns about validity issues.

When it comes to the constraints with implementation of MALL and MALL assessment, the majority of teachers highlighted curricular limitations regarding MoNE's recent regulation prohibiting students to bring their mobile devices at school, which corresponds to a constraint mentioned by a specialist. Regarding the constraints in classroom environment, three teachers reported issues with Internet connectivity, reflecting observations of a specialist about differences in terms of Internet access in classrooms between the east and the west of Türkiye. Additionally, he noted that administrative interference with integrating MALL tools/applications might undermine teachers' motivation. Other constraints mentioned by teachers for implementing MALL and MALL assessments involved time limitations and students' backgrounds.

Addressing another aspect of the study, perceptions of in-service EFL teachers and testing and evaluation specialists were scrutinized regarding the affordances of language assessment, MALL and MALL assessment. Most teachers highlighted the key opportunities in language assessments as providing constructive and individualized feedback and identifying students' mistakes and errors, parallel with the

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affordances two specialists identified based on their observations. While one specialist highlighted the importance of instant and constructive feedback in the context of formative assessment, other specialist viewed it as an opportunity in her content knowledge assessment practices. Even though an experienced high school teacher also pointed out feedback as an affordance in language assessments, he viewed crowded classrooms as a challenge to advancing opportunities in language assessments. In a similar vein, two novice teachers supported it by highlighting that constraints outweigh affordances in the language assessments they conduct.

With regards to the affordances of MALL tools/applications, teachers predominantly pointed out practicality, ubiquity, motivating, engaging, time efficiency, availability and ease of use. Additionally, all high school teachers mentioned their convenience thanks to providing ease of access through Internet connectivity. In a similar vein, a specialist noted that MALL tools/applications are affordable and ubiquitous, and highlighted numerous educational opportunities young generation can take advantage of, considering their quicker adaptation to new technology advancements compared to older generations.

To address affordances of language assessments through MALL tools/applications, most teachers reported their positive views and highlighted that they could offer individualized and self-paced learning, catering to individual needs of students, provide instant and constructive feedback that helps students easily see their mistakes, ensure convenience and practicality in terms of saving time, effort and paper, and ensure reliability in grading. All testing and evaluation specialists supported these perceptions of teachers by highlighting that MALL tools/applications could continue to offer the affordances of language assessments. Even though two specialists mentioned their lack of experience with incorporating MALL to improve language skills, they recognized the affordances of language assessments through MALL for peer assessment, identifying learners' strengths and weaknesses through constructive feedback, enhancing motivation, increasing student engagement and reducing workload. Additionally, the other specialist highlighted that MALL assessments could offer learners flexibility by crossing the boundaries of a specific time and place and ensure reliability and validity while moving away from traditional assessments.

Regarding addressing language assessment challenges through MALL tools/applications, all teachers and testing and evaluation specialists reported their positivism. The most frequently mentioned affordance of MALL tools/applications by teachers which assist overcoming challenges in language assessments were offering individualized and self-paced learning, catering to individual needs of learners. They noted that MALL assessments could provide constructive and instant feedback, helping learners to overcome their anxiety in speaking assessments through the assistance of these MALL tools/applications. Additionally, they pointed out their time-efficiency in grading process, convenience and practicality in terms of saving time and effort. These findings were also supported by two testing and evaluation specialists, highlighting that MALL assessments could overcome challenges by identifying learners' strengths and weaknesses through constructive and real-time feedback, facilitating interaction, enhancing practicality in grading, reducing anxiety level, and increasing learner motivation. Even though the other specialist pointed out that MALL tools/applications could overcome the constraints with language assessment, he mentioned parents' interference with testing and evaluation process and how transitioning to MALL assessments from traditional paper-based assessments could alleviate such interference and teacher workload.

The last aspect the current study aimed to explore was perceptions of in-service EFL teachers and testing and evaluation specialists on needs, recommendations, and future and potential of MALL and MALL assessment. Additionally, testing and evaluation specialists' concerns for MALL assessment were investigated. Regarding students' needs in the context of MALL, most teachers identified issues in listening and speaking skills. They pointed out the significance of addressing each language skill and area through MALL due to learners' individual needs and learning styles like auditory and visual learning. They noted these needs in different educational contexts encompassing elementary, secondary, and high school levels as well as different language proficiency levels. Moreover, an experienced high school teacher emphasized the benefits of MALL tools/applications in catering to diverse needs of learners in listening and speaking skills, despite noting the challenges in crowded and time-constrained classroom settings. Nevertheless, a competent high school teacher mentioned that while these MALL tools/applications could address these needs in listening and

speaking skills, they are not entirely effective due to lack of interaction with the MALL tools.

When it comes to addressing individual learner needs through MALL assessments, all teachers reported their positivism. They predominantly highlighted how MALL assessments could address learner needs in different educational contexts and different language proficiency levels. They noted that MALL assessments could enhance individualized and self-paced learning in which learners could get instant and constructive feedback. All high school teachers highlighted benefits of MALL tools/applications in providing a variety of language learning materials, for instance, through AI tools. Additionally, an experienced elementary school teacher mentioned the need for parental guidance in MALL assessments.

In the current study, teachers were also asked to provide their recommendations for the effective design of MALL assessment tools/applications. Reflecting their earlier comments, they mainly pointed out that these tools/applications should address individual needs, preferences and learning styles of students across different educational contexts and language proficiency levels. Additionally, teachers recommended that these MALL assessment tools/applications should be practical, secure, user-friendly, accessible even without Internet connection, affordable, and motivating, engaging and interactive for students with diverse learning styles. All high school teachers, along with an experienced secondary school teacher, also pointed out the importance of including a feedback mechanism, allowing teachers to provide instant and constructive feedback and monitor students' progress. Two high school teachers also recommended ensuring the validity and reliability of these tools/applications and fostering collaboration between teachers and testing and evaluation specialists for pedagogical considerations, parallel with the comments of testing and evaluation specialists.

With regards to the validity and reliability of effectively implementing MALL assessment tools/applications into classroom settings, all testing and evaluation specialists raised their concerns. For validity, one specialist emphasized the significance of matching various kinds of MALL tools/applications with the individual

needs and styles of students, ensuring that these applications and activities in them are well-suited to the topic aimed to teach. Regarding reliability, she expressed concerns about whether MALL tools/applications, such as ChatGPT as an AI tool, could reliably and validly evaluate language assessments. Therefore, she recommended thoroughly analyzing these tools before integrating them into the grading process. Another specialist perceived that while reliability could be ensured with the integration of formative assessments into MALL tools/applications, it would be demanding to achieve the same with summative assessments due to ethical considerations and the difficulty of creating appropriate settings for them. On the other hand, the other specialist emphasized the distinct roles of teachers and testing and evaluations specialists in designing effective MALL tools/applications. Nonetheless, he expressed his positivism, noting that the collaboration between teachers and specialists could alleviate the validity and reliability concerns.

All specialists also discussed the lack of testing and evaluation courses at universities and emphasized the necessity for teachers to be informed on the validity and reliability of the MALL tools/applications that they desire to incorporate into their language teaching processes. One specialist highlighted the need for more testing and evaluation courses while another pointed out that the absence of these courses in higher education, combined with teachers' limited participation in professional development training, results in their insufficient understanding of the requirements of testing and evaluation, leading them to be defined as "assessment illiterate." Therefore, all testing and evaluation specialists recommended educational institutions to invest in teachers' professional development and organize in-service trainings on MALL assessments, considering that this is the future. They also suggested teachers to self-develop themselves through attending these trainings, seminars or conferences, and collaborate and inform students on how to effectively utilize MALL tools/applications in language assessment processes.

While discussing the future and potential of MALL assessments, several teachers supported specialists' recommendations on receiving in-service trainings on MALL assessments in terms of addressing individual learning needs, saving time and effort. All teachers and specialists foresaw the future of MALL assessments as bright and

promising, and highlighted the rapid advancements in technology, especially AI tools. Teachers highlighted the recent regulations of MoNE, prohibiting students from bringing their mobile devices at school, and even though they highly desire diverting from traditional assessment methods and incorporating MALL tools/applications into language assessment processes, they expressed that they might still rely on traditional assessment methods if no changes are made in the future. Additionally, they emphasized that integration of MALL assessments into language learning processes could alleviate teachers' workload, enhance practicality, affordability, ease of use, accessibility, and offer individualized learning and constructive feedback in which learners could identify their strengths and weaknesses and improve their language learning better, aligned with the comments of specialists. Specialists further added that new frameworks for language learning skills and areas, other than CEFR, could emerge in the future, altering language assessment practices and highlighted viewing MALL assessments as an opportunity for the future despite the difficulty of keeping up with the new advancements.

5.2. Discussion of the Findings in Relation to Previous Research

In this section, findings of the current study are discussed by making comparisons and contrasts with research studies in the existing literature. These findings are presented in the order of the research questions aimed to be answered for the perceptions of in-service EFL teachers and testing and evaluation specialists on language assessment, MALL and MALL assessment.

5.2.1. Perceptions of In-service EFL Teachers on Language Assessment, MALL and MALL Assessment

The first research question explores the perceptions of in-service EFL teachers working in state elementary, secondary, and high school contexts across different provinces of Türkiye. It examines their overall opinions on language assessment, MALL and MALL assessment as well as their self-reported implementation and current practices. Additionally, it investigates the constraints, affordances, needs, recommendations, and future and potential of these assessments.

5.2.1.1. Discussion in Relation to Research Question 1a Regarding Overall Opinions of In-service EFL Teachers on Language Assessment, MALL and MALL Assessment

Initially, this study aimed to understand in-service EFL teachers' familiarity with the concepts of MALL and MALL assessment. It was found out that most teachers were familiar with the concept of MALL, aligned with the results of Nariyati et al. (2020) and Dağdeler and Demiröz (2020). It can be related to the fact that all teachers own smartphones and laptops and all of them reported that they use these mobile devices for educational purposes. Nonetheless, teachers were mostly unfamiliar with the concept of MALL assessment. Even though there are no studies in the literature which investigates teachers' familiarity with MALL assessment, it can be inferred that the distinction between the terms testing, evaluation, measurement and assessment might not be clear for teachers. Additionally, MALL assessment is a relatively new concept and even the existing literature does not present a definition for it.

Teachers also mentioned that they were mostly familiar with formative assessment, followed by summative assessment. It can be interpreted that teachers frequently observe their students' progress in language learning within classroom (Cizek, 2010; Coombe, 2018) and evaluate their achievement by grading them based on their performance in tests, administered at the end of a unit, lesson, or a course (Cheng & Fox, 2017; Brown, 2004; Coombe, 2018).

Findings also revealed that all teachers were familiar with various MALL tools/ applications that could be incorporated into language assessment processes. Duolingo, Kahoot, and Voscreen were the most frequently mentioned MALL tools/applications teachers were familiar with. Similarly, Ahmed et. al. (2022), Kessler (2023) and Söğüt (2021) conducted studies by utilizing Duolingo to understand its impacts on learners' language skills and areas while Moncada et al. (2020), Nyugen and Yukawa (2019) and Yassin and Abugohar (2022) carried out such studies with Kahoot. Nonetheless, teachers had difficulties in naming MALL tools/applications, especially for reading skills. In the literature, Sánchez-Tello and Argudo-Garzón (2022) used Padlet while Naderi and Akrami (2018) used Telegram to enhance learners' reading comprehension.

Regarding teachers' familiarity with MALL assessment through trainings or support, all but one teacher mentioned that they had not taken such trainings for their professional development although some of them mentioned that they had attended other training sessions on technology integration to develop themselves. Nonetheless, they all expressed a desire to receive such trainings on MALL assessment. Even though MoNe's new education vision for 2023 supported teachers' continuous professional development through seminars and trainings on their assessment skills (Kitchen et al., 2019, p.18) and their interaction with online platforms and mobile technologies for language teaching (MoNE, 2018c), it is evident from teachers' remarks that there is a significant lack of training on MALL assessments due to their limited presence in language learning classrooms. However, similar to the positive influence of MALL professional development trainings on pre-service and in-service teachers as reported by Hafour (2022), it can be inferred that such trainings on MALL assessments could also prove beneficial.

To identify teachers' understanding of MALL and MALL assessment, they were asked to offer definitions of them. In defining MALL, teachers highlighted its affordances such as interactivity, ubiquity, personalization, usefulness, ease of access, and the ability to offer individualized and self-paced learning, aligned with defining characteristics provided by Kloper et al. (2002), Kukulska-Hulme (2005), Kukulska-Hulme and Traxler (2005; 2007) and Traxler (2009). In a similar vein, Kukulska-Hulme and Shield (2008) highlighted these affordances by defining MALL as formal or informal learning, facilitated as a result of availability and accessibility of handheld devices regardless of time and place. Furthermore, some teachers defined MALL by linking it to CALL. These definitions referenced Dağdeler and Demiröz (2022) who noted that CALL led to the development of MALL by eliminating the constraints of being confined to a specific time and place in front of computers.

When defining MALL assessment, teachers highlighted its benefits in enhancing interactivity and reliability, as well as offering immediate and constructive feedback, in line with the findings of Alharbi and Meccawy (2020) and Rezaee et al. (2019). Furthermore, one teacher emphasized the potential for providing peer feedback through MALL assessments, a benefit also identified in studies by Dai and Wu (2021),

Chang and Lin (2020) and Wu and Miller (2020). However, this finding contrasts with the study of Samaie et al. (2018), which demonstrated that self-and peer assessments were inefficient in improving learners' speaking skills due to their dissatisfaction with using WhatsApp to administer language assessments.

The current study explored students' perceptions of language assessment, MALL and MALL assessment based on teachers' comments. It was found out that learners generally hold positive perceptions on MALL and MALL assessment while some teachers expressed learners' negative perceptions on language assessment as well. Regarding students' perceptions on MALL, teachers predominantly highlighted their affordances of being motivating, engaging and beneficial for language learning, in line with the findings of Kohnke (2020), Soparno and Tarjana (2021), Aratusa et al. (2022), Forsythe (2017), Moncada et al. (2020), Shadiev et al. (2021), Darsih and Asikin (2020) and Azli et al. (2018). In a similar vein, several teachers noted that students could perceive language assessments through MALL tools/applications motivating and engaging, as they allow for self-assessment and self-directed learning outside the classroom, consistent with Wu and Miller (2020), Bacca-Acosta and Avila-Garzon (2020), and Li and Chan (2024). Nevertheless, these positive perceptions of MALL assessment contradict with Pingping et al. (2021), which revealed that while learners had positive perceptions of self-assessments, their perceptions of self-assessment through MALL were medium or lower due to a lack of desire and motivation to study independently to enhance their language learning, distractions within the applications, and limited number of applications supporting self-assessment.

In-service EFL teachers also shared their perceptions on language assessment, MALL and MALL assessments. The findings of the current study revealed that teachers highly value the incorporation of MALL tools/applications into classrooms since they offer meaningful learning experiences for students, echoing the findings of Bozorgian (2018), Nariyati et al. (2020), Khan et al. (2018), and Sarhandi et al. (2022). Teachers also emphasized the significance of MALL tools/applications in language learning due to evolving profiles of students and their growing interest in these tools/applications. Consequently, teachers saw the necessity for shifting away from traditional learning methods but felt constrained by MoNE regulations. Prensky (2001) described digital

immigrants as those who are eager to access knowledge instantly and impatient with lengthy lessons and traditional learning and assessment methods. Such evolving needs and wants of learners make it impractical for learners to fit within the constraints of traditional methods and necessitate exploring new approaches (Özsarı & Saykılı, 2020).

Additionally, teachers generally held positive perceptions on the implementation of MALL tools/applications into language assessments due to their usefulness and ability to provide constructive and creative feedback. However, they also felt restricted due to limited use of MALL assessments. Kırkgöz (2007) supported these findings by stating that although traditional paper-based assessments are extensively used in Turkish language learning contexts, they are not considered as appropriate assessment tools. Based on teachers' comments, it can be inferred that there is a necessity to divert from traditional language learning and assessment methods and pave the way to incorporation of MALL tools/applications into language assessment processes within classrooms.

Regarding teachers' preferences, the study found out that while numerous teachers favored the integration of technology into their lessons, for the assessment process, the number of teachers who preferred traditional assessment methods were equal to those who preferred MALL assessments. The rationale behind teachers' preference for traditional assessment methods over MALL assessments lies in their familiarity with these methods and curricular limitations imposed by MoNE. Conversely, teachers favored MALL assessments over traditional assessment methods for their ability to meet the individual learner needs more effectively, referring to their practicality, time-efficiency, reliability. Nguyen and Yukawa (2019) also revealed that teachers perceived MALL assessments as flexible, easy to use, secure and timesaving.

Additionally, in the current study, teachers predominantly highlighted that they would prefer MALL tools/applications to conduct the assessments due to these affordances of MALL tools/applications. Nonetheless, in terms of grading, they favored to do it themselves rather than relying on MALL tools/applications since they believed that they could better grade their students and provide more meaningful feedback based on

their observations. It can be inferred that teachers' constructive feedback on learners' performances rather than directly grading their assessments might create a positive washback effect on students which can enhance their motivation by allowing them to see their mistakes and errors (Brown & Abeywickrama, 2019).

5.2.1.2. Discussion in Relation to Research Question 1b Regarding Self- Reported Current Practices of In-service EFL Teachers and the Implementation of Technology, Language Assessment, MALL and MALL Assessment

The current study explored in-service EFL teachers' perceptions of how courses they had taken at university on technology integration have influenced their current practices in incorporating technology into their classrooms. The majority of teachers noted having taken these courses and perceived their impact as beneficial for incorporating technology into their language teaching practices.

Additionally, all teachers highlighted that they use their mobile devices for educational purposes by sharing their methods. They mentioned using their mobile devices to ensure Internet connectivity in classrooms, as highlighted by Khan et al. (2018). Similarly, connectivity was identified by Kloper et al. (2002) as one of the five key characteristics of mobile technologies. Teachers also noted that they use their mobile devices to create and present educational activities. Regarding these activities, elementary school teachers noted that they engage young learners with pictures, games, flashcards and videos.

When it comes to teachers' current language assessment practices and MALL integration into classrooms, all teachers reported that relying primarily on traditional assessment methods. Elementary school teachers reported that they assess students through informal, formative assessments by observing their participation in classroom-based activities or games rather than summative assessments. By this way, they aim to identify and track students' continuous development in language learning (Brown, 2004). This shift resulted from MoNE's adjustments in assessment and evaluation regulations, which aim to align better with the principles of CEFR (MoNE, 2023a).

Teachers also noted that they cannot integrate MALL assessments due to MoNE's recent regulations, which prohibit students from bringing mobile devices to school (MoNE, 2023b). Nonetheless, they offered the possibility of incorporating both formative and summative assessments into MALL tools/applications thanks to their practical, engaging, motivating aspects and their ability to identify learners' strengths and weaknesses in language learning. The existing literature presents the incorporation of formative and summative assessments into MALL tools/applications to enhance language learning. Al-Abri et al. (2024) revealed the importance of formative assessments through MALL in enhancing lexical fluency. By offering learners opportunities for active participation in speaking activities and supporting student-centered learning, MALL assessments were also favorable by teachers. Similar results were reported by Yarahmadzehi and Goodarzi (2020) for vocabulary knowledge and Yassin and Abugohar (2022) for overall language proficiency. Nonetheless, these findings contradict with those of Chou et al. (2017), who found formative and summative assessments through MALL to be inefficient due to learners' unfamiliarity with BYOD approach utilized in their study. Even though no significant difference occurred in formative and summative assessment performances of learners, the results of delayed summative assessments revealed that MALL assessments had a positive impact on learners' long term retention by attracting their attention and boosting motivation.

In-service EFL teachers mentioned that they frequently enhance students' listening, speaking, and reading skills, as well as vocabulary knowledge through MALL tools/applications; however, they did not mention their current practices with writing skills and grammar knowledge at all. This finding is in line with the findings of Aygül (2019), which revealed that pre-service EFL teachers gave less emphasis to improving grammar knowledge and writing skills, compared to other skills and areas. The existing literature also involves vast numbers of research studies on the impacts of MALL on improving speaking skills (Sun et al. (2017; Ahmed et al., 2022; Lutfi, 2020), listening skills (Andujar & Hussein, 2019; Al-Shamsi et al., 2020), reading skills (Yu et al., 2022; Keezhatta & Omar, 2019; Naderi & Akrami, 2018; Sánchez-Tello & Argudo-Garzón, 2022), and vocabulary knowledge (Li & Hafner, 2022; Xodabande & Atai, 2022; Zakian et al., 2022; Rahmani et al., 2022; Katemba, 2021).

Although their numbers are rather limited, research studies were also conducted on writing skills (Kessler, 2023; Pingmuang & Koraneekij, 2022) and grammar knowledge (Khodabandeh et al., 2017; Ghorbani & Ebadi, 2020).

Additionally, the current study explored teachers' perceptions on how MALL tools/applications could facilitate the assessment of various language skills and areas. Regarding assessment of vocabulary knowledge, all teachers expressed the positive impact of MALL tools/applications by ensuring meaningful learning experiences for students and self-paced learning, aligned with the findings of Yarahmadzehi and Goodarzi (2020) and Torang and Weisi (2023). Additionally, teachers noted that it can enhance practicality by saving time and effort, motivation and engagement, which were also supported by Nguyen and Yukawa (2019).

For assessing grammar via MALL tools/applications, teachers noted that traditional assessment techniques such as fill-in-the-blanks, True/False, and multiple choice questions could be incorporated into these tools to identify learners' strengths and weaknesses through constructive feedback they receive. Additionally, they mentioned their usefulness and ability to offer self-paced learning. Based on teachers' remarks, it can be suggested that these selected-response and constructed-response assessments (Brown & Hudson, 1998) which are conducted at a definite time utilizing a formal, summative approach (Brown, 2004) could be administered without being confined to this definite time through MALL tools/applications.

With regards to assessment of reading skills, all teachers except one recognized the effectiveness of MALL tools/applications thanks to their convenience, accessibility, affordability, and practicality. They also appreciated these tools/applications with their engaging and beneficial aspects for learners, especially given the time limitations in classrooms and students with individual needs. These results align with Yu et al. (2022), who highlighted the convenience of MALL tools/applications, Naderi and Akrami (2018), who emphasized their role in enhancing motivation and attracting attention, and Keezhatta and Omar (2019), who noted their beneficial impact on language learning. When it comes to assessment of listening skills, all teachers except one emphasized the significance of MALL tools/applications in facilitating listening

assessments thanks to their affordances of offering more practical, convenient, engaging and personalized learning experiences through personal mobile devices, aligned with Al-Shamsi et al. (2020), Plantado and Plantado (2021), and Aygül (2019).

In a similar vein, all teachers except one noted that MALL tools/applications could facilitate assessment of writing skills. They highlighted students' evolving needs and styles and mentioned that students perceive paper-based writing assessments tedious as they are more accustomed to typing or messaging through their personal mobile devices. As a result, teachers noted that MALL assessments could enhance learners' attention more effectively, provide instant and constructive feedback on their spelling and punctuation mistakes, and ensure practicality by saving time, effort and paper.

Several studies in the existing literature supported these findings. For instance, Pingmuang and Koraneekij (2022), Plantado and Plantado (2021), and Moncada et al. (2020) highlighted the positive impact of MALL tools/applications on improving writing skills. Jeanjaroonsri (2023) noted that MALL tools/applications are timesaving, user-friendly, and accessible on improving writing skills, aligned with teachers' remarks. In a similar vein, Kessler (2023) revealed that learners perceive reflective journal writing tasks on Duolingo as enjoyable and beneficial since they could enhance their existing knowledge and become more aware of their progress. Additionally, they emphasized positive influence of mobile-based reflection journals on addressing individual needs and differences. Unlike the findings of the current study, learners faced challenges with regards to receiving constructive feedback, clearer grammar instruction, and having meaningful communication on Duolingo. Supporting the effective implementation of MALL tools/applications for dynamic assessments, studies by Ebadi and Bashir (2021), Rad (2021), and Kaveh and Rassaei (2022) further confirm these benefits for improving learners' writing skills.

Lastly, all teachers recognized the positive impact of MALL tools/applications, including AI tools, on facilitating speaking assessments thanks to their ubiquity, practicality, and their ability to boost motivation and engagement, as supported by Ahmed et al. (2022), Soparno and Tarjana (2021), and Li and Chan (2024). Additionally, teachers noted that MALL assessments could offer immediate and

constructive feedback on pronunciation and grammar mistakes, aligned with the findings of Dai and Wu (2021) and Rezaee et al. (2019). They also highlighted that these assessments support individualized and self-paced learning, echoing the results of Şükür et al. (2023) and Al-Abri et al. (2024).

5.2.1.3. Discussion in Relation to Research Question 1c Regarding Perceptions of In-service EFL Teachers on Constraints with Implementing Language Assessment, MALL and MALL Assessment

In the current study, teachers' perceptions on the constraints with language assessment, MALL and MALL assessment were explored. Regarding constraints with language assessment, teachers mostly highlighted challenges they face in listening and speaking assessments, emphasizing the recent regulation of MoNE on assessment (MoNE, 2023a) which integrated listening and speaking assessments into the existing curricula along with assessing other language skills and areas. In the context of listening assessments, teachers highlighted constraints posed by classroom environment such as inadequate sound systems and the fast pace of speech in audio recordings. These problems were found to affect learners' test performance, disrupting test administration reliability. Therefore, it is essential to eliminate distractions to enhance learners' test performance (Hughes, 2003).

