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**TESTING A MODEL OF MOBILE ASSISTED LANGUAGE LEARNING  
(MALL) MOTIVATION**

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**Master's Thesis**

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TESTING A MODEL OF MOBILE ASSISTED LANGUAGE LEARNING (MALL)  
MOTIVATION

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Sivas Cumhuriyet University  
Graduate School of Education

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## APPROVAL

This thesis titled "Testing a Model of Mobile Assisted Language Learning (MALL) Motivation", prepared by Fatih Kurtođlu, was found successful at the end of the exam held on 13.03.2024 and accepted by our thesis committee as a Master's Thesis in Sivas Cumhuriyet University, Graduate School of Education, Department of Foreign Language Education, Program of English Language Teaching.

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## THE WORD OF HONOR

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Fatih KURTOĞLU

## ABSTRACT

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This study aims to investigate the indirect effect of Mobile Assisted Language Learning (MALL) motivation on EFL learners' behavioral intention (BI). In particular, the study aims to investigate the relationship between motivation, Unified Theory of Acceptance and Use of Technology (UTAUT) factors and learners' BI as well as to examine the moderating effect of learners' perceptions towards MALL (PtMALL). In this study, quantitative methods and survey data were used and scales were developed to measure motivation, UTAUT-performance expectancy (PE), BI, and PtMALL. By examining how motivation affects learners' behavioral intention, this research offers insights and strategies to improve language learners' motivation, behavioral intention and overall language learning experience.

This study adopted a survey applied to the study group of 626 EFL students receiving education in Sivas Cumhuriyet University. In addition to the sociodemographic data of the participants, mobile application usage habits were also included in the study. In the survey of the study, 4 scales and 36 statements belonging to these scales were analyzed. Descriptive statistics on the data were prepared to understand the general structure of the participants. At the same time, the difference analysis of the scale averages was calculated and the descriptive statistics of the categories were examined. The cause and effect relationship between the scales was analyzed with Structural Equation Modeling (SEM). Thus, the direct and indirect effects of the MALL motivations of English language learners on their behavioral intentions were investigated.

The research findings suggest that the participants' device usage habits reflect the society. It was also found that MALL motivation did not directly affect BI intentions. However, it was concluded that students' BI can be influenced by mediating effects. Another important finding is that an interaction through the PE scale has a higher impact on BI ( $\approx 63.0\%$ ) than an effect through the PtMALL scale ( $\approx 16.0\%$ ).

The pedagogical implication of this study is the enhancement of MALL motivation through personalized, technology-integrated educational strategies, significantly

impacting students' behavioral intentions and language learning experiences in EFL contexts.

**Keywords:** Mobile-Assisted Language Learning, EFL students, UTAUT, Behavioral intention, motivation



## ÖZET

KURTOĞLU, Fatih, Mobil Destekli Dil Öğrenimi (MDDÖ) Motivasyonu Modelinin Test Edilmesi, Yüksek Lisans Tezi, Sivas, 2024

Bu tez, Mobil Destekli Dil Öğrenimi (MDDÖ) motivasyonunun yabancı dil olarak İngilizce öğrenenlerin davranışsal niyeti üzerindeki dolaylı etkisini araştırmayı amaçlamaktadır. Çalışma, motivasyon, Birleştirilmiş Teknoloji Kabulü ve Kullanımı Teorisi (BTKKT) etkenleri ve öğrencilerin davranışsal niyeti arasındaki ilişkiyi araştırmayı ve aynı zamanda öğrencilerin MDDÖ'ye yönelik algılarının moderatör etkisini incelemeyi de amaçlamaktadır. Nicel yöntemlerin ve anket verilerinin kullanıldığı bu çalışmada motivasyon, BTKKT-performans beklentisi, davranışsal niyet ve MDDÖ'ye yönelik algıları ölçmek için geliştirilmiş ölçekler kullanılmıştır. Motivasyonun öğrencilerin davranışsal niyetini nasıl etkilediğini inceleyerek, bu araştırma ile dil öğrenenlerin motivasyonunu, davranışsal niyetini ve genel dil öğrenme deneyimlerini geliştirmeye yönelik içgörü ve stratejiler önerilmiştir.

Bu tezde anket uygulanan çalışma grubu, Sivas Cumhuriyet Üniversitesi'nde eğitim gören 626 yabancı dil olarak İngilizce öğrenen öğrenciden oluşmaktadır. Katılımcıların sosyodemografik verileri yanı sıra mobil uygulama kullanım alışkanlıkları da çalışmada yer almaktadır. Çalışmanın tarama kısmında 4 ölçek ve bu ölçeklere ait 36 ifade ile analiz gerçekleştirilmiştir. Veriler üzerine yapılan tanımlayıcı istatistikler katılımcıların genel yapılarını anlamak amacıyla hazırlanmıştır. Aynı zamanda ölçek ortalamalarının fark analizleri hesaplanmış ve kategorilere ait tanımlayıcı istatistikler yorumlanmıştır. Ölçekler arasındaki sebep sonuç ilişkisi Yapısal Eşitlik Modeli ile analiz edilmiştir. Böylelikle İngilizce öğrencilerinin MDDÖ motivasyonlarının davranışsal niyetleri üzerindeki doğrudan ve dolaylı etkileri araştırılmıştır.

Araştırma sonucunda katılımcıların cihaz kullanım alışkanlıklarının toplumu yansıttığı görüşü hakimdir. Aynı zamanda, MDDÖ motivasyonlarının davranışsal niyetlerini direkt olarak etkilemediği anlaşılmıştır. Ancak, öğrencilerin aracı etkiler ile davranışsal niyetlerinin etkilenebildiği sonucuna varılmıştır. Bir diğer önemli bulgu ise performans beklentisi ölçeği aracılığıyla kurulacak bir etkileşimin davranışsal niyetler üzerindeki etkisinin ( $\approx 63.0\%$ ), MDDÖ performans beklentisi ölçeği aracılığıyla gerçekleşen bir etkiden ( $\approx 16.0\%$ ) daha yüksek olmasıdır.

Bu alıřmanın pedagojik ıkarımı, yabancı dil olarak İngilizce ğrenilen ortamlarda ğrencilerin davranıřsal niyetlerini ve dil ğrenme deneyimlerini nemli lde etkileyen kiřiselleřtirilmiř, teknolojiyle entegre eđitim stratejileri aracılıđıyla MALL motivasyonunun arttırılmasıdır.

**Anahtar Kelimeler:** Mobil Destekli Dil ğrenimi, yabancı dil olarak İngilizce ğrenen ğrenciler, Birleřtirilmiř Teknoloji Kabul ve Kullanımı Teorisi, davranıřsal niyet, motivasyon



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## ABBREVIATIONS LIST

<b>MALL</b>	: Mobile Assisted Language Learning
<b>EFL</b>	: English as a Foreign Language
<b>ELT</b>	: English Language Teaching
<b>UTAUT</b>	: The Unified Theory of Acceptance and Use of Technology
<b>TAM</b>	: Technology Acceptance Model
<b>BI</b>	: Behavior Intention
<b>PE</b>	: Performance Expectancy
<b>PtMALL</b>	: Perceptions towards MALL
<b>SEM</b>	: Structural Equation Model
<b>CFA</b>	: Confirmatory Factor Analysis
<b>MOOCs</b>	: Massive Open Online Courses
<b>LMOOCs</b>	: Massive Open Online Courses for language learning

## CHAPTER 1: INTRODUCTION

In today's digital era, technology has become an indispensable part of our lives and education (Chinnery, 2006), which greatly motivates professionals, educators, and learners to re-evaluate their beliefs and examine how it can be used to reshape educational and training systems. Many language learners face challenges and difficulties in their language learning journey, including limited access to language resources, insufficient practice opportunities, and difficulties in maintaining motivation and engagement (Dörnyei, 2005). However, technological devices offer significant advantages for both learners and teachers. Mobile technologies, in particular, have emerged as a convenient and accessible tool for language learning due to their constant availability and ease of use (Stockwell, 2010). It is therefore important to understand how to effectively use these technologies to maximize their potential in language learning.

The field of language learning has witnessed an increasing interest in the integration of mobile technologies as a means to facilitate language acquisition. Mobile-Assisted Language Learning (MALL) represents an approach that utilizes mobile phones and other mobile devices to enhance language learning experiences beyond the traditional classroom setting (Chinnery, 2006; Kukulska-Hulme, 2012; Stockwell, 2010). The main advantage of mobile technologies often used for practical benefits in language learning is that they are widely available. Kumar Basak et al. (2018) regards e-learning, m-learning, and d-learning as terms that are often used interchangeably or in complementary ways to refer to technological learning. E-learning thus serves either as an alternative or as a supplement to the traditional learning, while m-learning complements both traditional and e-learning by allowing learners to interact with resources remotely. D-learning addresses challenges faced by educational institutions and policymakers, offering high-quality courses for remote learners. The three technology tools, e-learning, m-learning, and d-learning, are highly valuable and have an important role in contemporary education, qualifying both teachers and learners to take the responsibility of their own growth and development. Therefore, it is important to explore innovative approaches, such as MALL, to solve the problems in language learning and help people learn languages better.

The integration of technology with language learning, particularly through MALL, has turned the emphasis towards understanding learner motivation. This integration, combining technological innovations with educational strategies, makes it essential to explore and understand how motivation is influenced and shaped within the MALL framework. Motivation, a fundamental element in language acquisition, is not a static attribute but an ever-changing construct shaped by various factors (Deci & Ryan, 1985; Norbrook & Scott, 2003; Ushioda, 2013). Foundational insights from Dörnyei (2014) and Ryan and Dörnyei (2013) emphasize the cognitive, emotional, and social facets of motivation in this context. The distinction between language learning motivation and classroom learning motivation, highlighted by Gardner and Smythe (1975), becomes particularly notable in also MALL settings. Similarly, Ushioda (2006, 2011) makes further contributions to the understanding of motivation by exploring it through the lenses of learner self-concept and identity in the digital era.

The intersection of MALL with learners' personal and cultural identities makes the understanding of motivation in language learning better. This integration emphasizes the need for MALL involvement that are not only technologically advanced but also culturally and personally reflected. Studies by Boo et al. (2015), Wen et al. (2019), and Liu et al. (2023) contribute to this understanding by demonstrating how the interactive and multimedia capabilities of mobile devices can be used to foster a deeper, more engaging language learning experience. Recent studies, such as those conducted by Yang (2020) and Garcia Botero et al. (2019), try to explain how specific aspects of MALL, like application design and content relevance, influence learner motivation. These studies reveal that factors such as engaging content, technological affordances, and the design of learning applications play important roles in maintaining and enhancing motivation in language learning through mobile technologies. However, they also highlight the complexity of sustaining motivation, underscoring the need for continuous engagement and support in the journey of learning.

According to this progressing perspective of motivation in language learning, particularly in the EFL context, the role of MALL becomes significant. MALL not only provides a flexible and engaging medium for language acquisition but also intersects with learners' personal and cultural identities, influencing their motivation. Therefore, a better understanding of motivation in MALL is not only an academic need but a necessary step to design effective, sustainable language learning strategies and language

pedagogies in today's digital world. Understanding and utilizing the motivational factors in MALL can result in more effective and engaging language education, especially enhancing the language proficiency of learners in diverse contexts.

Another key factor to consider is behavioral intention. It refers to an individual's readiness and commitment to perform a specific behavior, influenced by their attitudes, subjective norms, and perceived control over the behavior as conceptualized by Ajzen (1991). There are several studies on the effect of behavioural intention in MALL. Research conducted by Garcia Botero et al. (2018) examined the relationship between behavioral intentions and the actual use of MALL, guided by the UTAUT models. This study highlighted that the participants showed low levels of behavioral intentions towards MALL. Notably, it also underscored the significant influence of performance expectancy in shaping attitudes towards the adoption of MALL. In a related vein, Kim and Lee (2016) explored the acceptance and usage of MALL among students, focusing on the factors that influence these behaviors. Their findings revealed a substantial link between behavioral intention and the acceptance of MALL. The study concluded that while some factors, such as self-efficacy and interactivity, were not significant determinants, most of the constructs examined played a crucial role in influencing students' willingness to adopt MALL. These results highlight the importance of understanding behavioral intention as a determinant of MALL acceptance and emphasize the influence of various factors on students' willingness to use MALL. According to Burston (2015), in order to promote the acceptance and adoption of MALL, it is crucial to conduct additional research that provides objective and quantifiable data on its effectiveness. This research can play a significant role in not only motivating language teachers to use MALL as a valuable tool, but also positively influencing students' expectations for improved performance. It is important to mention that individuals who hold greater expectations of performance are more likely to use mobile learning compared to those with lower performance expectations. Therefore, we need to see how MALL affects people's willingness to do language learning activities. Understanding how MALL affects people's behavioral intentions can help us make strategies to get people to do more language learning outside of classrooms.

Like behavioral intention, perception also plays a crucial role in shaping individuals' attitudes and expectations towards technology-based language learning approaches. Understanding how learners and teachers perceive MALL can offer valuable insights

into its effectiveness and potential impact. Perception is defined as “man's primary form of cognitive contact with the world around him” (Efron, 1969, p. 137). There are some studies on the MALL perceptions. Studies like those of Hsu (2013) and Jiménez (2019) reveal that learners' cultural backgrounds and educational settings significantly shape their perceptions of MALL. These findings emphasize the need for a better understanding of MALL's role, considering the diverse cultural and educational landscapes. Central to the concept of perception in MALL are the beliefs and attitudes of learners about the efficacy and suitability of MALL for language learning. For example, Hsu's (2013) study demonstrates how cultural backgrounds can significantly impact beliefs about the utility of MALL, thus influencing attitudes towards its adoption. Jiménez (2019) further highlights adult learners' positive evaluations of MALL in oral English courses, acknowledging its value in enhancing language skills. Individual experiences with mobile technologies, both inside and outside educational settings, deeply influence perceptions of MALL. For instance, Dahio et al.'s (2022) study demonstrates how positive mobile technology experiences lead to favorable MALL perceptions. Cultural backgrounds also play a key role in shaping these perceptions, as evidenced by Hsu's (2013) study, which found distinct perceptions of MALL among students from different cultures. In addition to personal and cultural factors, the perceived usefulness and ease of use of MALL significantly affect learners' willingness to adopt and effectively use these tools. For example, Yang et al.'s (2022) study underscores the importance of MALL tools being perceived as user-friendly and beneficial for enhanced learner engagement. The integration of functionalities and multimedia in MALL tools, as highlighted by Cakir (2015) and Hsu (2013), is a critical aspect of technological affordance. These features, including the efficient use of mobile apps and multimedia resources, are vital in facilitating a richer learning experience. It is clear that understanding perceptions towards MALL is essential for effective language education. Perceptions, shaped by cognitive, affective, and contextual factors, play a crucial role in how learners engage with mobile technologies in language learning. This comprehensive understanding is essential for designing MALL settings that are effective, engaging, and sensitive to the complex interaction between technology and language education.

The Unified Theory of Acceptance and Use of Technology (UTAUT), formulated by Venkatesh et al. (2003), serves as a basic framework in understanding the acceptance

and usage of technology in various domains, including MALL. The UTAUT model incorporates four key determinants: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions, alongside moderating variables like experience, voluntariness, gender, and age, to explain technology use behavior (Venkatesh et al., 2003).

In the context of MALL, Performance Expectancy (PE) emerges as a critical factor, which is defined as the belief that using MALL will enhance language learning performance. This belief significantly influences learners' attitudes towards MALL, suggesting that when learners perceive MALL as beneficial for their language learning, they are more likely to engage with it. For instance, studies like that of Hoi (2020) and Razzak and Jassem (2021) underscore the importance of PE in shaping learners' attitudes and behavioral intentions towards MALL. These studies demonstrate how learners' perceptions of the effectiveness of MALL in enhancing language outcomes can directly influence their motivation to use these technologies. Further research, such as the studies by García Botero et al. (2018) and Ebadi and Raygan (2023), highlights the significant role of facilitating conditions and ease of use in enhancing the perceived usefulness of MALL. These aspects contribute to a comprehensive understanding of how various factors interplay to shape learners' attitudes and acceptance of MALL in diverse educational contexts. Moreover, the role of psychological needs and motivational factors in the acceptance and use of MALL, as explored in studies like Hsu's (2023) on Language Massive Open Online Courses (LMOOCs), emphasizes the importance of considering learners' autonomy, competence, and relatedness in MALL contexts. This perspective aligns with the expectancy-value theory, as demonstrated in Liu's (2016) study, where well-structured MALL tasks led to improvements in students' speaking performance. The acceptance and use of MALL also vary across cultural contexts. Luo Y.'s (2019) study in China and Morchid's (2019) research in Morocco illustrate how cultural and contextual factors play a crucial role in shaping learners' expectations and acceptance of MALL. These studies indicate that performance expectancy has a major role in shaping learners' attitudes towards MALL, linking higher expectations of performance to increased adoption of mobile learning. In summary, the exploration of Performance Expectancy in MALL reveals a complex and nuanced interaction of various factors, including the perceived benefits and effectiveness of MALL, ease of use, cultural influences, and the overarching technological ecosystem.

These insights are fundamental for understanding the dynamics of MALL adoption and effectiveness in language education, particularly in EFL contexts. They highlight the necessity for educational strategies that support learner autonomy, personalized learning paths, and the effective integration of mobile technologies in language education, ensuring that MALL meets learners' expectations and enhances their language learning experience.

### **1.1. Problem Statement**

By addressing the existing gaps in the literature and taking into consideration the comprehensive body of knowledge presented in this study, it is aimed to provide new insights into the effect of MALL motivation on behavioral intention. To illustrate, a number of studies such as the research conducted by Yang (2020) and Garcia Botero et al. (2019) has highlighted the factors that impact learners' motivation in MALL, including the quality of reading content, language difficulties, the affordance of mobile technologies, and the motivational design of applications. These studies also emphasized the need for tailored MALL tools to enhance motivation and the importance of training and support for learners' self-directed learning. Furthermore, studies by Garcia Botero et al. (2018) and Kim and Lee (2016) have explored the dimensions of the Unified Theory of Acceptance and Use of Technology (UTAUT) model, revealing the significance of behavioral intention in MALL acceptance. Performance expectancy was found to play a crucial role in shaping learners' attitudes towards MALL, emphasizing the influence of various factors on their willingness to adopt MALL. Perception, as examined by Hsu (2013) and Jiménez (2019), has shown that learners' cultural backgrounds and educational settings significantly shape their perceptions of MALL. These perceptions, coupled with performance expectancy, play a critical role in determining learners' attitudes and willingness to adopt MALL. The impact of performance expectancy on behavioral intention, as outlined in the studies by Garcia Botero et al. (2018) and Kim and Lee (2016), will also be a focal point of this research.

The literature review reveals that many different methods approaches have been developed in foreign language education. It is an attractive topic for researchers that foreign language learning can also benefit from the widespread use of technology-assisted learning. In line with the economic conditions, the importance of the use of European languages for our country cannot be denied. In addition, since English is

recognized as the lingua franca, the direction of the study has evolved to the study of learners of English as a foreign language

## **1.2. Purpose of the Research**

Based on these findings, this study aims to further investigate the effect between MALL motivation and behavioural intention. Additionally, it is aimed to find out whether perceptions towards MALL and performance expectancy mediate this effect by taking into account specific factors identified in the literature. The study aims to fill the gaps in the existing literature and contribute to the understanding of how students' behavioral intentions are affected in terms of MALL in language learning environments.

Thus, the purpose of this study is to investigate the indirect effect of MALL on EFL learners' motivation and behavioral intention. For this purpose, the hypothesis were formulated as follows:

H1: MALL motivation affects behavior intention.

H2: MALL motivation affects the performance expectancy, which is a sub-dimension of the Unified Theory of Acceptance and Use of Technology (UTAUT).

H3: MALL motivation affects the perception towards MALL.

H4: Performance expectancy affects behavior intention.

H5: Perception towards MALL affects behavior intention.

H6: Performance expectancy have a moderating affect on the effect between MALL motivation and behavioral intention.

H7: Perceptions towards MALL have a moderating affect on the effect between MALL motivation and behavioral intention.

## **1.3. Significance of the Research**

This research holds significant importance and contributes to the existing literature on MALL by addressing the indirect effect of MALL motivation on EFL learners' behavioral intention. By examining the relationships among motivation, behavioral intention, and MALL use, this study aims to provide valuable insights into the effectiveness of MALL and its potential to enhance language learning experiences.

First, the research addresses the need to understand the impact of MALL motivation on EFL learners' behavioral intentions regarding MALL. It examines how this effect is mediated by the perception towards MALL and the performance expectancy that may result from the use of MALL.

Second, the study investigates the impact of MALL motivation on EFL learners' Unified Theory of Acceptance and Use of Technology (UTAUT). Among the many sub-dimensions in the UTAUT model, performance expectancy and perception towards MALL sub-dimensions were chosen to be used.

Third, the study examines the impact of UTAUT on EFL students' behavioral intentions. By investigating the effect between UTAUT sub-dimensions and learners' behavioral intentions, the study contributes to the understanding of the factors that lead learners to engage in language learning activities using mobile technologies. By exploring the mediating role of UTAUT factors, the research seek to clarify the mechanisms underlying between MALLmotivation's and behavioral intention in the context of MALL.

Furthermore, the research examines the moderating effect of learners' perception towards MALL on the causality between their motivation and UTAUT, as well as on the effect between UTAUT and behavioral intention. This analysis provides insights into the role of learners' perceptions and attitudes towards MALL in shaping the relationship between MALL motivation and behavioral intention.

The findings of this research will contribute to the current literature on MALL by providing empirical evidence on the relationships between motivation, UTAUT, perception, and behavioral intention in the context of language learning. The insights gained from this study can inform language teachers, curriculum developers, and decision-makers in education about effective strategies for incorporating MALL into language learning environments. By understanding the factors that influence learners' motivation, acceptance, and behavioral intention towards MALL, educators can design more engaging and effective language learning activities that capitalize on the benefits of mobile technologies.

Overall, this research fills a gap in the literature by investigating the indirect effects of MALL motivation on EFL learners' behavioral intention. By exploring the complex interplay between motivation, UTAUT, and perception, the study contributes to a

deeper understanding of the factors that shape learners' attitudes and behaviors towards MALL. The findings will have practical implications for language education and can pave the way for the development of more effective pedagogical approaches and interventions in the field of language learning.

#### **1.4. Limitations of the Research**

It is clear that the results of this study cannot be a scientific law. The scales and sample used in the study explain why this interpretation was made. This study is only capable of explaining the behavioral patterns of EFL learners in a specific geography with the model and the scales used. From this point of view, it is understood that there are basic limitations due to the geography of the study, the time of the study and the scales used in the study.

First of all, when the geographical problem of the study is considered, the EFL students in the sample are English language learners who continue their education at Sivas Cumhuriyet University. The fact that the sample used for the study is limited to a specific geography can only inspire the generalizability of the results, although it gives an idea about the applicability of the results. In terms of generalizability of the results, multi-center studies should be conducted. At the same time, the model used in this study can be applied not only to those who study English in higher education but also to those who study English because of the need they feel in their social lives.

Secondly, there is the time constraint of collecting the questionnaires. Since the focus of the survey is on people, socio-economic and socio-demographic characteristics are reflected in the answers. As the social values and perceptions may change over long spans of time, the results obtained may only cover a limited period of time. Likewise, it is one of the problems faced by researchers in many survey studies that the answers given by the respondents may differ according to the reflections of the change in their moods. The way respondents perceive survey questions is also a result of the environmental influences they are in. Therefore, it is clear that the answers to the surveys to be conducted at different times may vary.

Finally, it is necessary to discuss how the scales used will be understood by the participants. Although the scales used have been evaluated in many studies and their general validity has been proven, there is always uncertainty about the perceptions of

the participants. Although this problem is tried to be explained by the reliability analysis in the implementation phase, this only shows the consistency of the whole sample.

### **1.5. Assumptions**

It was assumed that the students participated in the study used at least one software in English language learning. At the same time, there was no restriction on the electronic device on which the software would be used. It was also assumed that they used the software on a mobile device. Additionally, it was also assumed that the participants self reports of MALL use etc. reflected their true perceptions and practices.

### **1.6. Definitions of Terms**

**EFL (English as a Foreign Language):** EFL is the study of English by non-native speakers in countries where English is not the primary language. It differs from ESL (English as a Second Language) as it focuses on learning English for communication, education, social mobility, employment, and business beyond the learner's immediate surroundings, rather than acquiring the language within an English-speaking environment (Si, 2019).

**Mobile Assisted Language Learning (MALL):** MALL represents the intersection of technological innovation and educational pedagogy, leveraging mobile devices to offer flexible and accessible learning experiences (Godwin-Jones, 2011; Stockwell, 2010).

**m-learning:** M-learning, or mobile learning, is defined as learning facilitated through the use of mobile and portable devices like PDAs, cell phones, and tablet PCs. These devices enable learning anywhere and at any time without a permanent physical connection to cable networks. M-learning is a form of distance and e-Learning, distinguished by its emphasis on mobility and the use of wireless technology (Georgiev et al., 2004).

**Computer Assisted Language Learning (CALL):** CALL, originating in the 1960s and 1970s, focuses on language exercises using computers, evolving with technology to include mobile devices (Kukulska-Hulme & Shield, 2008).

**Motivation:** Motivation in language learning involves the dynamic interplay of cognitive, emotional, and social elements, crucial for sustaining language learning (Dörnyei, 2014; Ryan & Dörnyei, 2013).

Technology Acceptance Model (TAM): TAM describes technology acceptance as a process starting from external factors to cognitive responses and effective responses, influencing use behavior (Davis, 1989, 1993).

Behavioral intention: Behavioral intention in the context of technology-enhanced language learning is defined as the measure of students' readiness to engage with and use technological tools for educational purposes, reflecting their attitudes, perceived utility, and ease of use of the technology (Chen et al., 2021; Hameed et al., 2022)

Theory of Planned Behavior (TPB): TPB, an extension of TRA, includes perceived behavioral control, referring to the perceived ease or difficulty of performing the behavior (Ajzen, 1991).

The Unified Theory of Acceptance and Use of Technology (UTAUT): UTAUT integrates elements from various IT acceptance models, providing a comprehensive framework for technology acceptance research (Venkatesh et al., 2003).

Perception: In MALL, perception encompasses learners' beliefs, attitudes, and evaluations regarding the use of mobile technologies in language learning (Hsu, 2013).

Performance Expectancy: Performance Expectancy is the degree to which an individual believes that using a system will help them to attain gains in job performance (Venkatesh et al., 2003).

## **CHAPTER 2: THEORETICAL BACKGROUND AND RELATED RESEARCH**

### **2.1. Mobile Assisted Language Learning (MALL)**

#### **2.1.1. Introduction**

In the digital era, Mobile Assisted Language Learning (MALL) represents a significant intersection of technological innovation and educational pedagogy. It symbolizes the shift from traditional classroom-based education to dynamic, learner-centered environments. Leveraging the ubiquity of mobile devices, MALL offers flexible, accessible, and context-rich learning experiences. Godwin-Jones (2011) emphasizes how the advent of smartphones and tablets has transformed these devices from basic communication tools into potent educational resources, facilitating interactive and personalized learning experiences. Similarly, Stockwell (2010) underscores the evolution of mobile devices in enhancing learning opportunities, making them more accessible and integrated into daily life.

MALL's integration into educational technology reflects a broader trend towards enhancing interactivity and learner autonomy in language learning. It aligns with contemporary educational theories that emphasize the importance of contextualized and situated learning experiences (Hockly, 2016). Lan et al. (2007) contribute to this understanding by demonstrating how MALL facilitates access to language learning content in real-world contexts. This approach enhances the relevance and applicability of the learning material, effectively bridging the gap between theoretical knowledge and practical application. Such integration of MALL into educational settings underscores its potential in transforming traditional learning paradigms by making language learning more dynamic and closely aligned with learners' real-life experiences.

As MALL continues to develop, it contributes to the evolution of language education. This development is not limited to augmenting traditional learning methods but includes introducing more refined approaches that make use of mobile technology's capabilities. For example, the increase in mobile app development has resulted in the creation of context-aware, multifunctional tools that cater to varied learning needs (Li et al., 2023). These advancements illustrate an expanding recognition of how mobile technology can support personalized, engaging, and effective language learning experiences. Research, such as the study by Jedi-Sari-Biglar and Liman Kaban (2023), highlights the benefits

of mobile-assisted task-based learning in improving vocabulary acquisition and student attitudes towards language learning. Such findings point to a trend where MALL not only supports language learning but also positively impacts learners' attitudes and motivation. Furthermore, the incorporation of elements like gamification, augmented reality, and interactive features into MALL applications is a testament to how technology is being utilized to create more engaging and effective language learning environments (Li et al., 2023). This progression towards a technologically advanced and learner-focused phase in MALL paves the way for exploring its developmental aspects, where the emphasis is on the innovative educational strategies enabled by these technologies.

### **2.1.2. Conceptualization of MALL**

MALL emerges as an integral part of the evolving educational landscape, intertwining the convenience and ubiquity of mobile devices with the dynamic field of language learning. M-learning, characterized by Kukulska-Hulme and Shield (2008, p. 280) as 'anywhere, anytime learning,' offers an innovative perspective on education. El-Hussein and Cronje (2010) expand on this concept by emphasizing the mobility of technology, learning process, and learners in m-learning. This approach enables learners to engage with material in various contexts and situations, underlining the importance of flexibility and accessibility in education. M-learning, as described by El-Hussein and Cronje (2010), is not just about the physical mobility of learners but also encompasses the adaptability of learning experiences, catering to diverse learning styles and environments. This approach, focusing on the mobility of learning process and learners as well as technology, underpins the fundamental shift from traditional, static educational settings to a more fluid and adaptable learning environment.

The essence of MALL is rooted in its core principles of mobility and flexibility, resonating with El-Hussein and Cronje's (2010) views on m-learning. It leaves behind traditional classroom limitations, enabling learning experiences in diverse settings at any time. This shift aligns with modern educational theories advocating for learner autonomy, contextualized learning, and seamless integration of technology into learning processes. Godwin-Jones (2011) noted the emergence of mobile apps as essential in language learning, allowing for a more engaged and autonomous learner experience. The flexibility and mobility inherent in MALL, as highlighted by El-Hussein and

Cronje (2010), resonate with contemporary pedagogical approaches that emphasize learner-centeredness and adaptability in educational settings. Therefore, MALL basically signifies a transformative step in language education, adopting the principles of m-learning to facilitate a more engaging, contextual, and interactive approach to language acquisition.

MALL has its roots in the broader field of Computer Assisted Language Learning (CALL), which emerged in the 1960s and 1970s with the advent of computers in educational settings. Initially, CALL was primarily focused on language exercises using computers but evolved significantly with technological advancements. The late 1990s and early 2000s notably changed with the introduction of mobile devices, heralding the era of MALL. This new phase in language learning leveraged the portability and thanks to the increasing capabilities of mobile devices, they offered unprecedented flexibility and accessibility in language education. Kukulska-Hulme and Shield (2008) discuss this transition, highlighting the shift from content delivery to more supported collaboration and interaction in language learning. Similarly, Stockwell (2010) emphasizes the evolution of language learning practices with mobile technologies, noting their role in facilitating more personalized and context-specific learning experiences.

MALL intertwines mobile technology with language education, offering accessibility and personalization, thereby extending learning beyond the boundaries of traditional classrooms. The rapid evolution of mobile technologies has redefined the scope of language education, with smartphones and tablets transitioning from mere communication devices to powerful educational tools fostering immersive and interactive learning experiences (Chinnery, 2006; Kukulska-Hulme, 2012). Kukulska-Hulme (2012) emphasizes how MALL redefines language education by integrating learning into various contexts and times, making it highly adaptable and accessible. Furthermore, Stockwell (2010) underscores the significance of mobile devices in facilitating interactive and immersive learning experiences, crucial to modern language education. Mobile technologies in MALL facilitate a range of activities, from accessing digital textbooks to interactive language learning applications, and real-time communication with native speakers. This multifunctionality renders language learning more dynamic and tailored to individual learner needs. Godwin-Jones (2011) points out the diverse interactive opportunities offered by mobile apps in language learning,

underlining the importance of customizing learning experiences to suit varied learner profiles.

### **2.1.3. E-learning, M-learning, D-learning, and Their Relation to MALL**

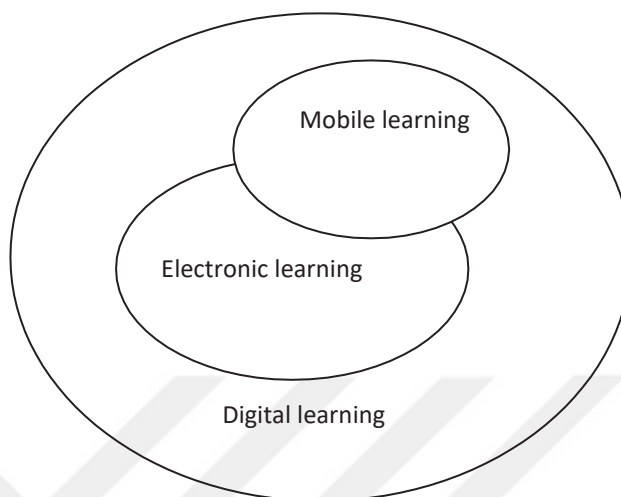
E-learning, m-learning, and d-learning represent interconnected yet distinct facets of digital education, each playing a critical role in the development and practice of MALL. E-learning, or electronic learning, often involves education via electronic media, typically on fixed electronic devices like computers. It is characterized by its structured and formal nature, often following a set curriculum in a virtual environment (Korucu, A. T., & Alkan, A., 2011). M-learning, or mobile learning, on the other hand, is a subset of e-learning that specifically utilizes mobile devices like smartphones and tablets. It is distinguished by its flexibility, allowing learning to happen in various contexts. M-learning is particularly noted for its ability to facilitate learning that is spontaneous, informal, and contextually relevant, making it an ideal approach for language learning (Kumar Basak et al. 2018; Korucu, A. T., & Alkan, A., 2011).

