

PREDICTORS OF ENGLISH LANGUAGE PREPARATORY SCHOOL  
STUDENTS' BEHAVIORAL INTENTION TO USE REMOTE LEARNING  
TOOLS IN THE COVID-19 ERA

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STUDENTS' BEHAVIORAL INTENTION TO USE REMOTE LEARNING  
TOOLS IN THE COVID-19 ERA**

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**I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.**

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## **ABSTRACT**

### **PREDICTORS OF ENGLISH LANGUAGE PREPARATORY SCHOOL STUDENTS' BEHAVIORAL INTENTION TO USE REMOTE LEARNING TOOLS IN THE COVID-19 ERA**

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The purpose of this study was to investigate how well gender, growth mindset, fixed mindset, the perceived value of English language, perceived ease of use of remote learning tools, perceived usefulness of remote learning tools, attitude towards remote learning tools, and time spent on MyGrammarLab predict behavioral intentions of English preparatory school students to use remote learning tools in the COVID-19 era. A total of 388 students from a private university in Ankara participated in the study.

The data were collected through the Technology Acceptance Model Questionnaire, Mindset Scale, Perceived Value of the English Language Scale, and Student Demographics Form. Exploratory and confirmatory factor analyses were carried out for the evidence for validity. Hierarchical multiple regression analysis was conducted to answer the research question. Results indicated that 67% of the variation in students' behavioral intention to use remote learning tools was explained by the variables included in the analysis. The perceived value of the English language was the most significant predictor in behavioral intention to use remote learning tools. Growth mindset, attitude, perceived usefulness, and time spent on MyGrammarLab also significantly contributed to behavioral intention to use remote learning tools.

**Keywords:** Technology Acceptance Model, Perceived Value, Mindset, COVID-19, English Language Preparatory School Students

## ÖZ

### COVID-19 DÖNEMİNDE İNGİLİZCE HAZIRLIK OKULU ÖĞRENCİLERİNİN UZAKTAN ÖĞRENME ARAÇLARINA YÖNELİK DAVRANIŞSAL NİYETLERİNİN YORDAYICILARI

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Bu çalışmanın amacı, cinsiyet, gelişim zihniyeti, sabit zihniyet, İngilizce diline ilişkin algılanan değer, uzaktan öğrenme aracı MyGrammarLab’de harcanan zaman, uzaktan öğrenme araçlarına dair algılanan kullanım kolaylığı, algılanan kullanılabilirlik ve tutum değişkenlerinin İngilizce hazırlık okulu öğrencilerinin COVID-19 döneminde uzaktan öğrenme araçlarına ilişkin davranışsal niyetlerini yordama gücünü araştırmaktır.



Çalışmaya, Ankara'daki özel bir üniversitede okuyan 388 öğrenci katılmıştır. Veri, Teknoloji Kabul Modeli Anketi, Zihniyet Ölçeği, İngilizce Dili için Algılanan Değer Ölçeği ve Öğrenci Demografi Formu aracılığıyla toplanmıştır. Ölçeklerin geçerliğine dair kanıt için açıklayıcı ve doğrulayıcı faktör analizleri uygulanmıştır. Araştırma sorusunu cevaplamak için hiyerarşik çoklu regresyon analizi yapılmıştır. Sonuçlar, analizde kullanılan değişkenlerin, öğrencilerin uzaktan öğrenme araçlarını kullanmaya dair davranışsal niyetlerindeki varyasyonun %67'sini açıkladığını göstermiştir. Analiz sonuçları, İngilizce diline ilişkin algılanan değer, uzaktan öğrenme araçlarını kullanmaya dair davranışsal niyetin en güçlü yordayıcısı olduğunu göstermiştir. Gelişim zihniyet, tutum, algılanan kullanılabilirlik ve MyGrammarLab'de harcanan zaman da uzaktan öğrenme araçlarını önemli ölçüde yordamaktadır.

**Anahtar Kelimeler:** Teknoloji Kabul Modeli, Algılanan Değer, Zihniyet, COVID-19, İngilizce Hazırlık Okulu Öğrencileri

*To my sister.*

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## **LIST OF ABBREVIATIONS**

EFL: English as a Foreign Language

ERT: Emergency Remote Teaching

EVT: Expectancy-Value Theory

MGL: MyGrammarLab

MRL: MyReadingLab

TAM: Technology Acceptance Model

UTAUT: The Unified Theory of Acceptance and Use of Technology

BI: Behavioral Intention

## **CHAPTER 1**

### **INTRODUCTION**

The chapter presents an introduction in four parts. The first part gives information on the background of the study. The second part explains the purpose of the study. The third part clarifies the significance of the study, and a list of the definitions of important terms are given the last part.