For speaking assessments, teachers emphasized constraints due to crowded classrooms, increasing anxiety level and reluctance to speak. These psychological factors affect student-related reliability, causing discrepancies between students' actual performance and their observed scores (Brown & Abeywickrama, 2019). Moreover, teachers noted difficulties in providing constructive and instant feedback to all students during speaking assessments, which leads to time management, language barriers, addressing learners' individual needs, and concerns about validity issues. Soparno and Tarjana (2021) proved that such constraints in traditional speaking assessments could be overcome through MALL tools/applications.

With regards to the constraints teachers perceived with the implementation of MALL and MALL assessments, the majority of teachers emphasized curricular limitations set

by MoNE, which prohibits students from bringing their mobile devices at school (MoNE, 2023b). Additionally, in classroom environments, teachers reported Internet connectivity issues as a significant challenge to integrate MALL tools/applications into language learning and assessment practices. This issue, categorized as a physical/technical constraint (Stockwell & Hubbard, 2013), has been emphasized by teachers in the studies by Bozorgian (2018), Dağdeler and Demiröz (2020), and Aygül (2019). Although Khan et al. (2018) highlighted fast Internet connectivity as an affordance of MALL tools/applications, some teachers also highlighted Internet connectivity issues. Existing literature also revealed Internet connectivity as a challenge in MALL assessments in studies by Alharbi and Meccawy (2020), Li and Chan (2024), and Şükür et al. (2023).

Another constraint noted by in-service EFL teachers regarding classroom environments was time limitations. Annamalai et al. (2023) emphasized the limited instructional time in formal education settings for incorporating MALL tools/applications. It can be interpreted that these time constraints might prompt learners to rely on MALL outside the classrooms, creating an imbalance and conflict between formal and informal educational settings (Sharples, 2006). Furthermore, teachers identified students' backgrounds as a constraint in implementing MALL assessments, as some students lack access to mobile devices due to financial constraints. This finding contradicts with UNESCO (2013)'s perspective, which viewed mobile learning as an opportunity for learners living in socio-economically disadvantaged areas.

5.2.1.4. Discussion in Relation to Research Question 1d Regarding Perceptions of In-service EFL Teachers on Affordances of Language Assessment, MALL and MALL Assessment

In the current study, in-service EFL teachers shared their perceptions on the affordances of language assessment, MALL, and MALL assessments. With regards to language assessments, most teachers pointed out key affordances as providing constructive and personalized feedback and identifying learners' strengths and weaknesses. McKay (2006) confirms teachers' explanations by noting that language

assessments provide teachers opportunities to identify learners' strengths and weaknesses, offer constructive and meaningful feedback, and evaluate their accomplishments. Nevertheless, some teachers also pointed out that constraints like crowded classrooms hinder the effectiveness of these assessments. Consequently, some teachers felt that the challenges outweigh the benefits in their language assessments. Despite teachers' explanations, Çimen (2022) viewed constraints such as time limitations, crowded classrooms, and learners' low language proficiency levels as reasons why teachers may prefer traditional language assessments.

When it comes to affordances of MALL tools/applications, the majority of teachers emphasized practicality, ease of use, ubiquity, time efficiency, availability, their ability to boost motivation and engagement, and convenience thanks to providing ease of access through Internet connectivity. In the existing literature, these affordances were pointed out as fundamental characteristics of mobile learning (Kukulska-Hulme, 2005; Kukulska-Hulme & Traxler, 2007; Traxler, 2009; Jones et al., 2006). It was also highlighted that by crossing the boundaries of a specific time and place, learners could access knowledge easily (Arvanitis & Krystalli, 2021) and manage their time for language learning more effectively (Akkoyunlu et al., 2018). Aligned with the findings of the current study, numerous empirical studies have highlighted EFL teachers' perceptions on affordances of MALL tools/applications in enhancing language learning and teaching (Hişmanoğlu, 2017; Nariyati et al., 2020; Aygül, 2019; Bozorgian, 2018; Khan et al., 2018; Sarhandi et al., 2022; Xue & Churchill, 2022; Dağdeler & Demiröz, 2020; Demirer, 2017). Nonetheless, unlike the positive view of some EFL teachers on Internet connectivity as an advantage, research by Dağdeler and Demiröz (2020) and Bozorgian (2018) identified Internet connection issues as a limitation of MALL tools/applications. Since in-service EFL teachers in the current study identified Internet connectivity both as a constraint and as an affordance, it aligns with Khan et al. (2018) in which teachers held positive attitudes towards MALL tools/applications thanks to convenience and fast Internet connectivity but posed Internet connectivity as a constraint for incorporating MALL into classrooms.

This study also explored whether MALL tools/applications could enhance the affordances of language assessments. Most teachers expressed their positive views and

pointed out that these tools/applications could cater to individual needs of learners through individualized and self-paced learning. Kukulska-Hulme (2007; 2018) emphasized that mobile devices support situated, individualized and continuous language learning experiences beyond formal education settings. In a similar vein, Akkoyunlu et al. (2018) pointed out that mobile devices allow learners to study autonomously at their own pace and according to their preferred learning styles. Xue and Churchill (2022), Dağdeler and Demiröz (2020), Aygül (2019), and Khan et al. (2018) similarly echoed these by highlighting EFL teachers' perceptions on how MALL integration into language teaching provides opportunities for personalized, self-directed and autonomous learning. In the context of dynamic assessments, Şükür et al. (2023) found out that MALL tools/applications enable learners to self-correct their mistakes and provide solutions to their problems autonomously.

In the current study, teachers noted that MALL assessments can provide constructive and immediate feedback, assisting students in identifying and correcting their mistakes while also ensuring reliability in grading and offering convenience and practicality in terms of saving time, energy, and paper. Similar findings were reported in the existing literature. Rezaee et al. (2019) noted that EFL learners receive immediate feedback on their oral performance, enhancing their oral accuracy through mobile-based dynamic assessments. Additionally, within the context of peer assessments, Wu and Miller (2020) found out that MALL tools/applications facilitate convenience and foster the development of speaking skills through immediate peer feedback. The findings of Alharbi and Meccawy (2020) demonstrated that formative assessments via the MALL application Socrative save time and provide instant feedback. Nyugen and Yukawa (2019) carried out a study to explore teachers' perceptions along with learners, revealing that teachers perceived their experience with MALL assessments positively thanks to affordances in saving time, providing flexibility, and ensuring security.

Lastly, with regards to addressing language assessment challenges through MALL tools/applications, all teachers presented positive opinions. They predominantly mentioned that offering individualized and self-paced learning, which cater to individual needs of learners, could assist in overcoming challenges in language assessments. Based on teachers' insights, it can be inferred that the affordances of

mobile devices in supporting autonomous learning, adjusted to learners' own pace and learning style (Akkoyunlu et al., 2018) could also enhance the effectiveness MALL assessment practices. In-service EFL teachers noted that MALL assessments could offer constructive and instant feedback, consistent with the findings from Rezaee et al. (2019), Wu and Miller (2020), and Alharbi and Meccawy (2020), and aid learners manage their anxiety in speaking assessments through the assistance of MALL tools/applications, a point echoed in Alharbi and Meccawy (2020), who found out that MALL application Socrative relieved anxiety and stress during formative assessments. Nonetheless, this contrasts with Afshar and Zareian (2022), who, despite focusing on writing assessments rather than speaking assessments, discovered that raising awareness about writing strategies through MALL tools/applications had a negative impact on IELTS test takers' writing anxiety levels.

Furthermore, teachers in the current study highlighted the affordances of MALL tools/applications for overcoming language assessment challenges, particularly in terms of convenience, practicality for saving time and effort in preparing assessments and grading them. By this way, positive washback effect could be enhanced since practicality of assessments in terms of time and cost is ensured (Hughes, 2003).

5.2.1.5. Discussion in Relation to Research Question 1e Regarding Perceptions of In-service EFL Teachers on Needs, Recommendations, and Future and Potential of MALL and MALL Assessment

Regarding in-service EFL teachers' perceptions on students' needs in the context of MALL, most teachers highlighted issues in relation to listening and speaking skills. Nonetheless, Soparno and Tarjana (2021) revealed the efficiency of MALL in assisting learners overcome issues in speaking related to intonation, pronunciation, and vocabulary.

Additionally, teachers pointed out these needs in various educational contexts encompassing elementary, secondary and high schools, and different language proficiency levels. Considering diverse needs and styles of students like auditory or visual learners, teachers also noted the importance of addressing each language skills and areas through MALL. All language skills and areas are interconnected, and while

deficiency in one of those skills and areas may have a negative impact on overall proficiency level, improvement in one of them may have a positive impact on other language skills and areas. Therefore, it is essential to realize the effectiveness of MALL in addressing those needs (Nan, 2018). With regards to different learning styles, Gürkan (2018) conducted a study with five aural and five visual EFL elementary school learners to explore the effects of MALL on their vocabulary learning and the findings revealed differences between auditory and visual learners' preferences.

In a similar vein, in terms of addressing such individual learner needs identified in language assessments or in the context of MALL through MALL assessments, all teachers expressed their positivism. They pointed out that MALL assessments could cater to individual needs of learners in different educational contexts and diverse language proficiency levels. They also emphasized that MALL assessments could offer personalized and self-paced learning in which learners could receive immediate and constructive feedback. In Bacca-Acosta and Avila-Garzon (2020)'s study, mobile-based formative assessment system offered learners, who were preparing for Cambridge Key English Test, opportunities to use a MALL application at their own pace. Moreover, Rad (2021) revealed the efficiency of mobile-based hybrid dynamic assessments in offering learners constructive feedback in which they could identify their errors and mistakes easily and quickly.

The current study further explored in-service EFL teachers' recommendations for effective design of MALL assessment tools/applications. Consistent with their earlier comments, teachers predominantly emphasized that these tools/applications should cater to individual needs, styles, and preferences of learners across diverse educational contexts and language proficiency levels. Furthermore, they suggested that these tools/applications should be accessible even without Internet connectivity, affordable, practical, secure, user-friendly, engaging, motivating, and interactive for students with different learning styles such as auditory or visual learners. Some of these recommendations for effective design of MALL assessment tools/applications also align with the five characteristics identified by Kloper et al. (2002), which include portability, social interactivity, context sensitivity, connectivity, and individuality.

Several teachers also pointed out the significance of integrating a feedback mechanism within applications in which teachers could provide instant and constructive feedback and track learners' progress. Additionally, teachers recommended ensuring reliability and validity of MALL assessment tools/applications as well as promoting cooperation and collaboration between teachers and testing and evaluation specialists to address pedagogical considerations. Based on teachers' explanations, it can be inferred that while designing MALL assessment tools/applications, it is crucial to address key principles of language assessment as practicality, validity, reliability, washback, and authenticity and enhance language assessment practices by utilizing the affordances MALL tools/applications offer to learners.

In this study, all teachers perceived future and potential of MALL assessments as bright and promising, especially with the recent technological advancements such as AI tools. They highlighted recent regulations of MoNE, which prohibit learners from bringing their mobile devices at school (MoNE, 2023b) as a barrier in the potential future of MALL assessments. Despite their strong desire in diverting from traditional assessment methods and integrating MALL tools/applications into language assessment practices, they acknowledged that unless these regulations change, they might continue relying on traditional assessment methods. Teachers emphasized the importance of receiving in-service trainings on MALL assessments in the recent future to better address individual learning needs and styles and to enhance practicality by saving time and effort. MoNE's 2023 education vision also sought to promote teachers' professional development through training and seminars to enhance their assessment skills (Kitchen et al., 2019). Therefore, it can be inferred that organizing such trainings on MALL assessments is essential, given its potential for the future.

Additionally, teachers noted that incorporating MALL assessments into language classrooms could alleviate teachers' workload, improve affordability, ease of use, practicality, accessibility, and provide individualized learning opportunities and constructive feedback, which aids learners identifying their strengths and weaknesses in language learning. These explanations align with several studies in the existing literature. Li and Chan (2024) pointed out usefulness, convenience and accessibility of AI tools for summative assessments. Similarly, Alharbi and Meccawy (2020) noted

practicality of MALL assessments in saving time and offering instant feedback. Rad (2021) and Rezaee et al. (2019) highlighted the effectiveness of MALL assessments in identifying mistakes and errors easily and quickly and facilitating receiving immediate feedback. Additionally, Nguyen and Yukawa (2019) revealed that MALL assessments are easy to use, beneficial, and timesaving.

5.2.2. Perceptions of Testing and Evaluation Specialists on Language Assessment, MALL and MALL Assessment

The second research question scrutinizes the perceptions of testing and evaluation specialists working at various higher education contexts in one of the biggest cities of Türkiye. It examines their general expertise on technology and MALL assessment, constraints and affordances they identify with language assessments, MALL, and MALL assessments. Additionally, it investigates their perceptions regarding concerns, needs and recommendations, and future and potential of MALL assessments.

5.2.2.1 Discussion in Relation to Research Question 2a Regarding Perceptions of Testing and Evaluation Specialists on General Expertise on Technology and Language Assessment

To explore testing and evaluation specialists' general expertise on technology and language assessment, they were asked whether they had taken any courses at university regarding technology integration into EFL. Most specialists noted that they had not due to absence of such courses during their education, given the limited prevalence of technology at that time. Nonetheless, all specialists highlighted that they have been enhancing their professional development by participating in various seminars, conferences and projects, emphasizing the positive influence of these professional development trainings. This is consistent with Hafour (2022), which emphasized similar positive perceptions of teachers regarding MALL training they received.

While none of the specialists had taken courses on technology integration into the assessment of EFL, their views on this gap varied. One specialist felt herself somewhat inadequate and desired she had taken such courses to establish a fundamental

understanding and a baseline for her teacher competency. In contrast, another specialist did not perceive it as negative since her primary role is on testing and assessment. Additionally, the other specialist mentioned the positive influence of general testing and evaluation courses he had taken at graduate level, though not specifically on technology use in EFL.

5.2.2.2 Discussion in Relation to Research Question 2b Regarding Perceptions of Testing and Evaluation Specialists on Constraints and Affordances of Language Assessment, MALL and MALL Assessment

The current study explored perceptions of testing and evaluation specialists on the constraints and affordances of language assessment, MALL and MALL assessment based on their insights and observations. Regarding constraints of language assessments, all specialists noted that, as teacher trainers at the higher education level, they mainly assess content knowledge rather than directly assessing language skills and areas. Nonetheless, based on her observations, one specialist pointed out the constraints of managing workload while assessing all four language skills, especially after recent regulation of MoNE (MoNE, 2023a) and ensuring practicality, specifically in the context of crowded classrooms, leading teachers to indirect testing rather than direct testing. Hughes (2003) argues that indirect testing makes the accurate measurement of specific language skills which is of primary interest challenging. Therefore, Hughes (2003) suggests focusing more on direct assessment rather than indirect assessment to ensure greater practicality. Additionally, another specialist noted that parents' interference in language assessments process has a negative impact on their motivation. He also highlighted that language teachers often struggle with the quantitative aspects of assessment due to their focus on verbal skills, leaving them somewhat behind. This observation aligns with Harris (1969), who stressed the significance of adequately sampling tasks to ensure test reliability. Harris (1969) stated that a positive correlation exists between the number of samples used in assessments and the reliability of understanding learners' abilities. As a result, testing and evaluation specialists generally prefer objective examinations over subjective ones, since objective tests contain larger number of items whereas subjective assessments are limited in item quantity.

When it comes to the constraints specialists identified regarding in relation to MALL and MALL assessments, one specialist highlighted Internet connectivity problems, especially in eastern Türkiye, which is consistent with the findings from Aygül (2019), Dağdeler and Demiröz (2020), and Khan et al. (2018). Additionally, he noted curricular limitations set by MoNE, prohibiting students from bringing their mobile devices to school (MoNE, 2023b). He also pointed out that school administration might discourage young teachers from integrating MALL into language teaching and assessment process.

Regarding the affordances of language assessments, specialists predominantly highlighted the importance of providing constructive feedback to learners. One specialist noted that dynamic assessments in formative assessment contexts allow learners to be directly assessed and receive instant feedback. Such assessments can support learners' development by focusing on their ZPD, guiding their process through feedback, and using leading questions to facilitate cognitive growth (Lantolf & Poehner, 2004; Poehner & Lantolf, 2010; Poehner, 2018). Another specialist described her content knowledge assessment practices in her testing and evaluation courses where learners evaluate MoNE's textbooks and generate exams based on them. She highlighted that this experience facilitates peer assessment and provides constructive feedback, assisting learners identify their strengths and weaknesses. Cheng and Fox (2017) views language assessment as a multidimensional process in which various classroom activities are conducted either between teachers and students or between peers. Peer assessments, in particular, offer learners opportunities to provide constructive feedback to each other in a supportive way and foster their communication skills (Brown & Abeywickrama, 2019).

When it comes to the affordances of MALL, one specialist noted that young learners adapt to technological developments more quickly than older generations. Therefore, he emphasized that thanks to ubiquity and affordability of MALL, young generations could get more educational opportunities. The distinction between digital natives and digital immigrants in their technology and mobile device use makes traditional methods impractical and necessitates learning and teaching to extend beyond the boundaries of school settings (Prensky, 2001; Özsarı & Saykılı, 2020). Regarding

MALL assessments, the same specialist pointed out the flexibility mobile devices allow for language learning and assessment without the constraints of time and place, consistent with Kukulska-Hulme et al. (2009) and Kukulsha-Hulme (2018). He further noted that MALL assessments could offer reliable and valid language assessments, potentially replacing paper-based assessments.

Even though other specialists had limited experience with MALL and MALL assessments, they expressed that MALL assessments could continue to offer affordances of language assessments in terms of facilitating peer assessment, identifying learners' strengths and weaknesses, enhancing motivation and student engagement, reducing teachers' workload, thereby maximizing language learning and teaching practices.

Additionally, all specialists expressed their positivism in terms of potential of MALL tools/applications in overcoming language assessment challenges. They mostly highlighted that MALL assessments could help learners identify their strengths and weaknesses through constructive and instant feedback. Additionally, they noted that MALL assessments could enhance practicality in scoring, reduce anxiety, increase learner motivation, and alleviate teachers' workload.

In the existing literature, various empirical studies on MALL assessments supported specialists' insights regarding enhanced learner motivation (Önal et al., 2022; Nguyen & Yukawa, 2019; Chou et al., 2017). Nonetheless, while Alharbi and Meccawy (2020) found out that MALL assessments could increase practicality and relieve anxiety and stress, Afshar and Zareian (2022) revealed their negative impact on learners' anxiety levels.

5.2.2.3. Discussion in Relation to Research Question 2c Regarding Perceptions of Testing and Evaluation Specialists on Concerns, Needs and Recommendations, and Future and Potential of MALL Assessment

In the current study, all testing and evaluation specialists expressed their validity and reliability concerns for MALL assessments, though their insights differed. Regarding

validity, one specialist highlighted the importance of matching MALL assessment tools/applications with learners' individual styles, capabilities and expectations. This alignment supports construct validity by ensuring an alignment between learners' performances on assessments and predictions on theoretical constructs, skills and abilities (Bachman, 1990). She also pointed out the significance of ensuring the activities in these tools/applications are well-suited to specific topics aimed to teach. This perspective aligns with content validity, which is concerned with how comprehensively the content of assessments represents the intended language skills and areas (Hughes; 2003). In terms of reliability, she noted the necessity of analyzing these tools before incorporating them into grading process. Consequently, by eliminating such concerns, language assessments would become more reliable and valid, offering learners' true scores more consistently (Hughes, 2003; Bachman, 1990).

Even though another specialist acknowledged different missions of testing and evaluation specialists and teachers in designing valid and reliable MALL assessment tools/applications, he remained optimistic and noted that teacher-specialist collaboration and organizing teacher trainings on validity and reliability of MALL assessment tools/applications could address and resolve these concerns. On the other hand, the other specialist highlighted that although the integration of MALL assessment tools/applications could offer valid and reliable formative assessment practices, she pointed out her perspective on the difficulty of incorporating them into summative assessments due to ethical considerations and the need for suitable settings. Aligned with this perspective, Black & William (1998) highlighted inferiority of summative assessments compared to formative assessments and Brown (2004) indicated lack of ability of summative assessments in offering further directions on learners' future learning practices.

Regarding needs of MALL assessment, testing and evaluation specialists mostly highlighted the lack of testing and evaluation courses offered at higher education and identified a need to organize teacher trainings. One specialist referred to research studies which defined teachers as assessment illiterate due to lack of courses teachers had taken on testing and assessment, combined with a lack of professional development. Therefore, she identified a need for teacher trainings either through self-

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updating or in-service seminars or conferences organized by MoNE to improve their assessment literacy and to enhance their understanding of assessment in language teaching. Additionally, she highlighted a need for keeping up with latest tools/applications for effective MALL assessments to avoid inadequacy.

Considering the need for teacher trainings, all testing and evaluation specialists recommended educational settings to invest in teachers' professional development and organize in-service seminars or conferences on effective use of MALL tools/applications in language teaching and assessment practices. They also recommended teachers to participate in MALL assessment trainings to contribute to their professional development, thereby getting a chance to apply their acquired knowledge in classrooms to identify the most appropriate methods and techniques for MALL assessments. One specialist also suggested students to collaborate with their teachers and receive trainings on how to use their mobile devices effectively in language learning and assessment process.

The professional development needs highlighted by testing and specialists aligns with Türkiye's Education Vision of 2023, which aims to foster teachers' continuous professional development through trainings and seminars to improve their assessment skills (Kitchen et al., 2019, p.18). The vision also points out supporting English language learning through online platforms and mobile technologies (MoNE, 2018c). Therefore, it can be inferred that addressing these professional development needs through MALL assessment trainings and integrating such opportunities with the objectives of MoNE's vision could significantly enhance the overall quality of language assessments and maximize the contribution of mobile devices in education.

Regarding specialists' perceptions on the future and potential of MALL assessments, all specialists expressed their positivism by viewing it as promising. They mostly highlighted recent advancements of AI tools, and they noted that AI tools could make learners more autonomous, decrease their reliance on teachers in assessment process, provide immediate and constructive feedback, thereby maximizing practicality and alleviating workload. Li and Chan (2024)'s study revealed effective application of AI tools to summative assessments and IELTS test takers perceived their experience in a

high stake speaking test as useful, convenient, accessible, and ubiquitous. Additionally, one specialist highlighted that MALL assessments are likely to influence CEFR framework, leading learners to acquire specific skills that cater to diverse needs, interests, and expectations. CEFR framework adheres to distinct principles for language learners with diverse needs and language proficiency levels (Wang et al., 2012). Given that MoNE currently relies on the CEFR framework to assess learners' proficiency levels and abilities (Vajjala & Löo, 2014), it can be anticipated that MoNE's language assessment practices may also undergo changes in the future.

5.3. Implications for Practice

Aligned with the findings of the study, following implications can be presented for EFL practitioners, teacher professional development, MALL tools/applications developers, and policy makers and administrators.

5.3.1. Implications for EFL practitioners

Based on the findings of the current study, some implications for EFL practitioners can be offered on how to effectively incorporate MALL tools/applications into language teaching and assessment practices.

The findings of the current study revealed that language learners have diverse needs, styles, and preferences in different educational contexts and proficiency levels. Considering these individual learner needs, EFL practitioners should critically evaluate and carefully choose MALL tools/applications they plan to incorporate into their language teaching and assessment processes.

EFL practitioners also need to make sure that MALL tools/applications foster positive washback effects and do not hinder these processes, thereby assisting making teaching more engaging and motivating.

Additionally, the findings revealed challenges in classroom environments to implement MALL tools/applications. Therefore, to address classroom-based

constraints, especially due to crowded classrooms, EFL practitioners should utilize the practicality of MALL tools/applications for the benefit of saving time, cost and effort and enhancing language teaching and assessment practices.

The findings highlighted the necessity of providing constructive feedback to learners so that they could identify their strengths and weaknesses. Therefore, it is significant for EFL practitioners to ensure that learners receive meaningful feedback regardless of it being traditional assessments or MALL assessments.

5.3.2. Implications for Teacher Professional Development

Based on the findings, there is a necessity for teacher trainings through seminars, conferences or projects to enhance their professional development. Therefore, some implications can be provided for teacher professional development.

Initially, it is essential for EFL practitioners to get training on how to use MALL tools/applications more effectively and with higher precision in classroom settings. Additionally, they should develop their technology literacy skills.

In addition to receiving trainings or support on the effective incorporation of MALL tools/applications, EFL practitioners should get specialized training for conducting language assessments through these tools/applications. These trainings should pinpoint key principles and aspects of a successful assessment such as reliability, validity, practicality, washback, data analysis, and so forth.

EFL practitioners should also enhance their professional development for developing materials within MALL tools/applications and evaluating these materials critically so that they could incorporate the most suitable ones for the teaching and learning environment.

Moreover, it is important for teachers to collaborate with other teachers in professional development communities or their work colleagues to share and learn from each other regarding the effective language teaching and assessment practices.

5.3.3. Implications for MALL Tools/Applications Developers

Based on the recommendations participants offered for the effective design of MALL tools/applications, several implications can be made for the developers of these tools/applications.

As mobile devices collect various types of valuable information on users, MALL tools/applications developers must give serious consideration to the security of their users. Given that these tools/applications are mostly used by underage students, developers should implement strategies against data breaches and hacks.

The findings of the study highlighted ease of use as a significant affordance of MALL tools/applications. Enhancing this ease of use is essential for improving the validity of language assessments as complications can hinder the assessment process and lead to misguiding outcomes. Additionally, developers ensure that students easily understand and use MALL tools/applications so that these tools/applications do not negatively impact their assessment practices.