D-learning, or digital learning, is a broader category that encompasses both e-learning and m-learning. It refers to all forms of learning that use digital technology, including the internet, digital media, and mobile technology. The emergence of d-learning reflects the digital transformation in education, integrating various digital tools and platforms to enhance the learning experience (Kumar Basak et al. 2018).

MALL, as an extension of m-learning, inherits the characteristics of mobility, flexibility, and context-awareness. It leverages these attributes to provide a more dynamic and engaging language learning experience. In MALL, the use of mobile devices facilitates not only access to digital language learning resources but also enables real-time interaction and collaboration, making it a powerful tool in the field of language education. The versatility of MALL allows it to incorporate the structured, curriculum-based aspects of e-learning while also embracing the spontaneous and context-driven elements of m-learning. This combination makes MALL a comprehensive approach to language learning, capable of adapting to various learning styles and environments (Korucu, A. T., & Alkan, A., 2011).

Moreover, the integration of MALL within d-learning strategies signifies a holistic approach to digital education in language learning. It reflects an educational paradigm where digital tools are not just supplemental resources but integral components of the

learning process. MALL's ability to blend different learning modalities—ranging from formal, structured e-learning modules to informal, flexible m-learning activities—enriches the language learning experience, making it more effective and learner-centric (Kumar Basak et al. 2018).



**Figure 2.1.** Relationship of e-learning, m-learning, and d-learning (Kumar Basak et al. 2018, p. 195).

#### **2.1.4. Potential benefits of MALL**

Today, MALL encompasses a range of activities that extend beyond traditional learning methods. Lu (2008) highlights the effectiveness of MALL in vocabulary learning, demonstrating how activities such as accessing digital textbooks and engaging with interactive language learning applications can significantly enhance vocabulary acquisition. Furthermore, real-time communication with native speakers, as mentioned by Viberg and Grönlund (2013), makes language learning more dynamic and tailored to individual learner needs. The adaptability of MALL allows for the incorporation of various instructional strategies. This includes gamified learning experiences and context-aware language tasks, accommodating different learning styles and enhancing the effectiveness of language instruction.

MALL's role in fostering collaborative and interactive learning environments is significant. According to Rosell-Aguilar (2007), the social features of many mobile applications, like podcasts and forums, promote peer interaction and collaborative learning, key for language acquisition. This aspect of MALL aligns with the natural, communicative context in which languages are often learned and used, thereby

enhancing engagement and effectiveness in the language learning process. Thornton and Houser (2005) further emphasize that collaborative tasks, forums, and chatrooms facilitated by mobile technologies encourage meaningful interactions among learners. These interactions enrich the language learning experience by fostering a sense of community and shared learning.

Moreover, the evolution of MALL signifies a growing emphasis on learner autonomy and personalized learning paths. As Traxler (2007) points out, mobile technologies enable learners to engage with language content when and where they want, recognizing the context and history of each individual learner. This approach supports learning in meaningful contexts and fosters a more self-directed approach to language learning. Stockwell (2010) further illustrates that mobile technologies empower learners to experiment and make choices about their learning process, thereby allowing them to tailor their educational experiences to their individual goals and interests. This empowerment is instrumental in fostering a motivated approach to language learning, as learners have the freedom to determine the best ways to use mobile technologies for their learning needs. MALL also fosters a heightened sense of learner autonomy. Lai and Zheng (2018) discuss how mobile devices enable learners to engage in and assist autonomous, customized learning anytime and anywhere, empowering them by providing greater control over the timing, location, and method of their language studies. This autonomy is seen as key in facilitating flexible learning opportunities outside of traditional classroom settings. Learners perceive mobile devices positively for supporting ubiquitous multimedia language learning, which includes a variety of activities ranging from language drills and practice to authentic communication (Lai & Zheng, 2018). Furthermore, the study suggests that anytime-anywhere learning is a critical learner-utilized affordance of mobile devices for out-of-class language learning, emphasizing that educational interventions should focus on enhancing learners' effective use of mobile technologies, particularly for vocabulary learning (Lai & Zheng, 2018). This increased autonomy can contribute to more meaningful and effective learning outcomes, as learners engage more deeply with content that resonates with their interests and needs.

The remarkable evolution of MALL has also been marked by its increasing ability to cater to the diverse needs of a global learner population. Viberg and Grönlund (2013) discuss the importance of personalization in MALL, which is supported by socio-

cultural theory and motivation theories, emphasizing learner choice, agency, self-regulation, and customization. This approach allows learners from various backgrounds to engage with language learning materials tailored to their individual learning styles and techniques. Furthermore, Viberg and Grönlund (2013) highlight that the attitudes related to technology culture, such as mobility and individualism, are influential in guiding educational design and are often more significant than attitudes related to national or traditional local cultures. This finding underscores the potential of MALL in democratizing language learning by offering equitable access to educational resources irrespective of geographical, economic, or social constraints, particularly in the context of global education.

The interactive and multimedia capabilities of mobile devices make the language learning process more engaging and relevant for learners. Stockwell (2010) highlights the importance of experimentation and making choices in the learning process, which is facilitated by mobile technologies. This allows learners to determine the best ways to engage with language content, contributing to a more stimulating learning environment. Additionally, Traxler (2007) describes the emergence of mobile learning as both technology-driven and portable, supporting continuous and contextual learning. This portability enables learners to utilize learning opportunities in various settings, enhancing the relevance and applicability of language learning experiences.

MALL's impact extends to fostering collaborative learning and developing cultural and intercultural competencies. Rosell-Aguilar (2007) notes that MALL, through podcasting, gives access to authentic materials and real-world interactions, allowing learners to gain perspectives into cultural variations. These authentic materials offer opportunities to learn about the history, culture, and politics of areas where the target language is spoken, a crucial aspect often overlooked in traditional language instruction. Additionally, Viberg and Grönlund (2013) highlight that mobile learning factors like individualization, collaboration, and authenticity are positively received by learners, suggesting the relevance of integrating mobile technologies in language teaching. Recent studies indicate that while MALL improves skills like vocabulary acquisition and listening comprehension, it should be integrated with other teaching methods for a comprehensive language education experience, addressing productive skills like speaking and writing.

Incorporating feedback mechanisms and adaptive learning technologies into MALL applications could further enhance their effectiveness. Lu (2008) emphasizes the importance of interaction functions in mobile learning, which allow students to use the language and teachers to give feedback, fostering vocabulary acquisition by increasing cognitive involvement. This approach of tailoring content to individual learner progress and preferences can create a more dynamic and responsive learning environment. Moreover, Lan et al. (2007) highlight the importance of customizing activities to meet different learning styles and techniques, addressing diverse linguistic and cultural backgrounds. This personalization not only supports individual learning styles but also addresses diverse linguistic and cultural backgrounds, making language learning more inclusive.

Furthermore, the integration of artificial intelligence (AI) in MALL holds great promise. Gligorea et al. (2023) discuss how adaptive learning, utilizing advanced technologies like AI and machine learning algorithms, can tailor educational content and instructional strategies to individual learners. This approach adapts the learning process in real time based on each learner's performance, preferences, knowledge level, and learning style. The incorporation of AI within adaptive learning systems in MALL allows these systems to continuously learn and improve, detecting patterns in learner data to identify strengths and weaknesses and generate personalized recommendations and interventions. This can lead to more efficient and effective language learning experiences, tailored to the specific needs of each learner, as the adaptive learning approach enables the collection of functional feedback and data on the effectiveness of instructional learning materials and strategies.

Additionally, MALL's integration with emerging technologies like augmented reality (AR) and virtual reality (VR) could offer more immersive and interactive language learning experiences. Godwin-Jones (2011) discusses the potential of mobile apps, including AR and VR applications, in enhancing MALL by making it more engaging and effective. These technologies can further personalize the learning process, tailoring it to the individual needs of learners. As MALL evolves, it continues to offer transformative approaches to language education. Moreover, Kukulka-Hulme (2012) emphasizes the importance of incorporating MALL in blended learning environments, which combine its advantages with traditional classroom-based instruction. This integration has shown promise in creating a more holistic and effective language

learning experience, thereby balancing technological and interpersonal aspects of language education. The study by Cai et al. (2022) revealed that AR applications have a significant effect on language gains and a moderate effect on learners' motivation in language learning, indicating the technology's effectiveness. The analysis also highlighted the particular benefits for elementary school students and the effectiveness of short-term exposure to AR in enhancing learners' motivation. On the other hand, Özçelik et al., (2022) conducted a principled review of recent AR studies in language learning. Their review indicates that AR in language learning has been primarily focused on vocabulary acquisition, learning effectiveness, and learners' attitudes and motivations, with limited emphasis on language skills development. They also suggest that further empirical research is needed, especially on different language skills. In a similar vein, a study by Chen and Hsu (2020) on VR in language learning using a game-based English mobile learning application found that game engagement and experience were significantly influenced by self-efficacy, intrinsic value, and test anxiety. The study suggests that the use of VR applications enhances students' motivation to learn by facilitating entry into a state of flow and self-regulation, thereby improving English learning effectiveness.

Moreover, the social features of many MALL applications encourage peer interaction and collaboration, contributing to a more engaging and communal learning experience. Lan et al. (2007) emphasize the effectiveness of a mobile-device-supported peer-assisted learning (MPAL) system for collaborative early EFL reading. This approach has been found to reduce anxiety, promote motivation to learn, and enhance oral reading confidence among elementary EFL learners. Additionally, their research indicates that MPAL improves collaboration in elementary school level EFL learners and promotes their reading motivation, mirroring the natural social context in which languages are often learned.

The integration of mobile technologies into language learning has revolutionized the field, offering numerous benefits that cater to diverse learner needs and preferences. As Lu (2008) and Lan et al. (2007) highlight, MALL facilitates vocabulary acquisition and supports varied learning styles, enhancing cognitive involvement and fostering personalization. The adaptability and interactivity of MALL, as noted by Traxler (2007) and Stockwell (2010), empower learners with autonomy, enabling them to engage with language content in ways that resonate with their individual learning paths.

The collaborative aspect of MALL, emphasized by Rosell-Aguilar (2007) and Thornton and Houser (2005), promotes peer interaction and a communal learning experience, essential in language acquisition. This is complemented by the potential for developing cultural and intercultural competencies through exposure to authentic materials and real-world interactions (Rosell-Aguilar, 2007; Viberg & Grönlund, 2013). Moreover, the anytime-anywhere learning feature, as discussed by Lai and Zheng (2018), extends the reach of language education, breaking down traditional barriers and democratizing access to learning resources.

The integration of advanced technologies like AI and AR/VR, as explored by Gligorea et al. (2023) and Godwin-Jones (2011), hints at a future where language learning is increasingly tailored, immersive, and interactive. This evolution points towards a more efficient and engaging language education paradigm. Additionally, the potential of MALL in blended learning environments, as Kukulska-Hulme (2012) suggests, offers a balanced approach that combines the strengths of both technological and interpersonal aspects of language education.

However, it is crucial to recognize, as Viberg and Grönlund (2013) and other studies suggest, that while MALL significantly enhances certain aspects of language learning, such as vocabulary acquisition and listening comprehension, it should also be integrated with teaching of other language skills for a comprehensive educational experience. This holistic approach would address productive skills like speaking and writing, thus maximizing the potential of MALL in language education.

In summary, the advantages and potential benefits of MALL in language learning are manifold. From enhancing learner autonomy and personalization to fostering collaborative and interactive learning environments, MALL represents a significant advancement in the field of language education. Its continued evolution, particularly through the integration of emerging technologies, positions MALL as a key driver in shaping future language learning experiences that are more inclusive, engaging, and effective.

It is clear that, MALL offers a transformative approach to language education, blending modern technology with innovative pedagogical strategies. Its potential to facilitate personalized, engaging, and effective language learning experiences positions MALL as a crucial component in the evolving landscape of education. However, the effective

implementation of MALL requires a holistic approach that encompasses technological, pedagogical, and infrastructural considerations.

As MALL becomes more ingrained in language education, its role in shaping student-centered learning experiences is paramount. The potential of MALL to cater to individual learning styles, preferences, and needs opens up new possibilities for differentiated instruction. This personalized approach not only supports diverse learner profiles but also addresses the specific challenges and goals of each student, thereby making language learning more effective and meaningful (Lu, 2008; Lan et al., 2007).

MALL within educational technology represent a significant paradigm shift in language education. From its historical roots in CALL to its current status as a dynamic and versatile tool in language learning, MALL has continually evolved to meet the changing needs of learners and educators. As technology continues to advance, MALL is poised to further shape the future of language education, offering innovative solutions to traditional and emerging educational challenges.

#### **2.1.5. Challenges of MALL**

Although MALL offers innovative approaches to language education with its potential, MALL faces various challenges which range from ethical and accessibility issues to technical and pedagogical concerns hinder its widespread and effective adoption. To effectively address the complexities of MALL, it is essential to mention its ethical implications, including data privacy and digital equity. The concerns around MALL highlight the need for adhering to ethical standards and promoting equitable access to language learning resources for responsible and beneficial use. A significant issue in this context is the digital divide, where unequal access to mobile devices and internet connectivity leads to disparities in language learning opportunities, as noted by Viberg and Grönlund (2013).

Furthermore, the multifunctionality of mobile devices, while beneficial in many aspects, can also pose significant challenges. Students encounter several problems when using MALL. These include distractions due to unrestricted access to information and non-educational activities on mobile devices (Solihin, 2021). According to Thornton and Houser, (2005), these devices can cause distractions, potentially hindering the learning process. Additionally, an over-reliance on technology might decrease traditional learning skills and face-to-face interactions, which are crucial for language acquisition.

While MALL facilitates language learning and offers easy access to information, its drawbacks include the small size of mobile devices and unreliable internet access, which can hinder the learning process (Nafa, 2021). This issue is compounded by the varied sizes of mobile screens and the quality of audiovisuals, which Gholami and Azarmi (2012) point out as limitations to the effectiveness of MALL. Miangah and Nezarat (2012) note the technical limitations of mobile devices, such as small screens and data storage, which may not be conducive for educational purposes. Additionally, mobile learning activities often take longer to complete compared to using PCs, and some learners prefer traditional methods due to these limitations (Miangah & Nezarat, 2012).

Financial constraints also play a critical role in the adoption and implementation of MALL. Solihin (2021) highlights the cost of mobile devices and the need for continuous internet access as significant hurdles, particularly in underdeveloped areas. These financial barriers can limit the reach and effectiveness of MALL, confining its benefits to a more privileged segment of learners.

The implementation of MALL particularly in diverse regions presents its own set of challenges. Limited access to electricity and the internet creates a significant barrier to technological integration in education, as highlighted by Solihin (2021). Additionally, cultural resistance to adopting new technologies and concerns about privacy and cyberbullying complicate its adoption.

On the other hand, the effectiveness of MALL in engaging learners and enhancing learning outcomes is a subject of ongoing research and debate. Stockwell (2010) indicates that learners generally require more time to complete certain activities on mobile phones and achieve slightly lower scores compared to desktop computers. Despite the potential benefits and positive views on mobile learning, there is a lack of consistent preference for MALL over traditional methods, with many learners choosing not to use mobile devices for various reasons, including the cost of Internet access, screen size, keypad issues, and the study environment.

The evolution of MALL brings forth questions regarding its impact on traditional classroom dynamics. As MALL promotes a more learner-driven approach, the role of the teacher may shift from being the primary source of knowledge to a facilitator or guide in the learning process. This transformation necessitates a reevaluation of

teaching methodologies and classroom management strategies to align with the new dynamics introduced by MALL (Kukulska-Hulme, 2012). Balancing MALL with traditional methods, addressing equity and access issues, and ensuring the effectiveness of learning experiences are crucial for maximizing its benefits in language education.

To sum up, MALL has several challenges that need to be navigated carefully for its successful integration into language education. Most common challenges include ethical considerations, accessibility issues, technological limitations, and pedagogical adjustments. As we have explored, the digital divide, the multifunctionality of mobile devices, and financial constraints significantly affect the reach and effectiveness of MALL. Additionally, the adaptation of teaching roles and methodologies in response to MALL's learner-driven approach requires thoughtful consideration.

#### **2.1.6. Conclusion**

With the advancement of MALL, it becomes essential to look beyond the immediate educational impacts and consider its broader implications in the context of global connectivity and digital literacy. MALL not only facilitates language acquisition but also serves as a gateway to global communication, offering learners the opportunity to connect with diverse cultures and communities. Thornton and Houser's (2005) research illustrates how mobile devices are used extensively by students for class-related communication, showing the potential of MALL to facilitate not just language learning but also global connectivity. Meanwhile, Viberg and Grönlund (2013) found that mobile learning is positively perceived by students, with personalization, authenticity, and collaboration being key factors in their positive attitudes. These findings underscore MALL's alignment with the growing need for global competence in an interconnected world, where understanding and engaging with different cultures is as important as linguistic proficiency. The integration of gamified elements, augmented reality, and interactive features in MALL applications exemplifies this shift, showcasing how technology is used to create immersive and highly effective language learning environments. Additionally, Viberg and Grönlund (2013) noted that cultural factors, as defined by Hofstede, do not significantly influence attitudes towards MALL, indicating a shift from traditional pedagogical cultures towards more constructivist approaches in language learning. This transition into a more technologically advanced and learner-centric phase of MALL sets the stage for exploring its developmental aspects, where the

focus shifts from the mere use of mobile devices to the innovative pedagogical strategies these technologies enable.

MALL's potential in facilitating lifelong learning and continuous professional development is increasingly recognized as significant, especially in a rapidly evolving global job market where adaptability and continuous learning are essential. MALL offers a flexible and accessible platform for individuals to develop and enhance their language skills throughout their careers. Rosell-Aguilar (2007) highlights the abundance of language learning resources available through portable media players and content management software like iTunes, which users can access anytime and anywhere, thus supporting lifelong learning. This includes a range of materials varying in quality and pedagogical approaches, from behaviorist to cognitive constructivist, and aligns with the theories of Informal and Lifelong Learning which suggest learning embedded in everyday life. Moreover, Stockwell (2010) emphasizes the growing presence of mobile technologies in education, particularly in second language learning. He notes the diverse uses of mobile phones in language learning, from accessing video lessons to receiving language-related notifications via SMS. His study also reveals understating of how learners interact with mobile platforms for vocabulary learning, indicating a preference for PC over mobile phones in some cases due to factors like screen size and keypad convenience. However, the study acknowledges the growing acceptance and use of mobile phones as learning tools over time, suggesting a changing perception towards mobile learning. The flexibility of MALL, combined with the increasing acceptance of mobile technology as a viable educational tool, positions it as a key facilitator in the modern learning landscape. It enables learners to engage with language learning resources in a variety of settings, adapting to their schedules and needs, which is essential in today's dynamic and interconnected world.

The exploration of MALL brings to light its dual nature - as a tool of immense potential for innovative language education, but also one fraught with significant challenges. These challenges, ranging from the digital divide and ethical concerns to technical limitations and pedagogical adjustments, underscore the complexity of effectively implementing MALL. As we have seen, the multifunctionality of mobile devices, while offering numerous advantages, also introduces obstacles like distractions, limited screen size, and unreliable internet connectivity. Financial constraints further compound these

issues, especially in underdeveloped regions, limiting the reach of MALL to a broader audience.

Moreover, the impact of MALL on traditional classroom dynamics raises critical questions about the evolving role of educators and the necessity for redefined teaching methodologies. Despite its promise to revolutionize language learning, MALL's effectiveness in terms of engagement and learning outcomes remains a subject for ongoing research and debate. The preference for traditional learning methods over MALL in certain instances, due to various reasons such as cost and usability, indicates that MALL is yet to be fully embraced as a comprehensive alternative to conventional language education. Besides, the integration of MALL into language education heralds a new era of educational possibilities. By embracing the opportunities and addressing the challenges presented by MALL, educators, learners, and policymakers can work together to harness the power of technology in creating a more inclusive, adaptable, and enriching learning environment. The journey of MALL is an ongoing one, marked by innovation, exploration, and the potential to redefine the boundaries of language education.

As MALL continues to develop, conducting ongoing research to assess its impact on various aspects of language learning, including proficiency, motivation, and cultural competence, is essential. Such research will provide an invaluable mentality of optimizing MALL strategies and tools for diverse educational contexts and learner needs. The future of MALL lies in balancing its innovative potential with traditional educational methods, addressing the equity and accessibility issues, and ensuring the effectiveness of the learning experiences it offers. As MALL continues to evolve, it is imperative to conduct ongoing research to optimize its strategies and tools for diverse educational contexts and learner needs. In the long run, the integration of MALL into language education signifies a significant shift towards a more inclusive, adaptable, and enriching learning environment, paving the way for a redefined future of language education in the digital era.

## **2.2. MALL Motivation**

In the field of EFL education, a significant transformation has been brought about by MALL. This innovative approach has initiated a change in the methodologies and perspectives of language learning. At the forefront of this transformation is the concept

of motivation, identified as a crucial factor in driving learner engagement and achievement. In this part of the literature review, an exploration of the different dimensions of motivation within the MALL context is undertaken. Studies and theoretical insights are examined to understand the impact of mobile technology on learners' motivation in engaging with foreign language education. The aim is to synthesize these varied perspectives, presenting a comprehensive view of the role of motivation in MALL and its significance in foreign language education.

### **2.2.1 Motivation from the perspective of MALL**

Motivation in foreign language education, particularly in EFL contexts, is a multifaceted psychological construct crucial for driving the language learning process. Dörnyei (2014) emphasizes that motivation in language learning involves a dynamic interplay of cognitive, emotional, and social elements, which are essential for initiating and sustaining language learning over time. Similarly, Ryan and Dörnyei (2013) expand our understanding by considering the long-term evolution of language learning motivation. Their analysis reveals that language motivation and the L2 self are dynamic, evolving over a learner's lifespan. This longitudinal perspective becomes crucial in MALL contexts, where technology-mediated language learning can span extensive periods and interact with various stages of a learner's life, thereby impacting their motivation in unique ways.

Gardner and Smythe (1975) distinguish between language learning motivation and classroom learning motivation, noting that these types are distinct yet interrelated, thus influencing learners' engagement and success in acquiring a second language. This distinction is particularly pertinent in MALL contexts, as it underscores the need to consider both the general motivation and the specific motivational dynamics to learn a language.

Ushioda's works (2006, 2011) bring a critical dimension to the understanding of motivation in language learning, especially within the context of digital technologies. Her research emphasizes a shift from traditional social-psychological concepts like integrative motivation towards more complex internal processes of self-identification and development (Ushioda, 2011). According to Ushioda (2011), this shift highlights the importance of learners' self-concept and their envisioned future selves as primary motivators in language learning. In the MALL context, where digital technologies are

integral, this shift becomes increasingly significant. The integration of these technologies and social networking plays a crucial role in shaping learner identities and motivational dynamics, particularly within the globalized environment of English language learning.

Integrative motivation, historically defined by Gardner and Lambert (1959), involved a desire to identify with and adopt the speech patterns and styles of the target language's speakers. This motivation went beyond merely acquiring knowledge of the language; it included a willingness to 'allow elements of another culture into one's own lifespace' (Gardner, 1979). Ushioda (2011) notes that in today's context, integrative motivation extends beyond cultural integration to encompass a global context. MALL, with its digital tools and resources, facilitates this broader form of cultural immersion and global connection, aligning with the evolving definition of integrative motivation.

Instrumental motivation, acknowledged by Gardner and Lambert (1959) as an important pragmatic motive for language learning, is also influenced by the advent of digital technologies. This type of motivation, linked to practical outcomes such as career advancement, is supported by MALL's personalized learning paths, providing learners with tools for specific language tasks and goals that align with their instrumental motivations as defined by Ushioda (2011).

In addition, Ushioda (2006) indicates a shift from these traditional motivations toward more complex, identity-related motivations in the context of globalization. Motivation in language learning, especially in EFL contexts, is increasingly interwoven with learners' personal identities and their aspirations within a globalized community. This suggests that motivation in MALL environments must be understood not just in terms of language acquisition but as part of a broader social and cultural framework.

In summary, Ushioda (2006, 2011)'s exploration of motivation through the lens of self and identity adds depth to the discussion on motivation in MALL. It underscores the need to consider the learners' self-concept and identity formation as central in understanding their motivation in learning a second language. This theoretical perspective is particularly relevant in the global context of English language learning, where traditional motivations intertwine with learners' digital interactions and evolving self-identities. The concept of the L2 Motivational Self System, as discussed by Ushioda (2011), aligns well with the evolving nature of motivation in MALL

environments, suggesting that the integration of self-concept and technology becomes increasingly significant, offering a better understanding of how learners' engagement with technology in MALL can be viewed as part of their identity formation process.

The study by Boo et al. (2015) offers an in-depth analysis of the development and trends in L2 motivation research between 2005 and 2014. Their research revealed a substantial increase in publications during this period, underscoring the dynamic nature of the field. They identified three historical phases in the development of L2 motivation theory: an initial phase based on a social psychological perspective, a period of realignment with an emphasis on cognitive and educational psychology, and a contemporary phase focusing on contextual and dynamic aspects of learner motivation. This third phase, which all their reviewed research falls under, is marked by a significant interplay of various theories and approaches, highlighting the evolution of research paradigms and theoretical concepts, particularly the integration of the L2 Motivational Self System (L2MSS) proposed by Dörnyei in 2005. The trend towards integrating various theoretical strands, including L2MSS, with the focus on motivational dynamics, offers a rich framework for understanding learner motivation in MALL environments. Additionally, Liu et al. (2023) in their editorial highlight the dynamic roles of anxiety and motivation in second and foreign language acquisition. They emphasize the complex interaction of these factors with other aspects of language learning, underscoring the importance of considering both affective factors in understanding the motivational dynamics in L2 environments.

Ryan and Dörnyei (2013) focus on the long-term evolution of language motivation, noting its dynamic nature and the impact of various life stages on motivation. This longitudinal perspective is crucial in understanding how technology-mediated language learning can span extensive periods and interact with various stages of a learner's life, impacting their motivation in unique ways.

Dörnyei and Ushioda's work (2021) in "Teaching and Researching Motivation" presents an in-depth exploration of motivation in the context of language education. Their approach shifts from traditional linear models to dynamic, socio-dynamic perspectives, emphasizing the importance of the Ideal L2 Self in motivation. This concept involves creating a vision of oneself as a successful language learner, which is indispensable for sustaining engagement and enthusiasm in language learning. They also highlight the importance of self-regulation and effective feedback strategies in language education.

According to Dörnyei and Ushioda (2021), motivation in language learning is not just about external encouragement but also involves internal processes such as developing a positive self-concept, setting achievable goals, and fostering a growth mindset. These elements are crucial for learners to maintain their motivation over time.

While Dörnyei and Ushioda (2021) do not explicitly focus on technology's role in language learning, the principles they discuss have significant implications in technologically enriched language education environments. In the age of digital technology, tools such as language learning apps, online resources, and interactive platforms align well with the concepts of self-regulation and the Ideal L2 Self. Technology can offer personalized learning experiences, immediate feedback, and a plethora of resources for learners to construct and enhance their Ideal L2 Self. Furthermore, technology facilitates access to diverse linguistic and cultural contexts, thereby enriching the language learning process and potentially boosting motivation. The integration of technology in language education can thus be seen as a supportive tool that aligns with Dörnyei and Ushioda's principles, aiding in the creation of a dynamic and motivating language learning environment.

The integration of mobile technologies introduces a novel dimension known as technological motivation. This dimension, stemming from learners' interest in technology itself, is underscored by the interactive and multimedia capabilities of mobile devices, which not only make the learning process more appealing but also significantly boost learner motivation.

All these studies considered, it is evident that motivation in language learning, especially in EFL contexts, transcends traditional boundaries, integrating cognitive, emotional, and social elements. The evolution of motivation theories, alongside the advancements in mobile technology, has significantly influenced learners' engagement and approaches to language learning. This review has highlighted how mobile technologies not only introduce new motivational dimensions but also change existing ones, such as integrative and instrumental motivations. The impact of these technologies is further compounded by the role of self-concept, identity, and positive psychological aspects in the language learning process. As the focus now shifts to a critical review of related empirical studies, these foundational concepts offer a lens through which the practical applications and implications of motivation in MALL can be further examined and understood.

### **2.2.2 Previous Studies on Motivational Dynamics in MALL**

Following the exploration of key concepts and theories in MALL and motivation, this section presents a review of related studies. The focus is on understanding the impact of mobile technology on motivation in language learning. This part of the literature review examines various research findings to better understand the relationship between MALL and learner motivation. The goal is to identify effective strategies that align with the motivational needs of learners in the context of modern digital learning environments.

Initiating this exploration, the study by Yang (2020) investigated the motivational dynamics in a MALL context through a case study involving four Chinese EFL learners using the MintReading app. The study revealed that interesting and relevant reading content significantly influenced learner motivation, with engaging material boosting integrative motivation. Additionally, the study found that mobile technology features, such as built-in dictionaries, helped learners overcome language difficulties, thereby enhancing motivation and confidence. Yang's study contributes to the understanding of MALL by demonstrating how mobile application features can alleviate language learning challenges and foster sustained learner motivation. This research highlights the complexity of motivational dynamics in MALL and the importance of learner-centric approaches in EFL learning, emphasizing that technological features and application design play a significant role in shaping learner engagement and motivation in a MALL setting.

Building on the aspect of technology's role in enhancing motivation, the study by Chua et al. (2021) examines the impact of MALL on learning engagement and motivation in Mandarin language classes. This research echoes the findings of Yang (2020) by showing that mobile applications significantly enhance student engagement and motivation, highlighting the importance of technology in language learning. The study found that various mobile applications in Mandarin language learning led to increased student enjoyment and perceived ease in learning. These findings underscore the significant role of technology in MALL contexts, where technological tools and resources are crucial in sustaining and enhancing learner motivation.

In a similar context, the study by Liu et al. (2019) investigates the motivational factors influencing Chinese EFL learners' use of smartphone dictionaries. The research employs a mixed-method approach, combining interviews and surveys to classify users based on

their motivations. Three distinct user groups were identified: Customisation, Learning, and Utility, each with unique motivations and preferences for using mobile dictionaries. This study highlights the diversity in student motivation within MALL contexts, emphasizing the importance of understanding and addressing these varied motivational needs in the design and implementation of mobile learning tools for effective language education.

Further contributing to our understanding of the role of technology in motivation, the study by Saidouni and Bahloul (2018) investigates the impact of mobile technologies on student motivation in EFL classes. They conducted a mixed-method research design, involving both a questionnaire for students and interviews with teachers. The findings from this study suggest that the integration of mobile devices in EFL settings positively influences students' motivation and eagerness to learn. Both teachers and students reported that mobile technologies foster student motivation, suggesting that handheld devices in language classes can be significant motivational tools. This study contributes to the understanding of the role of mobile technologies in enhancing motivation in EFL learning contexts.

Shifting the focus to specific language skills, the study by Dewi et al. (2020) investigates the effectiveness of MALL in enhancing students' writing competency and motivation. This quasi-experimental study, which employed a post-test only control group design, found significant improvements in both writing competency and motivation among students who were taught using mobile-assisted task-based learning methods. The study concludes that incorporating mobile technology into task-based language learning activities can effectively enhance students' writing skills and increase their motivation in writing. This research adds to the growing body of evidence supporting the transformative potential of MALL in language education, particularly in improving language skills and learner motivation simultaneously.

Similarly, Refat et al. (2020) examines the impact of a mobile-assisted grammar learning tool on student motivation in grammar learning, utilizing the ARCS model (Attention, Relevance, Confidence, Satisfaction) in their study. Their findings show that the use of this mobile tool significantly enhances student motivation in learning grammar. This study adds empirical support to the effectiveness of mobile technologies in language learning, specifically in grammar, by highlighting the importance of motivational design in MALL. This research contributes to the broader understanding of

how well-designed mobile-assisted tools can not only engage students but also improve their learning performance, particularly in grammar learning contexts.

Adding a different perspective on the use of specific mobile tools in language learning, the study by Chai et al. (2016) delves into the impact of mobile-assisted seamless learning on student motivation and learning strategies in the context of Chinese language learning. They developed the Mobile-Assisted Seamless Chinese Learning Questionnaire (MSCLQ) to measure students' motivation and learning strategies in a seamless learning environment. Their findings suggest that mobile-assisted seamless learning positively influences student motivation, highlighting the flexibility and immediacy of mobile learning as key factors enhancing student engagement in language learning. This study underscores the importance of mobile technologies in fostering motivation among language learners, particularly in creating engaging and effective learning environments.

Considering the impact of mobile technologies in language learning contexts, the work by Norbrook and Scott (2003) explores the potential of mobile technologies in enhancing motivation for modern foreign language learning. They discuss how mobile learning can make language study more engaging and interactive, potentially increasing learner motivation. The authors suggest that features like mobile quizzes or collaborative tasks can enhance the learning experience. They also touch upon the shift from traditional Computer-Assisted Language Learning (CALL) to Network-Based Language Learning and its implications for motivation and autonomy in language learning. The study implies that mobile technologies can offer unique opportunities for language learning, making it more accessible and engaging for learners.

In the context of MALL, a significant area of interest is its impact on learner motivation, especially among EFL students. The research compiled in the Motivation section of the study demonstrates a strong correlation between the use of MALL and heightened learner motivation. These studies supply empirical evidence showing that engaging and interactive mobile learning environments can significantly enhance learners' enthusiasm and commitment to language learning. The findings suggest that MALL not only makes language learning more accessible but also more appealing to learners, thereby fostering a more engaging and effective learning experience.

## **2.3. Behavioral Intention in MALL**

### **2.3.1 TAM and Behavioral Intention**

The Technology Acceptance Model (TAM) is a widely recognized theory in the field of information systems, focusing on the acceptance of technology by individuals. Developed by Davis in 1989, TAM suggests that the acceptance of technology is predicted by users' behavioral intention, which is, in turn, influenced by the perceived usefulness of the technology in performing tasks and the perceived ease of its use.

TAM was initially developed to address the lack of empirical comprehension of users' responses to information system performance, building upon the Theory of Reasoned Action (TRA). The primary objective of TAM was to understand the processes underpinning technology acceptance to predict and theoretically explain the successful implementation of technology. Davis (1989) initiated the model by framing the processes mediating the relationship between Information System (IS) characteristics and actual system use, based on TRA. This model has been significant in informing practitioners about measures to take prior to the implementation of systems (Davis, 1989).

TAM posits technology acceptance as a three-stage process, where external factors trigger cognitive responses (perceived ease of use and perceived usefulness), leading to an effective response (attitude toward using technology/intention), and ultimately influencing use behavior. Perceived usefulness and perceived ease of use are seen as fundamental determinants of user acceptance. The model has been empirically validated, demonstrating strong correlations with use behavior (Davis, 1989; Davis, 1993).

Furthermore, the development of TAM and its subsequent extensions, such as TAM2 (Venkatesh & Davis, 2000) and TAM3 (Venkatesh & Bala, 2008), have significantly contributed to the understanding of cognitive and affective factors that mediate the effect of system characteristics on technology acceptance. TAM2 included additional variables like subjective norm, image, job relevance, output quality, and result demonstrability, along with moderators like experience and voluntariness (Venkatesh & Davis, 2000). TAM3 further expanded on these constructs, including direct predictors

of perceived ease of use such as computer self-efficacy and computer playfulness (Venkatesh & Bala, 2008).

The applications of TAM span various domains, including marketing, e-commerce, e-learning systems, and healthcare. It has been tested in different cultural contexts, demonstrating robustness in explaining technology acceptance across various geographical locations (Venkatesh & Davis, 2000; Venkatesh & Bala, 2008).

However, TAM and its extensions have faced criticisms, particularly regarding the simplicity of TAM and the lack of understanding of the antecedents of technology acceptance. These critiques have led to methodological advancements and the development of new models to address consumer technology acceptance (Venkatesh, Thong & Xu, 2012)

Behavioral intention, a fundamental concept in the field of information systems and technology adoption, is often explored within theoretical frameworks like the Technology Acceptance Model (TAM), the Theory of Reasoned Action (TRA), and the Theory of Planned Behavior (TPB). Behavioral intention specifically refers to the degree of an individual's intent to perform a particular behavior, such as using a specific technology or system. It is a predictor of actual behavior, assuming that if someone intends to do something, they are more likely to do it. Additionally, Ajzen (1991) describes this term as the degree to which a person has formulated conscious plans to perform or not perform some specified future behavior. This conceptualization is crucial in understanding how individuals decide to adopt a particular technology or system, and it forms the basis of the Theory of Planned Behavior (TPB), a widely recognized theoretical framework in the field of psychology and behavioral studies.

The constructs influencing behavioral intention can vary based on the theoretical model. For instance, in TAM, developed by Davis (1989), behavioral intention is influenced by perceived usefulness and perceived ease of use of the technology. Perceived usefulness refers to the degree to which a person believes that using a particular system would enhance their job performance. In contrast, perceived ease of use denotes the degree to which a person believes that using a particular system would be free of effort (Davis, 1989).

In the Theory of Reasoned Action (TRA), proposed by Fishbein and Ajzen (1975), behavioral intention is influenced by attitudes toward the behavior and subjective

norms. Attitudes toward the behavior reflect the individual's positive or negative feelings about performing the behavior. Subjective norms involve the perceived social pressures to perform or not perform the behavior (Fishbein & Ajzen, 1975).

The Theory of Planned Behavior (TPB), an extension of the TRA by Ajzen (1991), adds one more component: perceived behavioral control. This refers to the perceived ease or difficulty of performing the behavior and is assumed to reflect past experiences as well as anticipated impediments and obstacles (Ajzen, 1991).

Behavioral intention is crucial for understanding and predicting how users will interact with new technologies. It helps in determining the likelihood of a technology's acceptance and use, which is efficient for system design and implementation strategies.

### **2.3.2 Previous Studies on Behavioral Intention to Utilize MALL**

Behavioral intention within the context of MALL refers to the determination or willingness of learners to use mobile technologies for language learning purposes. This concept is essential in understanding how mobile technologies are adopted and effectively utilized in educational contexts, particularly in language acquisition. The advent of MALL has revolutionized the field of language education by offering unprecedented flexibility and access to learning resources, thus significantly impacting learners' behavioral intentions.

The framework of behavioral intention in MALL is deeply rooted in various psychological and educational theories. The Technology Acceptance Model (TAM) (Davis, 1989) and the Theory of Planned Behavior (TPB) (Ajzen, 1991) are frequently applied to explain and predict learners' behavioral intentions in the context of technology use in education. These models suggest that learners' intentions are influenced by factors such as perceived usefulness, perceived ease of use, attitude towards technology, subjective norms, and perceived behavioral control.

Recent studies have expanded on these traditional models by incorporating additional factors relevant to the mobile learning environment. These include aspects like perceived entertainment, informativeness, personalization, and mobile self-efficacy, which have been found to significantly influence learners' behavioral intentions. Furthermore, the role of social influences and cultural contexts has also been recognized as crucial in shaping these intentions (Venkatesh & Davis, 2000).

Behavioral intention, as defined by Kumar et al. (2020), refers to the learner's willingness to continue using mobile learning and their perceived likelihood of engaging in such behavior. It is shaped not just by the functional attributes of mobile technologies but also by learners' motivations and perceptions towards these technologies, marking it as a key factor in the successful implementation and effectiveness of MALL in educational settings. Following the conceptual framework outlined by Kumar et al. (2020), it becomes important to look into studies that explore what influences students to use mobile learning. Examining these studies is crucial for comprehending the full scope of MALL's role in L2 education, as it helps to make clear how both the characteristics of mobile technology and the personal attitudes and motivations of learners contribute to the success of MALL in educational environments.

Kumar et al.'s (2020) study with Malaysian engineering undergraduates highlights key factors influencing the behavioral intention to use mobile learning. They focused on self-efficacy, subjective norms, and WhatsApp use habits, employing structural equation modeling. This research underscores the unique perceptions and engagements of engineering students with mobile learning, especially considering their habitual use of communication tools like WhatsApp. Notably, while perceived usefulness, ease of use, and enjoyment significantly impacted their behavioral intention to use MALL, self-efficacy and interactivity were less influential. In other words, self-efficacy and interactivity, while important aspects of MALL, did not show a significant impact on the behavioral intention to use these learning tools. This suggests that students' confidence and interactive features of MALL play a lesser role compared to the utility and enjoyment aspects. This suggests that while students recognize the utility and enjoyment in using MALL, their confidence in their own abilities and the interactive features of MALL are less influential in determining their intention to use these technologies for language learning. The study's views on habitual technology use and self-efficacy beliefs are crucial for understanding behavioral intentions towards mobile learning in specific educational contexts like engineering.

In the same vein, the study conducted by Chen et al. (2021) explored the behavioral intentions of university students in Beijing towards using artificial intelligence (AI) for language learning. It involved 199 undergraduate students majoring in English and Japanese. The research used an online survey to measure five factors: knowledge of AI-enabled language apps, attitude towards using AI, subjective norm, perceived ease of

use, and behavioral intention to use AI for language learning. The results highlighted that students' behavioral intention to use AI for language learning was significantly associated with their knowledge of AI-enabled language apps, attitude towards using AI, and perceived ease of use. This study puts forward perspectives into the acceptance of AI technology in language education among university students in Beijing.

In another study, Sun and Gao (2020) focused on understanding how intrinsic motivation affects students' intentions to use mobile devices for language learning. Conducted at a large comprehensive research university in East China, the study involved 169 undergraduate education major students. Using a survey method, it examined the relationship between intrinsic motivation and behavioral intention in MALL, considering factors like perceived usefulness and task technology fit. The findings revealed that intrinsic motivation did not directly influence behavioral intention but had a positive impact through perceived usefulness and task technology fit. The study highlights the importance of intrinsic motivation in shaping students' attitudes and intentions towards using mobile technology in language learning.

A significant study by Ebadi and Raygan (2023) focused on Iranian EFL students. It involved 223 participants from various educational contexts in western Iran, examining their perceptions of MALL's ease of use, usefulness, and facilitating conditions. The methodology included a questionnaire survey and structural equation modeling for data analysis. Key findings indicated a significant influence of perceived usefulness on students' perceptions towards MALL, while facilitating conditions significantly impacted the perceived ease of use. These results contribute to understanding the factors affecting behavioral intentions towards MALL in the Iranian EFL context, particularly in the light of facilitating conditions and perceived usefulness.

Arnone et al. (2011) brings forth awareness of the psychological aspects of learning, particularly the role of curiosity, interest, and engagement in technology-pervasive environments. They posit that curiosity can be a powerful motivator for learners, initiating actions directed at exploring and resolving uncertainty. The study emphasizes that curiosity, interest, and engagement are interrelated and crucial for deep learning in digital environments. This perspective is crucial in understanding how MALL can be designed to stimulate and sustain learners' curiosity and interest, leading to more effective language learning outcomes. Moreover, Arnone et al. (2011) highlight the

changing dynamics of student behavior in digital-native generations. They argue that traditional methods of instruction may not align well with the learning preferences of students who are accustomed to digital environments.

One other similar study by Morchid (2019), investigates factors influencing the acceptance of MALL among English as Foreign Language (EFL) students in Morocco. Conducted at Ibn Tofail University Kenitra, Morocco, the research involved 156 EFL students interacting via a WhatsApp-based platform. The study applied the Unified Theory of Acceptance and Use of Technology (UTAUT) model, incorporating additional factors like teacher feedback and compatibility. The data were collected through questionnaires and analyzed using structural equation modeling. Findings revealed teacher feedback and compatibility positively influenced behavioral intention to use MALL, but performance and effort expectancy showed no significant impact. This study contributes to understanding the dynamics of technology acceptance in language learning within the Moroccan context.

Besides, García Botero et al. (2018) contribute to understanding the acceptance and usage of MALL in higher education. Their study, extends the existing research on MALL by applying the UTAUT model in a developing country context, focuses on Colombian university students and reveals that students' acceptance of MALL is significantly influenced by their performance expectancy, social influence, and facilitating conditions. Their findings illustrate that while performance expectancy, social influence, and facilitating conditions are significant predictors of MALL acceptance, the strongest determinant of behavioral intention is the students' attitude towards MALL. Notably, they found that attitude plays a critical role in shaping students' behavioral intentions towards MALL. These findings align with Ebadi and Raygan (2023) and Chen et al. (2021), further corroborating the significance of these factors in MALL adoption. This view complements the findings of Arnone et al. (2011) on the importance of curiosity and engagement, and Morchid (2019) on the role of teacher feedback and compatibility with existing practices in shaping behavioral intentions towards MALL.

The study by Kim and Lee (2016) investigates the factors influencing Korean university students' intentions to use MALL. This comprehensive study involved 244 undergraduate students from a university in the Chungbuk area, South Korea. The

researchers focused on variables like self-efficacy, content reliability, interactivity, perceived enjoyment, usefulness, ease of use, attitude, and behavioral intention, employing Structural Equation Modeling (SEM) for analysis. Their findings demonstrate the effectiveness of TAM in understanding students' acceptance of MALL, highlighting that most constructs significantly influence acceptance, except for self-efficacy and interactivity. This research supplies a critical comprehension of factors driving MALL usage among Korean university students, except self-efficacy and interactivity, significantly influenced students' acceptance of MALL, and contributes to the broader understanding of technology adoption in language learning contexts.

In addition to previously discussed factors, Hameed et al. (2022) highlight the significant roles of perceived entertainment and informativeness in influencing students' attitudes and behavioral intentions towards mobile learning. Entertainment in MALL, as a means to meet the audience's need for escapism, diversion, aesthetic satisfaction, or emotional enjoyment, fosters a favorable attitude towards mobile learning and subsequently leads to positive behavioral intentions. Hameed et al. (2022) also bring attention to the negative impact of perceived irritation, such as annoyance or offensiveness, on both attitude and behavioral intention towards mobile learning. Their study suggests that while perceived entertainment, trust, and value have direct and significant impacts on behavioral intention, perceived irritation negatively affects it, and informativeness, surprisingly, shows an insignificant impact.

Similarly, informativeness, or the ability to provide accurate and functional educational content, is identified as a key variable in shaping both attitude and behavioral intention towards mobile learning. Hameed et al. (2022) emphasize that the educational content's ability to be both informative and accurate plays a critical role in positively influencing students' attitudes towards mobile learning, as well as their intentions to engage with it. The study further suggests that informativeness in mobile learning environments should be coupled with engaging and interactive elements to maximize learning outcomes.

A key study by Hoi (2020), involved 293 higher education learners from Vietnam. This research aimed to understand the acceptance and use of MALL in the context of a developing country, applying the UTAUT model with a Rasch-based path modeling approach. The study's key findings highlighted the significant roles of attitude and performance expectancy in predicting learners' behavioral intention and usage of

MALL. It also found that facilitating conditions had no direct effect on learners' usage of MALL, offering different perspectives about the factors influencing the acceptance of MALL in Vietnam's educational context.

In their innovative study, Hsu and Lin (2022) extended the traditional technology acceptance model (TAM) by incorporating psychological constructs to analyze college learners' acceptance of MALL. The researchers employed structural equation modeling (SEM) to explain the extended TAM within MALL environments. The study's findings underscore the efficacy of this extended TAM, demonstrating that the inclusion of psychological factors offers a more in-depth understanding of learners' acceptance of MALL technologies. The research highlights the critical role of psychological constructs, such as intrinsic motivation and self-efficacy, in shaping learners' attitudes and intentions towards MALL. These factors were found to significantly influence the behavioral intention to use MALL, suggesting that learners' psychological readiness and beliefs play an important role in their acceptance and utilization of mobile learning tools. Hsu and Lin's (2022) study contributes to the broader field of educational technology by demonstrating how psychological constructs can profoundly enhance the application and interpretation of technology acceptance models in the context of MALL. This research offers handy apprehension, indicating the need for educational strategies that account for these psychological elements to foster effective adoption and use of MALL.

These studies collectively suggest that while individual attributes like self-efficacy and intrinsic motivation are important, the behavioral intention to use MALL is more profoundly influenced by how students perceive the utility and compatibility of MALL with their learning tasks. The studies reveal that aspects like perceived usefulness, ease of use, and enjoyment play significant roles in shaping learners' behavioral intentions, indicating a complex interplay between personal attitudes, technological features, and learning habits.

This chapter's in-depth exploration of behavioral intention has explained the multifaceted nature of factors that influence learners' engagement with MALL platforms. The comprehensive review of previous studies has revealed that the dynamics shaping learners' attitudes towards MALL are complex, intertwining technological functionalities like ease of use and informativeness with deeper

psychological and social dimensions. This includes factors like personalization, which caters to individual learning preferences, and the role of entertainment in maintaining learner engagement.

## **2.4. Perceptions towards MALL**

### **2.4.1 Introduction**

As it has been discussed through this study, MALL emerged as an important figure in language education, reshaping how language is taught and learned. Understanding MALL requires understanding the multifaceted perceptions of learners, which are central to their interaction with and benefits derived from mobile technologies in language education. These perceptions are not just surface-level attitudes but are deeply interwoven into the fabric of the learning experience, influencing everything from learner engagement to the effectiveness of instructional strategies. The exploration of these perceptions is crucial, as it reveals the underlying factors that drive the acceptance and utilization of MALL in diverse educational contexts. Several studies like those of Hsu (2013) and Jiménez (2019) presents informative ideas on how cultural backgrounds and educational settings shape these perceptions, underscoring the need for a better understanding of MALL's role in language learning.

### **2.4.2 Related Studies on Perceptions towards MALL**

In the context of MALL, the concept of 'perception' is multifaceted and dynamic. It encompasses learners' beliefs, attitudes, and evaluations regarding the use of mobile technologies in their language learning journey. This construct is not merely an aggregation of views but a complex interplay that is deeply rooted in a variety of factors.

At the core of perceptions in MALL are the beliefs and attitudes of learners, which encompass their convictions about the effectiveness and appropriateness of MALL for language learning. For example, in a cross-national study examining the perceptions of EFL learners towards MALL, Hsu (2013) conducted research with 45 participants from seven different countries. This study explored the attitudes of learners towards technological affordances, applicability, and constructivism in the context of MALL. A key finding from Hsu's research was the identification of significant cross-cultural

variations in perceptions towards MALL. This underscores the profound impact of cultural context on how learners from different backgrounds perceive and engage with mobile learning technologies. Despite these variations, the study observed a general consensus among participants from diverse nationalities regarding the potential of MALL as a tool for constructivism in EFL learning. This indicates an overall positive perception of MALL across different cultural spectrums. Furthermore, Hsu (2013) highlighted that learners' perceptions of the technological affordances and applicability of MALL were considerably influenced by their cultural backgrounds. Different cultural contexts may lead to varying degrees of openness or resistance to the integration of technology in education. Hsu's (2013) study contributes significantly to the field by providing a better understanding of MALL from a cross-cultural perspective. It emphasizes the importance of taking into account cultural differences when implementing MALL strategies in diverse educational settings. This research serves as a crucial reference point for understanding the multifaceted nature of MALL perceptions across different cultural contexts.

Adding to the understanding of cultural influences in MALL, Dashtestani (2016) presents a detailed exploration of Iranian EFL students' attitudes towards mobile learning. This study highlights both the positive views and the unique challenges faced by students in Iran, such as issues related to digital literacy and economic factors. These findings are worthwhile for comprehending how cultural contexts can shape the utilization and perception of MALL, underscoring the necessity for context-sensitive approaches in its implementation.

Perceptions in MALL also involve learners' evaluations of mobile technologies themselves. This includes assessments of the usability, functionality, and relevance of these technologies to language learning objectives. Jiménez (2019) underscores the positive evaluations by adult learners of MALL in oral English courses, indicating a recognition of its value in enhancing language skills. In this significant study conducted at the University of Costa Rica, Jiménez (2019) explored the perceptions of adult students towards MALL in oral English courses. The study was based on responses to a 10-point survey from students enrolled in an oral English course and sought to assess their opinions on the integration of MALL in language teaching, particularly in the context of oral language proficiency. The findings from Jiménez's research reveal a positive disposition of adult learners towards MALL activities, highlighting their

recognition of these tools as invaluable additions to the language learning process. Students participating in the study viewed the incorporation of MALL not only as beneficial but as a transformative element that enhances the language learning experience. This enhancement was particularly noted in terms of offering more dynamic and interactive ways to engage with the language. However, Jiménez (2019) also emphasized the necessity of effective integration of MALL into the curriculum. The study underlines that for MALL to be truly beneficial, it must be aligned with learning objectives and seamlessly incorporated into the educational framework, thereby enhancing the overall educational experience. This research offers critical perspectives of the perceptions of adult learners regarding MALL, underscoring its potential to enrich language learning experiences, especially in the context of oral English courses. Jiménez's (2019) work is instrumental in understanding how adult learners engage with and value MALL in higher education settings.

Building on this, Niño (2015) conducted a study at the University of Manchester to research language learners' perceptions of mobile applications for language learning. Surveying 286 students, the study utilized a mixed-methods approach to capture their experiences. Students reported frequent usage of mobile apps for essential language tasks like vocabulary revision, translation, and pronunciation. Despite acknowledging the convenience and engagement of these apps, they highlighted limitations in fostering advanced language skills, particularly in speaking and writing. This study thus gives helpful tips into the perceptions of learners towards MALL, emphasizing the balance between technological advantages and educational challenges.

The study by Azli et al. (2018) investigates vocational college students' perceptions of MALL in Malaysia. The study included 100 students from KRU Academy, specializing in Visual Effects and 2D Animation. A survey based on the Technology Acceptance Model (TAM) was used, focusing on perceived usefulness and ease of use. The findings revealed that students held positive views about MALL. They agreed that MALL enhances the quality and efficiency of tasks, improves control over learning tasks, and generally increases productivity. Furthermore, students found MALL easy to use, indicating its potential for effective ESL learning in vocational contexts.

Expanding the scope to higher education, the study by Demir and Akpınar (2018) at Dokuz Eylül University further substantiates the positive effects of MALL. The study

involved 41 pre-service teachers and examined the effect of mobile learning applications on students' academic achievement and attitudes toward mobile learning. The study found significant improvements in the academic achievements of students who used mobile learning applications compared to those who didn't. Additionally, both groups demonstrated high attitude scores toward mobile learning, suggesting a general acceptance and positive perception of mobile learning among participants. These findings emphasize the effectiveness of mobile learning in enhancing academic performance and positive attitudes towards mobile learning in higher education contexts.

Another study by Cakir (2015) at Erciyes University, Turkey, which involved 193 English Language Teaching (ELT) students, using a questionnaire-based quantitative methodology, investigates the perceptions of prospective English teachers regarding MALL. The findings reveal that a majority of participants are inclined to use mobile phones as instructional tools in foreign language learning. They recognize the potential benefits of mobile phones in enhancing the learning experience, particularly in improving English language skills. The study highlights the positive perception and attitude of these future teachers towards incorporating mobile technology into language education, emphasizing its role in making language learning more dynamic and interactive. The study by Cakir (2015) illustrates how personal preferences, including learning styles and comfort with technology, shape learners' perceptions of MALL. Some learners, accustomed to traditional classroom settings, might initially be hesitant towards MALL, while others, more attuned to digital environments, find mobile-based learning more engaging and effective. These preferences play a significant role in determining the receptiveness and eventual success of MALL in language education. Cakir (2015) also notes the importance of effective integration of MALL into the curriculum for it to be genuinely beneficial in the language learning process.

Individual experiences with mobile technologies, both in and out of the educational context, significantly influence perceptions of MALL. For instance, in Dahio et al.'s (2022) study, learners' positive experiences with mobile technology led to favorable perceptions of MALL. These experiences, which can vary widely among individuals, deeply personalize the perception of MALL's effectiveness and approachability. In their quantitative study, Dahio et al. (2022) investigated the perceptions of 200 Pakistani university students towards MALL to assess their attitudes towards the use of mobile

devices in language learning. The research revealed a prevailing positive inclination towards MALL, which indicates a growing acceptance and enthusiasm for integrating mobile technologies into language learning processes. The study further highlighted that MALL not only supports learning with ease but also fosters a collaborative learning environment. This aspect is significant as it underscores the potential of MALL in facilitating interactive and cooperative learning modes. Additionally, the findings suggest that learners perceive MALL as an effective tool in enhancing language learning tasks, offering them a means to study in a more efficient and effective manner. The research by Dahio et al. (2022) makes a substantial contribution to the understanding of MALL in the Pakistani educational context. It emphasizes the potential of mobile technologies to support and improve language learning processes, highlighting MALL's role in enhancing both the flexibility and collaborative aspects of language education.

In their study examining the perceptions of students on the effectiveness of mobile learning within an institutional context, Neerja and Nirban (2014) conducted a survey among 100 students at a private educational institute in India. This research sought to understand the attitudes and usage patterns of students towards mobile devices in educational settings. The findings from the study explain a predominantly positive perception among students towards mobile learning. The study found that a significant number of students recognized and were willing to use mobile devices for educational purposes, reflecting a growing awareness and acceptance of mobile learning. Students expressed a strong preference for mobile learning, citing reasons such as the flexibility it offers and the convenience of accessing educational content from any location. Despite this, the research revealed that the primary use of mobile devices among students was for non-educational purposes. This discrepancy suggests an untapped potential for the increased educational use of mobile devices. The study by Neerja and Nirban (2014) supplies a critical perspective on the rapidly growing field of mobile learning, highlighting the readiness and enthusiasm of students in embracing mobile technologies for educational enhancement in an Indian context.

In a seminal study conducted during the COVID-19 pandemic, Yang et al. (2022) explored the perceptions of Chinese junior secondary school students towards MALL. Set in Henan Province, China, and involving 265 students, the research aimed to uncover the psychosocial processes influencing students' interactions with MALL in a

context of enforced online learning. Utilizing a questionnaire survey and structural equation modeling, the study focused on various aspects such as perceived usefulness (PU), perceived ease of use (PEU), subjective norms (SN), study resources (SR), self-efficacy (SE), attitude towards use (AT), and behavioral intention (BI) towards MALL. A critical finding of this study was the significant influence of SN and AT on students' BI to use MALL, highlighting the importance of the social environment and peer attitudes in shaping students' perceptions and intentions. The research further revealed the critical roles of PU and PEU in forming students' attitudes towards MALL, indicating that students are more positively inclined towards MALL when they perceive it as beneficial and user-friendly. Additionally, the study uncovered the underlying impact of SR and SE on PU and PEU, suggesting that the availability of suitable MALL resources and students' confidence in using these resources effectively are essential for positive perceptions of MALL's utility and ease of use. Intriguingly, despite the non-voluntary context of MALL use during the pandemic, constructs such as perceived enjoyment (PE) and self-management (SM) did not exhibit a direct positive influence on BI, a finding that deviates from usual expectations. Yang et al.'s (2022) research underscores the multifaceted nature of students' perceptions towards MALL, emphasizing the need for a comprehensive understanding of these factors for its effective implementation, particularly in secondary education during extraordinary circumstances like a pandemic.

In his reflective doctoral dissertation, Rijal (2021) explored the perceptions towards MALL at the secondary education level, focusing on a case study at Jana Jagriti Secondary School in Nepal. Engaging with a sample comprising 35 students and 5 English teachers, the study utilized questionnaires to probe the attitudes and usage patterns of MALL in this educational setting. The findings from Rijal's research clarify a positive disposition towards MALL among both students and teachers. This study highlights that students and teachers recognize the value of mobile phones in facilitating language learning, appreciating their role in providing access to diverse learning materials, enabling interactive exercises, and supporting the use of specialized language learning applications. The findings of this research into the practical utilization of mobile phones in language learning tasks underscore their potential as a versatile tool in enhancing language skills. Rijal (2021) also underscores the pedagogical implications of these findings, suggesting that mobile phones, with their extensive functionalities, could

be seamlessly integrated into language education strategies, thereby enriching English language learning experiences in contexts where technology's role in education is still evolving. Rijal's (2021) dissertation contributes significantly to the broader understanding of MALL, particularly in settings where digital technology in education is in the nascent stages, offering practical ideas on the effective use of mobile devices in language learning.

Darsih and Asikin (2020) explored the perceptions of EFL learners towards the use of mobile applications in English language learning. The research involved 96 students (68 females and 28 males) and utilized a combination of questionnaires and semi-structured interviews to gather data. A notable finding from the study was that all participants actively used various mobile applications, such as Kamusku, Google Translate, Elsa Speak, YouTube, Zoom, and Google Meet, for their English language learning. The study revealed that students generally held positive perceptions of mobile applications, viewing them as beneficial tools in aiding their English learning. This positive perception underscores the acceptance and effectiveness of MALL among learners. Furthermore, the ease of use of these applications was highlighted as a significant factor contributing to their effectiveness as learning tools. The students reported that the use of mobile applications not only enhanced their learning experience but also was instrumental in improving specific language skills, including vocabulary, grammar, and pronunciation. Darsih and Asikin's (2020) research offers crucial comprehension of the role and impact of mobile applications in EFL learning. It emphasizes the potential of these tools as beneficial resources in language education, highlighting their utility in enhancing the learning experiences and skill acquisition of EFL learners.

Learners' beliefs and attitudes form the foundation of their perceptions, which are shaped by various factors, including past experiences, peer opinions, and broader cultural attitudes towards technology and education. For instance, Jiménez (2019) highlights how positive attitudes towards MALL activities are considered beneficial in language education among adult learners. Furthermore, Neerja and Nirban (2014) discuss how institutional context and student perceptions interact, emphasizing the role of students' beliefs in the effectiveness of mobile learning. The perceived usefulness and ease of use of MALL significantly affect learners' willingness to adopt and effectively utilize these tools. The practical benefits, such as enhanced accessibility and personalized learning experiences, are critical to learner engagement (Yang et al.,

2022). The user-friendliness of MALL tools also plays a significant role in their adoption. For instance, Darsih and Asikin (2020) explore how ease of use influences learners' decisions to incorporate MALL into their learning practices, highlighting the importance of technology being accessible and intuitive for effective learning. As Cakir (2015) emphasizes the functionalities and multimedia integration of MALL tools are required components of technological affordance. This aspect includes the efficient use of mobile apps and multimedia resources to facilitate learning, as they enhance the overall learning experience (Cakir, 2015). Additionally, cultural and contextual influences shape the perceptions and utilization of MALL. Hsu (2013) presents a better comprehension of how cultural norms and educational backgrounds impact learners' acceptance and usage of MALL, demonstrating the necessity of considering cultural factors in the implementation of MALL. Understanding perceptions towards MALL is essential for effective language education that are shaped by cognitive, affective, and contextual factors, play a crucial role in how learners engage with mobile technologies in language learning. This comprehensive understanding is compulsory for designing MALL interventions and appreciating the significant interaction between technology and language education.

It is evident that perceptions towards MALL is multifaceted, with a wide range of variables influencing learners' attitudes and beliefs. The role of perceptions in the effective implementation and acceptance of MALL in language education is crucial. One of the key findings of this chapter is the significant impact of technological affordance on learners' perceptions. The functionalities and multimedia integration of MALL tools, such as interactive apps and mobile-friendly language learning platforms, are meaningful components that enhance learners' experiences. Studies have shown that when learners perceive these tools as beneficial and easy to use, their motivation and engagement in language learning increase (Davis, 1989). Cultural backgrounds and personal preferences also play a crucial role in shaping perceptions towards MALL. Learners from different cultural contexts may have varied experiences and expectations regarding the use of technology in education, which in turn affects their acceptance of MALL. Research indicates that personalization of learning experiences, considering these cultural and individual differences, is key to fostering positive perceptions towards MALL (Ajzen, 1991).

The studies reviewed in this chapter highlight the diversity of learners' perceptions and the complexity of factors that influence them. From the studies involving Iranian EFL learners to those with Colombian university students, it is clear that individual experiences, self-efficacy, and subjective norms are influential in shaping learners' behavioral intentions towards using MALL (Venkatesh & Davis, 2000). Therefore, it is evident that there is a need for a particular understanding of the diverse factors influencing learners' perceptions to develop more effective, engaging, and inclusive MALL tools. Furthermore, educators must be aware of the potential cultural and individual differences in perceptions towards MALL to tailor their teaching strategies accordingly.

## **2.5. The Unified Theory of Acceptance and Use of Technology (UTAUT) in MALL**

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a significant framework in information technology acceptance research, formulated by Venkatesh et al. (2003). It integrates elements from eight prominent IT acceptance models, including the Theory of Reasoned Action, the Technology Acceptance Model, the Motivational Model, and the Theory of Planned Behavior. UTAUT was developed to provide a unified understanding of the factors influencing technology acceptance and usage, and has been widely applied in diverse domains including MALL, demonstrating its adaptability and relevance in various technological contexts (Venkatesh et al., 2003).

UTAUT comprises four primary determinants critical in shaping an individual's intention to use technology and their actual usage. These are Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions. Performance Expectancy is the belief that using a technology will enhance job performance. This construct is foundational in understanding users' attitudes towards technology, where perceived benefits and effectiveness positively influence attitudes (Venkatesh et al., 2003).

Effort Expectancy relates to the ease of use of the technology. Technologies perceived as user-friendly and easy to learn are more likely to be adopted, especially in initial stages (Venkatesh et al., 2003). Social Influence captures the extent to which individuals perceive that important, others think they should use the new technology. This is particularly influential in environments where technology use is driven by social norms (Venkatesh et al., 2003). Facilitating Conditions refer to the degree to which an

individual believes that an organizational and technical infrastructure supports the use of the system, including aspects like technical support and a supportive environment (Venkatesh et al., 2003).

UTAUT also incorporates moderating variables such as experience, voluntariness, gender, and age, which influence the relationships between the core determinants and technology use. For instance, as users gain more experience, their perceptions and interactions with technology evolve. Additionally, demographic factors like gender and age can influence technology acceptance, acknowledging that different groups may interact with and perceive technology differently (Venkatesh et al., 2003).

### **2.5.1 Previous Studies**

The application of UTAUT in MALL is particularly relevant. The model's key constructs—Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions—are crucial in examining the acceptance and use of mobile technologies in language learning environments. Performance Expectancy, for example, is a strong predictor of learners' intention to use MALL tools, as learners who believe these tools enhance their language learning outcomes are more likely to use them. This relationship between Performance Expectancy and learners' motivation is crucial in MALL, where the effectiveness of technology underpins learners' engagement and sustained use of MALL tools (Venkatesh et al., 2003).

The seminal study conducted by Hoi (2020) in Vietnam offers a better understanding of the application of the UTAUT in the context of MALL. This research, focusing on higher education learners, applies a modified UTAUT model to understand learners' acceptance and use of mobile devices for language learning. The study was conducted using a Rasch-based path modeling approach, analyzing survey data from 293 higher education learners in Vietnam (Hoi, 2020). The study found that performance expectancy was a critical predictor of both learners' attitudes towards MALL and their behavioral intention to use it. This aligns with previous research (Botero et al., 2019) but diverges from the general UTAUT literature where performance expectancy is not directly linked to use behavior. In this context, performance expectancy directly influenced the usage of mobile devices for language learning, suggesting a strong relationship between perceived usefulness and actual use (Hoi, 2020). Moreover, the effect of facilitating conditions on MALL usage was fully mediated by behavioral

intention, a departure from both the original and modified UTAUT models. This suggests that while organizational and technical supports are important, their impact on actual usage is indirect and operates through the learners' intentions (Hoi, 2020). Besides, attitude was found to be a significant mediator in the model, influencing both the behavioral intention to use MALL and its actual use. This finding is particularly relevant, as it underlines the importance of positive attitudes towards MALL in driving actual usage behavior among learners.