The participants mostly highlighted the significance of providing constructive and immediate feedback through MALL tools/applications. Based on their insights, developers should ensure that these tools/applications have feedback mechanisms to enable students to track their own progress and identify their strengths and weaknesses. Likewise, these tools/applications should provide teachers with comprehensive data to better understand their students' performances and allow teachers to provide additional feedback to support their students.

Developers should ensure that MALL tools/applications offer self-paced and individualized learning opportunities for students with different language proficiency levels. These tools/applications should allow students to progress at different paces depending on their success rates and create harder or easier opportunities for them.

Learners with special needs should be given serious consideration so that they can get equal learning opportunities from MALL tools/applications no matter what their

conditions are. Therefore, developers of these tools/applications should consider individual needs of diverse students.

MALL tools/applications should be developed in collaboration with the teachers and testing and evaluation specialists to ensure they are built upon better pedagogical foundations. Developers should also consider teachers' needs and expectations to enhance practicality and effectiveness of MALL tools/applications in real life classroom environments. Collaboration with testing and evaluation specialists can further improve reliability, validity, practicality, authenticity and washback of MALL tools/applications, thereby increasing teachers' desire and motivation to utilize them.

5.3.4. Implications for Policy Makers and Administrators

Based on the findings, implications can be offered for policy makers and administrators as well.

The participants highlighted constraints with incorporating MALL tools/applications into classrooms due to learners' economic backgrounds. Therefore, policy makers and administrators should ensure students from all economic backgrounds to have equal access and learning opportunities when these tools/applications are integrated into teaching and assessment process. To ensure such equality, it is essential to either distribute mobile devices by the state or at least make easier for students to buy them with discounts. An unsuccessful implementation of MALL practices would risk further widening of the gap between the different economic groups.

Additionally, it is essential to establish the necessary infrastructure before considering widespread use of MALL and MALL assessments as MALL tools/applications require reliable Internet connection, electricity, smart board integration, and servers to function properly. These infrastructure projects need the active involvement of governments, municipalities and educational institutions to be successful.

Policy makers should consider the potential benefits of MALL tools/applications in classrooms and create rules and regulations that allow their use in the learning and

teaching process. Banning or limiting the use of mobile devices in educational settings can seriously hinder the implementation of MALL practices into classrooms and may render teachers helpless.

Administrators and policy makers should offer professional development opportunities for teachers to enhance their skills in incorporating and effectively using mobile devices and related strategies. As technology development is progressive and continuous, teachers should also be trained progressively and continuously to never get left behind. Additionally, students should be provided with similar trainings on how to utilize their mobile devices in language learning and assessment practices to improve their language development.

Aligned with the findings of the study and implications for practice, Figure 5.4 presents a guide for teachers who wants to implement MALL assessment into their language teaching practices. It offers six steps which are illustrated with double-headed arrows to show the iterative process and the relationships between each step.

In the first step, while selecting a MALL assessment tool that they are planning to incorporate into their classrooms, teachers are suggested to cooperate with their colleagues either at their current teaching contexts or professional development communities they attend. They also need to participate in various trainings like seminars, webinars and workshops to get informed.

In the second step, teachers need to take two aspects into consideration: MALL assessment tool itself and the classroom they will integrate this tool. They need to critically analyze the tool and consider whether the tool is affordable, practical, and easy to use. Furthermore, they need to examine its features and ensure that it provides reliable Internet connectivity. Additionally, they need to check whether this MALL assessment tool has been successfully implemented into classroom practices and assist teachers in providing constructive and instant feedback and scoring. Teachers also need to analyze whether this tool can address their students' individual needs in classroom and measure advantages and disadvantages of incorporating it.
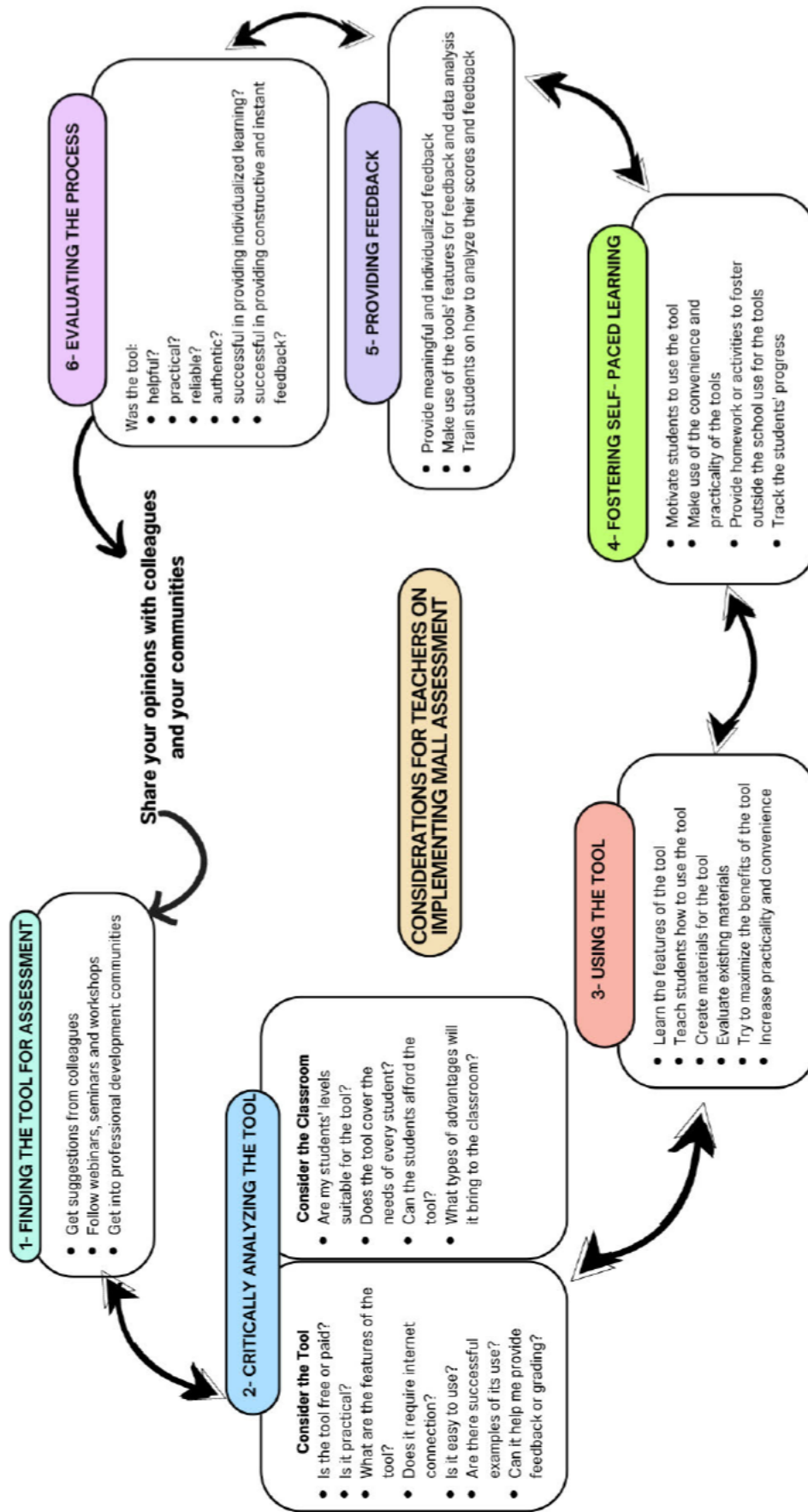
Figure 5.4 Considerations for Teachers on Implementing MALL Assessment

In the third step, after choosing the appropriate MALL assessment tool, teachers need to learn its features, train their students on how to utilize it in the classroom, generate new materials or evaluate existing materials while using the tool. In this process, teachers need to maximize its advantages and increase its practicality and convenience for students.

In the fourth step, teachers need to foster their students' self-paced learning through MALL assessment tool. They need to boost students' motivation to utilize the tool at their own pace by highlighting its convenience and practicality. Moreover, they need to offer additional homework or activities that students could practice language outside the class in informal settings. By this way, teachers could monitor their students' progress in both formal and informal educational contexts.

In the fifth step, by gathering a data on students' progress both within and outside the classroom, teachers can offer meaningful and individualized feedback. To achieve this aim, they can utilize feedback mechanism of MALL assessment tool. By this way, they can also see the statistical data of their students' success in language learning and assessment. They can also train their students on how to take advantage of feedback provided to them.

In the sixth step, teachers need to evaluate the process of incorporating MALL assessment tool into their teaching practices in terms of its usefulness, practicality, reliability, authenticity, and success in offering individualized learning and constructive and instant feedback.

After taking all aspects of effectively implementing MALL assessment into consideration, teachers need to share their opinions and experiences with their colleagues either at work or professional development communities so that they can benefit from the MALL assessment tool in their teaching as well.

CHAPTER 6

CONCLUSION

6.0. Presentation

In this chapter, a brief summary of the current study on perceptions of in-service EFL teachers and testing and evaluation specialists on MALL assessments is presented. Additionally, limitations of the study and suggestions for further research are given.

6.1. Summary of the Study

The current study aimed to explore perceptions of in-service EFL teachers working in diverse educational settings, encompassing state elementary, secondary, and high schools across various provinces of Türkiye, on MALL assessment. Additionally, it aimed to investigate perceptions of testing and evaluation specialists working at higher education levels in one of the biggest cities of Türkiye on MALL assessment.

This study addressed two main research questions. In the first research question, perceptions of in-service EFL teachers regarding their overall opinions on language assessment, MALL, and MALL assessments as well as their self-reported current practices with implementing them were scrutinized. Moreover, it investigated perceptions of teachers on the constraints and affordances of language assessment, MALL, and MALL assessments and on the needs, recommendations, and the future and potential of MALL assessments. The second research question delved into the perceptions of testing and evaluation specialists regarding their general expertise on technology and language assessment, affordances and constraints they identified on language assessment, MALL and MALL assessments as well as their perceptions on concerns, needs, recommendations, and future and potential of MALL assessment.

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Adopting a qualitative explanatory case study design aligned with Yin (2018), the participants of the study involved nine in-service EFL teachers working at elementary, secondary, and high school contexts and three testing and evaluation specialists working at higher education levels. The participants of the study were selected based on purposeful sampling method. In-service EFL teachers were categorized into three groups according to their educational contexts as elementary, secondary, and high school levels. Additionally, they were further classified within these three groups based on their teaching experience as novice, competent, and experienced. The data were gathered through semi-structured interviews with in-service EFL teachers and testing and evaluation specialists between the end of April and the beginning of June 2024 during 2023-2024 academic year. Following the similar steps of Creswell (2013)'s spiral model for data analysis, the current study employed Strauss and Corbin (1990)'s constant comparative method for coding procedures and the semi-structured interview data were analyzed using MAXQDA.

Regarding in-service EFL teachers' overall opinions on language assessment, MALL and MALL assessment, findings revealed that in accordance with teachers' definitions on the concepts of MALL and MALL assessment, they were mostly familiar with MALL while they were unfamiliar with MALL assessment. With regards to language assessment types, they mentioned that they were mostly familiar with formative assessments. Additionally, they mentioned various types of MALL tools/applications that could be used in language teaching and assessment practices and the most frequently mentioned one was Duolingo. Furthermore, teachers generally highlighted positive perceptions of students and themselves on MALL and MALL assessments. Nonetheless, the number of teachers who preferred traditional assessment methods in the classrooms was equal to those preferred using MALL assessments. When given a choice to prefer assessments and grading by MALL tools/applications, they mostly preferred assessments by these tools/applications thanks to their affordances, but they preferred grading their students themselves since they believed that they could give more meaningful feedback considering their students' needs and expectations.

In the current study, the majority of teachers highlighted their lack of training and support on MALL assessments, which contributed to their unfamiliarity with these

assessments. Similarly, testing and evaluation specialists reported that they had not received training on MALL assessment. Even though they could not take courses at university regarding integrating technology into EFL and its assessment during their education due to absence of such technology courses, they emphasized their participation in various projects, seminars, and conferences for their professional development. Conversely, most teachers mentioned that they had taken technology integration courses at university and noted that they primarily use their acquired knowledge from these courses to incorporate technology into their classrooms.

Additionally, even though all teachers reported that they use their mobile devices for educational purposes to enhance their students' language skills and areas, they stated that they heavily rely on traditional assessment methods and cannot incorporate MALL tools/applications into language assessment practices due to curricular limitations set by MoNE, prohibiting mobile devices in schools. Nonetheless, they offered potential ways MALL tools/applications could be utilized with formative or summative assessments and reported how these tools/applications could facilitate assessments of specific language skills and areas. For each language skill and area encompassing vocabulary, grammar, reading, writing, listening, and speaking, teachers predominantly reported the affordances of MALL tools/applications and had positive perceptions on MALL assessments in enhancing these skills and areas.

In the current study, the constraints and affordances identified by in-service EFL teachers and testing and evaluation specialists regarding language assessments, MALL and MALL assessments revealed similarities and differences. It was found out that affordances of MALL and MALL assessments outweighed constraints and teachers and specialists perceived their integration positive. Teachers mostly identified challenges with listening and speaking assessments, especially after the recent regulation of MoNE on assessment, and challenges posed by time limitations and crowded classrooms. Similarly, specialists highlighted the constraints with overcrowded classrooms, teacher workload due to simultaneous implementation and assessment of all four language skills and ensuring practicality. With regards to constraints with MALL and MALL assessments, teachers and specialists mostly pointed out Internet connectivity problems and curricular limitations set by MoNE.

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On the other hand, in administering language assessments, teachers and specialists predominantly reported affordances of providing constructive and individualized feedback in which learners could identify their strengths and weaknesses and adapt their learning. For the affordances of MALL, teachers noted convenience through ease of access through Internet connectivity, practicality, ubiquity, time efficiency, availability and ease of use, aligned with the affordances a specialist identified on its ubiquity, affordability, and usefulness for language learning. When it comes to affordances through MALL assessments and overcoming challenges in language assessments through MALL assessments, the majority of teachers and specialists expressed their positive views. Most teachers expressed that MALL assessments could offer individualized and self-paced learning, catering to learners' individual needs, provide constructive and immediate feedback, and ensure convenience, practicality and reliability. Similarly, specialists highlighted that MALL assessments could provide learners opportunities to identify their strengths and weaknesses through constructive feedback, enhance their motivation and engagement, reduce teacher workload, and ensure reliable, valid, ubiquitous, and flexible assessments.

Regarding students' needs in the context of MALL, teachers mostly identified issues in listening and speaking skills and noted learners' diverse needs, styles, and expectations across different educational settings and language proficiency levels. However, they mostly expressed their positive views on how MALL assessments could address these individual needs through individualized, self-paced learning in which learners could receive constructive and immediate feedback. Aligned with these explanations, teachers offered recommendations for effective design of MALL assessment tools/applications, and they suggested that these tools/applications should address individual learner needs across diverse educational settings and language proficiency levels, involve a feedback mechanism with constructive and immediate feedback, be practical, secure, interactive, accessible, affordable, motivating, and user-friendly, ensure reliability and validity, and foster collaboration between teachers and testing and evaluation specialists.

With regards to validity and reliability of MALL assessment tools/applications, specialists raised their concerns, and their insights differed from each other. Regarding

validity, one specialist highlighted the importance of matching these tools/applications with learners' abilities and expectations and the activities in them with the topics aimed to teach while for reliability, she pointed out effectively analyzing these tools/applications before integrating them into grading process. Even though another specialist perceived possibility of incorporating formative assessments into MALL tools/applications, she expressed her concern on summative assessments through these tools/applications. The other specialist highlighted the distinct roles of teachers and specialists in designing effective MALL assessment tools/applications; however, he noted that the collaboration between teachers and specialists could alleviate validity and reliability concerns.

In the current study, specialists highlighted lack of testing and evaluation courses at universities, leading teachers to be defined as "assessment illiterate." Therefore, they recommended educational institutions to invest in teachers' professional development and teachers to participate in various projects, seminars or conferences and self-develop themselves. Additionally, they recommended teachers to collaborate with their students and train them on how to effectively use their mobile devices in language learning and assessment practices.

Considering the affordances MALL tools/applications provide and highlighting rapid technological advancements, especially AI tools, all teachers and specialists foresaw the future and potential of MALL assessments promising. Aligned with specialists' insights, teachers highlighted the importance of receiving in-service trainings on MALL assessments in the future to address learners' needs and expectations more effectively. Nonetheless, despite their desire for diverting from traditional assessment methods, due to recent curricular limitations set by MoNE, teachers noted that they might still rely on traditional assessment methods for a foreseeable future.

6.2. Limitations of the Study and Suggestions for Further Research

The participants in the current study were selected using a purposeful sampling method. This approach facilitated the researcher to reach out to in-service EFL

teachers from elementary, secondary, and high school levels with different teaching experiences, as well as testing and evaluation specialists in higher education contexts. However, this study is limited as it involves a small number of participants. To address this limitation, further research can be conducted with a larger sample of teachers and testing and evaluation specialists. Additionally, while this study revealed the significance of MALL assessments for students, it did not explore students' perceptions of these assessments. Investigating students' perceptions and comparing and contrasting them with teachers' perceptions can provide a more comprehensive understanding of MALL assessments. Moreover, examining the similarities and differences between perceptions of pre-service and in-service teachers can offer further insights. Since the current study was conducted in state school contexts, future research can expand to private school settings. This would allow a comparative analysis of perceptions regarding MALL assessments between teachers as well as students in state and private schools.

The current study employed a qualitative explanatory case study design. For future research, incorporating quantitative methods can allow for reaching a larger number of participants. Participants for qualitative interviews can then be chosen based on their involvement in the quantitative phase of the study. Additionally, to understand perceptions on MALL assessments, experimental design can be adopted in which experimental group receives MALL assessments while the control group receives traditional paper-based language assessments, and the similarities and differences between their perceptions can be explored. As the current study utilized semi-structured interviews to collect data, other case study techniques such as observations, field study or focus group interviews can be integrated in further research. Furthermore, since the current qualitative study did not employ perception scales to support the findings of the research, future research can either develop new perception scales for qualitative studies or utilize the existing ones for quantitative ones by employing mixed methods design.

REFERENCES

Abdulrahman, T. R., Basalama, N., & Widodo, M. R. (2018). The impact of podcasts on EFL students' listening comprehension. *International Journal of English Linguistics, 8*(6), 122-130.

Afshar, H. S., & Zareian, N. (2022). A Mixed-methods study of the effects of MALL-mediated writing strategy awareness-raising on writing performance and anxiety of IELTS candidates. *Computer-Assisted Language Learning Electronic Journal (CALL-EJ), 23*(2), 152-177.

Agar, M. H. (1980). *The professional stranger: An informal introduction to ethnography*. Academic Press.

Ahmed, A.A.A., Hassan, I., Pallathadka, H., Keezhatta, M.S., Haryadi, R.N., Mashhadani, Z.I.A., Attwan, L.Y., & Rohi, A. (2022). MALL and EFL learners' speaking: Impacts of Duolingo and WhatsApp applications on speaking accuracy and fluency. *Education Research International*, 1–10. https://doi.org/10.1155/2022/6716474

Ahmed, S. K. (2024). The pillars of trustworthiness in qualitative research. *Journal of Medicine, Surgery, and Public Health*, 2. https://doi.org/10.1016/j.glmedi.2024.100051

Akkoyunlu, B., Demirel, M., & Dağhan, G. (2018). Yaşam boyu öğrenme bağlamında mobil iletişim teknolojileri. B. Akkoyunlu, A. İşman & H. F. Odabaşı (Eds.), *Eğitim teknolojileri okumaları* (pp. 614-632).

Akman, E., & Karahan, P. (2023). ELT students' perceptions toward mobile-assisted language learning (MALL): Exploring its effects on motivation and learner autonomy. *International Journal of Educational Researchers (IJERs)*, *14*(2), 1–20. https://doi.org/10.29329/ijer.2023.565.1

Al-Abri, A., Madiseh, F. R., & Moghaddam, M. M. (2024). Exploring learning-oriented assessment in enhancing students' lexical fluency through MALL. *The Asia-Pacific Education Researcher.* https://doi.org/10.1007/s40299-024-00832-7

Al-Shamsi, A., Al-Mekhlafi, A.M., Busaidi, S.A., & Hilal, M.M. (2020). The effects of mobile learning on listening comprehension skills and attitudes of Omani EFL adult learners. *International Journal of Learning, Teaching and Educational Research, 19*(8), 16–39. https://doi.org/10.26803/ijlter.19.8.2

Al-Shehab, M. A.-S. (2020). The role of mobile-assisted language learning (MALL) in enhancing the writing skills of intermediate IEP students: expectations vs reality. *Language Teaching Research Quarterly, 20,* 1–18. https://doi.org/10.32038/ltrq.2020.20.01

Alamri, H. R., & Hakami, H. M. (2022). Exploring perspectives of EFL students on using electronic dictionaries to improve vocabulary learning: a comparative study. *International Journal of Curriculum and Instruction, 14*(2), 1578-1599.

Alderson, J. C., & Wall, D. (1993). Does washback exist? *Applied Linguistics, 14*(2), 115-129.

Alharbi, A. S., & Meccawy, Z. (2020). Introducing Socrative as a tool for formative assessment in Saudi EFL classrooms. *Arab World English Journal, 11*(3), 372-384. https://dx.doi.org/10.24093/awej/vol11no3.23

Altaş, İ. (2023). *Effects of mobile-assisted language learning (MALL) on listening skills of learners* [Unpublished master's thesis]. Hakkari University.

Andujar, A. (2020). Mobile-mediated dynamic assessment: A new perspective for second language development. *ReCALL, 32*(2), 178-194. https://doi.org/10.1017/S0958344019000247

Andujar, A., & Hussein, S. A. (2019). Mobile-mediated communication and students' listening skills: a case study. *International Journal of Mobile Learning and Organisation, 13*(3), 309-332.

Annamalai, N., Uthayakumaran, A., & Zyoud, S. H. (2023). High school teachers' perception of AR and VR in English language teaching and learning activities: A developing country perspective. *Education and Information Technologies, 28*, 3117-3143. https://doi.org/10.1007/s10639-022-11275-2

Aratusa, Z. C., Suriaman, A., Darmawan, D., Marhum, M., Rofiqoh, R., & Nurdin, N. (2022). Students' perceptions on the use of mobile-assisted language learning (MALL) in learning pronunciation. *International Journal of Current Science Research and Review, 5*(7), 2652-2660. http://doi.org/10.47191/ijcsrr/V5-i7-50

Arthur, W., Doverspike, D., Muñoz, G. J., Taylor, J. E., & Carr, A. E. (2014). The use of mobile devices in high-stakes remotely delivered assessments and testing. *International Journal of Selection and Assessment, 22,* 113–123. http://dx.doi.org/10.1111/ijsa.12062.

Arvanitis, P., & Krystalli, P. (2021). Mobile assisted language learning (MALL): tTends from 2010 to 2020 using text analysis techniques. *European Journal of Education, 4*(1), 13-22. http://doi.org/10.26417/ejls-2019.v5i1-191

Aygül, S. Ö. (2019). *Pre-service EFL teachers' current practices and perceptions of mobile assisted language learning* [Unpublished master's thesis]. Middle East Technical University.

Azli, W. U. A. W., & Shah, P. M., & Mohamad, M. (2018). Perception on the usage of mobile assisted language learning (MALL) in English as a second language (ESL) learning among vocational college students. *Creative Education, 9*, 84-98. https://doi.org/10.4236/ce.2018.91008

Bacca-Acosta, J., & Avila-Garzon, C. (2020). Student engagement with mobile-based assessment systems: A survival analysis. *Journal of Computer Assisted Learning*, *37*, 158-171. http://doi.org/10.1111/jcal.12475

Bachman, L. F. (1990). *Fundamental considerations in language testing.* Oxford University Press.

Bachman, L. F. (2004). *Statistical analyses for language assessment*. Cambridge University Press.

Bachman, L. F. (2014). Ongoing challenges in language assessment. In A. J. Kunnan (Ed.), *The companion to language assessment* (1st ed., vol. 3), (pp. 1586-1603). John Wiley and Sons.

Bachman, L. F., & Palmer, A. S. (1996). *Language testing in practice: Designing and developing useful language tests.* Oxford University Press.

Bailey, K. M. (1996). Working for washback: A review of the washback concept in language testing. *Language Testing*, *13*(3), 257-279.

Bakay, Ş. (2017). *Investigating the effectiveness of a mobile device supported learning environment on English preparatory school students' vocabulary acquisition* [Unpublished Doctoral Dissertation]. Middle East Technical University.

Berliner, D. C. (1988). *The development of expertise in pedagogy.* American Association of Colleges for Teacher Education. https://eric.ed.gov/?id=ED298122

Berry, R. (2008). *Assessment for learning*. Hong Kong Teacher Education.

Black, P., & William, D. (1998). Assessment and classroom learning. *Assessment in Education, 5*, 7-74.

Blanche, P. (1988). Self-assessment of foreign language skills: Implications for teachers and researchers. *RELC Journal, 19*, 75–96.

Botero, G. G., Questier, F., & Zhu, C. (2019). Self-directed language learning in a mobile-assisted, out-of-class context: do students walk the talk? *Computer Assisted Language Learning, 32*(1-2), 71-97. https://doi.org/10.1080/09588221.2018.1485707

Bozorgian, H. (2018). Teachers' attitudes towards the use of MALL instruction in Iranian EFL context. *The International Journal of Humanities, 25*(3), 1-18.

Bromley, D. B. (1986). *The case-study method in psychology and related disciplines*. Wiley.

Brown, H. D. (2004). *Language assessment: Principles and classroom practices*. Pearson Education.