The study conducted by Razzak and Jassem (2021) presents a comprehensive analysis of how the UTAUT, particularly its meta-UTAUT version, applies to MALL for EFL learners. Their research proposes a conceptual framework that investigates the factors influencing the behavioral intention and actual usage of MALL, which is particularly relevant in non-native English-speaking societies. The study underscores the potential of MALL as a powerful platform for learning English, but notes a gap in empirical evidence regarding MALL's acceptance and usage among EFL learners (Razzak & Jassem, 2021).

Razzak and Jassem (2021) identify performance expectancy as a critical predictor of MALL usage, positing a positive relationship with both attitude and behavioral intention. This highlights the significance of learners' perceptions of the benefits of using MALL in improving their language skills. In addition, Razzak and Jassem (2021) explore the importance of facilitating conditions, theorizing that the availability of necessary technical infrastructure and organizational support can positively influence both the intention to use MALL and its actual usage.

The research reintroduces the construct of attitude in the meta-UTAUT model, highlighting its role in shaping learners' behavioral intentions towards MALL. A positive attitude towards MALL is seen as likely to foster stronger intentions to engage in MALL activities. Moreover, the study posits that behavioral intention is a key driver of actual usage behavior in MALL, suggesting a direct link between learners' intentions and their subsequent use of MALL for language learning.

Overall, the study by Razzak and Jassem (2021) contributes significantly to our understanding of the dynamics of MALL adoption among EFL learners. It puts forward a particular view of how various factors, as conceptualized within the meta-UTAUT

framework, interact to influence learners' attitudes, intentions, and behaviors towards using MALL in EFL contexts.

In a pioneering study conducted at a South African University of Technology, Bere (2014) explored the determinants influencing user acceptance and usage of mobile learning via WhatsApp, an instant messaging application. This research, applying the UTAUT, integrated additional constructs such as student-centric learning and hedonic motivation. Significantly, it considered marital status as a unique moderating factor. The study's methodology involved surveying 196 participants, with an impressive 81% response rate. Bere's findings revealed that performance expectancy, effort expectancy, social influence, student-centric learning, and hedonic motivation were positively associated with students' behavioral intention to adopt mobile learning. However, Bere's approach differed from traditional UTAUT models by omitting factors like facilitating conditions and other moderating conditions, thereby providing a more concentrated analysis of the chosen constructs. Bere's study offers knowledgeable contributions to understanding the dynamics of mobile learning adoption, particularly in the context of using popular social media tools for educational purposes.

Cheng-Min Chao's 2019 study significantly expands the application of the UTAUT model in the field of mobile learning (m-learning). This research, conducted at the National Taichung University of Science and Technology in Taiwan, applied an extended UTAUT model incorporating additional variables such as perceived enjoyment, mobile self-efficacy, satisfaction, trust, and perceived risk as moderators. Chao's methodology involved an online survey with a large sample size of 1562 respondents and employed structural equation modeling for data analysis. The findings revealed that behavioral intention in m-learning was significantly influenced by satisfaction, trust, performance expectancy, and effort expectancy. Notably, perceived enjoyment and mobile self-efficacy also played substantial roles in shaping these determinants, indicating their importance in the context of m-learning. Furthermore, perceived risk was found to negatively moderate the relationship between performance expectancy and behavioral intention, adding a new dimension to the understanding of UTAUT in mobile learning environments. This study not only aligns with the foundational principles of UTAUT but also offers practical views for educational institutions and decision-makers in implementing m-learning solutions effectively.

Dwivedi et al. (2020) conducted a comprehensive meta-analysis to develop a modified UTAUT (meta-UTAUT). The study analyzed 162 articles, focusing on key factors like performance expectancy, effort expectancy, social influence, and facilitating conditions. A notable addition was the central role of attitude as a mediator. The meta-UTAUT model streamlines the understanding of technology adoption, offering a more efficient and consolidated framework. This modified model addresses complexities in the original UTAUT, making it more applicable to contemporary technology acceptance scenarios.

The study by Kemp, Palmer, and Strelan (2019) focuses on developing a taxonomy for evaluating attitudes toward educational technologies within the framework of technology acceptance models like UTAUT. It categorizes factors affecting these attitudes into primary, secondary, and tertiary groups, with specific emphasis on constructs like Performance Expectancy and Behavioral Intention. This detailed taxonomy aims to aid in creating more objective measurement instruments for educational technology evaluation.

The study by Ferzizi and Louail (2020) investigates the acceptance of mobile learning (M-learning) among Algerian students during the quarantine period using the UTAUT model. The research involved 200 male and female students who completed a questionnaire testing 15 hypotheses based on UTAUT. Key findings indicate that Effort Expectancy, Social Influence, and Perceived Playfulness positively and significantly impact Behavioral Intention to use M-learning. However, the effect of Self-management of Learning on Behavioral Intention was negative but not significant, and the effect of Performance Expectancy was positive but not significant.

### **2.5.2 Performance Expectancy in MALL**

Performance Expectancy (PE) is a core construct in understanding learners' motivation and engagement in MALL. Defined as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al., 2003), PE is determining in shaping learners' perceptions of MALL's effectiveness. This concept is central to understanding how learners perceive the effectiveness of MALL in enhancing their language learning outcomes. Ebadi and Raygan (2023) highlight the critical role of facilitating conditions and perceived ease of use in enhancing MALL's perceived usefulness, which in turn significantly influences learners'

attitudes towards and intentions to use MALL. This underscores the idea that learners' positive perceptions of MALL's benefits are essential in driving their motivation to engage with these technologies.

### **2.5.3. Previous Studies**

Delving deeper into empirical research, Hou and Yu's (2023) study on the application of the UTAUT model in the context of DingTalk, an educational platform in China, puts up an extended perspective on Performance Expectancy. Their research examines both the direct and indirect effects of PE on learners' attitudes and behavioral intentions toward using MALL. Their findings suggest a complex interaction between PE and other UTAUT constructs, such as social influence and facilitating conditions, in influencing learners' acceptance of MALL technologies. This complexity points to the multifaceted nature of technology adoption in educational settings, where various factors interplay to shape learners' engagement with MALL. This study emphasizes that while Performance Expectancy is a critical determinant of learners' engagement with MALL, its influence is strongly connected with other aspects such as ease of use, social influences, and the overall technological ecosystem within which MALL is implemented.

García Botero et al. (2018) investigates the acceptance and use of MALL among higher education students in Colombia in their study, which employs the UTAUT to assess factors affecting behavioral intentions and actual use of MALL. Participants include 587 students from the Modern Languages bachelor's program at Universidad del Quindío, Colombia. The study's methodology involves a structural equation model analysis. Results indicate that performance expectancy, social influence, and facilitating conditions significantly influence students' attitudes towards using MALL, with attitude being the most influential factor on behavioral intention. The study concludes with suggestions for enhancing MALL acceptance in educational settings, emphasizing the role of performance expectancy and facilitating conditions.

Another research conducted by Ebadi and Raygan (2023) investigates the impact of facilitating conditions, perceived ease of use, and perceived usefulness on Iranian EFL learners' attitudes toward MALL. The study, involving 223 Iranian EFL learners, employed a quantitative approach with structural equation modeling for analysis. Key findings indicate that perceived usefulness has a significant direct effect on learners'

perceptions toward MALL. Additionally, facilitating conditions were found to significantly influence learners' perceived ease of use of MALL, although they did not directly predict perceptions toward MALL. This research contributes to understanding the factors that shape learners' attitudes and acceptance of MALL in an EFL context.

The study by Hsu (2023) focuses on the acceptance of Language Massive Open Online Courses (LMOOCs) by EFL learners using the UTAUT model. It explores the role of self-determination in this acceptance. The research involves 237 Taiwanese participants who have completed at least one LMOOC. The study applies Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the data. Results show that autonomy, competence, and relatedness are significant to EFL learners' motivation for using LMOOCs. While performance expectancy was not significant to behavioral intention, effort expectancy and social influence were. Moreover, behavioral intention and facilitating conditions were significant to use behavior. The study highlights the importance of psychological needs and motivational factors in the acceptance and use of LMOOCs.

In the exploration of performance expectancy in MALL, Liu's (2016) doctoral dissertation presents a compelling case study on improving speaking performance among Chinese university students through mobile-assisted English learning. The research applied expectancy-value theory to examine the efficacy of MALL in enhancing language proficiency, particularly speaking skills. The study involved 99 participants who engaged in mobile-assisted decision-making tasks designed to measure speaking complexity, accuracy, and fluency. One of the outstanding findings of Liu's research was the positive correlation between the use of MALL tools and improvements in students' speaking performance. The results indicated that well-structured MALL tasks, accompanied by positive feedback, significantly enhanced students' speaking skills, aligning with the expectancy-value theory. This improvement in speaking skills can be viewed as a tangible manifestation of performance expectancy in MALL, where learners' anticipation of better language outcomes due to MALL usage was realized. Liu's study contributes to understanding how specific applications of MALL can meet learners' expectations for language learning, thereby reinforcing the role of performance expectancy in the successful adoption and effectiveness of MALL in language education."

The work of Morchid (2019) presents an in-depth discussion on the determinants of use and acceptance of MALL by focusing on EFL students in Morocco. One of the central constructs investigated was performance expectancy, which assesses the degree to which learners believe that using MALL will enhance their language learning performance. The findings from this study puts forward invaluable findings on the perceptions of Moroccan EFL students regarding the performance benefits of MALL. It is evident in the publication that the students' acceptance of MALL is influenced by their expectations of improved language learning outcomes. This aligns with the broader context of research on performance expectancy in MALL and highlights the significance of this construct in technology acceptance among diverse learner populations. Furthermore, the study underscores the importance of considering cultural and contextual factors when examining MALL adoption, reinforcing the need for a comprehensive understanding of technology acceptance in various educational settings.

Luo (2019) publication investigates university students' perceptions and acceptance of mobile technology in ESL learning in China. The research aims to understand the factors influencing students' adoption of MALL. Using a mixed-method approach, comprising surveys and interviews, the study finds a positive relationship between performance expectancy and acceptance of MALL, indicating that students who believe in the effectiveness of mobile technology are more likely to engage with it in language learning. The research findings emphasize the significant role of performance expectancy in the acceptance and usage of MALL among Chinese university students. The study indicates that students who perceive mobile technology as beneficial and effective for English language learning are more likely to embrace and utilize it. This positive correlation between performance expectancy and the acceptance of MALL highlights the importance of students' beliefs in the efficacy of technological tools in enhancing their language learning experience.

Harwati Hashim et al.'s (2018) study aims to identify factors influencing polytechnic ESL learners' attitudes and intentions toward using mobile learning. The participants in this study are ESL learners at polytechnic institutions. The research method includes analyzing these factors to determine their impact on learners' attitudes and intentions. Key findings indicate that performance expectancy, along with effort expectancy, social influence, perceived language learning potential, and learning preference, are significant predictors of learners' attitudes towards mobile learning. These factors subsequently

influence their intention to engage with mobile learning. Notably, the study found that self-management of learning does not significantly impact this context. These results are helpful for understanding how performance expectancy shapes attitudes and intentions towards mobile learning in ESL education.

Al Arif et al. (2022) makes contributions on factors affecting technology use for English language learning from a structural equation modeling perspective. It involves 342 pre-service English teachers at an Indonesian university, utilizing a questionnaire for data collection. The study applies the UTAUT and concludes that performance expectancy, effort expectancy, social influence, and facilitating conditions significantly influence mobile technology usage for English learning. Gender does not moderate these effects. These findings are relevant for understanding technology adoption in language learning, particularly in Indonesian educational settings.

In the research of Esfandiari and Sokhanvar (2016), the aim is to explore Iranian EFL learners' attitudes towards MALL using the Modified Unified Theory of Acceptance and Use of Technology (MUTAUT). The study involves Iranian EFL learners, using a mixed-methods design with questionnaires and interviews. Key results include the identification of performance expectancy, effort expectancy, and perceived playfulness as significant predictors of behavioral intention to use mobile devices for language learning. Notably, self-management of learning and social influence did not significantly predict behavioral intention, offering visions into factors influencing MALL adoption in Iran.

The research conducted by Razzak and Jassem (2021) presents a conceptual framework for MALL for EFL learners, grounded in the meta-UTAUT model. The framework addresses the challenge of underutilization of MALL among non-native English speakers, despite the widespread availability of broadband Internet and smartphones. The research proposes that the technology usage behavior of potential EFL learners is influenced by factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions related to technology. Additionally, the framework suggests that the relationship between MALL usage behavior and its drivers is mediated by learners' attitudes towards the technology.

In their publication, Ramadanti et al. (2021) investigates the adoption and acceptance of MALL by EFL teachers in Indonesia during distance education. It employs qualitative

methods, involving semi-structured interviews with three junior high school EFL teachers. The study finds that factors like effort expectancy, social influence, and facilitating conditions influence teachers' adoption of MALL. Notably, performance expectancy was not a significant factor in this context, providing perception of the unique challenges and considerations in implementing MALL for distance education among EFL teachers in Indonesia. This study reveals a notable gap in the literature regarding the role of performance expectancy in the adoption of MALL among EFL teachers. While it identifies factors such as effort expectancy, social influence, and facilitating conditions as influential, the absence of performance expectancy as a significant factor is intriguing.

In this final chapter, various studies relevant to the UTAUT and Performance Expectancy in the context of MALL were explored. These studies collectively emphasize the significant role of performance expectancy in determining learners' attitudes towards MALL and their behavioral intentions. Notably, studies like those by Botero et al. (2018) and Hoi (2020) have underlined the importance of performance expectancy in shaping learners' acceptance of MALL. The research indicates that performance expectancy has a major role in shaping learners' attitudes towards MALL, suggesting that higher expectations of performance are linked to increased adoption of mobile learning.

## **2.6. Summary**

The synthesis of the previous studies present a solid foundation for further investigation into the effectiveness of MALL, contributing to the broader understanding of how to maximize its potential in language learning. A key takeaway from the current literature is the recognition of MALL's transformative potential in language education. MALL transcends traditional learning boundaries, fostering learner autonomy, facilitating personalized learning paths, and integrating mobile technologies effectively into language learning. This is particularly evident in the context of EFL learners, where MALL's flexibility and accessibility can significantly enhance the learning experience. However, the studies also acknowledge the complexities and challenges inherent in implementing MALL, including issues related to technological infrastructure, learner and educator perceptions, and the broader educational ecosystem. The discussion on the impact of MALL on motivation and behavioral intention underscores the nuanced

relationship between technological tools and learner engagement. Furthermore, the application of the UTAUT model in the context of MALL provides a structured framework to understand the factors influencing the acceptance and use of mobile technologies in language learning. The interrelations among performance expectancy, effort expectancy, social influence, and facilitating conditions offer a comprehensive perspective on how learners interact with and perceive MALL.

Despite the extensive exploration in the literature, there remain areas that are less examined or require further investigation. One such area is the nuanced understanding of the interplay between learner motivation, behavioral intention, and the acceptance and use of MALL. While existing studies provide insights into these aspects individually, the complex relationships among them, particularly in the context of diverse cultural and educational backgrounds, are not comprehensively explored.

By integrating findings from the literature and focusing on the specific factors identified, this study seeks to offer new perspectives on how motivational factors, behavioral intentions, and perceptions influence the acceptance and use of MALL among EFL learners. This study aims to make meaningful contributions and new views that could potentially inform future pedagogical strategies and interventions in language education.

## **CHAPTER 3: METHOD**

In this section, the data collected from the students are analyzed and the results are discussed. The first section includes information about the model of the study. Then, the sampling method used in the study and general demographic characteristics of the students are explained. The last section includes the analysis and explanation of the data collected through the model.

### **3.1. Research Model**

This study is a quantitative research in terms of its general structure. Quantitative research involves the collection of numerical data on a subject that the researcher has decided in advance. At the same time, numerical results are reached about the collected data and these results are interpreted (Creswell, 2005). The fact that researchers continue to work with a specific goal is that there should be an assertion, i.e. a hypothesis, in the study. Therefore, the data collected are designed to examine a specific hypothesis (Ekiz, 2009).

A non-experimental quantitative approach was used in the study (McMillan & Schumacher, 2014). Survey method was used to obtain students' opinions on MALL and other scales associated with this scale. Since it was not possible to reach all students, the study was conducted by sampling from the main population.

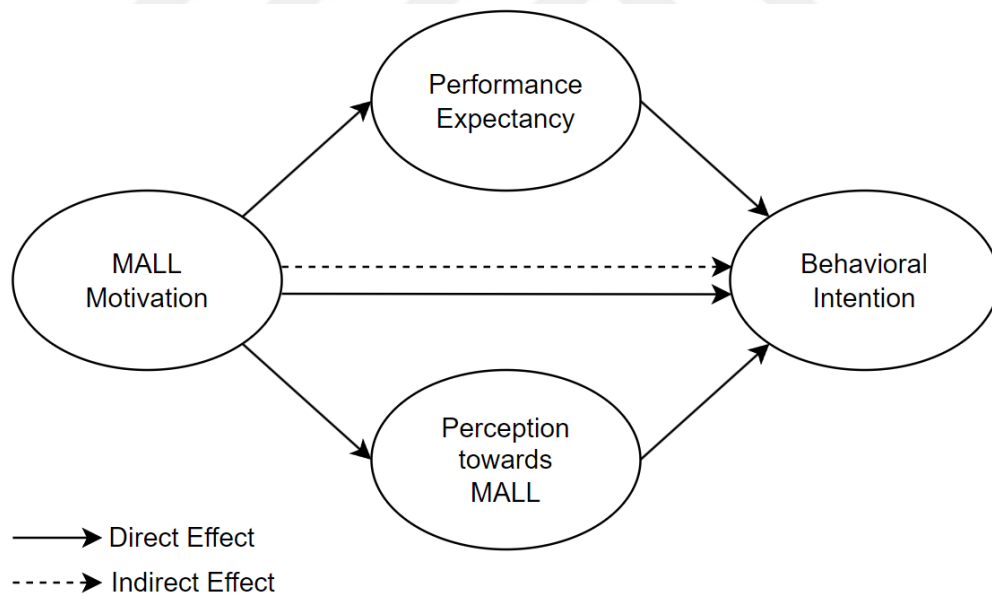
Survey studies provide successful results in measuring unquantifiable perceptions, attitudes or behaviors of individuals. In terms of versatility, surveys are useful because researchers can ask anything that comes to mind and measure it in a certain way. Surveys are effective in terms of accessing data quickly and collecting information from respondents through various sources. In addition, the generalizability of the data can be demonstrated with a sample that reflects the society. In all these respects, surveys are one of the popular methods used in research (Grinnell & Unrau, 2010, p.328).

In this study, the process of collecting data through a survey was conducted via the internet. Reaching participants in this way contributes to the general popularity of survey research. In this way, it is possible to reach geographies that cannot be physically reached (Cook et al. 2000). At the same time, data can be obtained more quickly and at lower cost (Schonlau et al. 2002). Online surveys can be conducted in two types as web based and e-mail based (McMillan & Schumacher, 2014). In the

study, the participants were reached with the web-based method. In this way, the participants' information security was not violated, as well as the intensity of the researchers' e-mail transmission and retrieval processes.

A single group was used to investigate the hypothesis put forward. Since no researcher intervention was applied for the survey conducted with Sivas Cumhuriyet University EFL students, it is assumed that there is no publication in the students' answers during the data collection process. At the same time, there was no incentive for students to participate. The data collection period was limited to "2 months".

The study includes information on demographic and mobile device-application usage habits of the students as well as four scales. In the light of the data obtained, the model created for the correlation between the scales is shown in Figure 3.1. It was studied whether performance expectancy and perceptions towards MALL variables have mediating roles in the interaction of EFL learners' MALL motivation and behavioral intentions. In order to conduct this research, it was decided to finalize the analysis by collecting questionnaires.



**Figure 3.1.** Research Model

As can be understood from the figure above, the model of the research was organized in 3 layers. In the first layer, the MALL motivation was included as an independent variable. It was thought that this variable would cause the other variables to change. In the second layer, PE and PtMALL variables were included. These variables measured

many interactions of mediator variables in the study. Firstly, it was examined whether they were affected by the MALL motivation variable. Secondly, it was examined whether they affected the Behavioral Intention variable. Finally, we examined whether the mediating variables increased or decreased the effect between MALL Motivation and Behavioral Intention. The third layer includes Behavioral Intention as the dependent variable. It was investigated whether the BI variable was directly or indirectly affected by all other variables in the research model.

### **3.2. Population and Sample**

In order to conduct the current research, English language learners were determined as the main population. The sample consisting of English Language Teaching, English Language and Literature, and Translation and Interpreting students studying at Sivas Cumhuriyet University was used to create the data set. In determining the size of the sample, it was decided to use the sample calculation when the probability is known according to the equation  $p=0.5$  according to the students' acceptance to participate in the survey. According to this approach, the formula ( $n = \frac{p \cdot q \cdot t^2}{d}$ ) was used. The terms in the formula were determined as  $p=0.5$ ,  $q=(1-p)$ ,  $t=1.96$  and  $d=0.05$ . In the calculation of the sample, 95% confidence level was set as a criterion.

According to the sample calculation, the sample was planned to be at least 384. The number of questionnaires collected from the students reached 653. However, it was decided to exclude some questionnaires from the study as a result of deficiencies in the answers given to the statements, biased answers (answering the same option continuously, finding patterns in the questionnaire answers, etc.). Thus, it was decided to continue the study with the survey data of a total of 626 participants. The power of the study was calculated as 96.1% and it is understood that there will be no problem in generalizing the results to students at higher education level in Sivas province and its surrounding geography.

**Table 3.1.** Frequency Table of Participant Demographic Variables

Variables	Categories	n (%)
Gender	Male	418 (%66.8)
	Female	185 (%29.6)
	Prefer not to say	23 (%3.70)
Department	Foreign Language Education	157 (%25.1)
	English Language and Literature	402 (%64.2)
	Tranlation and Interpretation	67 (%10.7)
Grade	1. Grade	200 (%31.9)
	2. Grade	101 (%16.1)
	3. Grade	91 (%14.5)
	4. Grade	234 (%37.4)

Part of Table 3.1 shows demographic variables and mobile usage habits. When the frequency of mobile device use of the participants is evaluated in the never-often (1-5) range; Option 1 is 1.10% (n=7), Option 2 is 3.20% (n=20), Option 3 is 16.0% (n=100), Option 4 is 26.0% (n=163) and Option 5 is 53.7% (n=336). Similarly, the participants' use of mobile applications for educational purposes was categorized in the same way. In the answers given to this question, option 1 was 3.80% (n=24), option 2 was 13.4% (n=84), option 3 was 39.1% (n=245), option 4 was 25.9% (n=162) and option 5 was 17.7% (n=111). When participants were asked about the frequency of daily application use, it was observed that daily use (n<sub>1-2</sub> hours a day=205, n<sub>3-4</sub> hours a day=168, n<sub>5</sub> hours a day and more=74) was preferred by 71.3%. Weekly use (n<sub>1-2</sub> hours a week=56, n<sub>3-4</sub> hours a week=94) was preferred at a lower rate of 23.9%. It was determined that there were 29 participants (4.60%) who stated that they used an application for a period of time different from all these usage frequencies. Common groups were determined according to the applications used by the participants. Accordingly, participants using Social Network Services were 122 (19.5%), participants using Language Learning Apps were 167 (26.7%), participants using Translation were 85 (13.6%), participants using Dictionaries were 179 (28.6%), participants using Online Courses - MOOCs were 10 (1.6%), participants using Writing Tools were 49 (7.8%), participants using Reading were 42 (6.7%) and participants using Other Learning Aids were 94 (15.0%).

### 3.3. Data Collection Techniques

As shown in the research model, it is planned to finalize this study with four different scales. First, the statements of the MALL Motivation scale developed by Okumuş

Dağdeler (2018) and consisting of a total of 17 statements were examined (Appendix B).

Performance Expectancy was analyzed as the first of the scales in which the mediating effects of the research model were examined. The scale applied by Hoi (2020) aims to measure the perception of the benefits that can be obtained in mobile device use (Appendix C). Another scale in which the mediation effect was examined is the Perception towards MALL scale prepared by Ebadi and Raygan (2023) (Appendix D). The scale, which consists of a total of 10 statements, includes information on participant preferences regarding the use of MALL. The Behavioral Intention scale used as the dependent variable consists of a total of 4 statements (Appendix E).

In order to analyze the scales and to ensure that these analyzes are not biased, reliability analysis must first be performed. The results of the Cronbach's Alpha statistic calculated for this purpose are given in Table 3.2.

**Table 3.2.** The Results of the Reliability Analysis of the Scales

Scale	Cronbach's Alpha	N of Items
MALL Motivation	0.939	17
Performance Expectancy	0.877	5
Perception towards MALL	0.841	10
Behavioral Intention	0.840	4

The test results for the reliability of the scales used in the thesis are given in Table 3.6. For the MALL Motivation scale, which consists of 17 statements in total, no statement had to be removed ( $\alpha=0.939$ ). Similarly, the Performance Expectancy ( $\alpha=0.877$ ), Perception towards MALL ( $\alpha=0.841$ ) and Behavioral Intention ( $\alpha=0.840$ ) scales did not need to be removed. As the alpha statistics in all scales are above 0.6, it is understood that the scale consistencies are sufficient and the statements can be combined in the existing scales.

According to the scale results collected, it is assumed that there will be no bias in using the statements in the scales as they are. Thus, we proceeded to test the scale averages according to the demographic data of the participants and to conduct structural equation analyses.

### **3.4. Data Analysis**

In the analysis of the data, scale scores were collected by combining the scale items appropriately. It was also examined whether the calculated scale averages differed according to the demographic variables of the participants. Normality test was performed on the scale averages in order to determine the appropriate statistical method. Therefore, Kolmogorov-Smirnov Z test (due to  $n > 50$ ) was applied to the scale averages. Due to the fact that any of the distribution of scales were not normal, gap analyses were performed with nonparametric test techniques. For this reason, Mann-Whitney U test (MW-U) was used to reveal the difference in two-category variables; Kruskal-Wallis H (KW-H) test was used to reveal the difference in variables with more than two categories. If a statistically significant difference was found in the KW-H test, the MW-U test was used again to investigate the source of the difference. In the last stage of the application, confirmatory factor analysis (CFA) and structural equation model (SEM) analysis, which is the main research topic of the thesis, was performed. In order to conduct this analysis, the results of confirmatory factor analysis were first calculated.

## CHAPTER 4: FINDINGS AND INTERPRETATION

At this stage of the study, statistical analyses were applied on the data collected. In this section, analyses were conducted on the survey data collected from the participants. These analyses are briefly listed as difference analysis, correlation, confirmatory factor analysis (CFA) and structural equation modeling (SEM). Whether the averages of the participants' responses to the scales differed according to demographic and usage variables was examined by difference analyses. Possible parallel trends between the scales were explained through correlation analysis. Finally, the examination of the participants' scale responses according to the research model (Figure 3.1 Research Model) was analyzed with CFA and SEM models.

**Table 4.1.** Frequency Table of Usage Variables

Variables	Categories	n (%)
How often do you use mobile devices? (never, ..., very often)	1	7 (%1.10)
	2	20 (%3.20)
	3	100 (%16.0)
	4	163 (%26.0)
	5	336 (%53.7)
Level of using mobile application for educational purposes (never, ..., very often)	1	24 (%3.80)
	2	84 (%13.4)
	3	245 (%39.1)
	4	162 (%25.9)
	5	111 (%17.7)
How often do you use mobile applications for educational purposes?	1-2 hours a day	205 (%32.7)
	3-4 hours a day	168 (%26.8)
	5 hours a day and more	74 (%11.8)
	1-2 hours a week	56 (%8.90)
	3-4 hours a week	94 (%15.0)
	Other	29 (%4.60)
Social Network Service	No	504 (%80.5)
	Yes	122 (%19.5)
Language Learning Apps	No	459 (%73.3)
	Yes	167 (%26.7)
Translation	No	541 (%86.4)
	Yes	85 (%13.6)
Dictionaries	No	447 (%71.4)
	Yes	179 (%28.6)
Online Courses - MOOCs	No	616 (%98.4)
	Yes	10 (%1.60)
Writing Tools	No	577 (%92.2)
	Yes	49 (%7.80)
Reading	No	584 (%93.3)
	Yes	42 (%6.70)
Other Learning Aids	No	532 (%85.0)
	Yes	94 (%15.0)

Part of Table 4.1 shows demographic variables and mobile usage habits. When the frequency of mobile device use of the participants is evaluated in the never-often (1-5) range; Option 1 is 1.10% (n=7), Option 2 is 3.20% (n=20), Option 3 is 16.0% (n=100), Option 4 is 26.0% (n=163) and Option 5 is 53.7% (n=336). Similarly, the participants' use of mobile applications for educational purposes was categorized in the same way. In the answers given to this question, option 1 was 3.80% (n=24), option 2 was 13.4% (n=84), option 3 was 39.1% (n=245), option 4 was 25.9% (n=162) and option 5 was 17.7% (n=111). When participants were asked about the frequency of daily application use, it was observed that daily use (n1-2 hours a day=205, n3-4 hours a day=168, n5 hours a day and more=74) was preferred by 71.3%. Weekly use (n1-2 hours a week=56, n3-4 hours a week=94) was preferred at a lower rate of 23.9%. It was determined that there were 29 participants (4.60%) who stated that they used an application for a period of time different from all these usage frequencies. Common groups were determined according to the applications used by the participants. Accordingly, participants using Social Network Services were 122 (19.5%), participants using Language Learning Apps were 167 (26.7%), participants using Translation were 85 (13.6%), participants using Dictionaries were 179 (28.6%), participants using Online Courses-MOOCs were 10 (1.6%), participants using Writing Tools were 49 (7.8%), participants using Reading were 42 (6.7%) and participants using Other Learning Aids were 94 (15.0%).

Frequency tables were prepared according to the participants' responses to the statements in the scales. First of all, the frequency table of the MALL Motivation scale of Okumuş Dağdeler (2018) is given (Table 4.2)

**Table 4.2.** MALL Motivation Scale Items and Response Frequencies

Items	Statistics	Strongly Disagree	Disagree	Have No Opinion	Agree	Strongly Agree
1) I enjoyed using the mobile app.	n %	6 1,00%	23 3,80%	118 19,70%	281 46,90%	171 28,50%
2) The more I worked on the mobile app, the more I believed that I would learn the content.	n %	9 1,50%	44 7,30%	178 29,70%	254 42,40%	114 19,00%
3) There were things that were intriguing in the mobile app.	n %	21 3,50%	54 9,00%	182 30,40%	235 39,20%	107 17,90%
4) I felt accomplished when I completed the activities in the mobile application.	n %	9 1,50%	40 6,70%	164 27,40%	258 43,10%	128 21,40%
5) The feedback given to the activities made me feel that my work was well rewarded.	n %	10 1,70%	47 7,80%	158 26,40%	253 42,20%	131 21,90%
6) The variety of activities in the mobile application kept me interested in learning.	n %	9 1,50%	46 7,70%	137 22,90%	266 44,40%	141 23,50%
7) The mobile application's lack of time and space limitations increased my willingness to practice.	n %	16 2,70%	55 9,20%	186 31,10%	213 35,60%	129 21,50%
8) Successfully completing the activities in the mobile app increased my enthusiasm for learning.	n %	4 0,70%	36 6,00%	126 21,00%	286 47,70%	147 24,50%
9) Since I could work with the mobile application at the speed I wanted, I wanted to keep learning with the mobile application.	n %	6 1,00%	37 6,20%	139 23,20%	276 46,10%	141 23,50%
10) The organization of the content increased my confidence that I would learn what was presented in the application.	n %	8 1,30%	36 6,00%	195 32,60%	256 42,70%	104 17,40%
11) I thought the mobile application was a catchy material.	n %	14 2,30%	34 5,70%	160 26,70%	264 44,10%	127 21,20%
12) What was conveyed in the mobile application met my learning needs.	n %	10 1,70%	43 7,20%	148 24,70%	290 48,40%	108 18,00%
13) I learned some new information with the mobile application.	n %	2 0,30%	23 3,80%	80 13,40%	273 45,60%	221 36,90%
14) It was fun to do the activities in the mobile application.	n %	16 2,70%	52 8,70%	105 17,50%	269 44,90%	157 26,20%
15) The quality of the content of the mobile application helped me to remain focused.	n %	10 1,70%	54 9,00%	160 26,70%	249 41,60%	126 21,00%
16) I learned well with the mobile app.	n %	6 1,00%	38 6,30%	165 27,50%	247 41,20%	143 23,90%
17) It was important for me to successfully complete the exercises in the mobile application.	n %	17 2,80%	38 6,30%	133 22,20%	251 41,90%	160 26,70%

According to the answers given by the participants, it was observed that the majority of the participants (43.4%) gave the answer "Agree". The intensities of the preferred answers were calculated as 24.9% "Have No Opinion", 23.1% "Strongly Agree", 6.9% "Disagree" and 1.7% "Strongly Disagree" respectively. It is understood that the participants tend to agree with the statements of this scale.

The responses to the Performance Expectancy Scale developed by Hoi (2020) can be examined in Table 4.3.

**Table 4.3.** Performance Expectancy Scale Items and Response Frequencies

Items	Statistics	Strongly Disagree	Disagree	Have No Opinion	Agree	Strongly Agree
1) Using mobile devices helps maintain and enhance my motivation and interest in language learning.	n	8	26	109	296	160
	%	1,30%	4,30%	18,20%	49,40%	26,70%
2) Using mobile devices can enhance the language learning environment and experience.	n	4	23	114	303	155
	%	0,70%	3,80%	19,00%	50,60%	25,90%
3) Using mobile devices can improve my language learning performance in class.	n	8	50	135	274	132
	%	1,30%	8,30%	22,50%	45,70%	22,00%
4) Using mobile devices can improve the effectiveness of language learning outside the class	n	6	31	117	277	168
	%	1,00%	5,20%	19,50%	46,20%	28,00%
5) I find it useful to use mobile devices for language learning.	n	6	25	89	252	227
	%	1,00%	4,20%	14,90%	42,10%	37,90%

According to the answers given by the participants, it was observed that the majority of the participants (46.8%) gave the answer "Agree". The intensities of the preferred answers were calculated as 28.1% "Strongly Agree", 18.8% "Have No Opinion", 5.2% "Disagree" and 1.1% "Strongly Disagree" respectively. It is clear that the participants tend to agree with the statements of this scale.

Another scale used in the study to measure the mediation effect is the Perception towards MALL scale developed by Ebadi and Raygan (2023). The frequency values prepared according to the answers given by the participants can be analyzed in Table 4.4.

**Table 4.4.** Perception towards MALL Scale Items and Response Frequencies

Items	Statistics	Strongly Disagree	Disagree	Have No Opinion	Agree	Strongly Agree
1) I am keen on learning English via mobile phones	n %	9 1,50%	70 11,70%	130 21,70%	251 41,90%	139 23,20%
2) MALL has been applied to a variety of learning exercises in my English language class	n %	10 1,70%	48 8,00%	242 40,40%	226 37,70%	73 12,20%
3) I prefer MALL courses to traditional ones	n %	31 5,20%	83 13,90%	233 38,90%	185 30,90%	67 11,20%
4) MALL should be frequently applied to classroom activities	n %	15 2,50%	43 7,20%	225 37,60%	239 39,90%	77 12,90%
5) MALL promotes learners' tendency to learn English	n %	10 1,70%	26 4,30%	198 33,10%	269 44,90%	96 16,00%
6) Recent MALL developments lead to inspecting new methods /models at university level	n %	9 1,50%	30 5,00%	219 36,60%	240 40,10%	101 16,90%
7) Using a mobile device makes me feel bored	n %	99 16,50%	178 29,70%	182 30,40%	96 16,00%	44 7,30%
8) MALL has been extensively used in English as a foreign language (EFL) learning context	n %	21 3,50%	36 6,00%	237 39,60%	231 38,60%	74 12,40%
9) I feel confident regarding the use of mobile devices for language learning	n %	10 1,70%	42 7,00%	186 31,10%	244 40,70%	117 19,50%
10) Learners feel positive about MALL engagement in EFL context	n %	9 1,50%	26 4,30%	244 40,70%	233 38,90%	87 14,50%

According to the answers given by the participants, it was observed that the majority of the participants (37.0%) gave the answer "Agree". The intensities of the preferred answers were calculated as 35.0% "Have No Opinion", 14.6% "Strongly Agree", 9.7% "Disagree" and 3.7% "Strongly Disagree" respectively. It is understood that the participants tend to agree with the statements of this scale.

Lastly, the frequency values of the Behavioral Intention Scale taken from Hoi (2020)'s study and used as the dependent variable are presented in Table 4.5.

**Table 4.5.** Behavioral Intention Scale Items and Response Frequencies

Items	Statistics	Strongly Disagree	Disagree	Have No Opinion	Agree	Strongly Agree
1) I intend to use/continue to use mobile devices for language learning.	n %	7 1,20%	16 2,70%	98 16,40%	296 49,40%	182 30,40%
2) I guess I would use mobile devices to learn foreign languages more regularly in the future.	n %	6 1,00%	27 4,50%	130 21,70%	253 42,20%	183 30,60%
3) I have a plan to use mobile devices to learn foreign languages more regularly.	n %	9 1,50%	38 6,30%	169 28,20%	243 40,60%	140 23,40%
4) I will recommend my friends to use mobile devices to learn foreign languages.	n %	19 3,20%	37 6,20%	151 25,20%	251 41,90%	141 23,50%

According to the answers given by the participants, it was observed that the majority of the participants (43.5%) gave the answer "Agree". The intensities of the preferred answers were calculated as 27.0% "Strongly Agree", 22.9% "Have No Opinion", 4.9% "Disagree" and 1.7% "Strongly Disagree" respectively. It is clear that the participants tend to agree with the statements of this scale.

#### 4.1. Descriptive Statistics and Basic Analysis

It was intended to examine the differences of the scales according to the demographic and mobile usage habits of the participants. As a result of the normality test performed to determine the appropriate test to be used, it was calculated that all scales were not suitable for normal distribution ( $p < 0.05$ ) (Table 4.6).

**Table 4.6.** Kolmogorov-Smirnov Z test results

	Statistic	df	Sig.
MALL Motivation	0,052	626	<.001
Performance Expectancy	0,115	626	<.001
Perception towards MALL	0,081	626	<.001
Behavioral Intention	0,096	626	<.001

In Table 4.7, it is examined whether there is a difference in MALL Motivation Scale averages according to participant demographic and mobile usage variables. At the same time, Table 4.7 shows the descriptive statistics of the scale according to the categories. When the demographic characteristics of the participants are examined, it is seen that MALL Motivation scores do not differ statistically according to gender and grade variables ( $p > 0.05$ ). Therefore, it can be interpreted that there is similarity between the categories in these variables. However, according to the department variable, the average MALL Motivation scores of the students attending the "Translation and Interpretation" department ( $3.38 \pm 0.85$ ) were statistically significantly lower than the students attending the "Foreign Language Education" department ( $3.79 \pm 0.73$ ,  $p = 0.005$ ) and the "English Language and Literature" department ( $3.82 \pm 0.61$ ,  $p < .001$ ) ( $p = 0.001$ ).

Based on the analysis of the variables related to the participants' use of mobile devices and applications, it was calculated that there was a statistically significant difference only in the results of "Level of using mobile application for educational purposes" ( $p < .001$ ). The frequency of use is between "1" ( $3.43 \pm 0.71$ ) and "2" ( $3.80 \pm 0.66$ ,  $p = 0.006$ ), "3" ( $3.76 \pm 0.67$ ,  $p = 0.005$ ) and "4" ( $3.72 \pm 0.07$ ,  $p = 0.016$ ). When the reason for

the difference was analyzed, it was found that it was due to the differences between the "5" ( $3.89 \pm 0.67$ ) and "1" ( $3.43 \pm 0.71$ ,  $p < .001$ ), "3" ( $3.76 \pm 0.67$ ,  $p = 0.025$ ) and "4" ( $3.72 \pm 0.70$ ,  $p = 0.014$ ) groups. According to the frequency of application use, the highest MALL Motivation mean is in the group "5" and the lowest mean is in the group "1". There was no statistically significant difference in the mean MALL Motivation between the categories in the variables taken on the use of other devices and applications ( $p > 0.05$ ).



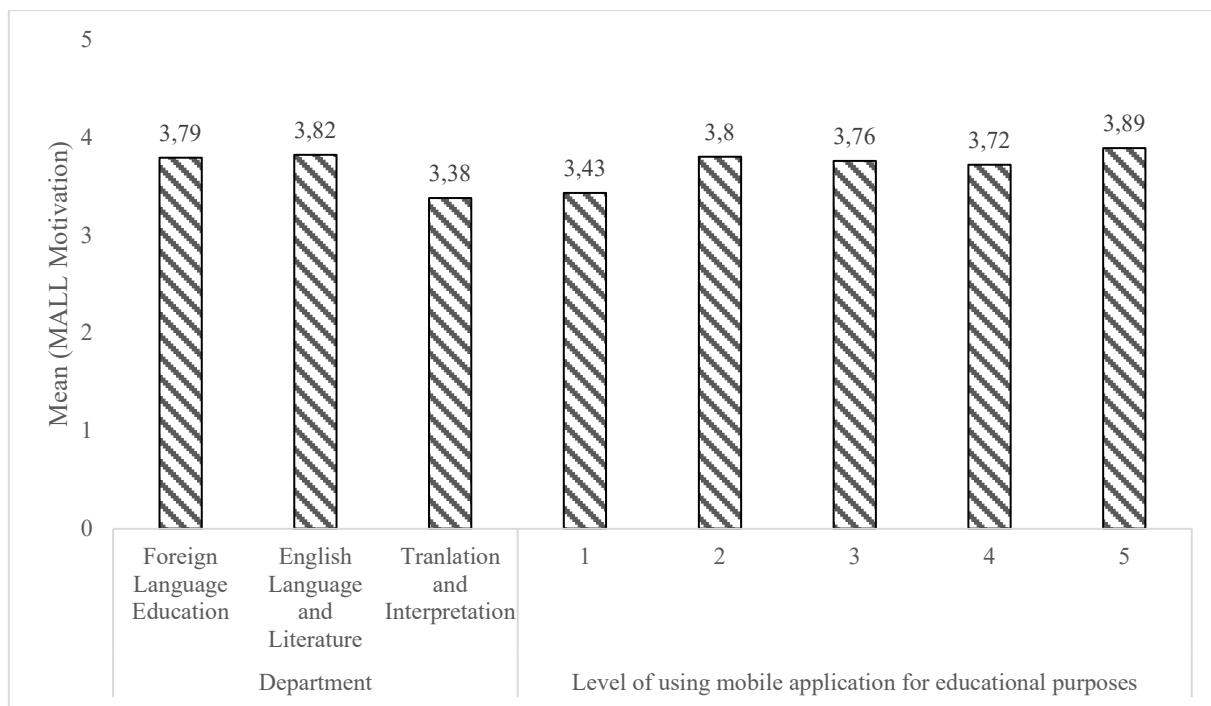
**Table 4.7.** MALL Motivation Scale Difference Analysis Results According to Participant Demographic and Mobile Usage Variables

Variables	Categories	Mean±Standard Deviation (Minimum-Maximum)	p
Gender	Male	3.75±0.70 (1.00-5.00)	0.067
	Female	3.82±0.63 (2.00-5.00)	
	Prefer not to say	3.49±0.70 (2.12-4.76)	
Department	Foreign Language Education	3.79±0.73 (2.00-5.00)	<b>0.001<sup>a</sup></b>
	English Language and Literature	3.82±0.61 (1.94-5.00)	
	Translation and Interpretation	3.38±0.85 (1.00-5.00)	
Grade	1. Grade	3.70±0.78 (1.00-5.00)	0.326
	2. Grade	3.74±0.70 (1.94-5.00)	
	3. Grade	3.88±0.58 (2.00-5.00)	
	4. Grade	3.78±0.61 (1.47-5.00)	
How often do you use mobile devices? (never, ..., very often)	1	3.91±0.85 (2.53-4.88)	0.672
	2	3.86±0.67 (2.47-5.00)	
	3	3.75±0.65 (1.94-5.00)	
	4	3.73±0.65 (1.00-5.00)	
	5	3.78±0.70 (1.00-5.00)	
Level of using mobile application for educational purposes (never, ..., very often)	1	3.43±0.71 (2.12-5.00)	<b>0.003<sup>b</sup></b>
	2	3.80±0.66 (2.00-5.00)	
	3	3.76±0.67 (1.47-5.00)	
	4	3.72±0.70 (1.00-5.00)	
	5	3.89±0.67 (1.00-5.00)	
How often do you use mobile applications for educational purposes?	1-2 hours a day	3.75±0.69 (1.00-5.00)	0.182
	3-4 hours a day	3.84±0.64 (2.00-5.00)	
	5 hours a day and more	3.84±0.64 (1.71-5.00)	
	1-2 hours a week	3.71±0.65 (2.18-5.00)	
	3-4 hours a week	3.68±0.75 (1.94-5.00)	
	Other	3.58±0.76 (1.47-5.00)	
Social Network Service	No	3.74±0.70 (1.00-5.00)	0.124
	Yes	3.85±0.61 (2.29-5.00)	
Language Learning Apps	No	3.78±0.68 (1.00-5.00)	0.521
	Yes	3.73±0.70 (1.47-5.00)	
Translation	No	3.75±0.66 (1.00-5.00)	0.155
	Yes	3.86±0.78 (1.00-5.00)	
Dictionaries	No	3.74±0.65 (1.47-5.00)	0.052
	Yes	3.82±0.74 (1.00-5.00)	
Online Courses-MOOCs	No	3.77±0.68 (1.00-5.00)	0.179
	Yes	3.48±0.79 (2.24-5.00)	
Writing Tools	No	3.78±0.67 (1.00-5.00)	0.101
	Yes	3.60±0.75 (2.00-5.00)	
Reading	No	3.77±0.68 (1.00-5.00)	0.822
	Yes	3.74±0.65 (2.18-5.00)	
Other Learning Aids	No	3.76±0.70 (1.00-5.00)	0.677
	Yes	3.77±0.60 (2.00-5.00)	

a:  $p_{1-3}=0.005$ ,  $p_{2-3}<.001$

b:  $p_{1-2}=0.006$ ,  $p_{1-3}=0.005$ ,  $p_{1-4}=0.016$ ,  $p_{1-5}<.001$ ,  $p_{3-5}=0.025$ ,  $p_{4-5}=0.014$

Figure 4.1 shows the variables for which there is a significant difference related to this scale. Other categorical variables are not shown because statistically significant differences could not be calculated.



**Figure 4.1.** Variables with Different MALL Motivation Scores

Table 4.8 shows whether there is a difference in Performance Expectancy Scale averages according to participant demographic and mobile usage variables. At the same time, Table 4.8 shows the descriptive statistics of the scale according to the categories. When the demographic characteristics of the participants are examined, it is seen that Performance Expectancy scores do not differ statistically according to gender and grade variables ( $p > 0.05$ ). Therefore, it can be interpreted that there is similarity between the categories in these variables. On the other hand, according to the department variable, the mean Performance Expectancy scores of the students attending the "Translation and Interpretation" department ( $3.54 \pm 0.80$ ) were statistically significantly lower than those of the students attending the "Foreign Language Education" department ( $3.95 \pm 0.78$ ,  $p = 0.001$ ) and the "English Language and Literature" department ( $4.00 \pm 0.69$ ,  $p < 0.001$ ) ( $p = 0.001$ ).

In the analysis of the variables related to the participants' mobile device and application usage, it was calculated that there was a statistically significant difference in the results of "Level of using mobile application for educational purposes", "Translation" and "Online Courses-MOOCs" ( $p < 0.05$ ). When the reason for the difference in the frequency of application use was examined, it was found that the frequency of use level was due to the differences between "1" ( $3.52 \pm 1.07$ ) and "2" ( $3.98 \pm 0.69$ ) ( $p = 0.042$ ), and between "5" ( $4.18 \pm 0.70$ ) and "1" ( $3.52 \pm 1.07$ ,  $p = 0.003$ ), "3" ( $3.86 \pm 0.73$ ,  $p < 0.001$ ) and "4"

( $3.95 \pm 0.68$ ,  $p=0.004$ ) groups. According to the frequency of application use, the highest Performance Expectancy mean is in the group "5" and the lowest mean is in the group "1". Participants who stated that they used the Translation application ( $4.08 \pm 0.82$ ) had a statistically higher mean score than those who stated that they did not use it ( $3.92 \pm 0.72$ ) ( $p=0.038$ ). The mean score of the participants who stated that they used Online Courses-MOOCs ( $3.42 \pm 0.81$ ) was statistically lower than those who stated that they did not use MOOCs ( $3.95 \pm 0.73$ ) ( $p=0.038$ ).

In the variables taken on the use of other devices and applications, no statistically significant difference was observed in the Performance Expectancy averages between the categories ( $p>0.05$ ).

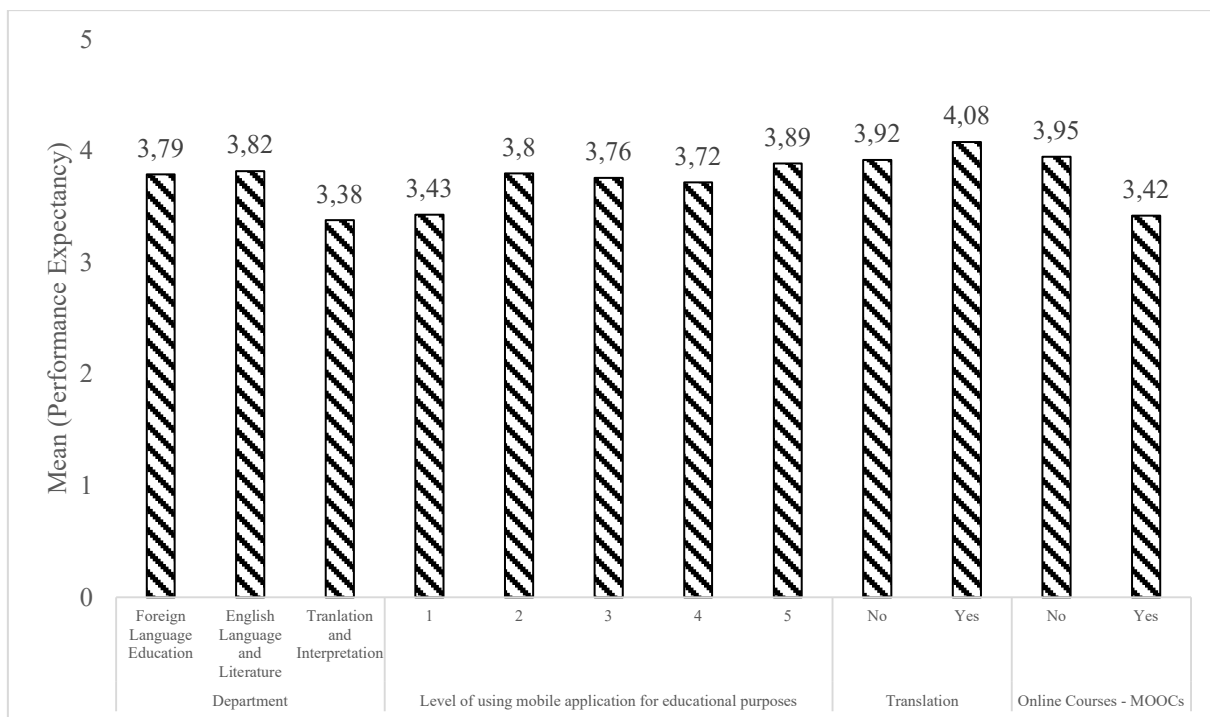


**Table 4.8.** The results of Performance Expectancy Scale Difference Analysis according to the Demographic Variables of the Participants

Variables	Categories	Mean±Standard Deviation (Minimum-Maximum)	p
Gender	Male	3.93±0.75 (1-5)	0.064
	Female	4.01±0.7 (1-5)	
	Prefer not to say	3.65±0.81 (2.6-5)	
Department	Foreign Language Education	3.95±0.78 (1.2-5)	<b>&lt;.001<sup>a</sup></b>
	English Language and Literature	4±0.69 (1-5)	
	Translation and Interpretation	3.54±0.8 (1-5)	
Grade	1. Grade	3.87±0.88 (1-5)	0.650
	2. Grade	3.98±0.74 (1.2-5)	
	3. Grade	4.04±0.55 (2.2-5)	
	4. Grade	3.95±0.66 (2.2-5)	
How often do you use mobile devices? (never,..., very often)	1	4.17±0.44 (3.6-5)	0.143
	2	4.03±0.96 (1-5)	
	3	3.9±0.59 (2.2-5)	
	4	3.88±0.69 (1.2-5)	
	5	3.97±0.78 (1-5)	
Level of using mobile application for educational purposes (never,..., very often)	1	3.52±1.07 (1-5)	<b>&lt;.001<sup>b</sup></b>
	2	3.98±0.69 (1.2-5)	
	3	3.86±0.73 (1-5)	
	4	3.95±0.68 (1.8-5)	
	5	4.18±0.7 (1.2-5)	
How often do you use mobile applications for educational purposes?	1-2 hours a day	3.89±0.79 (1-5)	0.684
	3-4 hours a day	3.99±0.68 (1.2-5)	
	5 hours a day and more	4.02±0.62 (2.2-5)	
	1-2 hours a week	3.84±0.75 (1.2-5)	
	3-4 hours a week	3.96±0.79 (1-5)	
	Other	3.92±0.73 (1.8-5)	
Social Network Service	No	3.93±0.74 (1-5)	0.388
	Yes	3.97±0.72 (1-5)	
Language Learning Apps	No	3.96±0.71 (1-5)	0.605
	Yes	3.89±0.81 (1-5)	
Translation	No	3.92±0.72 (1-5)	<b>0.038</b>
	Yes	4.08±0.82 (1.8-5)	
Dictionaries	No	3.93±0.72 (1-5)	0.462
	Yes	3.96±0.77 (1-5)	
Online Courses- MOOCs	No	3.95±0.73 (1-5)	<b>0.026</b>
	Yes	3.42±0.81 (2.4-5)	
Writing Tools	No	3.95±0.75 (1-5)	0.512
	Yes	3.9±0.6 (2.6-5)	
Reading	No	3.95±0.74 (1-5)	0.787
	Yes	3.89±0.75 (1.2-5)	
Other Learning Aids	No	3.92±0.75 (1-5)	0.120
	Yes	4.07±0.62 (2.4-5)	

a:  $p_{1-3}=0.001$ ,  $p_{2-3}<.001$   
b:  $p_{1-2}=0.045$ ,  $p_{1-5}=0.003$ ,  $p_{3-5}<.001$ ,  $p_{4-5}=0.004$

Figure 4.2 shows the variables for which there is a significant difference related to this scale. Other categorical variables are not shown because statistically significant differences could not be calculated.



**Figure 4.2.** The Variables with Different Performance Expectancy Scores

In Table 4.9, it was examined whether there was a difference in Perception towards MALL Scale averages according to participant demographic and mobile usage variables. At the same time, Table 4.9 shows descriptive statistics of the scale according to the categories. When the demographic characteristics of the participants are examined, it is seen that Perception towards MALL scores do not differ statistically according to gender variable ( $p>0.05$ ). Therefore, it can be interpreted that there is a similarity between the categories in this variable. However, according to the department variable, the mean Perception towards MALL ( $3.17\pm 0.62$ ) of the students attending the "Translation and Interpretation" department was statistically significantly lower ( $p<.001$ ) than the students attending the "Foreign Language Education" department ( $3.47\pm 0.65$ ,  $p=0.003$ ) and the "English Language and Literature" department ( $3.53\pm 0.59$ ,  $p<.001$ ). Similarly, a statistically significant difference was calculated according to grade ( $p=0.017$ ). This difference was due to the difference between Grade 1 ( $3.42\pm 0.67$ ) and Grade 3 ( $3.60\pm 0.57$ ,  $p=0.005$ ) and Grade 4 ( $3.49\pm 0.56$ ,  $p=0.038$ ) and between Grade 2 ( $3.46\pm 0.65$ ) and Grade 3 ( $3.60\pm 0.57$ ,  $p=0.048$ ).

In the analysis of the variables related to the participants' mobile device and application usage, it was found that there was a statistically significant difference in the results of "Level of using mobile application for educational purposes", "How often do you use mobile applications for educational purposes?" and "Online Courses-MOOCs" ( $p<.05$ ).

In the examination of the reason for the difference in the frequency of application use, the level of frequency of use is between "1" ( $3.26 \pm 0.60$ ) and "2" ( $3.56 \pm 0.69$ ,  $p=0.024$ ), "4" ( $3.48 \pm 0.58$ ,  $p=0.019$ ) and "5" ( $3.61 \pm 0.61$ ,  $p=0.001$ ). It was found that this difference was due to the differences between "5" ( $3.61 \pm 0.61$ ) and "3" ( $3.41 \pm 0.61$ ,  $p<.001$ ) and "4" ( $3.48 \pm 0.58$ ,  $p=0.023$ ) groups. According to the frequency of application usage, the highest Perception towards MALL average is in the group "5" and the lowest average is in the group "1". When the reason for the difference in the duration of application use is examined, the duration of use is between "1-2 hours a day" ( $3.45 \pm 0.64$ ) and "3-4 hours a day" ( $3.56 \pm 0.62$ ,  $p=0.022$ ) and "5 hours a day and more" ( $3.61 \pm 0.54$ ,  $p=0.006$ ). The reason for this difference is the difference between the following groups as "3-4 hours a day" ( $3.56 \pm 0.62$ ) and "3-4 hours a week" ( $3.43 \pm 0.60$ ,  $p=0.048$ ) and "Other" ( $3.20 \pm 0.56$ ,  $p=0.003$ ); "5 hours a day and more" ( $3.61 \pm 0.54$ ) and "1-2 hours a week" ( $3.38 \pm 0.60$ ,  $p=0.003$ ), "3-4 hours a week" ( $3.43 \pm 0.60$ ,  $p=0.016$ ) and "Other" ( $3.20 \pm 0.58$ ,  $p=0.001$ ). According to the application usage times, the highest Perception towards MALL average is in the "5 hours a day and" group and the lowest average is in the "Other" group. The mean score of the participants who stated that they used Online Courses - MOOCs application ( $3.15 \pm 0.47$ ) was statistically lower than those who stated that they did not use it ( $3.48 \pm 0.62$ ) ( $p=0.041$ ).

Regarding the variables on the use of other devices and applications, no statistically significant difference could be found in the means of Perception towards MALL between the categories ( $p>0.05$ ).

**Table 4.9.** Results of Perception towards MALL Scale Difference Analysis According to the Demographic Variables of the Participants

Variables	Categories	Mean±Standard Deviation (Minimum-Maximum)	p
Gender	Male	3.46±0.62 (1.4-5)	0.302
	Female	3.53±0.62 (1.7-5)	
	Prefer not to say	3.39±0.6 (2.3-4.6)	
Department	Foreign Language Education	3.47±0.65 (1.4-5)	<b>&lt;.001<sup>a</sup></b>
	English Language and Literature	3.53±0.59 (1.6-5)	
	Translation and Interpretation	3.17±0.62 (1.6-5)	
Grade	1. Grade	3.42±0.67 (1.4-5)	<b>0.017<sup>b</sup></b>
	2. Grade	3.46±0.65 (1.7-5)	
	3. Grade	3.6±0.57 (2-5)	
	4. Grade	3.49±0.56 (1.7-5)	
How often do you use mobile devices? (never, ..., very often)	1	3.3±0.54 (2.4-3.8)	0.208
	2	3.73±0.69 (2.1-5)	
	3	3.52±0.59 (2-5)	
	4	3.47±0.57 (1.6-5)	
	5	3.46±0.64 (1.4-5)	
Level of using mobile application for educational purposes (never, ..., very often)	1	3.26±0.6 (2.3-5)	<b>0.001<sup>c</sup></b>
	2	3.56±0.67 (2-5)	
	3	3.41±0.61 (1.6-5)	
	4	3.48±0.58 (1.6-5)	
	5	3.61±0.61 (1.4-5)	
How often do you use mobile applications for educational purposes?	1-2 hours a day	3.45±0.64 (1.6-5)	<b>0.002<sup>d</sup></b>
	3-4 hours a day	3.56±0.62 (2-5)	
	5 hours a day and more	3.61±0.54 (2.4-5)	
	1-2 hours a week	3.38±0.6 (1.4-5)	
	3-4 hours a week	3.43±0.6 (2-5)	
	Other	3.2±0.56 (1.7-4.3)	
Social Network Service	No	3.46±0.62 (1.4-5)	0.125
	Yes	3.53±0.57 (2.3-5)	
Language Learning Apps	No	3.49±0.62 (1.4-5)	0.258
	Yes	3.44±0.6 (1.6-5)	
Translation	No	3.46±0.59 (1.4-5)	0.435
	Yes	3.56±0.76 (1.6-5)	
Dictionaries	No	3.49±0.62 (1.6-5)	0.610
	Yes	3.44±0.61 (1.4-5)	
Online Courses - MOOCs	No	3.48±0.62 (1.4-5)	<b>0.041</b>
	Yes	3.15±0.47 (2.6-4.1)	
Writing Tools	No	3.48±0.61 (1.4-5)	0.911
	Yes	3.48±0.69 (1.7-5)	
Reading	No	3.48±0.61 (1.4-5)	0.320
	Yes	3.42±0.68 (2.1-5)	
Other Learning Aids	No	3.48±0.62 (1.4-5)	0.902
	Yes	3.48±0.56 (2.3-4.8)	

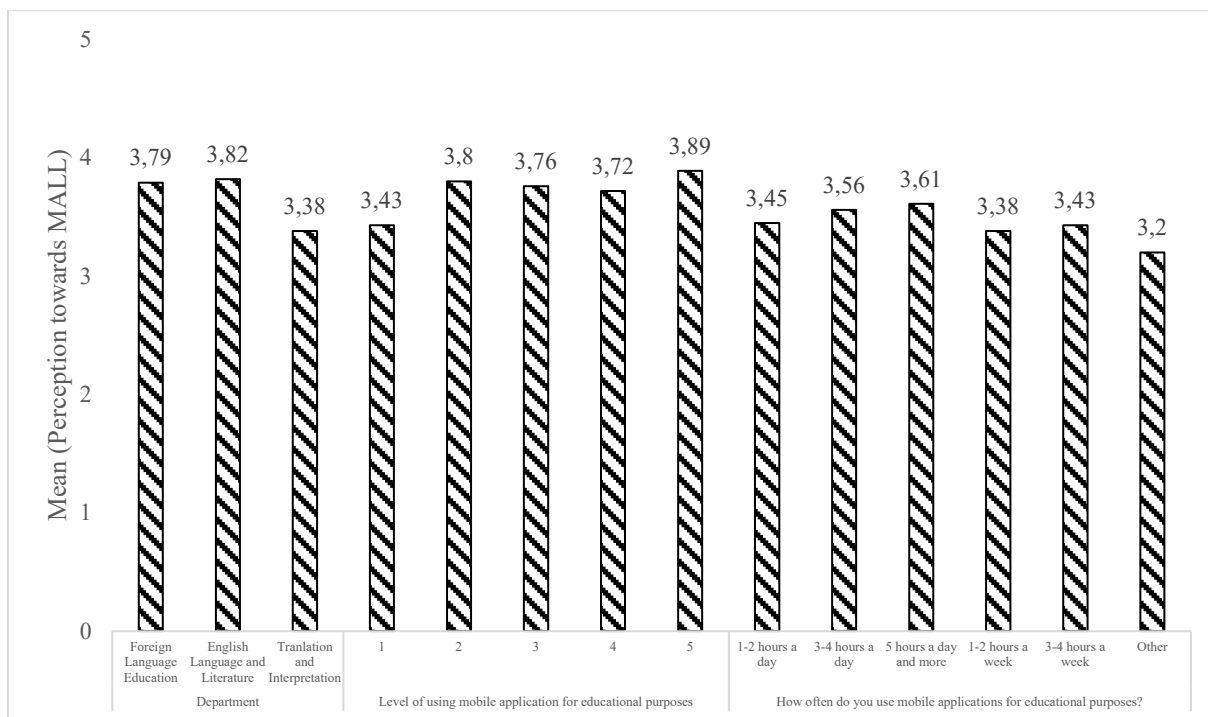
a:  $p_{1-3}=0.003$ ,  $p_{2-3}<.001$

b:  $p_{1-3}=0.005$ ,  $p_{1-4}=0.038$ ,  $p_{2-3}=0.048$

c:  $p_{1-2}=0.024$ ,  $p_{1-4}=0.019$ ,  $p_{1-5}=0.001$ ,  $p_{3-5}<.001$ ,  $p_{4-5}=0.023$

d:  $p_{1-2}=0.022$ ,  $p_{1-3}=0.006$ ,  $p_{2-5}=0.048$ ,  $p_{2-6}=0.003$ ,  $p_{3-4}=0.013$ ,  $p_{3-5}=0.016$ ,  $p_{3-6}=0.001$

Figure 4.3 shows the variables for which there is a significant difference related to this scale. Other categorical variables are not shown because statistically significant differences could not be calculated.



**Figure 4.3.** The Variables with Different Perception towards MALL Scores

Table 4.10 illustrates whether there is a difference in the mean scores of the Behavioral Intention Scale according to participant demographic and mobile usage variables. At the same time, Table 4.10 presents the descriptive statistics of the scale according to the categories. When the demographic characteristics of the participants are examined, it is seen that Behavioral Intention scores do not differ statistically according to gender and grade variables ( $p > 0.05$ ). It can therefore be interpreted that there is a similarity between the categories in these variables. Nevertheless, according to the department variable, the average Behavioral Intention of the students attending the "Translation and Interpretation" department ( $3.57 \pm 0.81$ ) was statistically significantly lower than the students attending the "Foreign Language Education" department ( $3.83 \pm 0.91$ ,  $p = 0.018$ ) and the "English Language and Literature" department ( $3.93 \pm 0.91$ ,  $p < .001$ ) ( $p = 0.002$ ).

In the analysis of the variables related to the participants' mobile device and application usage, it was found that there was a statistically significant difference in the results of "Level of using mobile application for educational purposes" and "Translation" ( $p < .05$ ). The reason for the difference in the frequency of application use was analyzed and it was found that the level of frequency of use was between "1" ( $3.48 \pm 0.88$ ) and "2" ( $3.88 \pm 0.79$ ,  $p = 0.028$ ), "3" ( $3.85 \pm 0.70$ ,  $p = 0.025$ ) and "5" ( $4.00 \pm 0.81$ ,  $p = 0.002$ ). It was found that this difference was due to the differences between "5" ( $4.00 \pm 0.81$ ) and "3" ( $3.85 \pm 0.70$ ,  $p = 0.015$ ) and "4" ( $3.84 \pm 0.81$ ,  $p = 0.036$ ) groups. According to the frequency

of application use, the highest Behavioral Intention mean is in the "5" group and the lowest mean is in the "1" group. It was also found that the mean score of the participants who stated that they used the Translation application ( $4.04 \pm 0.77$ ) was statistically higher ( $p=0.038$ ) than those who stated that they did not use it ( $3.84 \pm 0.77$ ).

In variables related to the use of other devices and applications, no statistically significant difference was calculated in the mean Behavioral Intention between the categories ( $p>0.05$ ).