Brown, H. D., & Abeywickrama, P. (2019). *Language assessment: Principles and classroom practices* (3rd ed.). Pearson Education.

Brown, J. D., & Hudson, T. (1998). The alternatives in language assessment. *TESOL Quarterly, 32*(4), 653-675.

Bui, H. P., Bui, H. H. P., & Dinh, P. D. (2023). Vietnamese students' use of smartphone apps in English learning. *LEARN Journal, 16*(1), 28-46.

Burston, J. (2013) Mobile-assisted language learning: A selected annotated bibliography of implementation studies 1994–2012. *Language Learning & Technology, 17*(3), 157–225.

Caudill, J. G. (2007). The growth of m-learning and the growth of mobile computing: Parallel developments. *International Review of Research in Open and Distance*

Learning, 8(2). https://doi.org/10.19173/irrodl.v8i2.348

Charmaz, K. (2014). *Constructing grounded theory* (2ⁿᵈ ed.). Sage Publications.

Chang, C., & Lin, H. C. K. (2020). Effects of a mobile-based peer-assessment approach on enhancing language-learners' oral proficiency. *Innovations in Education and Teaching International, 57*(6), 668-679. https://doi.org/10.1080/14703297.2019.1612264

Chang, K. E., Lan, Y. J., Chang, C. M., & Sung, Y. T. (2010). Mobile-device-supported strategy for Chinese reading comprehension. *Innovations in Education and Teaching International, 47*(1), 69-84. https://doi.org/10.1080/14703290903525853

Chein, I. (1981). Appendix: An introduction to sampling. In L. H. Kidder (Ed.), *Selltiz, Wrightsman & Cook's research methods in social relations* (4ᵗʰ ed.), (pp. 418 – 441). Holt, Rinehart and Winston.

Chen, C. M., Chen, L. C., & Yang, S. M. (2019). An English vocabulary learning app with self-regulated learning mechanism to improve learning performance and motivation. *Computer Assisted Language Learning, 32*(3), 237-260. https://doi.org/10.1080/09588221.2018.1485708

Chen, C. M., & Li, Y. L. (2010). Personalised context-aware ubiquitous learning system for supporting effective English vocabulary learning. *Interactive Learning Environments, 18*(4), 341-364. https://doi.org/10.1080/10494820802602329

Chen, H. H. J., Yang, C. T. Y., & Lai, K. K. W. (2020). Investigating college EFL learners' perceptions toward the use of Google Assistant for foreign language learning. *Interactive Learning Environments, 31*(3), 1335-1350. https://doi.org/10.1080/10494820.2020.1833043

Chen, X. B. (2013). Tablets for informal language learning: Student usage and attitudes. *Language Learning & Technology, 17*(1), 20-36. http://dx.doi.org/10125/24503

Chen, Y., Carger, C. L., & Smith, T. J. (2017). Mobile-assisted narrative writing practice for young English language learners from a funds of knowledge approach. *Language Learning & Technology, 21*(1), 28-41. https://dx.doi.org/10125/44594

Cheng, C. H., & Chen, C. H. (2022). Investigating the impacts of using a mobile interactive English learning system on the learning achievements and learning perceptions of student with different backgrounds. *Computer Assisted Language*

Learning, 35(1-2), 88-113. https://doi.org/10.1080/09588221.2019.1671460

Cheng, L., & Fox, J. (2017). *Assessment in the language classroom*. Palgrave.

Cheng, L., Watanabe, Y., & Curtis, A. (Eds.). (2004). *Washback in language testing: Research contexts and methods.* Lawrence Erlbaum Associates.

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

Chou, P. N., Chang, C. C., & Lin, C. H. (2017). BYOD or not: A comparison of two assessment strategies for student learning. *Computers in Human Behavior*, *74*, 63-71. https://doi.org/10.1016/j.chb.2017.04.024

Chun, C. (2006). Commentary: An analysis of a language test for employment: The authenticity of the PhonePass Test. *Language Assessment Quarterly*, *3*, 295-306.

Cizek, G. J. (2010). An introduction to formative assessment: History, characteristics, and challenges. In H. Andrade & G. Cizek (Eds.), *Handbook of formative assessment* (pp. 3–17). Taylor and Francis.

Clapham, C. (2000). Assessment and testing. *Annual Review of Applied Linguistics, 20*, 147-161.

Coombe, C. (2018). *An A to Z of second language assessment: How language teachers understand assessment concepts*. British Council.

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

Council of Europe. (2001). *Common European framework of reference for languages: Learning, teaching, assessment.* Cambridge University Press.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage Publications.

Crocker, L., & Algina, J. (1986). *Introduction to classical and modern test theory*. Holt, Rinehart and Winston.

Crompton, H. (2013). A historical overview of mobile learning: Toward learner-centered

education. In Z. L. Berge, & L. Y. Muilenburg (Eds.), *Handbook of mobile learning* (pp. 3-14). Routledge.

Çakmak, F. (2019). Mobile learning and mobile assisted language learning in focus. *Language and Technology, 1*(1), 30-48.

Çalışır, E.Ç., Sabuncu, F. H., & Kışla, T. (2022). Mobile learning in grades k–12: A literature review. *Journal of Educational Technology & Online Learning, 5*(4), 1000-1029. http://doi.org/10.31681/jetol.1145967

Çetinkaya, L., & Sütçü, S.S. (2018). The effects of Facebook and WhatsApp on success in English vocabulary instruction. *Journal of Computer Assisted Learning, 34*(5), 504–514. https://doi.org/10.1111/jcal.12255

Çimen, Ş. S. (2022). Exploring EFL assessment in Türkiye: Curriculum and teacher practices. *International Online Journal of Education and Teaching (IOJET), 9*(1). 531-550.

Dağdeler, K. O., & Demiröz, H. (2022). EFL instructors' perceptions of utilizing mobile-assisted language learning in higher education. *Acta Educationis Generalis, 12*(2), 22-40. http://doi.org/10.2478/atd-2022-0012

Dağdeler, K. O., Konca, M. Y., & Demiröz, H. (2020). The effect of mobile-assisted language learning (MALL) on EFL learners' collocation learning. *Journal of Language and Linguistic Studies, 16*(1), 489-509.

Dai, Y., & Wu, Z. (2021). Mobile-assisted pronunciation learning with feedback from peers and/or automatic speech recognition: A mixed-methods study. *Computer Assisted Language Learning, 36*(5-6), 861-884. https://doi.org/10.1080/09588221.2021.1952272

Dann, R. (2014). Assessment as learning: Blurring the boundaries of assessment and learning for theory, policy and practice. Assessment in Education: *Principles, Policy and Practice, 21*(2), 149–166. https://doi.org/10.1080/0969594X.2014.898128

Darsih, E., & Asikin, N. A. (2020). Mobile assisted language learning: EFL learners' perceptions toward the use of mobile applications in learning English. *ENGLISH REVIEW: Journal of English Education, 8*(2), 183-194. http://doi.org/10.25134/erjee.v8i2.2999

Dashtestani, R. (2013). Implementing mobile-assisted language learning (MALL) in an

EFL context: Iranian EFL teachers' perspectives on challenges and affordances. *The JALT CALL Journal, 9*(2), 149-168.

Dashtestani, R. (2016). Moving bravely towards mobile learning: Iranian students' use of mobile devices for learning English as a foreign language. *Computer Assisted Language Learning, 29*(4), 815-832. https://doi.org/10.1080/09588221.2015.1069360

Davie, N., & Hilber, T. (2015). Mobile-assisted language learning: Student attitudes to using smartphones to learn English vocabulary. *Proceedings of 11th International Conference Mobile Learning.* https://www.researchgate.net/publication/270550041_Mobile-assisted_Language_Learning_Student_Attitudes_to_using_Smartphones_to_learn_English_Vocabulary

Demirer, F. (2017). *English instructors' attitudes toward mobile assisted language learning: A descriptive study* [Unpublished master's thesis]. Çağ University.

Denzin, N. K. (1978). *Sociological methods*. McGraw-Hill.

Denzin, N. K. (2009). *The research act: A theoretical introduction to sociological methods* (3rd ed.). Routledge.

Dizon, G. (2023). Affordances and constraints of intelligent personal assistants for second-language learning. *RELC Journal, 54*(3), 848-855. https://doi.org/10.1177/00336882211020548

Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative qualitative, and mixed methodologies.* Oxford University Press.

Duman, G., Orhon, G., & Gedik, N. (2014). Research trends in mobile assisted language learning from 2000 to 2012. *ReCALL, 27*(2), 197-216. https://doi.org/10.1017/S0958344014000287

Duraku, Z. H., & Hoxha, L. (2020). The impact of COVID–19 on education and on the well–being of teachers, parents, and students: Challenges related to remote (online) learning and opportunities for advancing the quality of education. In Z. H. Duraka (Ed.), *Impact of the COVID–19 Pandemic on Education and Wellbeing: Implications for Practice and Lessons for the Future* (pp. 17–45). University of Prishtina "Hasan Prishtina".

Early, L., & Katz, S. (2006). *Rethinking classroom assessment with purpose in mind:*

Assessment for learning, assessment as learning, assessment of learning. Manitoba Education, Citizenship and Youth. https://www.edu.gov.mb.ca/k12/assess/wncp/full_doc.pdf

Ebadi, S., & Bashir, S. (2021). An exploration into EFL learners' writing skills via mobile-based dynamic assessment. *Education and Information Technologies, 26*, 1995-2016. https://doi.org/10.1007/s10639-020-10348-4

Ebadi, S., & Raygan, A. (2023). Investigating the facilitating conditions, perceived ease of use and usefulness of mobile-assisted language learning. *Smart Learning Environments, 10*(30), 1-15. https://doi.org/10.1186/s40561-023-00250-0

Elverici, E. S. (2023). Mobile assisted language learning: investigating English speaking performance and satisfaction. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi, 13*, 1305-1317. http://doi.org/10.29000/rumelide.1379355

Eubanks, J. F., Yeh, H. T., & Tseng, H. (2018). Learning Chinese through a twenty-first century writing workshop with the integration of mobile technology in a language immersion elementary school. *Computer Assisted Language Learning, 31*(4), 346-366. https://doi.org/10.1080/09588221.2017.1399911

Farhady, H. (2012). Principles of language assessment. In C. Coombe, P. Davidson, B. O'Sullivan, & S. Stoynoff (Eds.), *The Cambridge guide to second language assessment* (pp. 37-46). Cambridge University Press.

Forero, R., Nahidi, S., De Costa, J., Mohsin, M., Fitzgerald, G., Gibson, N., McCarthy, S., & Aboagye-Sarfo, P. (2018). Application of four-dimension criteria to assess rigour of qualitative research in emergency medicine. *BMC Health Services Research, 18*(120), 1-11.

Forstyhe, E. M. (2017). *A qualitative case study of Japanese university students and personal smartphone use in English as a foreign language classes* (Publication No. 10680709) [Doctoral dissertation, Northcentral University]. ProQuest.

Fouz-Gonzalez, J. (2019). Podcast-based pronunciation training: Enhancing FL learners' perception and production of fossilized segmental features. *ReCALL, 31*(2), 150–169. https://doi.org/10.1017/S0958344018000174.

Fouz-González, J. (2020). Using apps for pronunciation training: An empirical evaluation of the English File Pronunciation app. *Language Learning & Technology, 24*(1), 62–85. https://doi.org/10125/44709

Fox, J. (2014). Portfolio based language assessment (PBLA) in Canadian immigrant language training: Have we got it wrong? *Contact, Special Research Symposium Issue, 40*(2), 68–83.

Freeman, D. (2001). Second language teacher education. In R. Carter & D. Nunan (Eds.), *The Cambridge guide to teaching English to speakers of other languages*. Cambridge University Press.

Fulcher, G., & Davidson, F. (2007). *Language testing and assessment*. Routledge.

Fusch, P., & Ness, L. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, *20*, 1408–1416.

Gatbonton, E. (1999). Investigating experienced ESL teachers' pedagogical knowledge. *The Modern Language Journal*, *83*(1), 35-50.

Gatbonton, E. (2008). Looking beyond teachers' class-room behaviour: Novice and experienced ESL teachers' pedagogical knowledge. *Language Teaching Research*, *12*(2), 161–182. https://doi.org/10.1177/1362168807086286

Ghorbani, N., & Ebadi, S. (2020). Exploring learners' grammatical development in mobile assisted language learning. *Cogent Education, 7*(1), 1-14. https://doi.org/10.1080/2331186X.2019.1704599

Goertz, J. P., & Lecompte, M. D. (1981). Ethnographic research and the problem of data reduction. *Anthropology and Education Quarterly*, *12*, 51–70.

Grimshaw, J., & Cardoso, W. (2018). Activate space rats! Fluency development in a mobile game-assisted environment. *Language Learning & Technology, 22*(3), 159–175. https://doi.org/10125/44662.

Guba, E., & Lincoln, Y. S. (1989). *Fourth generation evaluation.* Sage Publications.

Gürkan, S. (2018). The effects of a mobile assisted vocabulary learning application on vocabulary learning. *Turkish Online Journal of Qualitative Inquiry (TOJQI), 9*(3), 288-311. http://doi.org/10.17569/tojqi.407512

Güven, R. (2019). *Attitudes of ELT students and in-service teachers towards using mobile assisted language learning* [Unpublished master's thesis]. Kocaeli University.

Hafour, M. F. (2022). The effects of MALL training on preservice and in-service EFL teachers' perceptions and use of mobile technology. *ReCALL, 34*(3), 274-290. http://doi.org/10.1017/S0958344022000015

Harbelioğlu, U. (2020). *University students' perceptions of mobile assisted language learning* [Unpublished master's thesis]. Çağ University.

Harris, D. P. (1969). *Testing English as a second language*. McGraw-Hill.

Hazaea, A. N., & Alzubi, A. (2018). Impact of mobile assisted language learning on learner autonomy in EFL reading context. *Journal of Language and Education*, *4*(2), 48-58. https://doi.org/10.17323/2411-7390-2018-4-2-48-58

Henning, G. (1987). *A guide to language testing: Development, evaluation and research*. Heinle & Heinle Publishers.

Hidri, S. (2020). *Changing language assessment: New dimensions, new challenges*. Palgrave Macmillan. https://doi.org/10.1007/978-3-030-42269-1

Hişmanoğlu, M., Ersan, Y., & Çolak, R. (2017). Mobile assisted language teaching from preparatory program EFL teachers' perspectives. *Journal of Bitlis Eren University Institute of Social Sciences, 6*(2), 223-238.

Hoang, D. T. N., McAlinden, M., & Johnson, N. F. (2023). Extending a learning ecology with virtual reality mobile technology: Oral proficiency outcomes and students' perceptions. *Innovation in Language Learning and Teaching, 17*(3), 491-504. https://doi.org/10.1080/17501229.2022.2070626

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *The difference between emergency remote teaching and online learning*. EDUCAUSE Review. https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-andonline-learning

Huba, M. E., & Freed, J. E. (2000). *Learner-centered assessment on college campuses: Shifting the focus from teaching to learning*. Pearson.

Hughes, A. (2003). *Testing for language teachers* (2nd ed.). Cambridge University Press.

Jeanjaroonsri, R. (2023). Thai EFL learners' use and perceptions of mobile technologies for writing. *LEARN Journal: Language Education and Acquisition Research Network, 16*(1), 170-193.

Jia, C., & Hew, K. F. T. (2022). Supporting lower-level processes in EFL listening: the effect on learners' listening proficiency of a dictation program supported by a mobile instant messaging app. *Computer Assisted Language Learning, 35*(1-2), 141-168. https://doi.org/10.1080/09588221.2019.1671462

Jones, A., Issroff, K., Scanlon, E., Clough, G., & McAndrew, P. (2006). Using mobile devices for learning in informal settings: Is it motivating? *Proceedings of IADIS International Conference Mobile Learning,* 251-255. https://oro.open.ac.uk/38919/2/_Appleton_acj4_My%2520papers_IADIS%2520Conference%2520pape%2520final%5B1%5D.pdf

Kanat-Küçüktezcan, I. İ. (2020). *The effect of mobile assisted language learning (MALL) related to attitudes of Turkish EFL students* [Unpublished master's thesis]. Bahçeşehir University.

Katemba, C. V. (2021). Enhancing vocabulary performance through mobile assisted language learning at a rural school in Indonesia. *Acuity: English Language Pedagogy, Literature, and Culture*, *6*(1), 1-11. http://doi.org/10.35974/acuity.v6i1.2457

Kaveh, A., & Rassaei, E. (2022). Mobile-mediated versus face-to-face dynamic assessment, EFL learners' writing fluency, and strategy awareness: A sociocultural perspective. *Language and Sociocultural Theory*, *9*(1), 34-68. https://doi.org/10.1558/lst.20288

Keezhatta, M. S., & Omar, A. (2019). Enhancing reading skills for Saudi secondary school students through mobile assisted language learning (MALL): An experimental study. *International Journal of English Linguistics, 9*(1), 437-447. http://doi.org/10.5539/ijel.v9n1p437

Kessler, M. (2023) Supplementing mobile-assisted language learning with reflective journal writing: A case study of Duolingo users' metacognitive awareness. *Computer Assisted Language Learning, 36*(5-6), 1040-1063. https://doi.org/10.1080/09588221.2021.1968914

Khan, R. M. I., Radzuan, N. R. M., Shahbaz, M., & Ibrahim, A. H. (2018). EFL instructors' perceptions on the integration and implementation of MALL in EFL classes. *International Journal of Language Education and Applied Linguistics, 8*(2), 39-50.

Khodabandeh, F. (2017). The effect of MALL-based tasks on EFL learners' grammar learning. *Teaching English with Technology, 17*(2), 29-41.

Khubyari, L., & Narafshan, M. H. (2016). A study on the impact of MALL (Mobile assisted language learning) on EFL learners' reading comprehension. *International Journal of English Language Teaching, 4*(2), 58-69.

Kırkgöz, Y. (2007). English language teaching in Türkiye: Policy changes and their implementations. *RELC Journal*, *38*(2), 216-228. http://doi.org/10.1177/0033688207079696

Kırkgöz, Y. (2008). A case study of teachers' implementation of curriculum innovation in English language teaching in Turkish primary education. *Teaching and Teacher Education, 24*, 1859–1875. http://doi.org/doi:10.1016/j.tate.2008.02.007

Kitchen, H., Bethell, G., Fordham, E., Henderson, K., & Li, R. R. (2019). *OECD reviews of evaluation and assessment in education: Student assessment in Türkiye.* OECD Publishing. https://doi.org/10.1787/5edc0abe-en

Kloper, E., Squire, K., & Jenkins, H. (Eds.). (2002). Environmental detectives: PDAs as a window into a virtual simulated world. *Proceedings of the IEEE International Workshop on Wireless and Mobile Technologies in Education*, 95-98. Tokushima: IEEE. http://doi.org/10.1109/WMTE.2002.1039227

Knight, P., & Yorke, M. (2003). *Assessment, learning and employability.* Society for Research into Higher Education & Open University Press.

Kohnke, L. (2020). Exploring learner perception, experience and motivation of using a mobile app in L2 vocabulary acquisition. *International Journal of Computer-Assisted Language Learning and Teaching, 10*(1), 15-25. http://doi.org/10.4018/IJCALLT.2020010102

Kukulska-Hulme, A. (2005). Introduction. In Kukulska-Hulme, A., & Traxler, J. (Eds.), *Mobile Learning: A handbook for educators and trainers* (pp. 1-6). Routledge.

Kukulska-Hulme, A. (2007). Mobile usability in educational contexts: What have we learnt? *International Review of Research in Open and Distance Learning, 8*(2), 1-16.

Kukulska-Hulmes, A. (2009). Will mobile learning change language learning? *ReCALL*, *21*(2), 157-165. http://doi.org/10.1017/S0958344009000202

Kukulska-Hulme, A. (2018). Mobile-assisted language learning (revised and updated version). In A. C. Chapelle (Ed.), *The Concise Encyclopedia of Applied*

Linguistics. Wiley-Blackwell. http://doi.org/10.1002/9781405198431.wbeal0768.pub2

Kukulska-Hulme, A., Norris, L., & Donohue, J. (2015). *Mobile pedagogy for English language teaching: A guide for teachers.* British Council. http://oro.open.ac.uk/43605/

Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, *20*(3), 271-289. https://doi.org/10.1017/S0958344008000335

Kukulska-Hulme, A., & Traxler, J. (Eds.). (2005). *Mobile learning: A handbook for educators and trainers*. Routledge.

Kukulska-Hulme, A., & Traxler, J. (2007). Designing for mobile and wireless learning. In H. Beetham, & R. Sharpe (Eds.), *Rethinking pedagogy for a digital age: Designing and delivering e-learning* (pp. 180-192). Routledge.

Kuzel, Anton. (1992). Sampling in qualitative inquiry. In B. F. Crabtree & W. L. Miller (Eds.), *Doing qualitative research* (pp. 31–44). Sage Publications.

Lado, R. (1961). *Language testing: The construction and use of foreign language tests: A teacher's book.* Longman.

Lambert, D., & Lines, D. (2000). *Understanding assessment: Purposes, perceptions, practice*. Routledge Falmer.

Lan, Y. J., Sung, Y. T., & Chang, K. E. (2007). A mobile-device-supported peer-assisted learning system for collaborative early EFL reading. *Language Learning & Technology*, *11*(3), 130-151. http://dx.doi.org/10125/44121

Lantolf, J. P., & Poehner, M. E. (2004). Dynamic assessment: Bringing the past into the future. *Journal of Applied Linguistics, 1*, 49–74.

Levy, M. (1997). *CALL: Context and Conceptualisation*. Oxford University Press.

Lewkowicz, J. (2000). Authenticity in language testing: Some outstanding questions. *Language Testing, 17*, 43-64.

Li, Q., & Chan, K. K. (2024). Test takers' attitudes of using exam-oriented mobile

application as a tool to adapt in a high-stakes speaking test. *Education and Information Technologies, 29*, 219-237. https://doi.org/10.1007/s10639-023-12297-0

Li, Y., & Hafner, C. A. (2022). Mobile-assisted vocabulary learning: Investigating receptive and productive vocabulary knowledge of Chinese EFL learners. *ReCALL, 34*(1), 66–80. https://doi.org/10.1017/S0958344021000161

Li, Y., Xu, Z., Xiao, P., & Liu, J. (2022). Psychosocial impacts of mobile game on K12 students and trend exploration for future educational mobile games. *Frontiers in Education, 7*, 1-10. https://doi.org/10.3389/feduc.2022.843090

Liamputtong, P. (2019). Qualitative inquiry. In P. Liamputtong (Ed.), *Handbook of Research Methods in Health Social Sciences* (pp. 9-26). Springer.

Lin, E. Y. C., Hsu, H. T., & Chen, K. T. C. (2023). Factors that influence students' acceptance of mobile learning for EFL in higher education. *EURASIA Journal of Mathematics, Science and Technology Education*, *19*(6), 1-10. https://doi.org/10.29333/ejmste/13219

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.

Liu, M., Navarrete, C., Maradiegue, E., & Wivagg, J. (2014). Mobile learning and English language learners: A case study of using IPod touch as a teaching and learning tool. *Journal of Interactive Learning Research, 25*(3), 373-403.

Liu, M., Navarrete, C., & Wivagg, J. (2014). Potentials of mobile technology for K-12 education: An investigation of IPod touch use for English language learners in the United States. *Educational Technology & Society, 17*(2), 115–126.

Liu, T. Y. (2009). A context-aware ubiquitous learning environment for language listening and speaking. *Journal of Computer Assisted Learning*, *25*(6), 515-527. https://doi.org/10.1111/j.1365-2729.2009.00329.x

Low, L., & O'Connell, M. (2006). Learner-centric design of digital mobile learning. *Proceedings of the OLT Conference*, 71-82.

Lutfi, N. (2020). The integration of MALL to enhance students speaking skill: an autonomous learning model. *Journal of Foreign Language Teaching and Learning*, *5*(1). https://doi.org/10.18196/ftl.5144

Lynch, B. K. (2001). Rethinking assessment from a critical perspective. *Language Testing, 18*(4), 351-372.

Mackey, A. & Gass, S. (2005). *Second language research: Methodology and design*. Lawrence Erlbaum Associates.

Mayan, M. J. (2023). *Essentials of qualitative inquiry* (2nd ed.). Routledge.

McKay, P. (2006). *Assessing young language learners*. Cambridge University Press.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.

Messick, S. (1980). Test validity and the ethics of assessment. *American Psychologist, 35,* 1012-1027.

Messick, S. (1989). Validity. In R. Linn (Ed.), *Educational measurement* (pp. 13-103). Macmillan.

Messick, S. (1996). Validity and washback in language testing. *Language Testing*, *13*, 241-256.

Mierlus-Mazilu, I. (2010). M-learning Objects. *Proceedings of the 2010 International Conference on Electronics and Information Engineering.* IEEE. https://ieeexplore.ieee.org/document/5559908

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications.

Mohammadi, E., & Shirkamar, Z. S. (2018). Mobile-assisted language learning: Challenges and setbacks in developing countries. In D. Tafazoli, M. Gomez Parra, & C. Huertas-Abril (Eds.), *Cross-Cultural Perspectives on Technology-Enhanced Language Learning* (pp. 172-186). IGI Global. https://doi.org/10.4018/978-1-5225-5463-9.ch010

Mohan, R. (2023). *Measurement, evaluation and assessment in education* (2nd ed.). PHI Learning.

Moncada, C.C., Veliz-Campos, M., & Veliz, L. (2020). Game-based student response systems: The impact of Kahoot in a Chilean vocational higher education EFL

classroom. *CALL-EJ, 21*(1), 64-78.