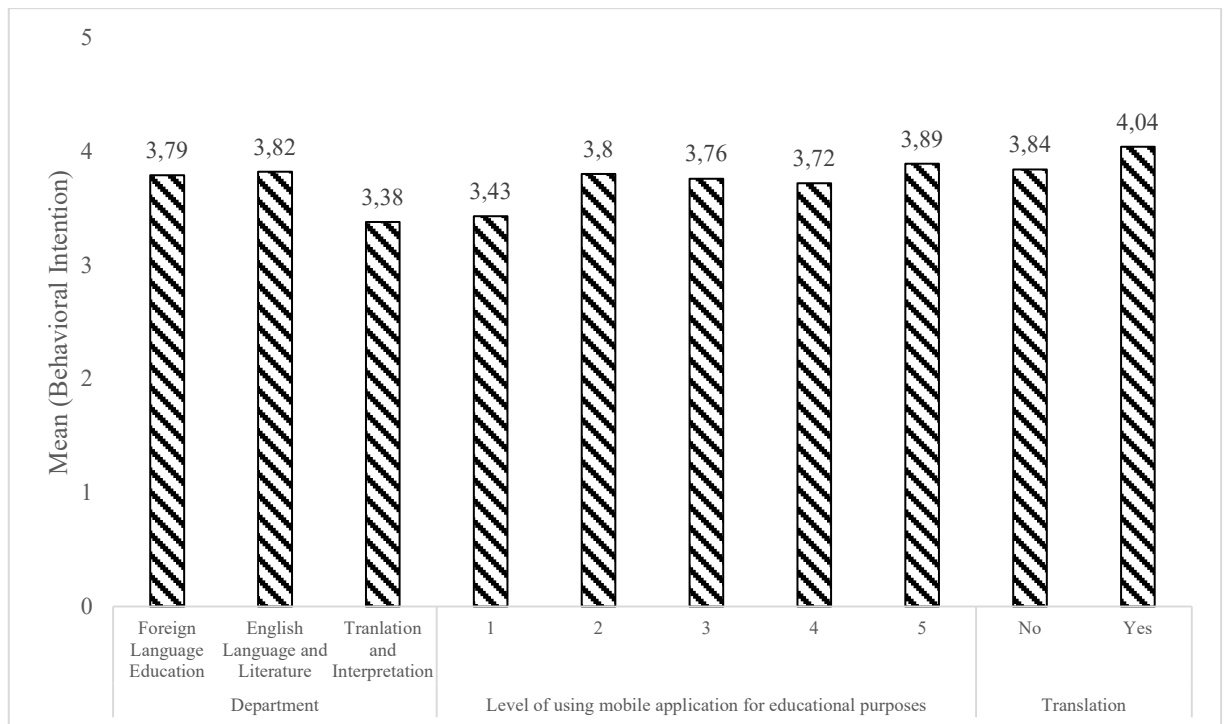


**Table 4.10.** Results of Behavioral Intention Scale Difference Analysis According to the Demographic Variables of the Participants

Variables	Categories	Mean±Standard Deviation (Minimum-Maximum)	p
Gender	Male	3.85±0.78 (1-5)	0.093
	Female	3.93±0.74 (1.5-5)	
	Prefer not to say	3.55±0.91 (1.5-5)	
Department	Foreign Language Education	3.83±0.91 (1-5)	<b>0.002<sup>a</sup></b>
	English Language and Literature	3.93±0.69 (1-5)	
	Translation and Interpretation	3.57±0.81 (1.75-5)	
Grade	1. Grade	3.84±0.85 (1-5)	0.522
	2. Grade	3.79±0.86 (1-5)	
	3. Grade	3.98±0.6 (2.5-5)	
	4. Grade	3.87±0.72 (1-5)	
How often do you use mobile devices? (never,..., very often)	1	4.36±0.63 (3.25-5)	0.131
	2	4.11±0.81 (2-5)	
	3	3.88±0.61 (2.75-5)	
	4	3.8±0.78 (1-5)	
	5	3.86±0.81 (1-5)	
Level of using mobile application for educational purposes (never,..., very often)	1	3.48±0.88 (1.5-5)	<b>0.017<sup>b</sup></b>
	2	3.88±0.79 (1-5)	
	3	3.85±0.7 (1-5)	
	4	3.84±0.81 (1.5-5)	
	5	4±0.8 (1-5)	
How often do you use mobile applications for educational purposes?	1-2 hours a day	3.87±0.78 (1-5)	0.55
	3-4 hours a day	3.96±0.75 (1-5)	
	5 hours a day and more	3.87±0.71 (1-5)	
	1-2 hours a week	3.73±0.79 (1.5-5)	
	3-4 hours a week	3.81±0.83 (1-5)	
	Other	3.75±0.76 (1.5-5)	
Social Network Service	No	3.85±0.78 (1-5)	0.429
	Yes	3.92±0.76 (1.5-5)	
Language Learning Apps	No	3.89±0.75 (1-5)	0.191
	Yes	3.8±0.82 (1-5)	
Translation	No	3.84±0.77 (1-5)	<b>0.038</b>
	Yes	4.04±0.77 (1.75-5)	
Dictionaries	No	3.87±0.75 (1-5)	0.820
	Yes	3.84±0.82 (1-5)	
Online Courses - MOOCs	No	3.87±0.77 (1-5)	0.344
	Yes	3.7±0.86 (2.5-5)	
Writing Tools	No	3.87±0.78 (1-5)	0.361
	Yes	3.79±0.66 (2.25-5)	
Reading	No	3.86±0.77 (1-5)	0.707
	Yes	3.88±0.8 (1-5)	
Other Learning Aids	No	3.85±0.78 (1-5)	0.251
	Yes	3.96±0.73 (1.5-5)	

a:  $p_{1-3}=0.018$ ,  $p_{2-3}<.001$   
b:  $p_{1-2}=0.028$ ,  $p_{1-3}=0.025$ ,  $p_{1-5}=0.002$ ,  $p_{3-5}=0.015$ ,  $p_{4-5}=0.036$

Figure 4.4 shows the variables for which there is a significant difference related to this scale. Other categorical variables are not shown because statistically significant differences could not be calculated.



**Figure 4.4.** The Variables with Different Behavioral Intention Scores

Another analysis conducted with the scales and demographic data is the correlation analysis. With this analysis, it is aimed to explain whether the scales move in tandem with each other and with age. As the distributions of the scale averages were significant, it was decided to perform the correlation analysis of these variables with the Spearman Correlation technique. The results of the analysis can be examined in Table 4.11.

**Table 4.11.** The Results of Scale Correlation

Scales	Statistics	Age	MALL Motivation	Performance Expectancy	Behavioral Intention	Perception towards MALL
Age	r	1,000				
	p	.				
MALL Motivation	r	0,079	1,000			
	p	<b>0,025</b>	.			
Performance Expectancy	r	-0,010	0,707	1,000		
	p	0,400	<.001	.		
Behavioral Intention	r	0,014	0,682	0,732	1,000	
	p	0,364	<.001	<.001	.	
Perception towards MALL	r	0,053	0,590	0,496	0,547	1,000
	p	0,091	<.001	<.001	<.001	.

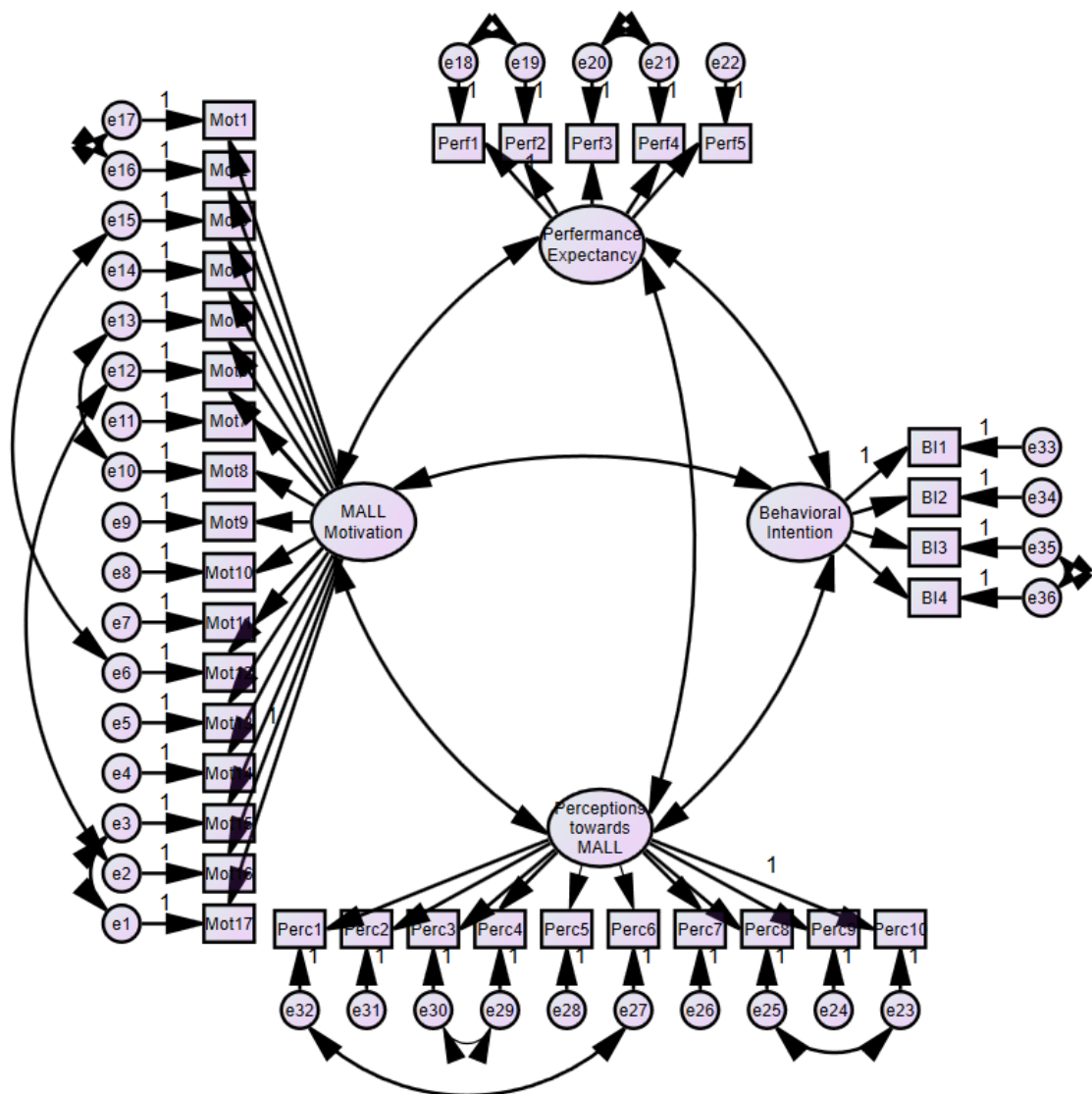
When the age variable of the participants was analyzed, a very weak positive correlation was found between the MALL Motivation scale ( $r=0.079$ ) ( $p=0.025$ ). This indicates that as the age of the participants increases, the average of the MALL Motivation scale may increase by 7.9%. It is observed that there are statistically significant relationships

between all scales. It was also found that there was a strong positive relationship between the participants' MALL Motivation scale and Performance Expectancy ( $r=0.707$ ,  $p<.001$ ) and Behavioral Intention ( $r=0.682$ ,  $p<.001$ ) scales, and a moderate positive relationship between Perception towards MALL scale ( $r=0.590$ ,  $p<.001$ ). A statistically significant positive moderate correlation was found between the mean Perception towards MALL scale and Performance Expectancy ( $r=0.496$ ,  $p<.001$ ) and Behavioral Intention ( $r=0.547$ ,  $p<.001$ ) scales. And finally, a statistically significant positive strong relationship was found between Performance Expectancy and Behavioral Intention ( $r=0.732$ ,  $p<.001$ ) scales.

As a result of the relations between the scales, it can be expected that when the mean of MALL Motivation scale increases, the mean of Performance Expectancy scale increases by 70.7%, the mean of Perception towards MALL scale increases by 59.0% and the mean of Behavioral Intention scale increases by 68.2%. Similarly, when the mean of Perception towards MALL scale increases, the mean of Performance Expectancy scale increases by 49.6% and the mean of Behavioral Intention scale increases by 54.7%. And lastly, when the mean of Performance Expectancy scale increases, the mean of Behavioral Intention scale can be expected to increase by 73.2%.

#### **4.2. The Findings of Confirmatory Factor Analysis (CFA)**

To avoid bias about the interaction to be researched in the thesis, the adequacy of the fit between the scales and statements must first be proved. The fit statistics and threshold values interpreted for this purpose are shown in Table 4.12. While some of the fit tests may be preferred to be appropriate, it may be desirable to be close to the threshold value or all of them may be at threshold values (Schumacker 2006, p. 120), there is no consensus among researchers on the extent to which fit tests should be used (İlhan & Çetin, 2014).



**Figure 4.5.** Confirmatory Factor Analysis

Figure 4.5 illustrates the CFA model for the scales and the items belonging to the scales. As seen, there are 4 scales and 36 statements in total. As a result of the analysis, it is seen that there are covariates among the residual values of the statements. It is appropriate to include these covariances in the model in order to ensure homogeneity within the scales and heterogeneity between them and other scales. The results obtained by making the necessary adjustments in the model are given in Table 4.12.

**Table 4.12.** CFA Fit Index Results

Statistics	Criterion of Model Fit	Good Fit Threshold	Acceptable Fit Threshold	Findings
Model Fit Indices	X <sup>2</sup> /sd.	≤3	≤5	3.088
Comperative Fit Indices	TLI	≥0.95	≥0.90	0.900
	IFI	≥0.95	≥0.90	0.909
	CFI	≥0.97	≥0.95	0.909
	RMSEA	≤0.05	≤0.08	0.059
Residual Fit Indices	RMR	≤0.05	≤0.08	0.040
Absolute Fit Indices	GFI	≥0.90	≥0.85	0.857
	AGFI	≥0.90	≥0.85	0.835

In Table 4.12, where the CFA fit results are presented, it is seen that the RMR statistic has a good fit value; X<sup>2</sup>/sd., TLI, IFI, RMSEA and GFI statistics have acceptable fit; CFI and AGFI statistics are close to acceptance. In the light of these results, it is understood that the mediation model can be designed for the existing scales.

### 4.3. SEM Results

This thesis argues that participants' Behavioral Intention may be directly or indirectly affected by MALL Motivation, and it is also predicted that Performance Expectancy and Perceptions towards MALL scales can be included within this interaction. For this purpose, a mediation model was created and a structural equation model (SEM) analysis was conducted. After deciding the applicability of the model as a result of CFA, SEM was performed with the existing variables. The model results of the analysis results used a total of 10000 bootstrapping.

**Table 4.13.** Direct Effects Model Results

Path		β	S.E.	Standardized β	C.R.	p
MALL Motivation	Performance Expectancy	0.768	0.048	0.825	16.165	<.001
MALL Motivation	Perceptions towards MALL	0.677	0.045	0.724	15.176	<.001
MALL Motivation	Behavioral Intention	-0.12	0.065	-0.134	-1.866	0.062
Performance Expectancy	Behavioral Intention	0.82	0.078	0.851	10.558	<.001
Perceptions towards MALL	Behavioral Intention	0.237	0.045	0.247	5.248	<.001

The results of the independent variable of the model, MALL Motivation, affecting the dependent variable, Behavioral Intention; MALL Motivation affecting the mediating variables (Performance Expectancy and Perceptions towards MALL); and the mediating variables affecting Behavioral Intention are presented in Table 4.13. The statistics in this table show the direct interaction between the scales.

As the results were analyzed, it was found that the MALL Motivation scores of the participants did not affect the Behavioral Intention score ( $\beta=-0.120$ ,  $p=0.062$ ) (H1 not accepted). Accordingly, it is seen that MALL Motivation does not have any effect on the change in Behavioral Intention score. When the results of the mediating variables being affected by MALL Motivation are analyzed; it is calculated that MALL Motivation scale affected both Performance Expectancy ( $\beta=0.768$ ,  $p<.001$ ) (H2 accepted) and Perceptions towards MALL ( $\beta=0.677$ ,  $p<.001$ ) (H3 accepted). That is to say, an increase in MALL Motivation score by 1 unit would lead to an increase in Perception Expectancy score by 0.768 units. Similarly, a 1-unit increase in MALL Motivation score may cause Perceptions towards MALL score to increase by 0.677 units. From another perspective, 82.5% of the change in Performance Expectancy and 72.4% of the change in Perceptions towards MALL can be explained by MALL Motivation. One other finding revealed by the direct effects is the interaction between the mediating variables and the dependent variable. Examining the significances in Table 4.14, it is calculated that Behavioral Intention scale is influenced by both Performance Expectancy ( $\beta=0.820$ ,  $p<.001$ ) (H4 accepted) and Perceptions towards MALL ( $\beta=0.237$ ,  $p<.001$ ) (H5 accepted). In order to examine the mediation effect, it is necessary to identify the indirect effects.

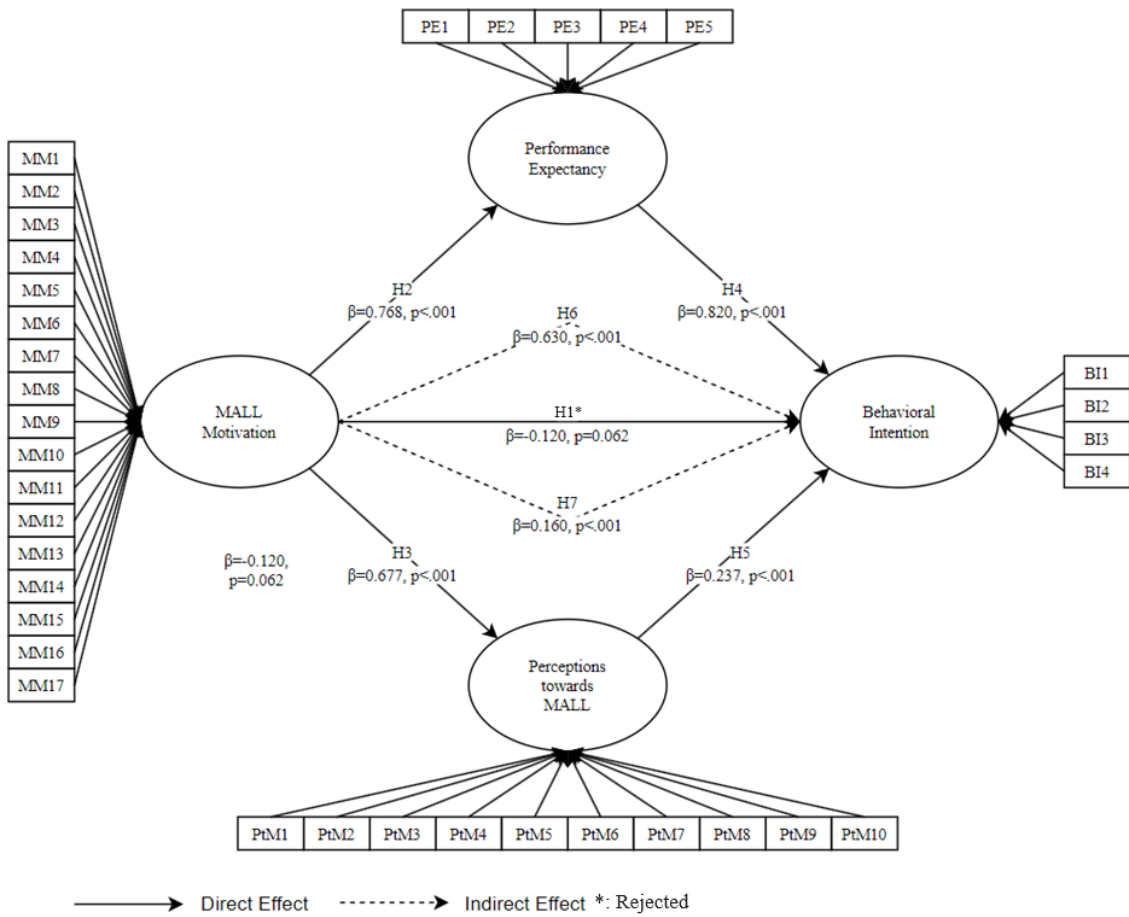
**Table 4.14.** Model Results of Indirect Effects

Path			$\beta$	Standardized $\beta$	p
MALL Motivation	Performance Expectancy	Behavioral Intention	0,630	0,702	<.001
MALL Motivation	Perceptions towards MALL	Behavioral Intention	0,160	0,179	<.001

The focal point of the whole thesis is to reveal the indirect effects. According to Hair et al.'s (2006) approach, there should be a statistically significant interaction between the independent variable and the mediator variable and between the mediator variable and the dependent variable in order to talk about indirect effects. As explained in the results of the analyses, Hair et al.'s approach is confirmed. Therefore, it is known that mediation effect can be mentioned only if indirect effects can be shown (Zhao et al.,

2010). Therefore, it is understood that hypotheses H6 and H7 are accepted and Performance Expectancy and Perceptions towards MALL scales mediate the effect between Mall Motivation and Behavioral Intention scales. It was found that Performance Expectancy scale fully mediates the effect between Mall Motivation and Behavioral Intention scales since the indirect effect on the path of Mall Motivation → Perceptions towards MALL → Behavioral Intention is significant, the product of path coefficients is positive and the direct effect between Mall Motivation and Behavioral Intention is statistically insignificant ( $\beta=0.630$ ,  $p<.001$ ). Moreover, this indirect effect explains approximately 70.2% of the variation on the Behavioral Intention scale. In the similar way, it was also found that Perceptions towards MALL scale fully mediates between Mall Motivation and Behavioral Intention scales since the indirect effect on the path Mall Motivation → Perceptions towards MALL → Behavioral Intention is significant, the product of path coefficients is positive and the direct effect between Mall Motivation and Behavioral Intention is statistically insignificant ( $\beta=0.160$ ,  $p<.001$ ). This indirect effect also explains approximately 17.9% of the change in the Behavioral Intention scale (Table 4.14).

The statistical calculations of the model and the paths between the scales are presented in Figure 4.6. The figure shows both the direct effects between the scales and also the indirect effects between MALL motivation and behavioral intention.



**Figure 4.6.** The Model Representation

## **CHAPTER 5: CONCLUSION, DISCUSSION AND RECOMMENDATIONS**

### **5.1. Conclusion and Discussion**

The main hypothesis of this thesis is to reveal whether MALL Motivation has a direct or indirect effect on Behavioral Intention. The results found in the analysis part of the study show that the change in foreign language learners' MALL motivation does not cause a change in their behavioral intention. However, the main variable (MALL motivation) directly affects performance expectancy and Perceptions towards MALL variables. Similarly, these two variables directly affect Behavioral Intention. As it is understood, MALL motivations of EFL students do not cause the change in behavioral intention, and in order to create this interaction, the positive contribution of other factors should be formed in EFL students.

In addition to the main objectives achieved in the study, a lot of information was collected about the study group. Although there was no significant difference between respondents' scale scores according to their gender in this survey, there was a difference in all scale scores according to the departments they continued their studies. From this point of view, it is thought that the scale difference is related to education. It was found that the students of the Department of Translation and Interpretation had a lower scores in all scales compared to the other departments. This result may have different reasons and implications. Firstly, the reason for this may be that the professional experience of the students in the Department of Translation and Interpretation increases more quickly compared to other departments. It is thought that the fact that Translation and Interpretation students can be evaluated as students-employees in the private sector causes them to develop a different perspective towards the programs used. When the scales were analyzed according to the grades, a difference was found only in the perception towards MALL scale. The 3rd grade students' scale scores were higher than the other grades. The reason for this is that students who concentrate on a specific education increase their knowledge and experience in foreign languages. However, the existence of a decrease in the mean of senior students can be considered as the emergence of professional concerns and changing the perception of the benefits of MALL. At the same time, senior students may experience differences in their perceptions of English language learning due to their vocational internships.

The fact that there was no difference in the scale scores according to the frequency of mobile device use of the students strengthens the interpretation that mobile device use had a consistent bias in all students. It was calculated that most of the students (79.7%; categories 4-5) had a high usage frequency. In contrast to this situation, it was found that there was a difference in the use of mobile devices for educational purposes in all scales. It was calculated that as the frequency of mobile device use for educational purposes increased, the averages of the scales of the study also increased. This is because it cannot be expected that people who do not already use devices intensively will have high participation in the scales associated with MALL in the study. This situation is considered normal since the core of the study is the use of MALL. The mean of the perception towards MALL scale was found to have the highest mean when the frequency of use for educational purposes was 3-4 and 5+ per day. It is similar to the previous question that the scale mean decreases below and above these periods. It is an important finding that the scale scores increase in parallel with the students' high intensity and frequency of mobile device use.

Within the scope of types of mobile MALL, The types of mobile tools were asked to the participants with an open-ended questions, and the apps used by the students were reduced to a total of 8 groups. Among these, it was observed that the scale averages of the students who used apps related to Social Network Service, Dictionaries, Writing Tools, Reading Apps and Other Learning Aids were similar. In other words, whether they used these applications or not did not explain the difference in the scales associated with MALL. However, some scale differences were observed for students using Translation and Online Courses-MOOCs. The mean scores of the PE and BI scales were higher for students using translation apps. These apps used for goal centeredness are also compatible with the scales emphasizing goal centeredness. From this point of view, it can be assumed that the purpose of using 'apps' and the expectations of the students are consistent. A similar attitude was also observed among students who did not use Online Courses- MOOCs. The high PE and PtMALL scales of the students who answered "no" to this question can be explained by the inability to reach the goal in a short time. At the same time, the fact that MOOC applications are not relatively widespread and recently (with the pandemic) seen in our country reflects the students' perspectives.

Based on the studies in the current literature, it is apparent that there are many factors that increase MALL motivation. Particularly, increases in students' practical skills such as writing (Dewi et al., 2020), using the software (Wen et al., 2019) as well as community activities (Chua et al., 2021; Saidouni and Bahloul, 2018) are supported. Additionally, it was stated that abstract expectations (Chai et al., 2016) can also increase MALL motivation. Through this perspective, it is likely that EFL students may have a high level of motivation for MALL. Accordingly, although it was investigated that the current change might affect behavioral intention, in the light of the data obtained as a result of this study, no significant result showing this relationship could be reached. Similarly, Sun and Gao (2020) stated in their study that intrinsic motivation did not directly affect behavioral intention.

In the current literature, it is seen that the situations or variables affecting behavioral intention are mostly composed of purpose-oriented approaches. The fact that all kinds of concepts associated with the use of MALL create an environment that creates benefits for users seems to cause a change in behavioral intention. Kumar et al. (2020) stated in their study that the positive impact on the use of the MALL apps and the user's perception of benefit are the main factors affecting behavioral intention. Likewise, the study of Ebadi and Raygan (2023) is another one that emphasizes the positive effect of ease of use. In studies examining psychological factors affecting behavioral intention (Arnone et al., 2011; Morchid, 2019; Garcia Botero et al., 2018), it has been shown that curiosity, interests, instructor feedback, self-efficacy, and socialization affects behavioral intention on MALL. Some studies in the literature have also examined the attitudes and performance expectations of MALL users.

Both Hameed et al. (2022) and Hoi (2020) have shown that attitude and performance expectancy affect behavioral intention, especially in their studies on higher education students. In the studies examined, it was observed that the attitude towards MALL was positive. In their studies on secondary education students, Yang et al. (2022) and Rijal (2021) showed that positive attitudes towards MALL also affect behavioral intention. At the same time, Neerja and Nirban (2014) stated that MALL is preferable in terms of flexibility and convenience, indicating a positive attitude towards MALL. Jiménez (2019) emphasized the transformative role of MALL in their study on adults and stated that the participants had a positive attitude. The analysis conducted in this study has also proven that an increase in attitude towards MALL leads to a positive increase in

behavioral intention ( $\beta=0.237$ ). Likewise, the increase in perceptions towards MALL is significantly ( $\beta=0.677$ ) affected by the participants' degree of MALL motivation. As it is understood, even if a parallel attitude can be observed with high motivation, the same parallelism could not be measured so high with intention.

In the light of the data collected from the participants, it has been found that performance expectancy has a high effect on behavioral intention. It is considered that this situation is related to the high expectation on the outcomes obtained from Mobile Assisted Language Learning. However, the study does not aim to make such a judgment conclusively. Hoi (2020) also found a similar result in his study. In this study, it was found that performance expectancy significantly affects behavioral intention. At the same time, Razzak and Jassem (2021), Bere (2014), Chao (2019), Dwivedu (2020) also found that performance expectancy significantly affects behavioral intention towards MALL. Ferzizi (2020), on the contrary, could not statistically prove the positive contribution of performance expectancy in his study on Algerian students. On the other hand, Hou and Yu (2023) found no effect of performance expectancy in their study on a specific application (DingTalk). This suggests that while performance expectancy may have an impact on behavioral intention when evaluated for general purposes, this effect cannot be measured when specific approaches (a particular application, a particular socio-demographic characteristic, etc.) are considered.

Among the studies analyzed, the study that can be parallel to the application model in this study is Sun and Gao's (2020) study. It has been proven that intrinsic motivation can change behavioral intention through perceived usefulness and convenience. Therefore, it seems that behavioral intention can be influenced through mediating variables. Based on the findings of this study, it is an important result that the change of MALL motivation of EFL students can be possible via a mediator variable to change Behavioral intention. In particular, it is noteworthy that learning outcomes create positive expectations and that the mediation effect is proved with the variables performance expectancy and perceptions towards MALL. When both statements are taken into account together, it is found that performance expectancy has a full mediation effect and increases the effect of MALL motivation on behavioral intention to 63%, which cannot happen by itself. Likewise, perceptions towards MALL was found to have a full mediation effect and increased the effect of MALL motivation on behavioral intention by 16%.

If EFL students' behavioral intention is intended to be increased, i.e. if they are to be motivated to take action, they will need to be provided with positive opportunities for their intended behaviors. At the same time, it is clear from the literature that although perceptions towards MALL are high, perceptions alone have a more limited effect on behavioral intention. However, performance expectancy has a greater impact on EFL students' behavioral intention, both as a direct and mediating effect.

## **5.2. Pedagogical Implications**

The findings of this study revealed several critical insights about the relationships among MALL motivation, performance expectancy, perceptions towards MALL, and behavioral intention. The research findings show that while MALL motivation does not directly affect behavioral intention, it significantly influences performance expectancy and perceptions towards MALL, which in turn impact behavioral intention. These relationships are important in shaping the behavioral intention of learners, which is a key determinant in the successful use of MALL in language learning environments. This understanding provides a nuanced view of how MALL can be effectively integrated into language learning.

This study offers significant implications for the integration of MALL in higher education, particularly in EFL contexts. The significance of the effectiveness of MALL as an educational tool is further enhanced by this study. As the study findings suggest, to increase MALL motivation, the focus should be on creating engaging and relevant content that is consistent with students' needs and preferences. A variety of MALL applications, such as translation apps and MOOCs, should be utilized to accommodate different learning styles and objectives.

In light of these findings, it's essential to consider also young learners and the role of teachers in the effective integration of MALL. For young learners, engagement with MALL should incorporate interactive elements that align with their digital literacy levels and learning styles. Teachers, pivotal in this integration, need comprehensive training not only on the technicalities of MALL but also on pedagogical strategies that harmonize these digital tools with educational goals.

The varied responses to different types of MALL applications in the literature indicate the need for personalized learning experiences. Educators can leverage this by offering

a range of apps that cater to different aspects of language learning, such as social networking services, dictionaries, and reading apps. This approach allows students to choose tools that best fit their learning styles and goals. Integrating activities that develop writing, software usage, and community involvement can make language learning more applicable and engaging, which enhances student motivation.

Teachers play a critical role in the effective integration of MALL into the language learning process. The findings of the study imply that teacher training should not only focus on the technical aspects of using MALL tools but also on pedagogical strategies that can integrate these tools into the curriculum effectively. Professional development programs for teachers should include sessions on how to select and utilize appropriate MALL tools, align them with curriculum objectives, and adapt them to cater to diverse learning styles and needs. Moreover, teachers need to be trained on how to effectively blend traditional teaching methods with MALL, ensuring a balanced approach to language education.

The research findings indicate that MALL can be a powerful tool in enhancing language learning motivation and behavioral intention. Thus, it's imperative to integrate MALL into the language education curriculum systematically. This involves revising the curriculum to include specific objectives that can be achieved through MALL. For instance, incorporating tasks that require the use of language learning apps or online resources can provide a blended learning experience. New courses or modules can be introduced that specifically focus on using mobile technology for language learning. These could include courses on digital literacy for language learning, MALL tools and resources, and designing language learning activities using mobile technology. Such courses would equip learners with the skills and knowledge to effectively use mobile technology in their language learning journey. Integrating MALL into the education system is not just about adding technological tools; it's about creating an environment where these tools complement and enhance traditional learning methods. This calls for an educational ecosystem where technology is seamlessly integrated into the learning process, and both students and teachers are adept at utilizing these tools to their full potential. Classrooms should be equipped with the necessary infrastructure to support MALL, such as reliable internet access and digital devices.

Since performance expectancy influences behavioral intention, educators should clearly articulate the benefits of MALL in language learning outcomes. Demonstrating how MALL can improve language proficiency and offering success stories can help increase students' expectancy and motivation. Moreover, the diverse reactions to MALL based on departmental studies and cultural backgrounds suggest the importance of contextualizing MALL usage. Tailoring MALL activities to align with students' academic and cultural contexts can enhance its effectiveness. Similarly, encouraging a positive attitude towards MALL is crucial. Educators should focus on showcasing the flexibility, convenience, and transformative potential of MALL. Highlighting its role in facilitating autonomous and flexible learning can foster a more positive disposition towards its use. In addition to positive attitudes towards MALL, the findings of the study underscore the need for continuous evaluation of MALL tools and strategies. Therefore, regular feedback sessions with students can provide insights into the effectiveness of the tools and inform necessary adjustments. On the other hand, educators should be provided with professional development opportunities to effectively integrate MALL in their teaching practices. Training on the latest MALL tools, pedagogical strategies, and technological trends is essential for effective implementation. All things considered, using MALL especially in EFL context requires a varied approach that takes into consideration students' motivations, learning preferences, and the educational context. By strategically incorporating MALL, educators can enhance language learning experiences and outcomes.