MoNE (Ministry of National Education). (2018a). *İngilizce Dersi Öğretim Programı (İlkokul ve Ortaokul 2,3,4,5,6,7 ve 8. Sınıflar)*. https://mufredat.meb.gov.tr/ProgramDetay.aspx?PID=327

MoNE (Ministry of National Education). (2018b). *Ortaöğretim İngilizce Dersi Öğretim Programı (9,10,11 ve 12. Sınıflar)*. https://mufredat.meb.gov.tr/ProgramDetay.aspx?PID=342

MoNE (Ministry of National Education). (2018c). *Türkiye's Education Vision 2023*. https://planipolis.iiep.unesco.org/sites/default/files/ressources/Türkiye_education_vision_2023.pdf

MoNE (Ministry of National Education). (2023a). *Millî eğitim bakanlığı ölçme ve değerlendirme yönetmeliği.* https://www.resmigazete.gov.tr/eskiler/2023/09/20230909-2.htm

MoNE (Ministry of National Education). (2023b). *Milli eğitim bakanlığı özel kalem müdürlüğü 2023-2024 eğitim ve öğretim yılına ilişkin iş ve işlemler genelgesi.* https://mevzuat.meb.gov.tr/dosyalar/2180.pdf

Morse, J. M., & Field, P. A. (1995). *Qualitative research methods for health professionals* (2nd ed.). Sage Publications.

Mousavi, S. A. (2009). *An encyclopedic dictionary of language testing* (4th ed.). Rahnama Publications.

Naderi, S., & Akrami, A. (2018). EFL learners' reading comprehension development through MALL: Telegram groups in focus. *International Journal of Instruction, 11*(2), 339-350. https://doi.org/10.12973/iji.2018.11223a

Nan, C. (2018). Implications of interrelationship among four language skills for high school English teaching. *Journal of Language Teaching and Research, 9(*2), 418-423. http://dx.doi.org/10.17507/jltr.0902.26

Nariyati, N. P. L., Surdirman., & Pratiwi, N. P. A. (2020). EFL pre-service teachers' perception toward the use of mobile assisted language learning in teaching English. *International Journal of language Education, 4*(1), 38-47. http://doi.org/10.26858/ijole.v4i2.10052

Nguyen, T. T. T., & Yukawa, T. (2019). Kahoot with smartphones in testing and assessment of language teaching and learning, the need of training on mobile devices for Vietnamese teachers and students. *International Journal of Information and Education Technology, 9*(4), 286-296. http://doi.org/10.18178/ijiet.2019.9.4.1214

Nikou, S. A., & Economides, A. A. (2018). Mobile-based assessment: A literature review of publications in major referred journals from 2009 to 2018. *Computers & Education*, *125*, 101-119. https://doi.org/10.1016/j.compedu.2018.06.006

Nuraeni, C., Carolina, I., Supriyatna, A., Widiati, W., & Bahri, S. (2020). Mobile-assisted language learning (MALL): Students' perception and problems towards mobile learning in English language. *Journal of Physics: Conference Series, 1641*, 1-6. http://doi.org/10.1088/1742-6596/1641/1/012027

Nusche, D., Laveault, D., MacBeath, J., & Santiago, P. (2012). *OECD reviews of evaluation and assessment in education*. OECD Publishing. http://dx.doi.org/10.1787/9789264116917-en

O'Bannon, B. W., & Thomas, K. M. (2015). Mobile phones in the classroom: Preservice teachers answer the call. *Computers & Education, 85*, 110-122. http://doi.org/10.1016/j.compedu.2015.02.010

O'Malley, J. M., & Pierce, L. V. (1996). *Authentic assessment for English language learners: Practical approaches for teachers*. Addison-Wesley Publication.

O'Malley, C., Vavoula, G., Glew, J.P., Taylor, J., Sharples, M. and Lefrere, P. (2003). *MOBIlearn WP4 – Guidelines for learning/teaching/tutoring in a mobile environment*. https://www.researchgate.net/publication/246347988_MOBIlearn_D41_guidelines_for_learningteachingtutoring_in_a_mobile_environment

O'Neill, G., & Padden, L. (2022). Diversifying assessment methods: Barriers, benefits and enablers. *Innovations in Education and Teaching International*, *59*(4), 398-409. https://doi.org/10.1080/14703297.2021.1880462

Oto, S. E. K. (2017). From past to present: A hundred years of technology for L2 learning. In C. A. Chapelle & S. Sauro (Eds.), *The Handbook of Technology and Second Language Teaching and Learning* (pp. 10-25). John Wiley & Sons, Inc.

Önal, N., Çevik, K. K., & Şenol, V. (2022). The effect of SOS Table learning environment on mobile learning tools acceptance, motivation and mobile learning attitude in English language learning. *Interactive Learning*

Environments, *30*(5), 834-847. https://doi.org/10.1080/10494820.2019.1690529

Öz, H. (2015). An investigation of preservice English teachers' perceptions of mobile assisted language learning. *English Language Teaching, 8*(2), 22-34.

Özsarı, G., & Saykılı, A. (2020). Mobile learning in Türkiye: Trends, potentials and challenges. *Journal of Educational Technology & Online Learning, 3*(1), 108-132. http://doi.org/10.31681/jetol.670066

P21 Partnership for 21st Century Learning (2018). *Framework for 21st century learning*. Battelle For Kids. http://www.p21.org/our-work/p21-framework

Park, J., & Lee, J. (2021). Effects of e-books and printed books on EFL learners' reading comprehension and grammatical knowledge. *English Teaching, 76*(3), 35- 61. https://doi.org/10.15858/engtea.76.3.202109.35

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Sage Publications.

Paulson, F. L., Paulson, P. R., & Meyer, C. A. (1991). What makes a portfolio? *Educational Leadership, 48*(5), 60–3.

Phetsut, P., & Waemusa, Z. (2022). Effectiveness of mobile assisted language learning (MALL)-based intervention on developing Thai EFL learners' oral accuracy. *International Journal of Technology in Education (IJTE)*, *5*(4), 571-585. https://doi.org/10.46328/ijte.271

Phillips, B. (2017). Student-produced podcasts in language learning-exploring student perceptions of podcast activities. *IAFOR Journal of Education, 5*(3), 157-171.

Piccardo, E., Berchoud, M., Cignatta, T., Mentz, O., & Pamula, M. (2011). *Pathways through assessing, learning and teaching in the CEFR*. Council of Europe.

Pingmuang, P., & Koraneekij, P. (2022). Mobile-assisted language learning using task-based approach and gamification for enhancing writing skills in EFL students. *The Electronic Journal of e-Learning, 20*(5), 623-638. https://doi.org/10.34190/ejel.20.5.2339

Pingping, G., Qiuyao, W., & Linyan, B. (2021). Enhancing students' mobile-assisted language learning through self-assessment in a Chinese college EFL context. *Journal of Education and e-Learning Research*, *8*(2), 238-248.

http://doi.org/10.20448/journal.509.2021.82.238.248

Plantado, D. M. O., & Plantado, J. C. (2021). Students' perception on the use of mobile devices in language learning. *Asia Pacific Journal of Educational Perspectives, 8*(2), 33-39.

Poehner, M. E. (2018). Probing and provoking L2 development. In J. P. Lantolf, M. E. Poehner, & M. Swain (Eds.), *The Routledge handbook of sociocultural theory and second language development.* Taylor and Francis.

Poehner, M. E., & Lantolf, J. P. (2010). Vygotsky's teaching-assessment dialectic and L2 education: The case for dynamic assessment. *Mind, Culture, and Activity, 17*(4), 312–330.

Polkinghorne, D. E. (1989). Phenomenological research methods. In R. S. Valle & S. Halling (Eds.), *Existential-phenomenological perspectives in psychology* (pp. 41–60). Plenum.

Prensky, M. (2001). Digital natives, digital immigrants. *On the horizon, 9*(5), 1-6.

Priya, A. (2021). Case study methodology of qualitative research: Key attributes and navigating the conundrums in its application. *Sociological Bulletin*, *70*(1), 94-110. https://doi.org/10.1177/003802292097031

Purpura, J. E. (2016). Second and foreign language assessment. *Modern Language Journal, 100*, 290-208.

Rachels, J. R., & Rockinson-Szapkiw, A. J. (2018). The effects of a mobile gamification app on elementary students' Spanish achievement and self-efficacy. *Computer Assisted Language Learning, 31*(1–2), 72–89. https://doi.org/10.1080/09588221.2017.1382536

Rad, H. S. (2021). Exploring use of mobile-mediated hybrid dynamic assessment in improving EFL learners' descriptive writing skills. *Computer-Assisted Language Learning Electronic Journal (CALL-EJ), 22*(1), 111-127.

Rahmani, A., Asadi, V., & Xodabande, I. (2022). Using mobile devices for vocabulary learning outside the classroom: Improving the English as foreign language learners' knowledge of high-frequency words. *Frontiers in Psychology, 13*, https://doi.org/10.3389/fpsyg.2022.899885

Rassaei, E. (2023). Implementing mobile-mediated dynamic assessment for teaching request forms to EFL learners. *Computer Assisted Language Learning, 36*(3), 257-287. https://doi.org/10.1080/09588221.2021.1912105

Rezaee, A. A., Alavi, S. M., Razzaghifard, P. (2019). The impact of mobile-based dynamic assessment on improving EFL oral accuracy. *Education and Information Technologies, 24*(5), 3091-3105. https://doi.org/10.1007/s10639-019-09915-1

Ross, S. (2005). The impact of assessment method on foreign language proficiency growth. *Applied Linguistics, 26*, 317-342.

Rozina, A. G., Shima, T. G., Rahmah, M. I. A. S., & Hafiza, A. (2017). Mobile-assisted language learning (MALL) in developing second language learners' understanding of grammar. *Journal of Academia UiTM Negeri Sembilan, 5*, 187-208.

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing: The art of hearing data* (2nd ed.). Sage Publications.

Saldaña, J. (2011). *Fundamentals of qualitative research*. Oxford University Press.

Samaie, M., Nejad, A. M., & Qaracholloo, M. (2018). An inquiry into the efficiency of WhatsApp for self and peer-assessments of oral language proficiency. *British Journal of Educational Technology, 49*(1), 111-126. http://doi.org/10.1111/bjet.12519

Sánchez-Tello, M.C., & Argudo- Garzón, A.L. (2022). Students' reading comprehension using MALL strategy through Padlet in high school students. *IUSTITIA SOCIALIS, 7*(1), 4-24. https://doi.org/10.35381/racji.v7i1.1699

Sandberg, J., Maris, M., & De Geus, K. (2011). Mobile English learning: An evidence-based study with fifth graders. *Computers & Education*, *57*(1), 1334-1347. https://doi.org/10.1016/j.compedu.2011.01.015

Saran, M., Seferoglu, G., & Cagiltay, K. (2009). Mobile assisted language learning: English pronunciation at learners' fingertips. *Eurasian Journal of Educational Research*, *34*, 97–114.

Sarhandi, P. S. A., Teise, V. N., & Bugti, F. (2022). English language teachers' perceptions of the mobile assisted language learning at a Saudi Arabian university: Opportunities and challenges. *Pakistan Journal of Distance & Online*

Learning, 8(2), 1-22.

Savaş, P. (2014). Tablet PCs as instructional tools in English as a foreign language education. *The Turkish Online Journal of Educational Technology, 13*(1), 217-222.

Schenker, T., & Kraemer, A. (2017). Maximizing L2 speaking practice through IPads. *Languages, 2*(2). https://doi.org/10.3390/languages2020006

Schwandt, T. A. (2007). *The Sage dictionary of qualitative inquiry* (3rd ed.). Sage Publications.

Shadiev, R., Hwang, W. Y., & Liu, T. Y. (2018). A study of the use of wearable devices for healthy and enjoyable English as a foreign language learning in authentic contexts. *Educational Technology & Society, 21(*4), 217-231.

Shadiev, R., Liu, T., Shadiev, N., Fayziev, M., Gaevskaya, E., Zhussupova, R., & Otajonov, O. (2021). Exploring affordances and student perceptions of MALL in familiar environments. In Y. M. Huang, C. F. Lai & T. Rocha (Eds.), *Innovative Technologies and Learning 4th International Conference, ICITL 2021 Virtual Event, November 29 – December 1, 2021 Proceedings* (pp. 397–412). Springer Nature Switzerland. https://doi.org/10.1007/978-3-030-91540-7_41

Sharples, M. (2002). Disruptive devices: Mobile technology for conversational learning. *International Journal of Continuing Engineering Education and Lifelong Learning, 12*(5-6), 504-520.

Sharples, M. (2006). How can we address the conflicts between personal informal learning and traditional classroom education? In M. Sharples (ed.), *Big Issues in Mobile Learning: Report of a workshop by the Kaleidoscope Network of Excellence Mobile Learning Initiative* (pp. 21-24). University of Nottingham. https://telearn.hal.science/file/index/docid/190254/filename/Sharples_Big_Issues.pdf

Soparno, D. R., & Tarjana, S. S. (2021). Students' perceptions towards using mobile application in learning speaking. *International Online Journal of Education and Teaching (IOJET), 8*(3). 1385-1400.

Söğüt, Ş. (2021). *The effects of mobile-assisted language learning (MALL) on Turkish EFL students' vocabulary learning* [Unpublished master's thesis]. Istanbul Sabahattin Zaim University.

Stake, R. E. (1995). *The art of case study research*. Sage Publications.

Stake, R. E. (2006). *Multiple case study analysis*. Guilford Press.

Stockwell, G. (2008). Investigating learner preparedness for and usage patterns of mobile learning. *ReCALL, 20*(3), 253-270.

Stockwell, G. (2022). *Mobile assisted language learning: Concepts, contexts and challenges*. Cambridge University Press.

Stockwell, G., & Hubbard, P. (2013). *Some emerging principles for mobile-assisted language learning*. Monterey, CA: The International Research Foundation for English Language Education. https://www.tirfonline.org/wp-content/uploads/2013/11/TIRF_MALL_Papers_StockwellHubbard.pdf

Stockwell, G., & Hubbard, P. (2014). Learner training in mobile language learning. In J. Colpaert, A. Aerts & M. Oberhofer (Eds.), *Proceedings of the 2014 CALL Research Conference* (pp. 320–322). University of Antwerp.

Strauss, A. L., & Corbin, J. M. (1990). *Basics of qualitative research: Grounded theory procedure and techniques*. Sage Publications.

Strauss, A. L., & Corbin, J. M. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage Publications.

Sun, Z., Lin, C. H., You, J., Shen, H. J., Qi, S., & Luo, L. (2017). Improving the English-speaking skills of young learners through mobile social networking. *Computer Assisted Language Learning, 30*(3-4), 304-324. https://doi.org/10.1080/09588221.2017.1308384

Şad, S. N., Özer, N., Yakar, Ü., & Öztürk, F. (2022). Mobile or hostile? Using smartphones in learning English as a foreign language. *Computer Assisted Language Learning, 3*(5-6), 1031-1057. https://doi.org/10.1080/09588221.2020.1770292

Şendağ, S., Gedik, N., & Toker, S. (2018). Impact of repetitive listening, listening-aid and podcast length on EFL podcast listening. *Computers and Education, 125*, 273–283. https://doi.org/10.1016/j.compedu.2018.06.019

Şükür, M., Yılmaz-Yakışi, B., & Yangın-Ekşi, G. (2023). Mediational moves and reciprocity behaviors in face-to-face and mobile-assisted dynamic assessment.

Journal of Theoretical Educational Science, *16*(2), 423-453. http://doi.org/10.30831/akukeg.1172583

Tai, T.Y., & Chen, H.H.J. (2020). The impact of Google Assistant on adolescent EFL learners' willingness to communicate. *Interactive Learning Environments, 31*(3), 1485-1502. https://doi.org/10.1080/10494820.2020.1841801

Tarighat, S., & Khodabakhsh, S. (2016). Mobile-assisted language assessment: Assessing speaking. *Computers in Human Behavior, 64*, 409-413. http://dx.doi.org/10.1016/j.chb.2016.07.014

Thomas, G. (2021). *How to do your case study* (3rd ed.). Sage Publications.

Thornton, P. & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of Computer Assisted Learning*, *21*(3), 217-228. http://dx.doi.org/10.1111/j.1365-2729.2005.00129.x

Topping, K. J. (2009). Peer assessment. *Theory into Practice, 48*(1), 20-27. https://doi.org/10.1080/00405840802577569

Toran, P., & Weisi, H. (2023). Providing synchronous mobile-mediated dynamic glosses: Is it effective for novice EFL learners to understand the meanings of unfamiliar words? *Computer Assisted Language Learning*, 1-19. https://doi.org/10.1080/09588221.2022.2164776

Traxler, J. (2009). Learning in a mobile age. *International Journal of Mobile and Blended Learning, 1*(1), 1-12.

Triyoga, A., Rizaldy, A. C., & Wijayati, R. D. (2023). Students' perception of the use of mobile assisted language learning (MALL) to learn English. *Exposure: Jurnal Pendidikan Bahasa Inggris, 12*(1), 47-61.

UNESCO. (2013). *UNESCO policy guidelines for mobile learning.* https://unesdoc.unesco.org/ark:/48223/pf0000219641

Vajjala, S., & Löo, K. (2014). Automatic CEFR level prediction for Estonian learner text. *Proceedings of the third workshop on NLP for computer-assisted language learning*, *107*, 113-127. https://aclanthology.org/W14-3509

Valizadeh, M. (2022). Investigating the impacts of mobile assisted reading on EFL learners' vocabulary knowledge development. *Sakarya University Journal of*

Education, 12(3), 563–580. https://doi.org/10.19126/suje.1105559

Wall, D. (1997). Impact and washback in language testing. In C. Clapham & D. Corson (Eds.), *Language testing and assessment: Encyclopedia of language and education* (pp. 291-302). Kluwer Academic Publishers.

Wang, H. P., Kuo, B. C., Tsai, Y. H., & Liao, C. H. (2012). A CEFR based computerized adaptive testing system for Chinese proficiency. *The Turkish Online Journal of Educational Technology, 11*(4), 1-12.

Wang, Y. H. (2017). Integrating self-paced mobile learning into language instruction: Impact on reading comprehension and learner satisfaction. *Interactive Learning Environments, 25*(3), 397-411. https://doi.org/10.1080/10494820.2015.1131170

Watanabe, Y. (2004). Methodology in washback studies. In L. Cheng, Y. Watanabe & A. Curtis (Eds.), *Washback in language testing: Research contexts and methods* (pp. 19- 36). Lawrence Erlbaum Associates.

We Are Social & Meltwater (2023). *Digital 2023: Global Overview Report*. DataReportal. https://datareportal.com/reports/digital-2023-global-overview-report

We Are Social & Meltwater (2024). *Digital 2024: Türkiye.* DataReportal. https://datareportal.com/reports/digital-2024-Türkiye

Winters, N. (2006). What is mobile learning? In M. Sharples (Ed.), *Big issues in mobile learning: Report of a workshop by the kaleidoscope network of excellence mobile learning initiative* (pp.5-9). University of Nottingham. https://telearn.hal.science/file/index/docid/190254/filename/Sharples_Big_Issues.pdf

Wood, C., Jackson, E., Hart, L., Plester, B., & Wilde, L. (2011). The effect of text messaging on 9- and 10-year-old children's reading, spelling and phonological processing skills. *Journal of Computer Assisted Learning*, *27*(1), 28-36. https://doi.org/10.1111/j.1365-2729.2010.00398.x

Wu, J. G., & Miller, L. (2020). Improving English learners' speaking through mobile-assisted peer feedback. *RELC Journal*, *51*(1), 168-178. https://doi.org/10.1177/003368821989533

Xodabande, I., & Atai, M. R. (2022). Using mobile applications for self-directed learning of academic vocabulary among university students. *Open Learning:*

The Journal of Open, Distance and e-Learning, 37(4), 330-347. https://doi.org/10.1080/02680513.2020.1847061

Xu, Q., & Peng, H. (2017). Investigating mobile-assisted oral feedback in teaching Chinese as a second language. *Computer Assisted Language Learning, 30*(3-4), 173-182. https://doi.org/10.1080/09588221.2017.1297836

Xue, S., & Churchill, D. (2022). Educational affordances of mobile social media for language teaching and learning: A Chinese teacher's perspective. *Computer Assisted Language Learning, 35*(4), 918-947. https://doi.org/10.1080/09588221.2020.1765811

Yarahmadzehi, N., & Goodarzi, M. (2020). Investigating the role of formative mobile based assessment in vocabulary learning of pre-intermediate EFL learners in comparison with paper-based assessment. *Online Journal of Distance Education, 21*(1), 181-196. https://doi.org/10.17718/tojde.690390

Yassin, B., & Abugohar, M. A. (2022). Gamified mobile-assisted formative assessment for reviving undergraduate learners' overall language proficiency: A quasi-experimental study. *Teaching English with Technology, 22*(2), 68-89.

Yeh, H. C., Chang, W. Y., Chen, H. Y., & Heng, L. (2021). Effects of podcast-making on college students' English-speaking skills in higher education. *Educational Technology Research and Development, 69*, 2845- 2867. https://doi.org/10.1007/s11423-021-10026-3

Yin, R. K. (2003). *Case study research design and methods* (3rd ed.). Sage Publications.

Yin, R. (2009). *Case study research: Design and methods* (4th ed.). SAGE Publications.

Yin, R. K. (2016). *Qualitative research from start to finish* (2nd ed.). The Guilford Press.

Yin, R. K. (2018). *Case study research and applications: Design and methods*. Sage Publications.

Yu, J., Zhou, X., Yang, X., & Hu, J. (2022). Mobile-assisted or paper-based? The influence of the reading medium on the reading comprehension of English as a foreign language. *Computer Assisted Language Learning, 35*(1-2), 217-245. https://doi.org/10.1080/09588221.2021.2012200

Yudhiantara, R. A., & Nasir, I. A. (2017). Toward mobile-assisted language learning

(MALL): Reaping mobile phone benefits in classroom activities. *Register Journal, 10*(1), 12-28.

Zahrani, A.S.A. (2015). *Smartphones wandering at the MALL: A case study investigating the use of smartphones on English oral learning skills in a collaborative mobile-assisted language learning environment* (Publication No: 3723832) [Doctoral Dissertation, Northern Illinois University]. ProQuest.

Zakian, M., Xodabande, I., Valizadeh, M., & Yousefvand, M. (2022). Out-of-the-classroom learning of English vocabulary by EFL learners: investigating the effectiveness of mobile assisted learning with digital flashcards. *Asian-Pacific Journal of Second and Foreign Language Education, 7*(16), 1-16. https://doi.org/10.1186/s40862-022-00143-8

Zhang, D., Hennessy, S., & Pérez-Paredes, P. (2023). An investigation of Chinese EFL learners' acceptance of mobile dictionaries in English language learning. *Computer Assisted Language Learning,* 1-25. https://doi.org/10.1080/09588221.2023.2189915

Zurita, G., & Nussbaum, M. (2004). Computer supported collaborative learning using wirelessly interconnected handheld computers. *Computers & Education*, *42*(3), 289-314. https://doi.org/10.1016/j.compedu.2003.08.005

APPENDICES

A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

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18 Mart 2024

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Prof. Dr. Perihan SAVAŞ

Danışmanlığını yürüttüğünüz Gonca OKTAY'ın *"Hizmet İçi Yabancı Dil Öğretmenleri ve Ölçme ve Değerlendirme Uzmanlarının Mobil Destekli Dil Öğrenimi (MALL) Değerlendirmesine İlişkin Algıları: Nitel Çoklu Durum Çalışması"* başlıklı araştırmanız İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek **0159-ODTUİAEK-2024** protokol numarası ile onaylanmıştır

Bilgilerinize saygılarımla sunarım.

Prof. Dr. Ş. Halil TURAN
Başkan

Prof.Dr. I. Semih AKÇOMAK
Üye

Doç. Dr. Ali Emre Turgut
Üye

Doç. Dr. Şerife SEVİNÇ
Üye

Doç.Dr. Murat Perit ÇAKIR
Üye

Dr. Öğretim Üyesi Süreyya ÖZCAN KABASAKAL
Üye

Dr. Öğretim Üyesi Müge GÜNDÜZ
Üye

B. INFORMED CONSENT FORM FOR THE INTERVIEWS

This master's thesis is conducted under the supervision of Prof. Dr. Perihan Savaş by Gonca Oktay, who is a graduate student in English Language Teaching (ELT) program at Middle East Technical University and an in-service EFL teacher at a state secondary school in Türkiye. The purpose of this consent form is to inform you about the study and to obtain your voluntary participation.

What is the purpose of the study?

The purpose of the study is to investigate the perceptions and needs of in-service EFL teachers working in diverse school environments encompassing elementary, secondary, and high school levels across various provinces of Türkiye along with Testing and Evaluation specialists on Mobile Assisted Language Learning Assessment.

What are the aims of the study?

This study aims to reveal the overall understanding of in-service teachers on Mobile Assisted Language Learning Assessment and whether it can become a part of English language classrooms to improve language skills and areas. It also aims to gather knowledge about the current assessment practices of teachers related to English language teaching, and the opportunities and the challenges they encounter with their current assessment practices. It aims to understand whether the opportunities and challenges experienced with traditional forms of assessment will persist in a classroom environment where Mobile Assisted Language Learning assessments are applied or if new challenges will arise. In the current study, the perceptions of in-service EFL teachers and Testing and Evaluation specialists regarding the future of assessments and the considerations like reliability and validity will be uncovered as well. The current study will shed light on the Mobile Assisted Language Learning Assessment since there are limited number of studies in the area.

How do we ask you to help us?

To achieve the aforementioned purposes and aims, you will be interviewed either face-to-face in a mutually agreed environment devoid of any possibility of disturbance or

online via Zoom for approximately 45 minutes. During the interviews, you will be asked questions related to Mobile Assisted Language Learning and its integration into assessment. The interviews will be audio-recorded for later analysis of the data and the recordings will be kept safe in a password-protected computer.

What you need to know about your participation:

Participation in the study is completely voluntary. The information you provide in the study will be kept strictly confidential and your identity will not be shared with others. The data obtained from the study will only be accessible to the researcher and only be used for scientific purposes. While sharing the data, the pseudonyms will be used instead of real names to keep your identity safe.

During the interviews, if you feel uncomfortable for any reason, you can skip the questions or completely withdraw from the study at any time. In such a case, it will be sufficient to tell the researcher that you no longer want to continue taking part in the study.

For further information about the study:

If you have any questions related to the study, you can always contact the researcher. I would like to thank you in advance for participating in this study. For further information, you can contact Gonca Oktay (   ) or Prof. Dr. Perihan Savaş (   ).

Agreement:

I have read the procedure described above and I voluntarily participate in the study. I am aware that I can withdraw any time I want / I give my consent for the use of the information I provide for scientific purposes. (Please return this form to the researcher after you filled it in and signed it.)

Name-Surname:

Date: ___/___/_____   **Signature:**

C. INTERVIEW QUESTIONS WITH IN-SERVICE EFL TEACHERS IN ENGLISH

1. Could you tell me your age?
2. Could you provide information about the educational context you have currently been working? Are you working at elementary, secondary or high school context and in which province in Türkiye are you currently teaching?
3. How many years of experience do you have as a teacher of English?
4. What field/department did you graduate from at the university?
5. While you were a pre-service teacher at university, did you take any courses related to the integration of technology in EFL/ELT field?
   - If yes, how do these instructional technology courses benefit your English language teaching?
   - If no, how do you think not taking such courses affects your current use of technology in teaching?
6. How would you consider your proficiency in the integration of technology into your classes? (novice, experienced, proficient, etc.)
7. Which mobile devices do you have?
8. Do you use your mobile devices for educational purposes?
   - If yes, what type of educational activities do you do?
   - If no, for what purposes do you use your mobile devices?
9. For the improvement of which language skills do you use your mobile devices for yourself?
10. How often do you use your mobile devices for the improvement of language skills?
11. Are you familiar with the concept of Mobile Assisted Language Learning? What is your definition of it?
12. As an in-service EFL teacher, do you integrate mobile devices into the classroom environment?
    - If yes, which Mobile Assisted Language Learning tools or applications do you use?
    - If no, what are your reasons behind not integrating mobile devices into the classroom environment?
13. In what ways do you integrate mobile devices into the classroom environment and which skills do you aim to improve? Can you share specific examples of

your integration practices?

14. How much value do you attribute to the integration of Mobile Assisted Language Learning tools or applications into the classroom environment?

15. In your teaching experience, what language learning needs do you identify among students across different educational levels in relation to Mobile Assisted Language Learning?

16. Are you familiar with the concept of Mobile Assisted Language Learning Assessment? What is your definition of it?

17. What types of assessment do you have the knowledge of?

18. What assessment types do you believe could be used in the context of Mobile Assisted Language Learning?

19. Do you generally assess your students by the means of traditional assessment methods, or do you benefit from mobile devices while assessing students' language skills?

20. In terms of the improvement of language skills, do you favor the use of traditional assessment methods or Mobile Assisted Language Learning Assessment the most? Why?

21. While assessing your students' language skills, what specific opportunities do you encounter? Can you provide specific examples?

22. Can the integration of Mobile Assisted Language Learning Assessment into the classroom environment continue to offer these specific opportunities within the classroom setting?

- If yes, in what ways can the integration of Mobile Assisted Language Learning Assessment into the classroom environment continue to offer these specific opportunities within the classroom setting?
- If no, what reasons can you provide and what are your suggestions?

23. While assessing your students' language skills, what specific challenges do you encounter? Can you provide specific examples?

24. Can the integration of Mobile Assisted Language Learning Assessment into the classroom environment address these specific challenges within the classroom setting?

- If yes, in what ways can the integration of Mobile Assisted Language Learning Assessment into the classroom environment address these specific challenges within the classroom setting?
- If no, what reasons can you provide and what are your suggestions?

25. In your opinion, how can Mobile Assisted Language Learning Assessment facilitate to meet the individual needs of students across different educational levels?

26. How can Mobile Assisted Language Learning facilitate the assessment of English vocabulary? Please provide specific examples and mobile tools/applications you are familiar with.

27. How can Mobile Assisted Language Learning facilitate the assessment of English grammar? Please provide specific examples and mobile tools/applications you are familiar with.

28. How can Mobile Assisted Language Learning facilitate the assessment of English reading skills? Please provide specific examples and mobile tools/applications you are familiar with.

29. How can Mobile Assisted Language Learning facilitate the assessment of English listening skills? Please provide specific examples and mobile tools/applications you are familiar with.

30. How can Mobile Assisted Language Learning facilitate the assessment of English writing skills? Please provide specific examples and mobile tools/applications you are familiar with.

31. How can Mobile Assisted Language Learning facilitate the assessment of English speaking skills? Please provide specific examples and mobile tools/applications you are familiar with.

32. Have you received any training or support for your professional development in integrating Mobile Assisted Language Learning tools/applications to assess English language skills?

   - If yes, what kind of training or support did you receive?
   - If no, would you be interested in receiving any training or support to effectively incorporate Mobile Assisted Language Learning tools/ applications for assessing English language skills?

33. Based on your insights, what recommendations do you have for designing effective Mobile Assisted Language Learning Assessments that meet the needs of learners and that can be appropriately applied to classroom environments?

34. As an in-service EFL teacher, while assessing English language skills, would you prefer Mobile Assisted Language Learning tools/applications to both assess and grade students or would you prefer these tools/ applications to conduct the assessment but to leave the grading and analysis to you?

35. How do you anticipate the future of English language assessment in the classroom settings in the light of the changes associated with Mobile Assisted Language Learning?

D. INTERVIEW QUESTIONS WITH IN-SERVICE EFL TEACHERS IN TURKISH

1. Yaşınızı söyler misiniz?
2. Şu anda çalışmakta olduğunuz eğitim ortamı hakkında bilgi verebilir misiniz? İlkokul, ortaokul veya lise bağlamında mı çalışıyorsunuz ve şu anda Türkiye'nin hangi ilinde öğretmenlik yapıyorsunuz?
3. İngilizce öğretmeni olarak kaç yıllık deneyiminiz var?
4. Üniversitede hangi alandan/ bölümden mezun oldunuz?
5. Üniversitede öğretmen adayıyken, teknolojinin EFL/ELT alanına entegrasyonu ile ilgili herhangi bir ders aldınız mı?
   - Cevabınız evet ise, bu öğretim teknolojisi dersleri İngilizce öğretiminize nasıl fayda sağlar?
   - Cevabınız hayır ise bu tür dersleri almamanın öğretimde mevcut teknoloji kullanımınızı nasıl etkileceğini düşünüyorsunuz?
6. Teknolojinin derslerinize entegrasyonu konusundaki yeterliliğinizi nasıl değerlendirirsiniz? (acemi, deneyimli, uzman vb.)
7. Hangi mobil cihazlara sahipsiniz?
8. Mobil cihazlarınızı eğitim amaçlı kullanıyor musunuz?
   - Cevabınız evet ise, ne tür eğitim faaliyetleri gerçekleştiriyorsunuz?
   - Cevabınız hayır ise, mobil cihazlarınızı hangi amaçlarla kullanıyorsunuz?
9. Mobil cihazları kendiniz için hangi dil becerilerini geliştirmek için kullanıyorsunuz?
10. Dil becerilerini geliştirmek için mobil cihazlarını ne sıklıkla kullanıyorsunuz?
11. Mobil Destekli Dil Öğrenimi (MALL) kavramına aşina mısınız? Sizin tanımınız nedir?
12. Hizmet içi bir İngilizce öğretmeni olarak, mobil cihazları sınıf ortamına entegre ediyor musunuz?
    - Cevabınız evet ise, hangi Mobil Destekli Dil Öğrenme araçlarını veya uygulamalarını kullanıyorsunuz?
    - Cevabınız hayır ise, mobil cihazları sınıf ortamına entegre etmemenizin nedenleri nelerdir?
13. Mobil cihazları sınıf ortamına hangi yollarla entegre ediyorsunuz ve hangi becerileri geliştirmeyi hedefliyorsunuz? Entegrasyon uygulamalarınıza ilişkin

belirli örnekleri paylaşabilir misiniz?

14. Mobil Destekli Dil Öğrenme araçlarının veya uygulamalarının sınıf ortamına entegrasyonuna ne kadar değer veriyorsunuz?

15. Öğretmenlik deneyiminizde, Mobil Destekli Dil Öğrenimi ile ilgili olarak farklı eğitim seviyelerindeki öğrenciler arasında hangi dil öğrenme ihtiyaçlarını belirliyorsunuz?

16. Mobil Destekli Dil Öğrenimi Değerlendirmesi (MALL Assessment) kavramına aşina mısınız? Sizin tanımınız nedir?

17. Hangi değerlendirme türleri hakkında bilginiz var?

18. Mobil Destekli Dil Öğrenimi bağlamında hangi değerlendirme türlerinin kullanılabileceğini düşünüyorsunuz?

19. Öğrencilerinizi genel olarak geleneksel değerlendirme yöntemleriyle mi değerlendiriyorsunuz yoksa öğrencilerin dil becerilerini değerlendirirken mobil cihazlardan mı yararlanıyorsunuz?

20. Dil becerilerinin geliştirilmesi açısından en çok geleneksel değerlendirme yöntemlerinin mi yoksa Mobil Destekli Dil Öğrenimi Değerlendirmesinin mi kullanılmasını tercih edersiniz? Neden?

21. Öğrencilerinizin dil becerilerini değerlendirirken ne tür fırsatlarla karşılaşıyorsunuz? Belirli örnekler verebilir misiniz?

22. Mobil Destekli Dil Öğrenimi Değerlendirmesinin sınıf ortamına entegrasyonu, sınıf ortamında bu belirli fırsatları sunmaya devam edebilir mi?

   - Cevabınız evet ise, Mobil Destekli Dil Öğrenimi Değerlendirmesinin sınıf ortamına entegrasyonu hangi yollarla sınıf ortamında bu belirli fırsatları sunmaya devam edebilir?
   - Cevabınız hayır ise, nedenleri neler olabilir ve önerileriniz nelerdir?

23. Öğrencilerinizin dil becerilerini değerlendirirken ne tür zorluklarla karşılaşıyorsunuz? Belirli örnekler verebilir misiniz?

24. Mobil Destekli Dil Öğrenimi Değerlendirmesinin sınıf ortamına entegrasyonu, sınıf ortamındaki bu belirli zorlukların üstesinden gelebilir mi?

   - Cevabınız evet ise, Mobil Destekli Dil Öğrenimi Değerlendirmesinin sınıf ortamına entegrasyonu, sınıf ortamındaki bu belirli zorlukların üstesinden nasıl gelebilir?
   - Cevabınız hayır ise, nedenleri neler olabilir ve önerileriniz nelerdir?

25. Sizce Mobil Destekli Dil Öğrenimi Değerlendirmesi farklı eğitim seviyelerindeki öğrencilerin bireysel ihtiyaçlarını karşılamayı nasıl kolaylaştırabilir?

26. Mobil Destekli Dil Öğrenimi İngilizce kelime dağarcığının değerlendirilmesini nasıl kolaylaştırabilir? Lütfen spesifik örnekler verin ve aşina olduğunuz mobil

araçları/uygulamaları söyleyin.

27. Mobil Destekli Dil Öğrenimi İngilizce dilbilgisinin değerlendirilmesini nasıl kolaylaştırabilir? Lütfen spesifik örnekler verin ve aşina olduğunuz mobil araçları/uygulamaları söyleyin.

28. Mobil Destekli Dil Öğrenimi İngilizce okuma becerilerinin değerlendirilmesini nasıl kolaylaştırabilir? Lütfen spesifik örnekler verin ve aşina olduğunuz mobil araçları/uygulamaları söyleyin.

29. Mobil Destekli Dil Öğrenimi İngilizce dinleme becerilerinin değerlendirilmesini nasıl kolaylaştırabilir? Lütfen spesifik örnekler verin ve aşina olduğunuz mobil araçları/uygulamaları söyleyin.

30. Mobil Destekli Dil Öğrenimi İngilizce yazma becerilerinin değerlendirilmesini nasıl kolaylaştırabilir? Lütfen spesifik örnekler verin ve aşina olduğunuz mobil araçları/uygulamaları söyleyin.

31. Mobil Destekli Dil Öğrenimi İngilizce konuşma becerilerinin değerlendirilmesini nasıl kolaylaştırabilir? Lütfen spesifik örnekler verin ve aşina olduğunuz mobil araçları/uygulamaları söyleyin.

32. İngilizce dil becerilerini değerlendirmek amacıyla Mobil Destekli Dil Öğrenme araçlarını/uygulamalarını entegre etme konusunda mesleki gelişiminize yönelik herhangi bir eğitim veya destek aldınız mı?

   • Cevabınız evet ise, ne tür bir eğitim veya destek aldınız?
   • Cevabınız hayır ise, İngilizce dil becerilerini değerlendirmek amacıyla Mobil Destekli Dil Öğrenme araçlarını/uygulamalarını etkili bir şekilde dahil etmek için herhangi bir eğitim veya destek almak ister misiniz?

33. Görüşlerinize dayanarak, öğrencilerin ihtiyaçlarını karşılayan ve sınıf ortamlarına uygun şekilde uygulanabilecek etkili Mobil Destekli Dil Öğrenimi Değerlendirmeleri tasarlamak için ne gibi öneriler sunabilirsiniz?

34. Hizmet içi bir İngilizce öğretmeni olarak, İngilizce dil becerilerini değerlendirirken, Mobil Destekli Dil Öğrenme araçlarının/uygulamalarının öğrencileri hem değerlendirmesini hem de not vermesini mi tercih edersiniz yoksa bu araçların/uygulamaların değerlendirmeyi yürütmesini ancak notlandırmayı size bırakmasını mı tercih edersiniz?

35. Mobil Destekli Dil Öğrenimi ile ilgili değişiklikleri göz önünde bulundurarak sınıf ortamlarında İngilizce dil değerlendirmesinin geleceğini nasıl öngörüyorsunuz?

E. INTERVIEW QUESTIONS WITH TESTING AND EVALUATION SPECIALISTS IN ENGLISH

1. Could you tell me your age?
2. What field/department did you graduate from at the university?
3. While you were a pre-service teacher at university, did you take any courses related to the integration of technology in EFL/ELT field?
   - If yes, how do these instructional technology courses benefit you as a Testing and Evaluation specialist?
   - If no, how do you think not taking such courses affects your current use of technology in teaching?
4. While you were a pre-service teacher at university, did you take any courses related to technology use in the assessment/ testing of EFL?
   - If yes, what courses did you take and how do you think these courses benefit you as a Testing and Evaluation specialist?
   - If no, how do you think not taking such courses affects you as a Testing and Evaluation specialist?
5. How would you consider your proficiency in the integration of technology into your classes? (novice, experienced, proficient, etc.)
6. Could you provide information about your professional background, including the years of experience you have as a Testing and Evaluation specialist in language education?
7. In which educational settings or institutions did you work before becoming a Testing and Evaluation specialist?
8. Could you provide information about the educational levels you worked with?
9. While assessing the English language skills in classroom settings, what specific opportunities do you identify as a Testing and Evaluation specialist? Could you provide specific examples?
10. Can the integration of Mobile Assisted Language Learning Assessment into the classroom environment continue to offer these specific opportunities within the classroom setting?
    - If yes, in what ways can the integration of Mobile Assisted Language Learning Assessment into the classroom environment continue to offer these specific opportunities within the classroom setting?
    - If no, what reasons could you provide and what are your recommendations?
11. While assessing the English language skills in classroom settings, what specific needs or challenges do you identify as a Testing and Evaluation specialist?

Could you provide specific examples?

12. Can the integration of Mobile Assisted Language Learning Assessment into the classroom environment address these specific challenges within the classroom setting?
    - If yes, in what ways can the integration of Mobile Assisted Language Learning Assessment into the classroom environment address these specific challenges within the classroom setting?
    - If no, what reasons could you provide and what are your recommendations?

13. As a Testing and Evaluation specialist, have you encountered any successful cases where Mobile Assisted Language Learning tools/applications were effectively integrated into the classroom environments while assessing English language skills of learners?
    - If yes, could you provide specific examples?
    - If no, what factors do you think contribute to the limited utilization of Mobile Assisted Language Learning tools/applications in English language assessment?

14. Have you received any special training related to the integration of Mobile Assisted Language Learning tools/applications to assess English language skills?
    - If yes, what kind of training or support did you receive and in what way did it affect your perspective towards language assessment?
    - If no, as a Testing and Evaluation specialist, what kind of professional development opportunities would you be interested in receiving to enhance your comprehension of Mobile Assisted Language Learning Assessment?

15. In terms of reliability and validity of Mobile Assisted Language Learning Assessment, what are your concerns and what considerations should be taken into account by institutions and teachers?

16. As a Testing and Evaluation specialist, how do you anticipate the future of English language assessment in the light of the changes associated with Mobile Assisted Language Learning?

17. What are your recommendations for educational institutions and teachers regarding the integration of Mobile Assisted Language Learning Assessment into classroom environments?

F. INTERVIEW QUESTIONS WITH TESTING AND EVALUATION SPECIALISTS IN TURKISH

1. Yaşınızı söyler misiniz?
2. Üniversitede hangi alandan/bölümden mezun oldunuz?
3. Üniversitede öğretmen adayı iken teknolojinin EFL/ELT alanına entegrasyonu ile ilgili herhangi bir ders aldınız mı?
   - Cevabınız evet ise, bu öğretim teknolojisi dersleri bir Ölçme ve Değerlendirme uzmanı olarak size nasıl fayda sağlar?
   - Cevabınız hayır ise, bu tür dersleri almamanın öğretimde mevcut teknoloji kullanımınızı nasıl etkilediğini düşünüyorsunuz?
4. Üniversitede öğretmen adayıyken İngilizceyi ölçme/sınamada teknoloji kullanımına ilişkin herhangi bir ders aldınız mı?

   - Cevabınız evet ise, hangi dersleri aldınız ve bu derslerin bir Ölçme ve Değerlendirme uzmanı olarak size nasıl fayda sağladığını düşünüyorsunuz?
   - Cevabınız hayır ise, bu tür dersleri almamanın bir Ölçme ve Değerlendirme uzmanı olarak sizi nasıl etkilediğini düşünüyorsunuz?

5. Teknolojinin derslerinize entegrasyonu konusundaki yeterliliğinizi nasıl değerlendiriyorsunuz? (acemi, deneyimli, uzman vb.)
6. Dil eğitimi alanında Ölçme ve Değerlendirme uzmanı olarak tecrübelediğiniz yıllar da dahil olmak üzere mesleki geçmişiniz hakkında bilgi verebilir misiniz?
7. Ölçme ve Değerlendirme uzmanı olmadan önce hangi eğitim ortamlarında veya kurumlarda çalıştınız?
8. Çalıştığınız eğitim kademeleri hakkında bilgi verebilir misiniz?
9. Sınıf ortamında İngilizce dil becerilerini değerlendirirken Ölçme ve Değerlendirme uzmanı olarak hangi fırsatları tanımlarsınız? Belirli örnekler verebilir misiniz?
10. Mobil Destekli Dil Öğrenimi Değerlendirmesinin sınıf ortamına entegrasyonu, sınıf ortamında bu belirli fırsatları sunmaya devam edebilir mi?
    - Cevabınız evet ise, Mobil Destekli Dil Öğrenimi Değerlendirmesinin sınıf ortamına entegrasyonu hangi yollarla sınıf ortamında bu belirli fırsatları sunmaya devam edebilir?
    - Cevabınız hayır ise, nedenleri neler olabilir ve önerileriniz nelerdir?
11. Sınıf ortamında İngilizce dil becerilerini değerlendirirken, bir Ölçme ve

Değerlendirme uzmanı olarak hangi belirli ihtiyaçları veya zorlukları tespit ediyorsunuz? Belirli örnekler verebilir misiniz?

12. Mobil Destekli Dil Öğrenimi Değerlendirmesinin sınıf ortamına entegrasyonu, sınıf ortamındaki bu belirli zorlukların üstesinden gelebilir mi?

- Cevabınız evet ise, Mobil Destekli Dil Öğrenimi Değerlendirmesinin sınıf ortamına entegrasyonu, sınıf ortamındaki bu belirli zorlukların üstesinden nasıl gelebilir?
- Cevabınız hayır ise, nedenleri neler olabilir ve önerileriniz nelerdir?

13. Bir Ölçme ve Değerlendirme uzmanı olarak, öğrencilerin İngilizce dil becerilerini değerlendirirken Mobil Destekli Dil Öğrenme araçlarının/uygulamalarının sınıf ortamlarına etkili bir şekilde entegre edildiği herhangi bir başarılı durumla karşılaştınız mı?

- Cevabınız evet ise, belirli örnekler verebilir misiniz?
- Cevabınız hayır ise, Mobil Destekli Dil Öğrenme araçlarının/uygulamalarının İngilizce dil değerlendirmesinde sınırlı kullanımına hangi faktörlerin sebep olduğunu düşünüyorsunuz?

14. İngilizce dil becerilerini değerlendirmek için Mobil Destekli Dil Öğrenme araçlarının/uygulamalarının entegrasyonuyla ilgili herhangi bir özel eğitim aldınız mı?

- Cevabınız evet ise, ne tür bir eğitim veya destek aldınız ve bu dil değerlendirmesine bakış açınızı ne şekilde etkiledi?
- Cevabınız hayır ise, bir Ölçme ve Değerlendirme uzmanı olarak Mobil Destekli Dil Öğrenimi Değerlendirmesi anlayışınızı geliştirmek için ne tür mesleki gelişim fırsatlarına sahip olmak istersiniz?

15. Mobil Destekli Dil Öğrenme Değerlendirmesinin güvenirliği ve geçerliliği açısından endişeleriniz nelerdir ve kurumlar ve öğretmenler tarafından hangi hususların dikkate alınması gerekir?

16. Bir Ölçme ve Değerlendirme uzmanı olarak, Mobil Destekli Dil Öğrenimi ile ilgili değişiklikleri göz önünde bulundurarak İngilizce dil değerlendirmesinin geleceğini nasıl öngörüyorsunuz?

17. Mobil Destekli Dil Öğrenimi Değerlendirmesinin sınıf ortamlarına entegrasyonu konusunda eğitim kurumlarına ve öğretmenlere önerileriniz nelerdir?

G. DEBRIEFING FORM

Dear Participant,

First of all, thank you for participating in our study.

This master's thesis is conducted under the supervision of Prof. Dr. Perihan Savaş by Gonca Oktay, who is a graduate student in English Language Teaching (ELT) program at Middle East Technical University and an in-service EFL teacher at a state secondary school in Türkiye.

The purpose of the study is to investigate the perceptions and needs of in-service EFL teachers working in diverse school environments encompassing elementary, secondary, and high school levels across various provinces of Türkiye along with Testing and Evaluation specialists on Mobile Assisted Language Learning Assessment. To achieve the aforementioned purpose, you were interviewed either face-to-face in a mutually agreed environment devoid of any possibility of disturbance or online via Zoom for approximately 45 minutes. This study aims to reveal the overall understanding of in-service teachers on Mobile Assisted Language Learning Assessment and whether it can become a part of English language classrooms to improve language skills and areas. It also aims to gather knowledge about the current assessment practices of teachers related to English language teaching, and the opportunities and the challenges they encounter with their current assessment practices. It aims to understand whether the opportunities and challenges experienced with traditional forms of assessment will persist in a classroom environment where Mobile Assisted Language Learning assessments are applied or if new challenges will arise. In the current study, the perceptions of in-service EFL teachers and Testing and Evaluation specialists regarding the future of assessments and the considerations like reliability and validity will be uncovered as well. The current study will shed light on the Mobile Assisted Language Learning Assessment since there are limited number of studies in the area.

The data obtained from the study will be kept safe and be only accessed by the researcher. The data will be used only for scientific purposes. While sharing the data, the pseudonyms will be used instead of participants' real names to keep the identities safe.

For further information, please contact Gonca Oktay (   ) or Prof. Dr. Perihan Savaş (   )

H. SAMPLE PAGE OF CODED TRANSCRIPTIONS

Sample Coding from the Interviews with
in-Service EFL Teachers

Interviewer: Peki yine bu anlattığınız her şeye, tecrübelerinize, görüşlerinize dayanarak öğrencilerin ihtiyaçlarını karşılayan ve sınıf ortamlarına uygun şekilde uygulanabilecek etkili mobil destekli dil öğrenimi değerlendirmeleri tasarlamak için ne gibi öneriler sunabilirsiniz?

[So, again, based on everything you have said, your experiences, and your opinions, what suggestions can you offer to design effective mobile-assisted language learning assessments that meet the needs of students and can be appropriately applied to classroom environments?]