### **5.3. Further Research**

The concepts proposed in this study and the sample of the study are based on EFL students. By staying within the scope of the students, the samples could be expanded to include students of science majors (mathematics, physics, etc.) or social majors (history, sociology, business administration, etc.). As can be understood from the literature review, similar approaches have produced different results. Therefore, it is recommended to pay attention to the variability of the educational teaching approach, socio-demographic characteristics, economic characteristics and cultural structure in the geographies where the research will be conducted and to conduct different studies on these issues. At the same time, an important issue to be considered is the age of education. Studies have generally focused on teenagers, who are considered to be the

most flexible in terms of learning. However, studies on adults and even older age groups can be conducted to demonstrate the effectiveness of learning materials.



## REFERENCES

- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Al Arif, T. Z. Z., Sulistiyo, U., Ubaidillah, M. F., Handayani, R., Junining, E., & Yunus, M. (2022). A look at technology use for English language learning from a structural equation modeling perspective. *Computer Assisted Language Learning Electronic Journal*, 23(2), 18-37.
- Arnone, M. P., Small, R. V., Chauncey, S. A., & McKenna, H. P. (2011). Curiosity, interest, and engagement in technology-pervasive learning environments: A new research agenda. *Educational Technology Research and Development*, 59, 181-198.
- 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(01), 84.
- Bere, A. (2014). Exploring determinants for mobile learning user acceptance and use: An application of UTAUT. In *2014 11th International Conference on Information Technology New Generations* (pp. 84-90). IEEE.
- Boo, Z., Dörnyei, Z., & Ryan, S. (2015). L2 motivation research 2005–2014: Understanding a publication surge and a changing landscape. *System*, 55, 145-157.
- Burston, J. (2015). Twenty years of MALL project implementation: A meta-analysis of learning outcomes. *ReCALL*, 27(1), 4-20.
- Cai, Y., Pan, Z., & Liu, M. (2022). Augmented reality technology in language learning: A meta-analysis. *Journal of Computer Assisted Learning*, 38(4), 929-945.
- Cakir, I. (2015). Opinions and attitudes of prospective teachers for the use of mobile phones in foreign language learning. *Contemporary Educational Technology*, 6(3), 239-255.

- Cavus, N., & Ibrahim, D. (2009). M-learning: An experiment in using SMS to support learning new English language words. *British Journal of Educational Technology*, 40(1), 78-91.
- Chai, C. S., Wong, L. H., & King, R. B. (2016). Surveying and modeling students' motivation and learning strategies for mobile-assisted seamless Chinese language learning. *Educational Technology & Society*, 19(3), 170-180.
- Chao, C.-M. (2019). Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model. *Frontiers in Psychology*, 10, 1652.
- Chen, M., Siu-Yung, M., Chai, C. S., Zheng, C., & Park, M. Y. (2021, August). A Pilot Study of Students' Behavioral Intention to Use AI for Language Learning in Higher Education. In *2021 International Symposium on Educational Technology (ISET)*, 182-184. IEEE.
- Chen, Y. L., & Hsu, C. C. (2020). Self-regulated mobile game-based English learning in a virtual reality environment. *Computers & Education*, 154, 103910.
- Chinnery, G. M. (2006). Emerging technologies: Going to the MALL: Mobile assisted language learning. *Language Learning & Technology*, 10(1), 9-16.
- Chua, N. A., Ahmad Tajuddin, A. J., Che Noh, C. H., Ibrahim, M. Y., Abdul Rashid, R., Ahmad, M., Soon, G., & Saputra, J. (2021). Identifying the level of perceived learning engagement and motivation in Mandarin: An application of mobile-assisted language learning (MALL) classes. In *Proceedings of the 11th Annual International Conference on Industrial Engineering and Operations Management, Singapore, March 2021*, 4771-4780.
- Dahio, I. A., Pathan, H., & Junejo, S. (2022). Investigating learners' perception about mobile assisted language learning. *Pakistan Languages and Humanities Review*, 6(2), 432-442.
- 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.

- 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.
- Davis, F. D. (1989). Technology acceptance model: TAM. In Al-Suqri, M. N., & Al-Aufi, A. S. (Eds.), *Information Seeking Behavior and Technology Adoption* (pp. 205-219).
- Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, 19(2), 109-134.
- Demir, K., & Akpinar, E. (2018). The effect of mobile learning applications on students' academic achievement and attitudes toward mobile learning. *Malaysian Online Journal of Educational Technology*, 6(2), 48-59.
- Dewi, A. K., Ratminingsih, N. M., & Santosa, M. H. (2020). Mobile-assisted task-based language learning, writing competency, and motivation. *JPI (Jurnal Pendidikan Indonesia)*, 9(1), 119-130.
- Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Routledge.
- Dörnyei, Z. (2014). Motivation in second language learning. In M. Celce-Murcia, D. Brinton, & M. A. Snow (Eds.), *Teaching English as a Second or Foreign Language* (4th ed., pp. 518-531). National Geographic Learning.
- Dörnyei, Z. (2014). Motivation in second language learning. *Teaching English as a second or foreign language*, 4, 518-531.
- Dörnyei, Z., & Ushioda, E. (2021). *Teaching and Researching Motivation*. London: Taylor and Francis.
- Dwivedi, Y. K., Rana, N. P., Tamilmani, K., & Raman, R. (2020). A meta-analysis based modified unified theory of acceptance and use of technology (meta-UTAUT): A review of emerging literature. *Current Opinion in Psychology*, 36, 13-18.
- Ebadi, S., & Raygan, A. (2023). Investigating the facilitating conditions, perceived ease of use and usefulness of mobile-assisted language learning. *Smart Learning Environments*, 10(1), 1-15.

- Efron, R. (1969). What is Perception?. In: Cohen, R.S., Wartofsky, M.W. (eds) *Proceedings of the Boston Colloquium for the Philosophy of Science 1966/1968*. Boston Studies in the Philosophy of Science, vol 4. Springer, Dordrecht.
- El-Hussein, M. O. M., & Cronje, J. C. (2010). Defining mobile learning in the higher education landscape. *Educational Technology & Society*, 13(3), 12-21.
- Esfandiari, Rajab & Sokhanvar, Fatemeh. (2015). Modified Unified Theory of Acceptance and Use of Technology in Investigating Iranian Language Learners' Attitudes Toward Mobile Assisted Language Learning (MALL). *Interdisciplinary Journal of Virtual Learning in Medical Sciences*. 6. 10.5812/ijvlms.12010.
- Ferzizi, I., & Louail, B. (2020). Using M-learning during the quarantine period for Algerian students: Use UTAUT model. *International Journal of Education and Pedagogy*, 2(4), 63-75.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley.
- García Botero, 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.
- García Botero, G., Questier, F., Cincinnato, S., He, T., & Zhu, C. (2018). Acceptance and usage of mobile assisted language learning by higher education students. *Journal of Computing in Higher Education*, 30, 426-451.
- Gardner, R. C. (1979). *Social psychological aspects of second language acquisition*. In H. Giles & R. N. St. Clair (Eds.), *Language and Social Psychology* (pp. 193-220). Oxford, England: Basil Blackwell.
- Gardner, R. C., & Lambert, W. E. (1959). Motivational variables in second-language acquisition. *Canadian Journal of Psychology/Revue canadienne de psychologie*, 13(4), 266.
- Gardner, R. C., & Smythe, P. C. (1975). Motivation and second-language acquisition. *Canadian Modern Language Review*, 31(3), 218-233.

- Georgiev, T., Georgieva, E., & Smrikarov, A. (2004, June). M-learning-a New Stage of E-Learning. In *International conference on computer systems and technologies-CompSysTech* (Vol. 4, No. 28, pp. 1-4).
- Gholami, J., & Azarmi, G. (2012). An introduction to mobile assisted language learning. *International Journal of Management, IT and Engineering*, 2(8), 1-9.
- Gligorea, I., Cioca, M., Oancea, R., Gorski, A. T., Gorski, H., & Tudorache, P. (2023). Adaptive Learning Using Artificial Intelligence in e-Learning: A Literature Review. *Education Sciences*, 13(12), 1216.
- Godwin-Jones, R. (2011). Emerging technologies: Mobile apps for language learning. *Language Learning & Technology*, 15(2), 2-11.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (Vol. 6): Pearson Prentice Hall Upper Saddle River.
- Hameed, F., Qayyum, A., & Khan, F. A. (2022). A new trend of learning and teaching: Behavioral intention towards mobile learning. *Journal of Computers in Education*.
- Harwati Hashim, M. M. Y., & Embi, M. A. (2018). Factors influencing polytechnic English as second language (ESL) learners' attitude and intention for using mobile learning. *The Asian ESP Journal*, 195.
- Hockly, N. (2016). Designer learning: The teacher as designer of mobile-based classroom learning experiences. In *Technology-enhanced language learning for specialized domains: Practical applications and mobility* (pp. 140-150). Routledge.
- Hoi, V. N. (2020). Understanding higher education learners' acceptance and use of mobile devices for language learning: A Rasch-based path modeling approach. *Computers & Education*, 146, 103761.
- Hou, Y., & Yu, Z. (2023). The unified theory of acceptance and use of DingTalk for educational purposes in China: an extended structural equation model. *Humanities and Social Sciences Communications*, 10(1), 1-12.

- Hsu, H. T., & Lin, C. C. (2022). Extending the technology acceptance model of college learners' mobile-assisted language learning by incorporating psychological constructs. *British Journal of Educational Technology*, 53(2), 286-306.
- Hsu, L. (2013). English as a foreign language learners' perception of mobile assisted language learning: A cross-national study. *Computer Assisted Language Learning*, 26(3), 197-213.
- Hsu, L. (2023). EFL learners' self-determination and acceptance of LMOOCs: The UTAUT model. *Computer Assisted Language Learning*, 36(7), 1177-1205.
- İlhan, M., & Çetin, B. (2014). LISREL ve AMOS programları kullanılarak gerçekleştirilen yapısal eşitlik modeli (yem) analizlerine ilişkin sonuçların karşılaştırılması. *Journal of Measurement and Evaluation in Education and Psychology*, 5(2), 26-42.
- Jedi-Sari-Biglar, L., & Liman-Kaban, A. (2023). Exploring the effect of mobile-assisted task-based learning on vocabulary achievement and student attitude. *Smart Learning Environments*, 10(1), 50.
- Jiménez, W. C. (2019). Adult students' perceptions of mobile assisted language learning in oral English courses. *Revista de Lenguas Modernas*, (31).
- Kemp, A., Palmer, E., & Strelan, P. (2019). A taxonomy of factors affecting attitudes towards educational technologies for use with technology acceptance models. *British Journal of Educational Technology*, 50(5), 2394-2413.
- Kim, G. M., & Lee, S. J. (2016). Korean Students' Intentions to Use Mobile-Assisted Language Learning: Applying the Technology Acceptance Model. *International Journal of Contents*, 12(3).
- Korucu, A. T., & Alkan, A. (2011). Differences between m-learning (mobile learning) and e-learning, basic terminology and usage of m-learning in education. *Procedia-Social and Behavioral Sciences*, 15, 1925-1930.
- Kukulska-Hulme, A. (2012). Mobile-Assisted Language Learning. In *The Encyclopedia of Applied Linguistics*, C.A. Chapelle (Ed.). <https://doi.org/10.1002/9781405198431.wbeal0768>

- 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.
- Kukulska-Hulme, A., (2012). Language learning defined by time and place: A framework for next generation designs. In J. E. Díaz-Vera (Ed.), *Left to My Own Devices: Learner Autonomy and Mobile Assisted Language Learning* (pp. 1-13). Innovation and Leadership in English Language Teaching, 6. Bingley, UK: Emerald Group Publishing Limited.
- Kumar Basak, S., Wotto, M., & Belanger, P. (2018). E-learning, M-learning and D-learning: Conceptual definition and comparative analysis. *E-learning and Digital Media*, 15(4), 191-216.
- Kumar Basak, S., Wotto, M., & Belanger, P. (2018). E-learning, M-learning and D-learning: Conceptual definition and comparative analysis. *E-learning and Digital Media*, 15(4), 191-216.
- Kumar, J. A., Bervell, B., Annamalai, N., & Osman, S. (2020). Behavioral intention to use mobile learning: Evaluating the role of self-efficacy, subjective norm, and WhatsApp use habit. *IEEE Access*, 8, 208058-208074.
- Lai, C., & Zheng, D. (2018). Self-directed use of mobile devices for language learning beyond the classroom. *ReCALL*, 30(3), 299-318.
- 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.
- Lee, J. C., & Xiong, L. (2023). Exploring learners' continuous usage decisions regarding mobile-assisted language learning applications: A social support theory perspective. *Education and Information Technologies*.
- Li, R., Zou, D., Reynolds, B. L., & Vazquez-Calvo, B. (2023). Editorial: Mobile assisted language learning: Developments, affordances, and solutions. *Frontiers in Psychology*, 14.
- Liu, M., Lin, C. H., & Zhang, Y. (2023). Dynamic roles of anxiety and motivation in second/foreign language acquisition. *Frontiers in Psychology*, 14, 1145368.

- Liu, X., Zheng, D., & Chen, Y. (2019). Assessment of student engagement in higher education: A synthesis of literature and assessment tools. *International Journal of Educational Technology in Higher Education*, 16, 39. <https://doi.org/10.1186/s41239-019-0159-0>
- Liu, Y. (2016). Improving Chinese university students' speaking performance in mobile-assisted English learning (Doctoral dissertation, University of Illinois at Chicago).
- Lu, M. (2008). Effectiveness of vocabulary learning via mobile phone. *Journal of Computer Assisted Learning*, 24(6), 515-525.
- Luo, Y. (2019). An investigation of university students' perceptions and acceptance of mobile technology use in learning English as a second language in China. In *EDULEARN19 Proceedings* (pp. 8182-8191). IATED.
- Meydan, C. H., & Şeşen, H. (2011). Yapısal eşitlik modelleri: Amos uygulamaları. Detay Yayıncılık.
- Miangah, T. M., & Nezarat, A. (2012). Mobile-assisted language learning. *International Journal of Distributed and Parallel Systems*, 3(1), 309.
- Morchid, N. (2019). The determinants of use and acceptance of mobile assisted language learning: The case of EFL students in Morocco. *Arab World English Journal (AWEJ) Special Issue on CALL*, (5).
- Nafa, A. H. (2021). The use of mobile assisted language learning in English learning of fourth semester English Department students at Iain Samarinda. *Jurnal Tarbiyah dan Ilmu Keguruan Borneo*, 2(1), 23-34.
- Neerja, V. Y. A. S., & Nirban, V. (2014). Students' perception on the effectiveness of mobile learning in an institutional context. *ELT Research Journal*, 3(1), 26-36.
- Niño, A. (2015). Language learners perceptions and experiences on the use of mobile applications for independent language learning in higher education. *IAFOR Journal of Education*.
- Norbrook, H., & Scott, P. (2003). Motivation in mobile modern foreign language learning. In J. Attewell, G. Bormida, M. Sharples, & C. Savill-Smith (Eds.),

*MLEARN 2003 learning with mobile devices* (pp. 50-51). Learning and Skills Development Agency.

- Punar Özçelik, N., Yangin Eksi, G., & Baturay, M. H. (2022). Augmented Reality (AR) in Language Learning: A Principled Review of 2017-2021. *Participatory Educational Research*, 9(4), 131-152.
- Ramadanti, D. A., Sumarta, S., & Ridwan, I. (2021). An investigation of EFL teachers' adoption and acceptance of mobile-assisted language learning during distance education program. *Jurnal Pendidikan Tambusai*, 5(2), 4015-4021.
- Razzak, M. R., & Jassem, S. (2021). Mobile-assisted language learning for EFL: A conceptual framework based on the Meta-UTAUT model. *Asia-Pacific Journal of Educational Management Research*, 6(2), 15-32.
- Refat, N., Kassim, H., Rahman, M. A., & Razali, R. B. (2020). Measuring student motivation on the use of a mobile assisted grammar learning tool. *PloS one*, 15(8), e0236862.
- Rijal, B. B. (2021). Perceptions towards mobile assisted language learning at secondary level (Doctoral dissertation, Faculty of Education).
- Rosell-Aguilar, F. (2007). Top of the Pods—In search of a podcasting “podagogy” for language learning. *Computer Assisted Language Learning*, 20(5), 471-492.
- Ryan, S., & Dörnyei, Z. (2013). The long-term evolution of language motivation and the L2 self. In J. Arnold & T. Murphey (Eds.), *Meaningful Action: Earl Stevick's Influence on Language Teaching* (pp. 89-100). Cambridge University Press.
- Schumacker E. Randall, & Lomax G. Richard (2010). *A Beginner's Guide to Structural Equation Modeling* (Third Edition). New York, London: Routledge.
- Si, P. (2019). A Study of the Differences between EFL and ESL for English Classroom Teaching in China. *IRA International Journal of Education and Multidisciplinary Studies*, 15(1), 32.
- Solihin, S. (2021). Using mobile assisted language learning (MALL) to teach English in Indonesian context: Opportunities and challenges. *VELES (Voices of English Language Education Society)*, 5(2), 95-106.

- Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. *Language Learning & Technology, 14*(2), 95-110.
- Sun, Y., & Gao, F. (2020). An investigation of the influence of intrinsic motivation on students' intention to use mobile devices in language learning. *Educational Technology Research and Development, 68*, 1181-1198.
- Thornton, P., & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of Computer Assisted Learning, 21*(3), 217-228.
- Traxler, J. (2007). Defining, discussing, and evaluating mobile learning: The moving finger writes and having writ.... *The International Review of Research in Open and Distributed Learning, 8*(2).
- Ushioda, E. (2006). Language motivation in a reconfigured Europe: Access, identity, autonomy. *Journal of Multilingual and Multicultural Development, 27*(2), 148-161. <https://doi.org/10.1080/01434630608668545>
- Ushioda, E. (2011). Language learning motivation, self and identity: Current theoretical perspectives. *Computer Assisted Language Learning, 24*(3), 199-210. doi: 10.1080/09588221.2010.538701
- Ushioda, E. (2013). Motivation and ELT: Global issues and local concerns. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivation, language identity and the L2 self* (pp. 145-158). Multilingual Matters.
- Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a research agenda on interventions. *Decision Sciences, 39*(2), 273-315.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 46*(2), 186-204.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425-478.
- Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly, 36*(1), 157-178.

- Viberg, O., & Grönlund, Å. (2013). Cross-cultural analysis of users' attitudes towards the use of mobile devices in second and foreign language learning in higher education: A case from Sweden and China. *Computers & Education*, 69, 169-180.
- Warschauer, M. (1996). Motivational aspects of using computers for writing and communication. In M. Warschauer (Ed.), *Telecollaboration in Foreign Language Learning* (pp. 29-46). University of Hawaii, Second Language Teaching & Curriculum Center.
- Wen, W. T., Jumaat, N. F., Ashari, Z. M., Na, K. S., Abdullah, A. H., Samah, N. A., & Ali, D. F. (2019, December). Effectiveness of mobile assisted language learning towards students' achievement and motivation in learning English prepositions. In *2019 IEEE International Conference on Engineering, Technology and Education (TALE)* (pp. 1-5). IEEE.
- Yang, K. (2020). Factors influencing learners' motivation in mobile-assisted language learning: A case study on four Chinese EFL learners. *International Journal of TESOL Studies*, 2(4), 80-96.
- Yang, S., Wang, R., & Mei, B. (2022). Understanding Chinese secondary school students' perceptions of mobile-assisted language learning. *Interactive Learning Environments*.
- Zhao, X, Lynch, J.G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis, *Journal of Consumer Research Inc.*, 37(2), 197-206.

## APPENDICES

### APPENDIX-A. Survey Demographic and Usage Items

1) Gender

Female     Male  Prefer not to say

2) Department

Foreign Language Education  
 English Language and Literature  
 Translation and Interpretation

3) Grade

1  2  3  4

4) Age

.....

5) How often do you use mobile devices?

	1	2	3	4	5	
Never						Very often

6) Please indicate your level of using mobile applications for educational purposes.

	1	2	3	4	5	
Never						Very often

7) How often do you use mobile applications for educational purposes?

1-2 hours a day  
 3-4 hours a day  
 5 hours a day and more  
 1 -2 hours a week  
 3-4 hours a week  
 Other:

8) What is the name of mobile application you mostly use for educational purposes?

.....

## APPENDIX-B. Mobile Learning Motivation Scale

Questions	Strongly Disagree	Disagree	Have No Opinion	Agree	Strongly Agree
1) I enjoyed using the mobile app.	1	2	3	4	5
2) The more I worked on the mobile app, the more I believed that I would learn the content.	1	2	3	4	5
3) There were things that were intriguing in the mobile app.	1	2	3	4	5
4) I felt accomplished when I completed the activities in the mobile application.	1	2	3	4	5
5) The feedback given to the activities made me feel that my work was well rewarded.	1	2	3	4	5
6) The variety of activities in the mobile application kept me interested in learning.	1	2	3	4	5
7) The mobile application's lack of time and space limitations increased my willingness to practice.	1	2	3	4	5
8) Successfully completing the activities in the mobile app increased my enthusiasm for learning.	1	2	3	4	5
9) Since I could work with the mobile application at the speed I wanted, I wanted to keep learning with the mobile application.	1	2	3	4	5
10) The organization of the content increased my confidence that I would learn what was presented in the application.	1	2	3	4	5
11) I thought the mobile application was a catchy material.	1	2	3	4	5
12) What was conveyed in the mobile application met my learning needs.	1	2	3	4	5
13) I learned some new information with the mobile application.	1	2	3	4	5
14) It was fun to do the activities in the mobile application.	1	2	3	4	5
15) The quality of the content of the mobile application helped me to remain focused.	1	2	3	4	5
16) I learned well with the mobile app.	1	2	3	4	5
17) It was important for me to successfully complete the exercises in the mobile application.	1	2	3	4	5

**The Study in which the Scale was Developed:** Okumuş Dağdeler, K. (2018). The role of mobile-assisted language learning (MALL) in vocabulary knowledge, learner autonomy and motivation of prospective English language teachers. Unpublished doctoral dissertation]. Graduate School of Educational Sciences, Atatürk University, Erzurum, Turkey.

APPENDIX-C. Performance Expectancy Scale

Questions	Strongly Disagree	Disagree	Have No Opinion	Agree	Strongly Agree
1) Using mobile devices helps maintain and enhance my motivation and interest in language learning.	1	2	3	4	5
2) Using mobile devices can enhance the language learning environment and experience.	1	2	3	4	5
3) Using mobile devices can improve my language learning performance in class.	1	2	3	4	5
4) Using mobile devices can improve the effectiveness of language learning outside the class	1	2	3	4	5
5) I find it useful to use mobile devices for language learning.	1	2	3	4	5

**The Study in which the Scale was Developed:** Hoi, V. N. (2020). Understanding higher education learners' acceptance and use of mobile devices for language learning: A Rasch-based path modeling approach. *Computers & Education*, 150, 103857.

APPENDIX-D. Learners' Perceptions towards MALL Scale

Questions	Strongly Disagree	Disagree	Have No Opinion	Agree	Strongly Agree
1) I am keen on learning English via mobile phones	1	2	3	4	5
2) MALL has been applied to a variety of learning exercises in my English language class	1	2	3	4	5
3) I prefer MALL courses to traditional ones	1	2	3	4	5
4) MALL should be frequently applied to classroom activities	1	2	3	4	5
5) MALL promotes learners' tendency to learn English	1	2	3	4	5
6) Recent MALL developments lead to inspecting new methods /models at university level	1	2	3	4	5
7) Using a mobile device makes me feel bored	1	2	3	4	5
8) MALL has been extensively used in English as a foreign language (EFL) learning context	1	2	3	4	5
9) I feel confident regarding the use of mobile devices for language learning	1	2	3	4	5
10) Learners feel positive about MALL engagement in EFL context	1	2	3	4	5

**The Study in which the Scale was Developed:** Ebadi, S., & Raygan, A. (2023). Investigating the facilitating conditions, perceived ease of use and usefulness of mobile-assisted language learning. *Smart Learning Environments*, 10(1), 30.

APPENDIX-E. Behavioral Intention Scale

Questions	Strongly Disagree	Disagree	Have No Opinion	Agree	Strongly Agree
1) I intend to use/continue to use mobile devices for language learning.	1	2	3	4	5
2) I guess I would use mobile devices to learn foreign languages more regularly in the future.	1	2	3	4	5
3) I have a plan to use mobile devices to learn foreign languages more regularly.	1	2	3	4	5
4) I will recommend my friends to use mobile devices to learn foreign languages.	1	2	3	4	5

**The Study in which the Scale was Developed:** Hoi, V. N. (2020). Understanding higher education learners' acceptance and use of mobile devices for language learning: A Rasch-based path modeling approach. *Computers & Education*, 150, 103857.

## APPENDIX-F. Social Sciences Scientific Research Proposal Ethical Evaluation Board

Evrak Tarih ve Sayısı: 10.07.2023-312509



T.C.

SİVAS CUMHURİYET ÜNİVERSİTESİ

Sosyal Bilimler Bilimsel Araştırma Önerisi Etik Değerlendirme Kurulu

Sayı: E-99711239-050.01.04/

Konu: Etik Kurulu Kararı

Sayın Fatih KURTOĞLU

Sosyal Bilimler Bilimsel Araştırma Önerisi Etik Değerlendirme Kurulunun 10.07.2023 tarihli kararı yazımız ekinde gönderilmiştir.

Bilgilerini rica ederim.

Doç. Dr. Meryem ACARA ESER  
Kurul Başkanı

EK: Etik Kurulu Kararı

Evrak Tarih ve Sayısı: 10.07.2023-312509



T.C.

SİVAS CUMHURİYET ÜNİVERSİTESİ

SOSYAL BİLİMLER BİLİMSEL ARAŞTIRMA ÖNERİSİ ETİK DEĞERLENDİRME  
KURULU

Toplantı Sayısı	Karar Tarihi	Karar Sayısı
7	10.07.2023	2023/16

Sosyal Bilimler Bilimsel Araştırma Önerisi Etik Değerlendirme Kurulu çevrimiçi olarak Başkan Doç. Dr. Meryem ACARA ESER başkanlığında toplandı.

**Karar No 16- Fatih KURTOĞLU'nun Üniversitemiz Sosyal Bilimler Araştırma Önerisi Etik Değerlendirme Kuruluna** yapmış olduğu başvuru incelenmiştir.

**Mobil Destekli Dil Öğreniminin (MDDÖ) Yabancı Dil olarak İngilizce öğrenenlerin motivasyonu ve davranışsal niyeti üzerindeki dolaylı etkisi** isimli araştırmanın etik olarak uygunluğuna oy birliğiyle/çokluğuyla karar verilmiştir.

APPENDIX-G. Educational Sciences Scientific Research Proposal Ethical Evaluation Board

Evrak Tarih ve Sayısı: 24.08.2023-326913



T.C.  
SIVAS CUMHURİYET ÜNİVERSİTESİ REKTÖRLÜĞÜ  
Eğitim Bilimleri Araştırma Önerisi Etik Değerlendirme Kurulu

Sayı :E-50704946-100-326913  
Konu :Etik Kurul Kararı

24.08.2023

Sayın Fatih KURTOĞLU

Eğitim Bilimleri Araştırma Önerisi Etik Değerlendirme Kuruluna yapmış olduğunuz **23\_08\_13** numaralı başvurunuz incelenmiş ve kurumumuz tarafından "**Mobil Destekli Dil Öğreniminin (MDDÖ) Yabancı Dil Olarak İngilizce Öğrenenlerin Motivasyonu ve Davranışsal Niyeti Üzerindeki Dolaylı Etkisi**" başlıklı araştırmanızın bilimsel araştırma etiği ilkeleri açısından uygun olduğuna karar verilmiştir.  
Bilgilerini rica ederim.

Prof. Dr. Murat BURSAL  
Kurul Başkanı

## **CURRICULUM VITAE**

The author was born in Sivas in 1980. He completed his primary and secondary education in Giresun. He graduated from Sivas Anatolian Teacher High School in 1997. In the same year, he attended the English Language Teaching Department at Middle East Technical University and graduated from there in 2001. Since then, he has been working as an English language teacher in Sivas. He is also teaching English for speaking and level groups at CÜSEM. He joined the Fulbright Teaching Excellence and Achievement program at Appalachian State University, NC, USA in 2019. He has TESOL for adults certificate.



## GENİŞ ÖZET

### MOBİL DESTEKLİ DİL ÖĞRENİMİ (MDDÖ) MOTİVASYONU MODELİNİN TEST EDİLMESİ.

#### BÖLÜM 1. GİRİŞ

Günümüz dijital dünyasında, teknoloji, profesyonelleri, eğitimcileri ve öğrencileri bakış açılarını yeniden değerlendirmeleri ve eğitim ve eğitim sistemlerini yeniden şekillendirmek için nasıl kullanılabileceğini incelemeleri için motive eden, yaşamlarımızın ve eğitimimizin vazgeçilmez bir parçası haline geldi (Chinnery, 2006). Birçok dil öğrencisi, dil kaynaklarına sınırlı erişim, yetersiz uygulama fırsatları, motivasyon ve katılımın sürdürülmesinde engeller dâhil olmak üzere dil öğrenme yolculuklarında zorluklarla karşı karşıyadır (Dörnyei, 2005). Bununla birlikte, teknolojik cihazlar hem öğrenciler hem de öğretmenler için önemli avantajlar sunmaktadır. Özellikle mobil teknolojiler, sürekli kullanılabilirlik ve kullanım kolaylığı nedeniyle dil öğrenimi için uygun ve erişilebilir bir araç olarak ortaya çıkmıştır (Stockwell, 2010). Bu nedenle, bu teknolojilerin dil öğrenimindeki potansiyellerini en üst düzeye çıkarmak için nasıl etkili bir şekilde kullanılacağını anlamak önemlidir.

MDDÖ'nin öğrencilerin kişisel ve kültürel kimlikleriyle kesişimi, dil öğrenmesindeki motivasyonun daha iyi anlaşılmasını önemli hale getirir. Bu entegrasyon, sadece teknolojik olarak gelişmiş olmakla kalmayıp aynı zamanda kültürel ve kişisel olarak yansıtılan MDDÖ katılımı ihtiyacını vurgulamaktadır. Boo ve ark. (2015), Wen ve ark. (2019) ve Liu ve ark. (2023) mobil cihazların etkileşimli ve multimedya yeteneklerinin daha derin, daha ilgi çekici bir dil öğrenme deneyimini teşvik etmek için nasıl kullanılabileceğini göstererek bu anlayışa katkıda bulunur. Yang (2020) ve Garcia Botero ve ark. (2019), MDDÖ'nin uygulama tasarımı ve içerik alaka düzeyi gibi belirli yönlerinin öğrenci motivasyonunu nasıl etkilediğini açıklamaya çalışmıştır. Bu çalışmalar, içerik, teknolojik uygunluklar ve öğrenme uygulamalarının tasarımı gibi faktörlerin, mobil teknolojiler yoluyla dil öğrenmesinde motivasyonu korumada ve geliştirmede önemli roller oynadığını ortaya koymaktadır. Bununla birlikte, öğrenme yolculuğunda sürekli katılım ve destek ihtiyacının altını çizerek, sürdürülebilir motivasyonun karmaşıklığını vurgulamaktadırlar.

Ajzen (1991) tarafından kavramsallaştırıldığı üzere, bir bireyin tutumlarından, öznel normlarından ve davranış üzerindeki algılanan kontrolünden etkilenen belirli bir davranışı gerçekleştirmeye hazır olma ve bağlılığını ifade eder. MDDÖ'de davranışsal niyetin etkisine ilişkin çeşitli çalışmalar bulunmaktadır Garcia Botero ve arkadaşları (2018) tarafından yürütülen araştırma, UTAUT modelleri rehberliğinde davranışsal niyetler ile MDDÖ'nin fiili kullanımı arasındaki ilişkiyi incelemiştir.

Davranışsal niyet gibi algı da bireylerin teknoloji tabanlı dil öğrenme yaklaşımlarına yönelik tutum ve beklentilerini şekillendirmede önemli bir rol oynamaktadır. Öğrencilerin ve öğretmenlerin MDDÖ'ı nasıl algıladıklarını anlamak, MDDÖ'ın etkinliği ve potansiyel etkisi hakkında değerli bilgiler sunabilir. Algı, "insanın çevresindeki dünyayla kurduğu birincil bilişsel temas biçimi" olarak tanımlanmaktadır (Efron, 1969, s. 137). MDDÖ algıları üzerine bazı çalışmalar bulunmaktadır. Hsu (2013) ve Jiménez (2019) gibi çalışmalar, öğrencilerin kültürel geçmişlerinin ve eğitim ortamlarının MDDÖ algılarını önemli ölçüde şekillendirdiğini ortaya koymaktadır.

Venkatesh ve diğerleri (2003) tarafından formüle edilen Birleşik Teknoloji Kabul ve Kullanım Teorisi (UTAUT), MDDÖ dahil olmak üzere çeşitli alanlarda teknolojinin kabulünü ve kullanımını anlamada temel bir çerçeve görevi görmektedir. UTAUT modeli dört temel belirleyici unsuru içermektedir: Performans Beklentisi, Çaba Beklentisi, Sosyal Etki ve Kolaylaştırıcı Şartlar ile birlikte deneyim, gönüllülük, cinsiyet ve yaş gibi ılımlı değişkenler teknoloji kullanım davranışını açıklamaktadır (Venkatesh vd., 2003).

MDDÖ bağlamında, Performans Beklentisi (PE) kritik bir faktör olarak ortaya çıkmakta ve MDDÖ kullanımının dil öğrenme performansını artıracığı inancı olarak tanımlanmaktadır. Bu inanç, öğrenenlerin MDDÖ'ne yönelik tutumlarını önemli ölçüde etkilemekte, öğrenenlerin MDDÖ'ni dil öğrenimleri için faydalı olarak algıladıklarında, MDDÖ ile ilgilenme olasılıklarının daha yüksek olduğunu göstermektedir. Örneğin, Hoi (2020) ve Razzak ve Jassem (2021) gibi çalışmalar, öğrencilerin MDDÖ'ne yönelik tutumlarını ve davranışsal niyetlerini şekillendirmede performans beklentisinin öneminin altını çizmektedir.