Teacher 9: Bunun için öncelikle dikkate alınması gereken bazı önemli faktörler var. Bunlar özellikle öğrenci profili, işte öğrencilerin ihtiyaçlarının analizinin yapılması işte her öğrencinin dil öğrenim veya öğrenme süresi farklı. Bu yüzden öğrencilerin dil seviyesi, hedefleri gibi işte öğrenme tarzları gibi bazı şeyler var. Bunları dikkate alınarak öğrenme materyalleri veya işte öğrenmeyi değerlendirme materyalleri geliştirilebilir. Çeşitli değerlendirme araçları kullanılabilir işte yazılı, sözlü, görsel ve işitsel

> Designing MALL assessment tools/applications according to student needs

> Learner needs in different student levels

> Pedagogical considerations while designing MALL tools/applications

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gibi ve bunlarla ilgili değerlendirme araçları kullanılabilir. İşte yine gerçekçi ve hayatın içinden işe yarayan fonksiyonel senaryolar oluşturulabilir. Özellikle işte gerçek olaylar, gerçek haberler gibi bunlarla ilgili karşılaşabilecekleri senaryolar için dil becerilerini ölçmede, yani gerçek senaryolardaki karşılaşabilecekleri durumları ve dil becerilerini ölçmeli yani bu şekilde olmalı. Özellikle günlük iletişim durumlarında işte bir alışveriş yaparken, bir sokağa çıktığı zaman, bir adres sorarken gibi şeyler. Özgün olmalı özellikle ve ilgi çekici olmalı çünkü öğrencilerimiz bir şeyden çabuk sıkılıyorlar artık yeni nesil yani bir şey aldıkları zaman onları motive edecek bir şeyler arıyorlar ve ilgi çekici şeyler arıyorlar. Bu da onları katılıma teşvik etme etmesini sağlayacaktır. Özellikle yine söylediğim gibi işte geri bildirim ve öğrencilerin nerede yanlış yaptıklarını görebilmeleri gerekiyor. İşte değerlendirme materyalleri öğrencilerin katılımını aktif bir şekilde onları öğrenmeye teşvik etmesi gerekiyor. Yoksa bunlardan kolay sıkılabilirler. Özellikle erişilebilirlik öğrencilerin hemen kolay bir şekilde erişebileceği şeyler olması gerekiyor. İşte ellerinin altında bulunması gerekiyor. Bu açılardan değerlendirmede işte en son olarak da öğretmenlerin geri dönüt yapıp rehberlik ve destek anlamında geri bildirim sağlamaları gerektiğini düşünüyorum.

[For this, there are some important factors to consider first, *especially analyzing the needs of the students. Each student's language learning or*

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learning period is different. So there are some things like the students' language level, their goals, and their learning styles. *Therefore, learning materials or learning assessment materials can be developed by taking into account the students' language level, goals, learning styles, etc.* Various assessment tools can be used, such as written, oral, visual and auditory, and related assessment tools can be used. *Again, realistic and functional scenarios that are useful from life can be created, especially in daily communication situations, such as shopping, going out, asking for directions.* *It should be original, especially interesting because our students get bored of something quickly, now when they buy something, they look for things that will motivate them and attract attention.* *Especially feedback and students need to be able to see where they are going wrong.* Assessment materials need to encourage student participation. Otherwise, they can get bored easily. *Especially accessibility, they need to be things that students can easily access.* *Finally, I think teachers need to provide feedback in terms of guidance and support.*]

Learner needs in different student levels	
Pedagogical considerations while designing MALL tools/applications	
Authentic language exposure thanks to MALL	
Boosting motivation of students with MALL	
Providing meaningful feedback	
Conveniency of MALL assessment	
Providing meaningful feedback	

Sample Coding from the Interviews with Testing and Evaluation Specialists

Interviewer: In terms of reliability and validity of mobile assisted language learning assessment, what are your concerns and what considerations should be taken into account by institutions and teachers?

Specialist 1: The first thing that we should be thinking when it comes to, validity is, as we all know, whether we test what we promise to test, and reliability is related to consistency. So, because we have different platforms, but we also have different students with different levels of proficiency, different ages, different interests in learning foreign languages, different expectations from the technology and the foreign language classes, we, the first concern should be to matching the appropriate platform with the appropriate group of students. The fact that I know, let's say one platform, let's say Padlet, right? That doesn't mean that I will be able to or the students will benefit from that platform all the time. So at least for me, but as a non-expert in that area, the first thing is please be very careful. Every platform might not fit the needs of every group of students. So that this is one. Then, as again because of this project, when I started looking at the different platforms, I realized I gave you the example with ListenWise. You can use ListenWise, the name is self-explanatory. It was created to develop the listening skills of the students. But can we use it to also test the reading skills of the students? So again, depending on the needs of the students and depending on the aims of the teacher and the specific kind of unit which in which they are planning to use it, we need to match the platforms and the exercises on those platforms with that specific topic, maybe. Okay. And another thing is who is going, it's, kind of, I say, I frequently repeat in my foreign language

MALL assessment tools/applications that address student needs

Ensuring validity of MALL assessment

MALL assessment tools/applications

MALL assessment tools/applications that address student needs

MALL assessment tools/applications

Ensuring validity of MALL assessment

testing evaluation classes, sometimes the preparation of the exam might not be that problematic. But if you don't think carefully about the creation of the questions on the exam, the evaluation of the answers might be a problem. So, the third thing we should think about is, okay, I created this exam, but who is going to evaluate them? Do you think that technology is going to be enough, right, just to reliably and validly evaluate the answers of the students? We know about ChatGPT, for instance, nowadays, right. We give ChatGPT one input, right, or we ask it one question and we end up with sometimes a correct answer but sometimes ChatGPT is creative. We end up with an answer that does not exist or with a source that does not exist. So, I think we should know the technology very well, and we should decide in advance who is going to do the evaluation of the answers provided by the students. And did we give the program, the platform, the AI enough information so the platform is able to validly or reliably evaluate the answers of our students?

Importance of careful evaluation

Ensuring reliability of MALL assessment

Artificial Intelligence

İNGİLİZCE ÖĞRETMENLERİ VE ÖLÇME VE DEĞERLENDİRME UZMANLARININ MOBİL DESTEKLİ DİL ÖĞRENİMİ DEĞERLENDİRMESİNE İLİŞKİN ALGILARI: NİTEL DURUM ÇALIŞMASI

GİRİŞ

Mobil cihazlar aracılığıyla bilgiye kolaylıkla erişme dürtüsü, eğitimin insanların hayatındaki tamamlayıcı rolünü vurgulayarak, yer ve zamandan bağımsız olarak öğrenmeyi mümkün kılmaktadır. Mobil cihazlar eğitim uygulamalarıyla daha fazla iç içe geçtikçe, m-öğrenme veya mobil öğrenme olarak adlandırılan mobil cihazların öğretme ve öğrenme uygulamalarını geliştirmedeki etkisinin yoğun bir şekilde incelenmesine ihtiyaç ortaya çıkmaktadır. Mobil öğrenme, "öğrencinin sabit, önceden belirlenmiş bir yerde olmadığı durumlarda gerçekleşen her türlü öğrenme veya öğrencinin mobil teknolojilerin sunduğu öğrenme fırsatlarından yararlanması durumunda gerçekleşen öğrenme" olarak tanımlanmaktadır (O'Malley vd., 2003, s.6). Ancak Kukulska-Hulme (2009), alandaki hızlı değişimler ve "mobil"in mobil teknolojileri mi yoksa öğrenen hareketliliğini mi ifade ettiği konusundaki belirsizlik nedeniyle mobil öğrenmenin evrensel olarak kabul edilmiş bir tanımının olmadığını savunmaktadır. Mobil öğrenme, fiziksel hareketten daha fazlasını içerir ve bu hareketliliğin etkilerini ve sonuçlarını kapsar (Kukulska-Hulme, 2009).

MALL bağlamında, hareketliliğin dil öğrenmeyi ve öğretmeyi geliştirmenin bir yolu olarak sunulması nedeniyle, mobil öğrenmeye ilişkin kapsamlı bir perspektifin farkına varılması önemlidir. Kukulska-Hulme ve Shield (2008) MALL'u, zaman ve mekandan bağımsız olarak el cihazlarının kullanılabilirliği ve erişilebilirliği sayesinde kolaylaştırılan resmi veya resmi olmayan öğrenme olarak tanımlamaktadır. Stockwell

(2022) tarafından yapılan başka bir tanımda MALL, "cep telefonları (akıllı telefonlar dahil), tabletler, kişisel dijital asistanlar (PDAs), MP3/MP4 oynatıcılar, elektronik sözlükler ve oyun konsolları dahil ancak bunlarla sınırlı olmamak üzere" bir veya daha fazla taşınabilir elektronik cihaz kullanarak ikinci veya yabancı dil öğrenmenin ve geliştirmenin bir yolu olarak sunulmaktadır (s. 8).

Dil öğrenme ve öğretme uygulamalarında dil becerilerinin ve alanlarının değerlendirilmesi, öğrencilerin yeterliliklerini, performanslarını ve ilerlemelerini görmek için çok önemli bir rol oynar. Bu nedenle, öğrenme amaç ve hedefleri ile uyumlu ve öğrencilerin ihtiyaçlarına uygun, etkili değerlendirme stratejileri seçilmelidir. Bu sayede öğrenenlere daha anlamlı öğrenme deneyimleri sağlanabilmektedir. P21'in 21. Yüzyıl Öğrenimi Çerçevesi (2018), öğrencilerin 21. yüzyılda hayatta başarılı olmak için önemli olan beceri, bilgi ve uzmanlığı kazanmalarına yardımcı olmak için değerlendirmenin çok önemli olduğuna işaret etmektedir.

Milli Eğitim Bakanlığı (MoNE), dil öğrenimi ve öğretimine yönelik Avrupa Ortak Dil Referans Çerçevesi (CEFR) ilkeleriyle daha iyi uyum sağlamak amacıyla 2023 yılında ölçme ve değerlendirme mevzuatında düzenlemeler yaptı. Bu düzenlemeler, ilkokul öğrencilerinin gözlem yoluyla akademik ve sosyal gelişimlerinin değerlendirilmesini içermekteyken ortaokul ve lise öğrencileri için kapalı yanıtlı sınav sistemlerinden açık uçlu formatlara geçişi içermektedir. Bu düzenlemeler kapsamında MEB ayrıca dinleme ve konuşma sınavlarını da müfredata entegre etmiştir (MoNE, 2023a). Değerlendirme yöntemlerindeki değişiklikler ve mobil teknolojilerin yaygın kullanımı göz önüne alındığında, 21. yüzyıl öğrenenlerinin öğrenme taleplerini karşılayarak öğrenenlerin yetenek ve becerilerini daha iyi yansıtmak için mobil teknolojileri ölçme ve değerlendirme sürecine entegre etmeye artan bir ihtiyaç vardır. Bu nispeten yeni değerlendirme yaklaşımına Mobil Destekli Dil Öğrenme Değerlendirmesi adı verilmektedir.

Dil değerlendirmelerindeki önemli değişikliklere rağmen, ülke çapındaki yüksek riskli sınavların çoğu hâlâ geleneksel formatta yapılmaktadır. Çimen (2022), öğrencilerin yeterliliğinin düşük olması, zaman kısıtlaması, sınıfların kalabalık olması ve

öğrencilerin İngilizce öğrenimine ilgisizliği nedeniyle öğretmenlerin çoğunluğunun öğrencilerini kâğıt üzerindeki sınavlarla değerlendirdiğini ortaya koymaktadır. Kırkgöz (2007) ayrıca geleneksel kâğıt bazlı sınavların Türkiye'de yaygın olarak uygulanmasına rağmen uygun değerlendirme araçları olarak görülmediğine dikkat çekmektedir. Bu sorunların arkasındaki temel sebeplerden biri çeşitli alanlardaki farklı öğrenci ihtiyaçları ve beklentilerini karşılayan değerlendirmelerin çeşitliliğinin yetersiz olması olabilir. Bir öğrenciye uygun olan değerlendirme yöntemi diğerinin ihtiyacını karşılayamayacağından, aşina olunan değerlendirme yöntemleri farklı bir yaklaşımı içerecek şekilde değiştirilebilir ve öğrencilere bireysel ihtiyaçlarını daha iyi karşılayan farklı değerlendirme yöntemleri arasında seçim yapma olanağı sunulabilir. (O'Neill ve Padden, 2022). Dil öğrenimi ve değerlendirilmesi konusunda Türkiye'deki çeşitli eğitim ortamlarındaki kısıtlamaları gidermek için ve çeşitlilik sağlamak amacıyla MALL değerlendirmelerini İngilizce dil sınıflarına entegre etmek, mobil cihazların sayısız faydalarını da göz önünde bulundurarak etkili bir yaklaşım olabilir.

Literatürdeki mevcut araştırma çalışmaları, MALL'un dil becerileri ve alanları üzerindeki etkisini, MALL'dan yararlanılan değerlendirme türlerini, MALL'un olanaklarını ve kısıtlamalarını kapsasa da MALL değerlendirme algılarını anlama konusunda araştırma eksikliği bulunmaktadır. Öğrencilerin MALL değerlendirmesi üzerine algıları üzerine literatürde çalışmalar bulunmakla birlikte Nguyen ve Yukawa (2019)'nın çalışması dışında öğretmenlerin MALL değerlendirmesine ilişkin algıları henüz araştırılmamıştır. Ayrıca değerlendirme stratejilerinin tasarlanması ve uygulanmasında önemli rol oynayan ölçme ve değerlendirme uzmanlarının algılarının da irdelenmesi gerekmektedir.

Türkiye'de araştırmacının bilgisi dahilinde sadece Şükür ve ark. (2023) ve Önal ve ark. (2022)'nın mobil uygulamaların dil değerlendirmelerine dahil edilmesine ilişkin çalışmaları bulunmaktadır. Türkiye'de şu anda MALL değerlendirme algılarına ilişkin belgelenmiş bir araştırma bulunmamaktadır. Bu çalışma, Türkiye'deki MALL değerlendirmesine ilişkin İngilizce öğretmenlerinin ve ölçme ve değerlendirme uzmanlarının algılarını araştırarak yukarıda belirtilen boşlukları doldurmayı amaçladığı için önemli bir rol oynamaktadır.

Bu çalışmanın amacı, Türkiye'nin çeşitli illerinde devlet ilkokul, ortaokul ve lise düzeylerini kapsayan çeşitli okul ortamlarında çalışan dokuz İngilizce öğretmeninin ve üç ölçme ve değerlendirme uzmanının MALL değerlendirmesine ilişkin algılarını araştırmaktır. Çalışma aşağıdaki araştırma sorularına cevap vermeyi amaçlamaktadır:

1. Türkiye'deki farklı okul bağlamlarında çalışan İngilizce öğretmenlerinin aşağıdaki hususlara ilişkin algıları nelerdir:

> a. dil değerlendirmesi, MALL ve MALL değerlendirmesi hakkındaki genel görüşleri?
> b. kendilerinin bildirdiği mevcut uygulamalar ve teknoloji, dil değerlendirmesi, MALL ve MALL değerlendirmesinin İngilizce'nin yabancı dil olarak öğretildiği sınıflarda uygulanması?
> c. dil değerlendirmesi, MALL ve MALL değerlendirmesi ile ilgili kısıtlamalar?
> d. dil değerlendirmesi, MALL ve MALL değerlendirmesiyle ilgili olanaklar?
> e. MALL değerlendirmesine dair belirli ihtiyaçlar, öneriler, geleceği ve potansiyeli?

2. Türkiye'deki farklı yükseköğretim bağlamlarında çalışan Ölçme ve Değerlendirme uzmanlarının aşağıdaki konulardaki algıları nelerdir:

> a. teknoloji ve dil değerlendirmesi konusundaki genel uzmanlıkları?
> b. dil değerlendirmesi, MALL ve MALL değerlendirmesi ile ilgili kısıtlamalar ve olanaklar?
> c. endişeler, belirli ihtiyaçlar, öneriler ve MALL değerlendirmesinin geleceği ve potansiyeli?

YÖNTEM

Bu çalışmada nitel durum çalışması yaklaşımı benimsenmiştir. Bu yaklaşım, kapsamlı bir araştırmayı kolaylaştırmak ve katılımcıların MALL Değerlendirmesi algılarına ilişkin genel bir anlayış geliştirmek için seçilmiştir. Yin (2018)'in vaka çalışması türleri ile uyumlu olarak, mevcut çalışma, Türkiye'de farklı eğitim bağlamlarında

çalışmakta olan İngilizce öğretmenlerinin ve ölçme ve değerlendirme uzmanlarının algıları aracılığıyla MALL Değerlendirmesi hakkında kapsamlı açıklamalar sunmak için araştırma tasarımı olarak açıklayıcı vaka çalışmasını kullanmaktadır.

Araştırma 2023-2024 eğitim-öğretim yılı bahar döneminde gerçekleştirilmiştir. Araştırma, Türkiye'nin farklı illerinde ilkokul, ortaokul ve lise düzeylerini kapsayan devlet okullarında çalışan dokuz İngilizce öğretmenini ve Türkiye'nin en büyük illerinden birinde yükseköğretim düzeyinde çalışan üç ölçme ve değerlendirme uzmanlarını içermektedir. Bu çalışmada, dokuz İngilizce öğretmeni, şu anda çalışmakta oldukları eğitim bağlamlarına göre ilkokul, ortaokul ve lise olmak üzere üç gruba kategorize edilmiştir. Dördüncü grup, çeşitli yükseköğretim bağlamlarında çalışan ölçme ve değerlendirme uzmanlarını içermektedir. Ayrıca, İngilizce öğretmen grupları içinde katılımcılar, öğretmenlik deneyim yıllarına göre bir kez daha kategorize edilmiştir. Bu sınıflandırmalarla uyumlu olarak, mevcut çalışma, her eğitim seviyesinden 0-2 yıl öğretmenlik deneyimine sahip acemi, 2-6 yıl orta düzey öğretmenlik deneyimi ve 6 yıldan fazla deneyimli öğretmenlik deneyimine sahip üç İngilizce öğretmenini kategorize etmiştir. Araştırmanın katılımcıları belirli bir "önceden belirlenmiş önem ölçütü" (Patton, 2002, s. 238) yani öğretmenlerin uzmanlığı dikkate alınarak bilinçli olarak seçildiğinden, araştırmada ölçüt örnekleme yöntemi kullanılmıştır. Ayrıca, araştırmaya gönüllü olarak katılmayı kabul eden, zaman ve mekân açısından kolay ulaşılabilen (Merriam, 2009, s. 79) katılımcıların seçiminde kolayda örnekleme yöntemi kullanılmıştır. Mevcut çalışmada aynı zamanda öğretmenlerin öğretmenlik deneyim yılları ve ilkokul, ortaokul ve lise seviyeleri de dahil olmak üzere çalıştıkları bağlamlara ilişkin değişkenler entegre edilerek maksimum çeşitlilik stratejisi kullanıldı.

Bu çalışmada kullanılan veri toplama araçları yarı yapılandırılmış görüşmelerden oluşmaktadır. Araştırmacı literatürdeki dil değerlendirmesi, MALL ve MALL değerlendirmesi üzerine çalışmaları inceleyerek gerekli noktaları tespit etmiş ve araştırma soruları doğrultusunda görüşme sorularını geliştirmiştir. Demografik bilgiler ve MALL ve MALL değerlendirmesine ilişkin bilgiler şeklinde iki bölümden oluşmakta olan görüşme soruları hem İngilizce öğretmenlerine hem de ölçme ve değerlendirme uzmanlarına yöneltilmiştir. Yarı yapılandırılmış görüşmelerin

öncesinde soruların pilot uygulaması üç İngilizce öğretmeniyle gerçekleştirilmiştir. Pilot görüşmelerin tamamlanmasının ardından dokuz İngilizce öğretmeni ile yapılan yarı yapılandırılmış görüşmeler, yalnızca bir öğretmenle yüz yüze görüşme yapılması dışında, diğer katılımcılarla Zoom platformu üzerinden çevrimiçi görüşmelerle gerçekleştirilmiştir. Ek olarak, MALL değerlendirmesinin daha iyi anlaşılmasını sağlamak ve birden fazla kanıt kaynağından bilgi toplamak amacıyla ölçme ve değerlendirme uzmanlarıyla yarı yapılandırılmış görüşmeler gerçekleştirildi. Bu ikili yaklaşım, İngilizce öğretmenlerinden toplanan verilerin uzmanların verileriyle yan yana getirilerek doğrulanmasını ve güvenilirliğini sağladı. Bu süreç "üçgenleme" olarak adlandırılmakta ve "çoğunlukla tekrarlanan veri toplama ve söylenenlerin eleştirel olarak gözden geçirilmesi süreci" olarak tanımlanmaktadır (Stake, 2006, s.34). Katılımcılara görüşmeleri gerçekleştirirken Türkçe veya İngilizce tercih seçeneği sunulmuş, iki İngilizce öğretmeni ve bir ölçme değerlendirme uzmanıyla gerçekleştirilen İngilizce görüşmeler dışında diğer tüm katılımcılardan veriler Türkçe toplanmıştır.

Bu çalışma Creswell'in (2013) sarmal veri analizi modelinin benzer adımlarını takip etmektedir. Verilerin analizi sürecinde görüşme verilerinin birebir yazıya dökümü yapılmıştır. Kodlar oluşturulurken ise Strauss ve Corbin (1990)'in sürekli karşılaştırma yönteminden yararlanılmıştır. Bu çalışmada, kategori ve temaların iyi tanımlanması ve bunlara önemli varyasyonların dahil edilmesi yoluyla "veri doygunluğu"nun sağlanması amaçlanmıştır (Corbin & Strauss, 2015). Ayrıca bu nitel durum çalışmasında sunulan zengin veriler ve üçgenleme yöntemiyle çalışma, veri doygunluğunun elde edilmesini doğrudan desteklemiştir (Fusch ve Ness, 2015). Ses kaydı üzerinde çıkarılan transkriptler MAXQDA'ya yüklenmiştir. Türkçe ve İngilizce olarak sunulan transkripsiyonlar, açık kodlama aşamasında ilk kodları belirlemek için birkaç kez gözden geçirilmiş ve tüm kodlar İngilizce olarak atanmıştır. Eksensel kodlama aşamasında bu kodlar daha geniş kategoriler halinde düzenlenmiştir. Son olarak seçici kodlama aşamasında bu kategorilere dayalı olarak kapsayıcı temalar oluşturulmuştur. Analizin sonunda, görüşmelerden ilgili Türkçe alıntılar İngilizce'ye çevrilmiş ve doğruluğundan emin olmak ve çeviri hatalarını ortadan kaldırmak için bir uzman tarafından incelenmiştir.

BULGULAR, TARTIŞMA VE SONUÇ

Bu araştırmada öncelikle İngilizce öğretmenlerinin dil değerlendirmesi, MALL ve MALL değerlendirmesi hakkındaki genel görüşlerine bakıldığında Nariyati ve ark. (2020) ve Dağdeler ve Demiröz (2020)'ün sonuçlarıyla uyumlu olarak çoğu öğretmenin MALL kavramına aşina olduğu ortaya çıkmıştır. Ancak öğretmenlerin MALL değerlendirmesi kavramına aşina olmadıkları ortaya çıkmıştır.

Dil değerlendirme türleri açısından öğretmenlerin çoğunlukla biçimlendirici ve özetleyici değerlendirme türlerine aşina oldukları oraya çıkmıştır. Bulgular ayrıca öğretmenlerin dil değerlendirme uygulamalarında kullanılabilecek Duolingo (Ahmed vd., 2022; Kessler, 2023; Söğüt, 2021), Kahoot (Moncada vd., 2020; Nyugen & Yukawa, 2019; Yassin & Abugohar, 2022), VoScreen gibi MALL araçlarına/uygulamalarına aşina olduklarını göstermiştir.

Ek olarak, İngilizce öğretmenlerinin MALL değerlendirmeleri konusunda büyük çoğunlukla eğitim almadıkları ancak mesleki gelişimlerine katkı sağlamak amacıyla eğitim veya destek almak istedikleri gözlemlenmiştir. Her ne kadar MEB'in 2023'e yönelik yeni eğitim vizyonu, öğretmenlerin değerlendirme becerilerine (Kitchen vd., 2019) ve dil öğretimine yönelik çevrimiçi platformlar ve mobil teknolojilerle etkileşimlerine (MoNE, 2018c) ilişkin seminerler ve eğitimler yoluyla sürekli mesleki gelişimlerini desteklese de dil öğrenme sınıflarındaki sınırlı varlıkları nedeniyle MALL değerlendirmeleri konusunda önemli bir eğitim eksikliğinin olduğu öğretmenlerin görüşlerinden açıkça görülmektedir. Ancak Hafour (2022) tarafından bildirilen MALL mesleki gelişim eğitimlerinin hizmet öncesi ve hizmet içi öğretmenler üzerindeki olumlu etkisine benzer şekilde, MALL değerlendirmelerine ilişkin bu tür eğitimlerin de faydalı olabileceği sonucuna varılabilir.

İngilizce öğretmenleri MALL'u tanımlarken Kloper ve ark. (2002), Kukulska-Hulme (2005), Kukulska-Hulme ve Traxler (2005; 2007) ve Traxler (2009)'ın mobil cihazları tanımlayıcı özellikleri ve Kukulska-Hulme ve Shield (2008)'ın MALL tanımıyla bağlantılı olarak, mobil cihazların sağladığı etkileşim, her yerde bulunma,

erişim kolaylığı, bireyselleştirilmiş ve kendi kendine öğrenme olanağı sunma yeteneği gibi avantajlardan bahsetmiş, CALL ile MALL ilişkisine değinmişlerdir (Dağdeler & Demiröz, 2022). MALL değerlendirmesini tanımlarken ise özellikle anlamlı ve anında geri bildirim sağlayarak, MALL araçlarının/uygulamalarının dil değerlendirmelerini geliştirmedeki olanaklarını vurgulamışlardır. Bu olanaklar Alharbi ve Meccawy (2020) ve Rezaee ve ark. (2019) tarafından da bahsedilmiştir.

İngilizce öğretmenleri öğrencilerin dil değerlendirmeleri sırasında karşılaştığı zorluklardan, dinleme ve yazma değerlendirmelerinde motivasyon ve ilgi eksikliğinden bahsederlerken çoğunluğu öğrencilere daha iyi dil öğrenme deneyimleri sunma konusunda MALL araçlarının/uygulamalarının öğrencileri motive edici, ilgi çekici ve faydalı yönlerini vurguladılar (Kohnke, 2020; Soparno & Tarjana, 2021; Aratusa vd., 2022; Forsythe, 2017; Moncada vd., 2020; Shadiev vd., 2021; Darsih & Asikin, 2020; Azli vd., 2018). Benzer şekilde öğretmenler, Wu ve Miller (2020), Bacca-Acosta ve Avila-Garzon (2020), ve Li ve Chan (2024)'in bulgularıyla tutarlı olarak öğrencilerin MALL değerlendirmelerini, motive edici, ilgi çekici olabileceği, öz değerlendirmeye ve öz yönetimli değerlendirmeye olanak sağlayabileceği için olumlu yönde algılayabileceğini vurgulamışlardır. Bununla birlikte, MALL değerlendirmesine ilişkin bu olumlu algılar, öğrencilerin öz değerlendirme konusunda olumlu algılara sahip olmasına rağmen, dil öğrenmelerini geliştirmek için bağımsız çalışma isteğine dair motivasyon eksikliği, uygulamalardaki dikkat dağıtıcı unsurlar ve öz değerlendirmeyi destekleyen sınırlı sayıda uygulamalar bulunması sebebiyle MALL yoluyla öz değerlendirme algılarının orta veya düşük olduğunu ortaya koyan Pingping ve ark. (2021) ile çelişmektedir.

Öğretmenlerin kendi algılarına bakıldığında ise tüm öğretmenler MALL araçlarının/uygulamalarının sınıf ortamlarına dahil edilmesine, öğrencilerin değişen profilleri ve bu araçlara/uygulamalara artan ilgilerini de vurgulayarak oldukça değer vermiştir. Öğretmenler, öğretime faydaları ve yaratıcı geri bildirim sağlama yetenekleri nedeniyle MALL değerlendirmelerini genel olarak olumlu karşılamışlardır. Bu bulgular Bozorgian (2018), Nariyati ve ark. (2020), Khan ve ark. (2018), ve Sarhandi ve ark. (2022)'nın bulguları ile tutarlıdır. Ayıca bazı öğretmenler

kendilerini MEB'in son düzenlemeleri nedeniyle MALL değerlendirmesini entegre etme konusunda kısıtlanmış hissetmesine rağmen, geleneksel değerlendirme yöntemlerinden uzaklaşılması gerektiğini belirtmiştir.

Araştırma çok sayıda öğretmenin teknolojiyi derslerine entegre etmeyi tercih etmesine rağmen, ölçme ve değerlendirme sürecinde geleneksel değerlendirme yöntemlerini tercih eden öğretmen sayısının MALL değerlendirmesini tercih edenlerle eşit olduğunu ortaya koydu. Geleneksel değerlendirmelerin tercih edilme sebebi bu değerlendirme türlerine aşina olunması ve MEB'in belirlediği müfredat sınırlamalarıyken MALL değerlendirmelerinin tercih sebebi, Nguyen ve Yukawa (2019)'nın bulgularıyla tutarlı olarak bireysel öğrenme ihtiyaçlarının daha iyi karşılanabilmesi, pratiklik, zaman verimliliği ve güvenilirlik açısından avantajlar sunabilmesiydi. Ayrıca öğretmenlere dil değerlendirmeleri için MALL araçlarını/uygulamalarını tercih edip etmeyecekleri sorulduğunda öğretmenlerin çoğunluğu bu avantajlardan dolayı olumlu görüş belirtmiş ancak gözlem yoluyla daha anlamlı geri bildirimler verebileceklerine inandıkları için öğrencilerine çoğunlukla kendilerinin not vermesini tercih etmişlerdir.

Bu çalışmada İngilizce öğretmenlerinin teknoloji, dil değerlendirmesi, MALL ve MALL değerlendirmesi ile ilgili kendilerinin rapor ettiği sınıf içi uygulamaları araştırılmıştır. Öğretmenlerin çoğunluğu, eğitimleri sırasında teknoloji yaygınlaşmadığı için üniversitede teknolojiyi İngilizce öğretimine ve değerlendirmesine entegre etme konusunda derslere erişim olanağı bulamayan ölçme ve değerlendirme uzmanlarının aksine, bu tür dersleri aldıklarını belirtmiştir. Bununla birlikte bu tür dersleri alamamalarına ve bazı durumlarda eksikliğini hissetmelerine rağmen uzmanların tamamı mesleki gelişimlerini artırmak için çeşitli proje, konferans, seminerlere katıldıklarını ve meslektaşlarıyla iş birliği yaptıklarını bildirmiştir. Sonuç olarak hem öğretmenlerin hem de uzmanların teknolojiyi derslerine dahil ettikleri ortaya çıkmıştır.

Tüm öğretmenlerin ayrıca mobil cihazlarını eğitim amaçlı kullandığı ortaya çıkmıştır. Öğretmenler mobil cihazlarını İnternet bağlantısını sağlamak, çeşitli eğitim aktivitelerini oluşturmak ve bunları öğrencilere sunmak kullandıklarını

belirtmişlerdir. Ayrıca tüm öğretmenler sınıf ortamlarında ağırlıklı olarak geleneksel değerlendirme yöntemlerini kullandıklarını belirtmiş, diğer bağlamlardan farklı olarak özellikle ilkokul öğretmenleri, MEB'in ölçme ve değerlendirme yönetmeliğinde yaptığı düzenlemeler sonrasında (MoNE, 2023a) öğrencilerini özetleyici değerlendirmeler yerine resmi olmayan, biçimlendirici değerlendirme yöntemleriyle değerlendirdiklerini söylemişlerdir.

Tüm öğretmenler MEB'in öğrencilerin okulda mobil cihaz kullanımına ilişkin yasaklayıcı düzenlemeleri (MoNE, 2023b) nedeniyle MALL değerlendirmelerini entegre edemediklerini belirtmiş ancak onların sınıf içerisindeki potansiyel kullanımlarına dikkat çekmiştir. İngilizce öğretmenleri öğrencilerinin genellikle dinleme, konuşma, okuma becerilerini ve kelime bilgilerini MALL araçları/uygulamalarıyla geliştirdiklerini belirtirken, Aygül (2019)'ün sonuçlarıyla bağlantılı olarak, yazma becerilerini ve dil bilgisini geliştirmeye yönelik sınıf içi uygulamalarına değinmediler. Ayrıca bu çalışmada çoğunlukla öğretmenler MALL araçlarının/uygulamalarının kelime bilgisi, dil bilgisi, okuma yazma, dinleme ve konuşma becerileri ve alanlarının değerlendirilmesi açısından bu araçların/uygulamaların çeşitli olanaklarını vurgulayarak ölçme ve değerlendirme süreçlerinin olumlu ve faydalı olabileceğini vurgulamışlardır.

Bu çalışmada, İngilizce öğretmenleri ve ölçme ve değerlendirme uzmanları tarafından dil değerlendirmeleri, MALL ve MALL değerlendirmelerine ilişkin belirlenen kısıtlamalar ve olanaklar açısından benzerlikler ve farklılıklar ortaya çıkarmıştır. MALL ve MALL değerlendirmelerinin olanaklarının kısıtlamalara ağır bastığı ve öğretmenlerin ve uzmanların bunların entegrasyonlarını olumlu algıladıkları ortaya çıkmıştır. Öğretmenler çoğunlukla dinleme ve konuşma değerlendirmelerinde, özellikle de MEB'in değerlendirmeye ilişkin son düzenlemesinden sonra (MoNE, 2023b) zaman sınırlaması ve kalabalık sınıflardan kaynaklanan zorlukları dile getirdiler. Mevcut literatürde Soparno ve Tarjana (2021), geleneksel konuşma değerlendirmelerindeki bu tür kısıtlamaların MALL araçları/uygulamaları aracılığıyla aşılabileceğini kanıtladı. Benzer şekilde uzmanlar, özellikle MEB'in son değişikliklerinden sonra (MoNE, 2023a) dört dil becerisinin tamamının eş zamanlı değerlendirirken iş yükünü yönetmenin, özellikle kalabalık

sınıflar bağlamında pratikliğin sağlanmasının zorluklarına dikkat çekti ve öğretmenlerin doğrudan test yerine dolaylı testlere yöneldiğine dikkat çekti. Hughes (2003) daha fazla pratiklik sağlamak için dolaylı değerlendirme yerine doğrudan değerlendirmeye daha fazla odaklanılmasını önermektedir. Ayrıca mevcut çalışmada uzmanlardan biri ebeveynlerin dil değerlendirme sürecine müdahalesinin öğretmenlerin motivasyonunu olumsuz etkilediğinin, özellikle İngilizce öğretmenlerinin sözel becerilere daha çok odaklanmaları nedeniyle değerlendirmenin nicel yönlerinde zorlandıklarının ve bu faktörün de İngilizce öğretmenlerini biraz geride bıraktıklarının altını çizdi.

MALL ve MALL değerlendirmelerindeki kısıtlamalarla ilgili olarak, öğretmenler ve uzmanlar çoğunlukla internet bağlantısı sorunlarına (Bozorgian, 2018; Aygül, 2019; Dağdeler & Demiröz, 2020; Khan vd., 2018) ve MEB tarafından belirlenen müfredatta mobil cihaz kullanımı sınırlamalarına (MoNE, 2023a) dikkat çekti. Öğretmenler ayrıca zaman kısıtlamalarına (Annamalai vd., 2023) ve bazı öğrencilerin mali kısıtlamalar nedeniyle mobil cihazlara erişiminin olmaması nedeniyle öğrencilerin geçmişlerine dikkat çektiler. Bu bulgu, UNESCO (2013)'nun mobil öğrenmeyi sosyo-ekonomik açıdan dezavantajlı bölgelerde yaşayan öğrenciler için bir fırsat olarak gören bakış açısıyla çelişmektedir.

Öte yandan, öğretmenler ve uzmanlar çoğunlukla, McKay (2006)'ın bulguları ile tutarlı olarak, dil değerlendirmelerini yönetirken, öğrencilerin güçlü ve zayıf yönlerini tanımlayabilecekleri ve öğrenmelerini uyarlayabilecekleri yapıcı ve bireyselleştirilmiş geri bildirim sağlamanın olanaklarını bildirdiler. Öğretmenlerin, MALL' un sağladığı olanaklar açısından (Kukulska-Hulme, 2005; Kukulska-Hulme & Traxler, 2007; Traxler, 2009; Jones et al., 2006), İnternet bağlantısı yoluyla erişim kolaylığı (Arvanitis & Krystalli, 2021), pratiklik, her yerde bulunurluk, zaman verimliliği (Akkoyunlu et al., 2018), kullanılabilirlik ve kullanım kolaylığı yoluyla rahatlık, bir uzmanın MALL araçlarının/uygulamalarının her yerde bulunması, karşılanabilirliği ve dil öğrenimi için yararlılığı konusunda tanımladığı olanaklarla uyumludur (Hişmanoğlu, 2017; Nariyati et al., 2020; Aygül, 2019; Bozorgian, 2018; Khan et al., 2018; Sarhandi et al., 2022; Xue & Churchill, 2022; Dağdeler & Demiröz, 2020; Demirer, 2017).

Bu araştırmada MALL değerlendirmeleri aracılığıyla sağlanan olanaklar ve dil değerlendirmelerindeki zorlukların MALL değerlendirmeleri aracılığıyla aşılması konusunda öğretmenlerin ve uzmanların çoğunluğu olumlu görüşlerini dile getirdi. Öğretmenlerin çoğu, MALL değerlendirmelerinin bireyselleştirilmiş ve kendi hızına göre öğrenme olanağı sunabileceğini (Kukulska-Hulme, 2007; 2018; Akkoyunlu et al., 2018; Xue & Churchill, 2022), Dağdeler & Demiröz, 2020; Aygül, 2019; Khan vd., 2018; Şükür vd., 2023), öğrencilerin bireysel ihtiyaçlarını karşılayabileceğini, kolaylık, pratiklik ve güvenilirlik sağlayabileceğini, yapıcı ve anında geri bildirim sağlayabileceğini (Rezaee vd., 2019; Wu & Miller, 2020; Alharbi & Meccawy, 2020; Nyugen & Yukawa, 2019) ifade etti. Benzer şekilde uzmanlar, MALL değerlendirmelerinin öğrencilere yapıcı geri bildirim yoluyla güçlü ve zayıf yönlerini belirleme fırsatları sunabileceğini, motivasyonlarını arttırıp streslerini azaltabileceğini (Önal et al., 2022; Nguyen & Yukawa, 2019; Chou et al., 2017) katılımlarını arttırabileceğini, öğretmenlerin iş yükünü azaltabileceğini ve güvenilir, geçerli, her yerde ve esnek değerlendirmeler sağlayabileceğini vurguladı. Mevcut literatürde Alharbi ve Meccawy (2020) MALL değerlendirmelerinin pratikliği artırıp kaygı ve stresi azaltabileceğini keşfederken Afshar ve Zareian (2022) bunların öğrencilerin kaygı düzeyleri üzerindeki olumsuz etkisini ortaya çıkardı.

MALL bağlamında öğretmenler çoğunlukla dinleme ve konuşma becerilerindeki sorunları, öğrencilerin farklı eğitim ortamları ve dil yeterlilik seviyelerindeki farklı ihtiyaçlarını, tarzlarını ve beklentilerini kaydettiler. Bununla birlikte, çoğunlukla MALL değerlendirmelerinin, öğrencilerin yapıcı ve anında geri bildirim alabileceği bireyselleştirilmiş, kendi hızına göre öğrenme yoluyla bu bireysel ihtiyaçları nasıl karşılayabileceğine dair olumlu görüşlerini dile getirdiler (Bacca-Acosta & Avila-Garzon, 2020; Rad, 2021). Bu açıklamalarla uyumlu olarak öğretmenler, MALL değerlendirme araçlarının/uygulamalarının etkili tasarımı için öneriler sunmuş ve bu araçların/uygulamaların farklı eğitim ortamlarında ve dil yeterlilik seviyelerindeki öğrencilerin bireysel ihtiyaçlarına hitap etmesi, yapıcı ve anında geri bildirim içeren bir geri bildirim mekanizması içermesi, pratik, güvenli, etkileşimli, erişilebilir, uygun fiyatlı, motive edici ve kullanıcı dostu olması, güvenilirliği ve geçerliliği sağlaması ve öğretmenler ile ölçme ve değerlendirme uzmanları arasındaki işbirliğini teşvik etmesi vurgulanmıştır.

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MALL değerlendirme araçlarının/uygulamalarının geçerliliği ve güvenilirliği konusunda uzmanlar endişelerini dile getirdiler ve uzmanların görüşleri birbirinden farklılık göstermiştir. Geçerlik konusunda bir uzman, bu araç/uygulamaların öğrencilerin yetenek ve beklentileriyle ve içindeki etkinliklerin öğretilmesi amaçlanan konularla eşleştirilmesinin önemini vurgularken, güvenirlik için de bu araçları/uygulamaları notlandırma sürecine entegre etmeden önce etkili bir şekilde analiz etmenin önemine dikkat çekti. Başka bir uzman, biçimlendirici değerlendirmelerin MALL araçlarına/uygulamalarına dahil edilmesi olasılığını algılasa da, bu araçlar/uygulamalar aracılığıyla özetleyici değerlendirmelerin yapılmasına ilişkin endişesini dile getirdi. Bu bakış açısıyla uyumlu olarak, Black ve William (1998) özetleyici değerlendirmelerin biçimlendirici değerlendirmelere göre daha zayıf olduğunu vurgulamış ve Brown (2004) öğrencilerin gelecekteki öğrenme uygulamalarına ilişkin daha fazla yönlendirme sunma konusunda özetleyici değerlendirmelerin yeteneğinin eksikliğini belirtmiştir. Diğer uzman, etkili MALL değerlendirme araçlarının/uygulamalarının tasarlanmasında öğretmenlerin ve uzmanların farklı rollerinin altını çizdi ancak öğretmenler ve uzmanlar arasındaki iş birliğinin geçerlilik ve güvenirlik kaygılarını hafifletebileceğini belirtti.

Bu çalışmada uzmanlar üniversitelerde ölçme ve değerlendirme derslerinin eksikliğine dikkat çekerek öğretmenlerin bu dersleri almamaları veya kendilerini yeterince geliştirmemeleri sebebiyle "ölçme bilmeyen" olarak tanımlanmasına sebep olduğunu vurgulamıştır. Bu nedenle eğitim kurumlarının öğretmenlerin mesleki gelişimlerine yatırım yapmalarını ve öğretmenlerin çeşitli proje, seminer veya konferanslara katılarak kendilerini geliştirmelerini, yetersizliği önlemek amacıyla etkili MALL değerlendirmeleri için en güncel araçları/uygulamaları takip etmelerini önermiştir. Ayrıca öğretmenlere öğrencileriyle iş birliği yapmalarını ve mobil cihazlarını dil öğrenme ve değerlendirme uygulamalarında nasıl etkili bir şekilde kullanacakları konusunda onları eğitmelerini önermişlerdir.

MALL araçlarının/uygulamalarının sağladığı olanakları göz önüne alarak ve başta yapay zekâ araçları olmak üzere hızlı teknolojik gelişmeleri vurgulayarak tüm öğretmenler ve uzmanlar, MALL değerlendirmelerinin geleceğinin umut verici olduğunu öngördüler. MALL değerlendirmelerinin dil sınıflarına dahil edilmesinin

öğretmenlerin iş yükünü hafifletebileceğini, karşılanabilirliği, kullanım kolaylığını, pratikliği ve erişilebilirliği geliştirebileceğini ve öğrencilerin dil öğrenimindeki güçlü ve zayıf yönlerini belirlemelerine yardımcı olan bireyselleştirilmiş öğrenme fırsatları ve yapıcı geri bildirim sağlayabileceğini belirtmiştir (Li & Chan, 2024; Alharbi & Meccawy, 2020; Rad, 2021; Rezaee vd., 2019), Nguyen & Yukawa, 2019). Ek olarak bir uzman, MALL değerlendirmelerinin muhtemelen CEFR çerçevesini etkileyerek öğrencilerin farklı ihtiyaçlarını, ilgi alanlarını ve beklentilerini karşılayan belirli beceriler kazanmalarına yol açacağının altını çizmiştir. Uzmanların görüşleriyle uyumlu olarak öğretmenler, öğrencilerin ihtiyaç ve beklentilerini daha etkili bir şekilde karşılamak için gelecekte MALL değerlendirmelerine ilişkin hizmet içi eğitimler almanın önemini vurguladılar. Bununla birlikte, MEB'in son dönemde belirlediği müfredat kısıtlamaları nedeniyle geleneksel değerlendirme yöntemlerinden ayrılma isteklerine rağmen öğretmenler, öngörülebilir bir gelecekte hala geleneksel değerlendirme yöntemlerine bel bağlamak zorunda kalabileceklerini belirtmişlerdir.

Öğretmenler ve uzmanlardan elde edilen bulgular ışığında, bu çalışmada MALL araçlarını/uygulamalarını dil öğretimi ve değerlendirme uygulamalarına etkili bir şekilde nasıl dahil edebilecekleri konusunda İngilizce öğretmenlerine, öğretmen profesyonel gelişimine dair, MALL araç/uygulamaları tasarlayıcılarına, politika yapıcılar ve yöneticiler bir dizi öneriler sunulabilir.

İngilizce öğretmenlerinin, öğrencilerin farklı ihtiyaçları, tarzları ve tercihleri olduğunu göz önünde bulundurarak dil öğretme ve değerlendirme süreçlerine dahil etmeyi planladıkları MALL araçlarını/uygulamalarını dikkatli bir şekilde seçmesi ve değerlendirmesi, bu araçların/uygulamaların olumlu geri dönüş etkilerini teşvik ettiğinden ve öğretim süreçlerini engellemediğinden emin olmaları, özellikle kalabalık sınıfların yarattığı kısıtlamaları göz önünde bulundurarak zamandan, maliyetten ve emekten tasarruf etmek amacıyla MALL araçlarının/uygulamalarının pratikliğinden yararlanmaları ve öğrencilerin geleneksel veya MALL değerlendirmeleri sürecinde anlamlı geri bildirim aldıklarından emin olmaları gerekmektedir.

Öğretmenlerin profesyonel gelişimi açısından teknoloji okuryazarlığı becerilerini arttırmak, MALL araçlarını/uygulamalarını sınıf ortamlarına daha etkili bir şekilde entegre etmek, etkili materyaller geliştirmek ve bu materyalleri eleştirel bir şekilde değerlendirmek, ölçme ve değerlendirme sürecinde bu araç veya materyalleri nasıl kullanacaklarını öğrenmek amacıyla mesleki eğitim almalarını sağlamak gerekmektedir. Ayrıca MALL ölçme değerlendirmesine dair eğitimler güvenilirlik, geçerlilik, pratiklik, geri döndürme, veri analizi gibi temel ilkeleri de mutlaka içermelidir. Öğretmenler katıldıkları mesleki gelişim topluluklarındaki diğer öğretmenlerle veya iş arkadaşlarıyla iş birliği yapmalıdır.

MALL araçları/uygulamaları tasarlayanlar mobil cihazların özellikle reşit olmayan öğrencilerin de verilerini topladığını göz önüne alarak, kullanıcıların güvenliğini sağlamak ve veri ihlallerine karşı korumak için çeşitli stratejiler uygulamalıdır. Mobil cihazların sağladığı kolaylığının arttırılması, dil değerlendirmelerinin geçerliliğinin iyileştirilmesi açısından büyük önem taşıdığından, MALL araç/uygulama tasarlayıcılarının öğrencilerin bu araç ve uygulamaları kolayca anlamalarını ve kullanmalarını sağlamaları ve değerlendirme sürecine olumsuz etkilerini de azaltmaları gerekmektedir. Bu araçlar, kullanıcıların yapıcı ve anında geri dönüt almasını sağlayacak geri bildirim mekanizmaları içermeli ve öğretmenlerin öğrencilerinin dil gelişimi desteklemek için ek geri bildirim sağlamalarına olanak sağlamalıdır. Ayrıca tasarımcılar, bu araçları/uygulamaları öğrenciler için kendi hızlarına göre ayarlanabilen, kişiselleştirilmiş öğrenme fırsatları sunabilen, özel ihtiyaçları olan öğrencilere de hitap edebilen bir şekilde tasarlamalıdır. Bu araçlar/uygulamalar daha iyi pedagojik temeller üzerine inşa edilmelerini sağlamak için öğretmenler ve ölçme ve değerlendirme uzmanlarıyla iş birliği içinde geliştirilmelidir.

Politika yapıcılar ve yöneticiler MALL araç ve uygulamalarının tüm öğrencilerin eşit erişim ve öğrenme fırsatlarına sahip olmasını sağlamalı, bunların yaygın kullanımına karar vermeden önce gerekli altyapının oluşturulmasını sağlamalıdır. Politika yapıcılar, MALL araçlarının/uygulamalarının sınıflardaki potansiyel faydalarını dikkate alarak bunların öğrenme ve öğretme sürecinde kullanılmasına izin veren kurallar ve düzenlemeler oluşturmalıdır. Ayrıca öğretmenlere mobil cihazları etkili

bir şekilde sınıf ortamlarına ve değerlendirme süreçlerine entegre etme konusunda mesleki gelişim fırsatları sunmalı ve öğrencilere bu mobil cihazları etkili bir şekilde kullanmaları için eğitimler sağlamalıdır.

Araştırma az sayıda katılımcıyı kapsadığı için sınırlıdır ancak bu sınırlamayı gidermek için daha geniş bir öğretmen örneklemi ve ölçme ve değerlendirme uzmanlarıyla daha fazla araştırma yapılabilir. Ek olarak öğrencilerin algıları üzerine çalışmak MALL değerlendirmelerinin daha kapsamlı anlaşılmasını sağlamak açısından önemlidir. Gelecekteki çalışmalar hizmet öncesi ve hizmet içi öğretmenlerin algılarını aynı şekilde karşılaştırabilirken, özel ve devlet okul ortamlarını kapsayacak şekilde genişletilebilir. Bu çalışmada nitel açıklayıcı durum çalışması tasarımı kullanıldığından, gelecekteki çalışmalar için nicel yöntemlerin dahil edilmesi ve daha fazla sayıda katılımcıya ulaşılması sağlanabilir. Ayrıca deney ve kontrol grupları üzerine çalışmalar yürütülüp, bu grupların geleneksel değerlendirme yöntemleri ve MALL değerlendirmelerine dair algıları arasındaki benzerlikler ve farklılıklar araştırılabilir. Bu çalışmada veri toplamak için yarı yapılandırılmış görüşmeler kullanıldığından, gözlemler, saha çalışması veya odak grup görüşmeleri gibi diğer örnek olay çalışması teknikleri daha sonraki araştırmalara entegre edilebilir. Mevcut nitel araştırmada araştırmanın bulgularını desteklemek için algı ölçekleri kullanılmadığından gelecekteki araştırmalar ya nitel araştırmalar yeni algı ölçekleri geliştirebilir ya da mevcut ölçekler karma yönteminde nicel kısımlar için kullanılabilir.

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