Bu çalışma, literatürde tanımlanan belirli faktörleri dikkate alarak, MDDÖ ile ilgili motivasyon, davranışsal niyet, algılar ve performans beklentisi arasındaki ilişkileri daha fazla araştırmayı amaçlamaktadır. Çalışma, mevcut literatürdeki boşlukları doldurmayı

ve MDDÖ'nin dil öğrenimi için nasıl etkili bir şekilde kullanılacağına anlaşılmasına katkıda bulunmayı amaçlamaktadır. Temel olarak bu araştırma, öğrencilerin motivasyonunu, davranışsal niyetini ve genel dil öğrenme deneyimlerini geliştirmeye yönelik değerli fikirler ve stratejiler sağlamayı amaçlamaktadır.

Bu nedenle, bu çalışmanın amacı, MDDÖ'ün yabancı dil olarak İngilizce öğrenen öğrencilerin motivasyonu ve davranışsal niyeti üzerindeki dolaylı etkisini araştırmaktır. Bu amaçla, hipotezler aşağıdaki gibi formüle edilmiştir:

H1: MDDÖ motivasyonu davranışsal niyeti etkiler.

H2: MDDÖ motivasyonu, Birleşik Teknoloji Kabul ve Kullanım Teorisi'nin (UTAUT) bir alt boyutu olan performans beklentisini etkiler.

H3: MDDÖ motivasyonu MDDÖ'ye yönelik algıyı etkiler.

H4: Performans beklentisi davranışsal niyeti etkiler.

H5: MDDÖ'ye yönelik algı davranışsal niyeti etkiler.

H6: Performans beklentisi, MDDÖ motivasyonu ile davranışsal niyet arasındaki nedensellik üzerinde dolaylı bir etkiye sahiptir.

H7: MDDÖ'ye yönelik algılar, MDDÖ motivasyonu ile davranışsal niyet arasındaki nedensellik üzerinde dolaylı bir etkiye sahiptir.

Tüm çalışmalarda olduğu gibi, bu çalışmada da bazı sınırlılıklar bulunmaktadır. Kullanılan modeller ve ölçekler sadece belirli bir coğrafyadaki yabancı dil olarak İngilizce öğrenen öğrencilerin davranış kalıplarını açıklayabilir. Bu açıdan bakıldığında, çalışmanın yapıldığı coğrafya, çalışmanın zamanı ve çalışmada kullanılan ölçekler nedeniyle temel sınırlılıklar olduğu anlaşılmaktadır. İkinci olarak, anketlerin toplanmasında zaman kısıtı bulunmaktadır. Anketin odak noktası insanlar olduğu için sosyo-ekonomik ve sosyo-demografik özellikler cevaplara yansımaktadır.

## **BÖLÜM 2. ALANYAZIN TARAMASI VE İLGİLİ ARAŞTIRMALAR**

### **Mobile Destekli Dil Öğrenimi (MDDÖ)**

Dijital çağda, Mobil Destekli Dil Öğrenimi (MDDÖ) teknolojik yenilik ve eğitim pedagojisinin önemli bir kesişimini temsil etmektedir. Geleneksel eğitimden anlayışından, dinamik ve öğrenci merkezli ortamlara geçişi simgelemektedir. Mobil

cihazların yaygınlığından yararlanan MDDÖ, esnek, erişilebilir ve bağlam açısından zengin öğrenme deneyimleri sunmaktadır. Godwin-Jones (2011) akıllı telefon ve tabletlerin ortaya çıkışının bu cihazları nasıl temel iletişim araçlarından etkileşimli ve kişiselleştirilmiş öğrenme deneyimlerini kolaylaştıran güçlü eğitim kaynaklarına dönüştürdüğünü vurgulamaktadır. Benzer şekilde Stockwell (2010) de mobil cihazların öğrenme fırsatlarını artırma, daha erişilebilir hale getirme ve günlük hayata entegre etme konusundaki gelişiminin altını çizmektedir.

### **TAM ve Davranışsal Niyet**

Bilgi sistemleri ve teknolojinin benimsenmesi alanında temel bir kavram olan davranışsal niyet, genellikle Teknoloji Kabul Modeli (TAM), Gerekçeli Eylem Teorisi (TRA) ve Planlı Davranış Teorisi (TPB) gibi teorik çerçeveler içinde incelenmektedir. Davranışsal niyet, özellikle bir bireyin belirli bir teknoloji veya sistemi kullanmak gibi belirli bir davranışı gerçekleştirme niyetinin derecesini ifade eder. Gerçek davranışın bir öngörücüsüdür ve bir kişi bir şeyi yapmaya niyetliyse, bunu yapma olasılığının daha yüksek olduğunu varsayar. Buna ek olarak Ajzen (1991) bu terimi, bir kişinin gelecekte belirli bir davranışı gerçekleştirmek ya da gerçekleştirmemek için bilinçli planlar formüle etme derecesi olarak tanımlamaktadır. Bu kavramsallaştırma, bireylerin belirli bir teknolojiyi veya sistemi benimsemeye nasıl karar verdiklerini anlamada çok önemlidir ve psikoloji ve davranış çalışmaları alanında yaygın olarak tanınan bir teorik çerçeve olan Planlı Davranış Teorisi'nin (TPB) temelini oluşturur.

MDDÖ bağlamında davranışsal niyet, öğrenenlerin mobil teknolojileri dil öğrenme amacıyla kullanma kararlılığı veya istekliliği anlamına gelir. Bu kavram, mobil teknolojilerin eğitim bağlamlarında, özellikle de dil ediniminde nasıl benimsendiğini ve etkili bir şekilde kullanıldığını anlamak için çok önemlidir. MDDÖ'nin ortaya çıkışı, benzeri görülmemiş bir esneklik ve öğrenme kaynaklarına erişim sunarak dil eğitimi alanında devrim yaratmış ve böylece öğrencilerin davranışsal niyetlerini önemli ölçüde etkilemiştir.

### **MDDÖ'ne Yönelik Algılar**

MDDÖ'deki algıların özünde, öğrencilerin MDDÖ'nin dil öğrenimi için etkinliği ve uygunluğu hakkındaki fikirlerini kapsayan inançları ve tutumları vardır. Hsu (2013)'nun araştırmasından elde edilen önemli bir bulgu, MDDÖ'ye yönelik algılarda önemli kültürler arası farklılıkların tespit edilmesidir. Bu durum, kültürel bağlamın farklı

geçmişlerden gelen öğrencilerin mobil öğrenme teknolojilerini nasıl algıladıkları ve bunlarla nasıl etkileşime girdikleri üzerindeki derin etkisinin altını çizmektedir. Farklı eğitim ortamlarında MDDÖ stratejilerini uygularken kültürel farklılıkları dikkate almanın önemini vurgulamaktadır. Bu araştırma, farklı kültürel bağlamlarda MDDÖ algılarının çok yönlü doğasını anlamak için önemli bir referans noktası olarak hizmet etmektedir.

### **MDDÖ’de Performans Beklentisi**

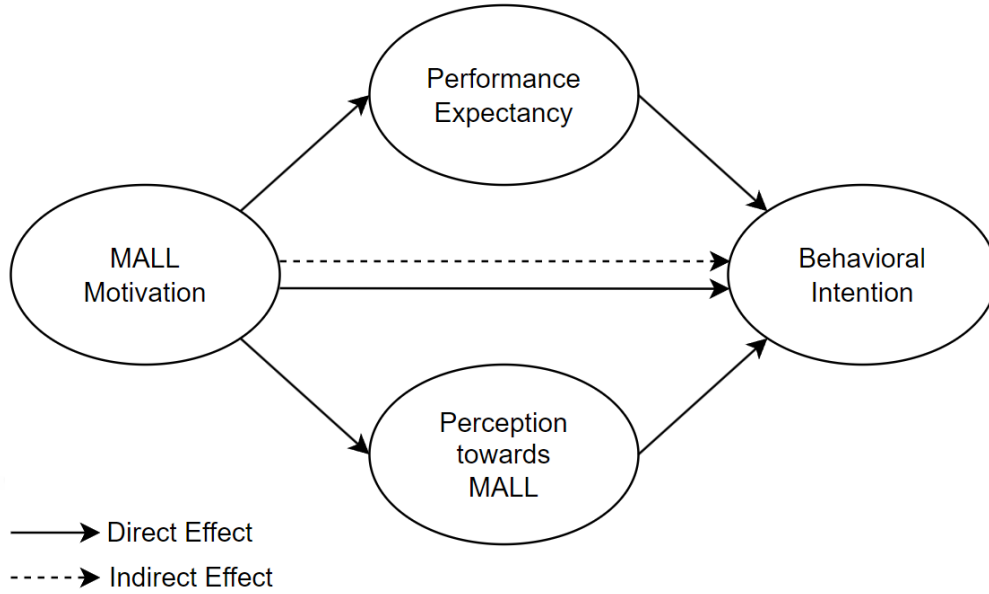
Performans Beklentisi (PE), öğrencilerin motivasyonunu ve MDDÖ'a katılımını anlamada temel bir yapıdır. "Bireyin sistemi kullanmanın iş performansında kazanımlar elde etmesine yardımcı olacağına inanma derecesi" (Venkatesh vd., 2003) olarak tanımlanan Performans Beklentisi, öğrencilerin MDDÖ'nin etkililiğine ilişkin algılarını şekillendirmede belirleyicidir. Bu kavram, öğrencilerin dil öğrenme çıktılarını geliştirmede MDDÖ etkinliğini nasıl algıladıklarını anlamak için merkezi bir öneme sahiptir. Ebadi ve Raygan (2023), MDDÖ'nin algılanan kullanılabilirliğini artırmada kolaylaştırıcı koşulların ve algılanan kullanım kolaylığının kritik rolünü vurgulamakta ve bu da öğrencilerin MDDÖ'a yönelik tutumlarını ve MDDÖ kullanma niyetlerini önemli ölçüde etkilemektedir. Bu durum, öğrencilerin MDDÖ'nin faydalarına ilişkin olumlu algılarının, bu teknolojilerle etkileşim kurma motivasyonlarını artırmada önemli olduğu fikrinin altını çizmektedir.

### **BÖLÜM 3. YÖNTEM**

Bu çalışma genel yapısı itibariyle nicel bir araştırmadır. Nicel araştırma, araştırmacının önceden karar verdiği bir konuda sayısal verilerin toplanmasını içerir. Aynı zamanda toplanan verilerle ilgili sayısal sonuçlara ulaşılır ve bu sonuçlar yorumlanır (Creswell, 2005). Araştırmacıların belirli bir hedefle çalışmalarını sürdürmeleri, çalışmada bir iddianın yani hipotezin olması gerektirir. Bu nedenle toplanan veriler belirli bir hipotezi incelemek üzere tasarlanır (Ekiz, 2009).

Çalışmada dört ölçeğin yanı sıra öğrencilerin demografik ve mobil cihaz-uygulama kullanım alışkanlıklarına ilişkin bilgiler de yer almaktadır. Elde edilen veriler ışığında, ölçekler arasındaki korelasyon için oluşturulan model Şekil 1'de gösterilmektedir. Yabancı dil olarak İngilizce öğrenen öğrencilerin MDDÖ motivasyonu ve davranışsal niyetlerinin etkileşiminde performans beklentisi ve MDDÖ'ne yönelik algıların aracı

rolleri olup olmadığı araştırılmıştır. Bu araştırmanın yürütülebilmesi için anketlerin toplanarak analizin sonlandırılmasına karar verilmiştir.



Şekil 1. Araştırma Modeli

### Evren ve Örneklem

Mevcut araştırmayı yürütmek için İngilizce öğrenenler ana kütle olarak belirlenmiştir. Veri setini oluşturmak için Sivas Cumhuriyet Üniversitesi'nde öğrenim gören İngilizce Öğretmenliği, İngiliz Dili ve Edebiyatı ve Mütercim Tercümanlık öğrencilerinden oluşan örneklem kullanılmıştır. Öğrencilerden toplanan anket sayısı 653'e ulaşmıştır. Ancak ifadelerle verilen cevaplardaki eksiklikler, yanlış cevaplar (sürekli aynı seçeneğin cevaplanması, anket cevaplarında kalıpların bulunması vb. nedenlerle) sonucunda bazı anketlerin çalışma dışı bırakılmasına karar verilmiştir. Böylece çalışmaya toplam 626 katılımcının anket verileri ile devam edilmesine karar verilmiştir. Çalışmanın gücü %96,1 olarak hesaplanmış olup sonuçların Sivas ili ve çevre coğrafyasındaki yükseköğretim düzeyindeki öğrencilere genellenmesinde herhangi bir sorun yaşanmayacağı anlaşılmaktadır.

### Veri Toplama Yöntemleri

Araştırma modelinde de gösterildiği üzere bu çalışmanın dört farklı ölçekle sonuçlandırılması planlanmıştır. İlk olarak Okumuş Dağdeler (2018) tarafından geliştirilen ve toplam 17 ifadeden oluşan MDDÖ Motivasyon ölçeğinin ifadeleri incelenmiştir (Appendix B). Araştırma modelinin aracılık etkilerinin incelendiği

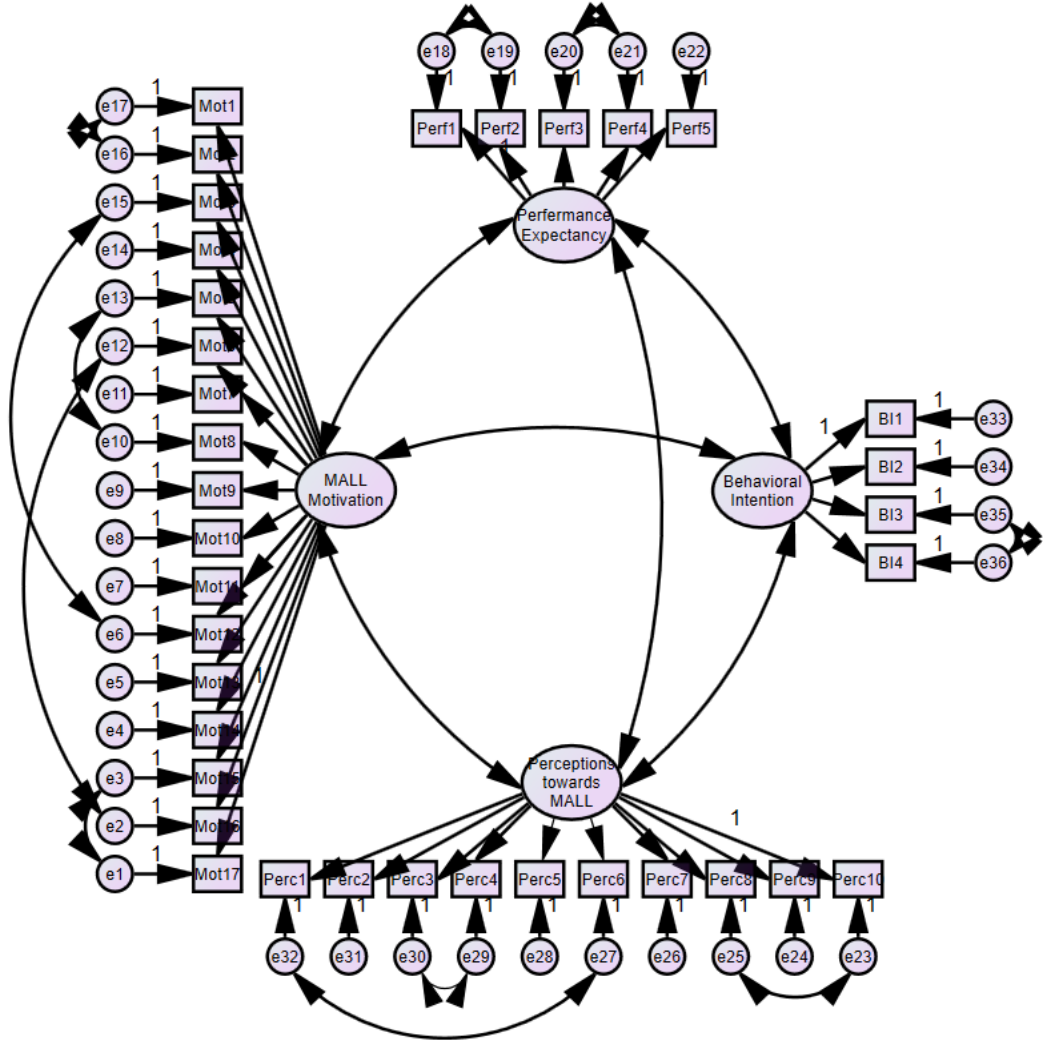
ölçeklerden ilki olarak Performans Beklentisi analiz edilmiştir. Hoi (2020) tarafından uygulanan ölçek, mobil cihaz kullanımında elde edilebilecek faydalara ilişkin algıyı ölçmeyi amaçlamaktadır (Appendix C). Aracılık etkisinin incelendiği bir diğer ölçek ise Ebadi ve Raygan (2023) tarafından hazırlanan MDDÖ'ye Yönelik Algı ölçeğidir (Appendix D). Toplam 10 ifadeden oluşan ölçek, katılımcıların MDDÖ kullanımına ilişkin tercihleri hakkında bilgi içermektedir Bağımlı değişken olarak kullanılan Davranışsal Niyet ölçeği ise Hoi (2020) tarafından uygulanmış ve toplam 4 ifadeden oluşmaktadır (Appendix E).

#### **BÖLÜM 4. BULGULAR VE YORUM**

Çalışmanın bu aşamasında toplanan veriler üzerinde istatistiksel analizler uygulanmıştır. Bu bölümde katılımcılardan toplanan anket verileri üzerinde analizler gerçekleştirilmiştir. Bu analizler kısaca fark analizi, korelasyon, doğrulayıcı faktör analizi (DFA) ve yapısal eşitlik modellemesi (YEM) olarak sıralanmaktadır.

Çalışmada kullanılan ölçekler ile demografik değişkenler ve kullanım değişkenleri arasında yer alan farklılıklar Tablo 4.7, 4.8, 4.9 ve 4.10'da yer almaktadır. Tüm ölçekler arasında istatistiksel olarak anlamlı ilişkiler olduğu gözlenmektedir.

Şekil 2, ölçekler için DFA modelini ve ölçeklere ait öğeleri göstermektedir. Görüldüğü gibi, toplam 4 ölçek ve 36 ifade vardır. Analiz sonucunda, ifadelerin artık değerleri arasında ortak değişkenler olduğu görülmektedir. Ölçekler ve diğer ölçekler arasındaki homojenliği ve heterojenliği sağlamak için bu kovaryansları modele dahil etmek uygundur. Modelde gerekli ayarlamaları yaparak elde edilen sonuçlar Tablo 4.12'de verilmiştir.



Şekil 2. Doğrulayıcı Faktör Analizi

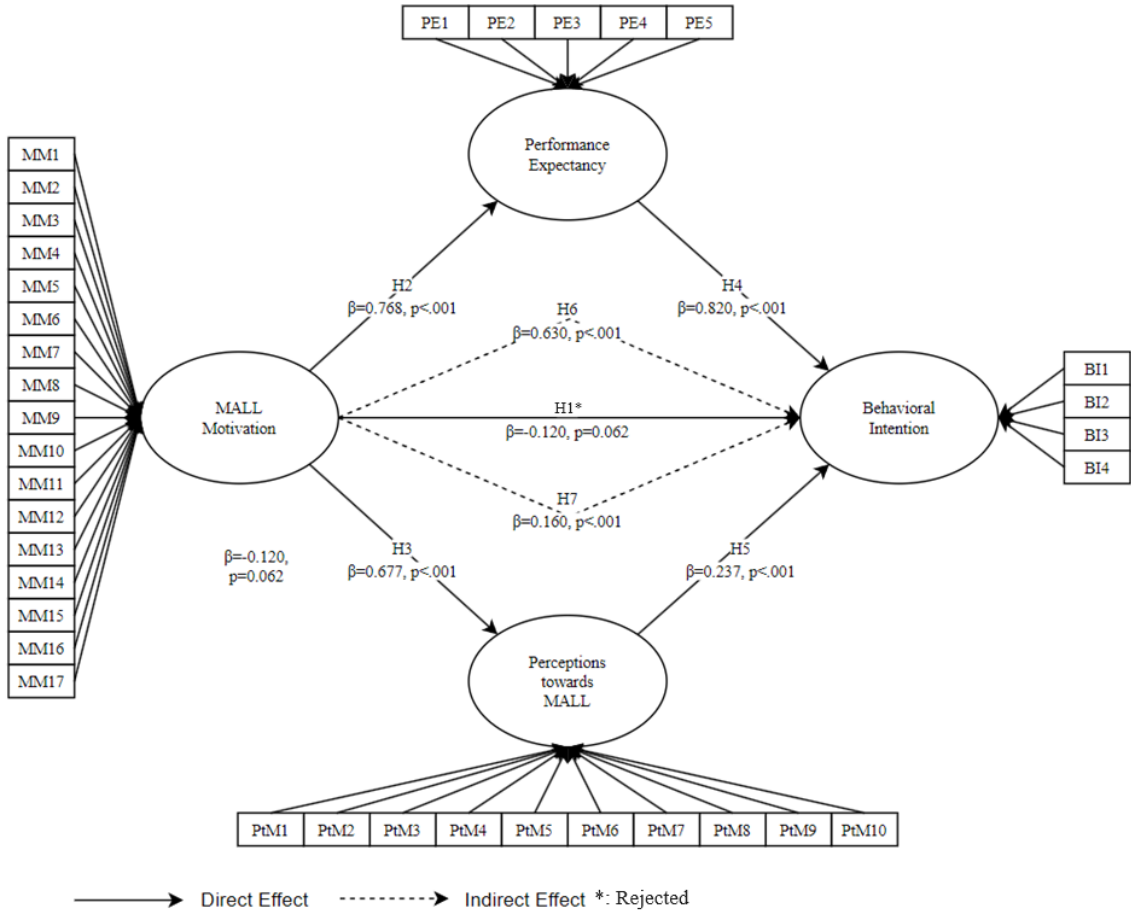
CFA uyum sonuçlarının sunulduğu Tablo 4.12'de, RMR istatistiğinin iyi bir uyum değerine sahip olduğu görülmektedir;  $\chi^2/Sd.$ , TLI, IFI, RMSEA ve GFI istatistikleri kabul edilebilir uyum sağlar; CFI ve AGFI istatistikleri kabul etmeye yakındır. Bu sonuçlar ışığında, arabuluculuk modelinin mevcut ölçekler için tasarlanabileceği anlaşılmaktadır.

### SEM Sonuçları

Bu tez, katılımcıların davranışsal niyetinin MDDÖ motivasyonundan doğrudan veya dolaylı olarak etkilenebileceğini ve aynı zamanda MDDÖ ölçeklerine yönelik performans beklentisinin ve algılarının bu etkileşime dahil edilebileceği tahmin

edilmektedir. Bu amaçla bir aracılık modeli oluşturuldu ve yapısal eşitlik modeli (SEM) analizi yapıldı. DFA sonucunda modelin uygulanabilirliğine karar verildikten sonra, mevcut değişkenlerle YEM gerçekleştirildi.

Sonuçlar analiz edildiğinde, katılımcıların MDDÖ motivasyon puanlarının davranışsal niyet skorunu etkilemediği bulunmuştur ( $\beta = -0.120$ ,  $p = 0.062$ ) (H1 kabul edilmedi). Buna göre, MDDÖ motivasyonunun davranışsal niyet skorundaki değişiklik üzerinde herhangi bir etkisi olmadığı görülmektedir. MDDÖ motivasyonu ile etkilenen aracı değişkenlerin sonuçları analiz edildiğinde; MDDÖ motivasyon ölçeğinin hem performans beklentisi ölçeğini ( $\beta = 0.768$ ,  $p < .001$ ) (H2 kabul edildi) hem de MDDÖ'a yönelik tutum ( $\beta = 0.677$ ,  $p < .001$ ) etkilediği hesaplanmaktadır (H3 kabul edildi). Doğrudan etkilerle ortaya çıkan bir diğer bulgu, aracı değişkenler ile bağımlı değişken arasındaki etkileşimdir. Tablo 4.14 incelendiğinde, davranışsal niyet ölçeğinin hem performans beklentisi ölçeğinden ( $\beta = 0.820$ ,  $p < .001$ ) (H4 kabul edildi) ve MDDÖ'a yönelik tutum ölçeğinden ( $\beta = 0.237$ ,  $p < .001$ ) (H5 kabul edildi) etkilendiği anlaşılmaktadır. Bu nedenle, H6 ve H7 hipotezlerinin kabul edildiği; performans beklentisi ölçeği ve MDDÖ'a yönelik tutum ölçeğinin, MDDÖ motivasyonu ve davranışsal niyet ölçekleri arasındaki etkiye aracılık ettiği anlaşılmaktadır.



Şekil 3. Model Gösterimi

## BÖLÜM 5. SONUÇ, TARTIŞMA VE ÖNERİLER

Çalışmada ulaşılan temel hedeflere ek olarak, çalışma grubu hakkında birçok bilgi toplanmıştır. Bu ankette katılımcıların cinsiyetlerine göre ölçek ortalamaları arasında anlamlı bir fark olmamasına rağmen, çalışmalarına devam ettikleri bölümlere göre tüm ölçek ortalamalarında fark vardır. Bu açıdan ölçek farkının eğitimle ilgili olduğu düşünülmektedir. Mütercim Tercümanlık Bölümü öğrencilerinin ortalamalarının diğer bölümlere göre tüm ölçeklerde daha düşük olduğu tespit edilmiştir. Bu sonucun farklı nedenleri ve sonuçları olabilir. Bunun nedeni öncelikle Mütercim Tercümanlık Bölümündeki öğrencilerin mesleki deneyimlerinin diğer bölümlere göre daha hızlı artmasıdır. Mütercim Tercümanlık öğrencilerinin özel sektörde öğrenci-çalışan olarak değerlendirilebilmesinin, kullanılan programlara farklı bir bakış açısı geliştirmelerine neden olduğu düşünülmektedir. Ölçeklerin notlara göre analizi yapıldığında ise sadece

MDDÖ ölçeğine yönelik algıda farklılık tespit edilmiştir. 3. Sınıf öğrencilerinin ölçek ortalaması diğer sınıflara göre daha yüksek hesaplanmıştır. Bunun nedeni, belirli bir eğitime yoğunlaşan öğrencilerin yabancı dillerdeki bilgi ve deneyimlerini artırmalarıdır. Bununla birlikte, son sınıf öğrencilerinin ortalamalarında bir azalmanın varlığı, mesleki kaygıların ortaya çıkması ve MDDÖ'nin faydalarına ilişkin algının değişmesi olarak düşünülebilir. Aynı zamanda, son sınıf öğrencileri mesleki stajları nedeniyle İngilizce dil öğrenimi algılarında farklılıklar yaşayabilirler.

Eğitim amaçlı mobil cihaz kullanım sıklığı arttıkça çalışma ölçeklerinin ortalamalarının da arttığı hesaplanmıştır. Bunun nedeni, hâlihazırda yoğun olarak cihaz kullanmayan kişilerin çalışmadaki MDDÖ ile ilişkili ölçeklerde de yüksek katılımın beklenmemesidir. Çalışmanın özü MDDÖ kullanımı olduğu için bu durum normal kabul edilmektedir. MDDÖ ölçeğine yönelik algının ortalaması, eğitim amaçlı kullanım sıklığı günde 3-4 ve 5+ olduğunda en yüksek ortalamaya sahip olduğu bulunmuştur. Ölçek ortalamasının bu dönemlerin altına ve üstüne düşmesi bir önceki soruyla benzerlik göstermektedir. Öğrencilerin mobil cihaz kullanım yoğunluğunun ve sıklığının yüksek olmasına paralel olarak ölçek ortalamalarının arttığı önemli bir bulgudur.

Mevcut literatürdeki çalışmalar ışığında, MDDÖ motivasyonunu artıran birçok faktör olduğu açıktır. Özellikle öğrencilerin yazma gibi pratik becerilerindeki artışlar (Dewi ve ark., 2020), yazılım kullanımı (Wen ve ark., 2019) ve topluluk faaliyetleri (Chua ve ark., 2021; Saidouni ve Bahloul, 2018) desteklenmektedir. Ek olarak, soyut beklentiler (Chai ve ark., 2016) MDDÖ motivasyonunu da artırabilir. Bu bakış açısıyla, yabancı dil olarak İngilizce öğrenen öğrencilerin MDDÖ motivasyonuna sahip olmaları muhtemeldir. Buna göre mevcut değişimin davranış niyetini etkileyebileceği araştırılmış olsa da bu çalışma sonucunda elde edilen veriler ışığında bu ilişkiyi gösteren anlamlı bir sonuca ulaşılamamıştır. Benzer şekilde Sun ve Gao (2020) çalışmalarında içsel motivasyonun davranışsal niyeti doğrudan etkilemediğini belirtmişlerdir.

Güncel literatürde davranış niyetini etkileyen durumların veya değişkenlerin çoğunlukla amaca yönelik yaklaşımlardan oluştuğu görülmektedir. MDDÖ kullanımı ile ilgili her türlü kavramın kullanıcılar için fayda yaratan bir ortam yaratması davranış niyetinde değişikliğe neden olduğu görülmektedir. Kumar ve ark. (2020) yaptıkları çalışmada, MDDÖ uygulamalarının kullanımı üzerindeki olumlu etkinin ve kullanıcının fayda

algısının davranışsal niyeti etkileyen ana faktörler olduğunu belirtmişlerdir. Aynı şekilde Ebadi ve Raygan'ın (2023) çalışması da kullanım kolaylığının olumlu etkisini vurgulayan bir diğer çalışmadır. Davranışsal niyeti etkileyen psikolojik faktörleri inceleyen çalışmalarda (Arnone ve ark., 2011; Morchid, 2019; Garcia Botero ve ark., 2018), merakın, ilgi alanlarının, eğitmen geri bildiriminin, öz yeterliliğin ve sosyalleşmenin MDDÖ'ndeki davranışsal niyeti etkilediği gösterilmiştir. Literatürdeki bazı çalışmalar, MDDÖ kullanıcılarının tutum ve performans beklentilerini de incelemiştir.

Hameed ve ark. (2022) ve Vo Ngoc Hoi (2020), özellikle yüksek öğrenim öğrencileri üzerindeki çalışmalarında tutum ve performans beklentisinin davranışsal niyeti etkilediğini göstermiştir. İncelenen çalışmalarda MDDÖ'ye yönelik tutumun olumlu olduğu gözlenmiştir. Orta öğretim öğrencileri üzerine yaptıkları çalışmalarda Yang ve ark. (2022) ve Rijal (2021), MDDÖ'a yönelik olumlu tutumların davranışsal niyeti de etkilediğini göstermiştir. Aynı zamanda Neerja ve Nirban (2014), MDDÖ'nin esneklik ve rahatlık açısından tercih edildiğini belirterek, MDDÖ'ne karşı olumlu bir tutuma işaret etmiştir. Jiménez (2019), MDDÖ'nin yetişkinler üzerindeki çalışmalarında dönüştürücü rolüne vurgu yapmış ve katılımcıların olumlu bir tutum sergilediklerini belirtmiştir. Bu çalışmada yapılan analiz, MDDÖ'ne yönelik tutumdaki artışın davranış niyetinde olumlu bir artışa yol açtığını da kanıtlamıştır ( $\beta = 0.237$ ). Aynı şekilde MDDÖ'ye yönelik algılardaki artış da katılımcıların MDDÖ motivasyon derecesinden önemli ölçüde ( $\beta = 0,677$ ) etkilenmektedir. Anlaşıldığı üzere, yüksek motivasyonla paralel bir tutum gözlemlenebilse bile, aynı paralellik niyetle bu kadar yüksek ölçülememiştir.

Analiz edilen çalışmalar arasında uygulama modeline paralel olabilecek çalışma Sun ve Gao'nun (2020) çalışmasıdır. İçsel motivasyonun algılanan yararlılık ve rahatlık yoluyla davranışsal niyeti değiştirebileceği kanıtlanmıştır. Bu nedenle, davranışsal niyetin değişkenlere aracılık ederek etkilenebileceği görülmektedir. Bu çalışmanın bulgularına dayanarak, yabancı dil olarak İngilizce öğrenen öğrencilerin MDDÖ motivasyonundaki değişimin, davranış niyetini değiştirmek için bir arabulucu değişken aracılığıyla mümkün olabileceği önemli bir sonuçtur. Özellikle öğrenme çıktılarının olumlu beklentiler yaratması ve arabuluculuk etkisinin performans beklentisi değişkenleri ve MDDÖ'ne yönelik algıları ile kanıtlanması dikkat çekicidir. Her iki ifade birlikte dikkate alındığında, performans beklentisinin tam bir arabuluculuk etkisine sahip

olduđu ve MDDÖ motivasyonunun davranış niyeti üzerindeki etkisini % 63'e çıkardığı ve bunun tek başına olamayacağı tespit edilmiştir. Aynı şekilde MDDÖ'ye yönelik algıların tam bir arabuluculuk etkisine sahip olduğu tespit edilmiş ve MDDÖ motivasyonunun davranış niyeti üzerindeki etkisini %16 artırmıştır.

Yabancı dil olarak İngilizce öğrenen öğrencilerin davranış niyetinin artırılması amaçlanıyorsa, yani harekete geçmeye motive olacaklarsa, amaçlanan davranışları için olumlu fırsatlar sağlanması gerekecektir. Aynı zamanda, literatür incelemelerinden, MDDÖ'ne yönelik algıların yüksek olmasına rağmen, algıların tek başına davranış niyeti üzerinde daha sınırlı bir etkiye sahip olduğu açıktır. Bununla birlikte, performans beklentisinin yabancı dil olarak İngilizce öğrenen öğrencilerin davranış niyeti üzerinde hem doğrudan hem de arabuluculuk etkisi olarak daha büyük bir etkisi vardır.