#### **1.1. Background to the Study**

With the rapid advancement of computer technologies, learning and teaching have become more accessible to all individuals without limitations of space and time (Hsu, 2016). Especially with the transition to Web 2.0, users became more active in comparison with Web 1.0, in which users were merely reading rather than interacting with the web tools. Consequently, tools such as wikis, blogs, podcasts, social media platforms, and 3-D environments (Chang, Pearman, & Farha, 2012), along with content management systems (CMS) and learning management systems (LMS), have gained more importance in the field of education. The integration of these learning

tools in the English as a Foreign Language (EFL) context led to the proliferation of the terminology. This includes computer-assisted language learning (CALL), information and communication technologies (ICT), web-enhanced language learning (WELL) (Dudeny & Hockly, 2012), and out-of-class language learning, whose main aim is to integrate technology in language learning and teaching.

Using technology in and outside the classroom enhances student learning experience (Fathali & Okada, 2016). Studies in EFL indicate the improvement in autonomous learning outside the class due to the opportunities provided by such technological tools (Nunan & Richards, 2015). The COVID-19 pandemic has led to a sudden transition from traditional to emergency remote teaching (ERT), a term that has arisen as an alternative term to distance education or online teaching during this period of crisis (Hodges et al., 2020). The difference from conventional online teaching is that the transition to remote teaching was unexpected for students, teachers, and other parties, so there was not enough time to prepare for the transition. With this transition in the COVID-19 era, remote learning tools have become an indispensable part of teaching and learning, particularly in higher education institutions. University teachers and students worldwide started to use and have otherwise increased the frequency of their use of technological tools as part of ERT. Around 30% of university students used such tools by choice before the pandemic (Al Fadda, 2020). However, this rate has increased as these tools have become obligatory to keep up with the lessons.

Notwithstanding the apparent benefits that online learning tools provide learners, integrating these directly into the education models does not ensure success (Gamble,

2017). It requires a valid justification for using new technologies based on empirical data in relevant contexts (Ware & Warschauer, 2006). One critical factor to take into account is learners' acceptance of such technologies. Learner acceptance of technology is a challenging topic for researchers to look into (Hsieh, Huang, & Wu, 2017). However, it is vital to ensure that learners accept the technology for successful adoption and implementation (Tselios, Daskalakis & Papadopoulou, 2011).

One of the theories related to implementing technology in the EFL context, CALL, draws from second language acquisition, linguistic and human-computer interaction theories (Hubbard, 2014). Despite its widespread use and prevalence in the literature, it lacks a solid theoretical background for investigating technology acceptance. On the other hand, the Technology Acceptance Model (TAM) (Davis, 1989) is the most frequently used theory to study technology acceptance of information systems when investigating the application of such technologies in education (Lee, Kozar, & Larsen., 2003).

TAM is used in the investigation of users' technology acceptance and actual use in education (Martinez-Torres et al., 2006), explaining 40% of the variance in behavioral intention and actual use of technology (Venkatesh & Davis, 2000). Two main variables, perceived ease of use (PEU) and perceived usefulness (PU), have an impact on users' attitudes (A) towards using the technology, behavioral intention (BI) to use, and actual use. The model has been used in many studies in the EFL context to investigate students' perceptions of the use of Web 2.0 tools (Arshad, Hoon & Hashim, 2012); Aşıksoy, 2018; Çeçen, 2020) and to examine the role of the factors in TAM in

achievement (Çakır & Solak, 2014). It has also been used to find out factors predicting the BI of EFL learners to use remote learning tools such as synchronous learning tools like Zoom, mobile apps, Web 2.0 tools in general, and Rich Site Summaries (RSS) (Alfadda & Mahdi, 2021; Chung, Chen, & Kuo, 2015; Selevičiene & Burkšatiene, 2015; Tarhini et al., 2015). The factors in TAM and BI to use technology, in particular, have been studied in relation to motivational variables, including self-efficacy (Alfadda & Mahdi, 2021; Chung, et al., 2015), intrinsic value (Bailey, Almusharraf & Hatcher, 2020; Khechine, Raymond, & Augier, 2020), subjective task value (Chang, 2013; Chiu & Wang, 2008) and mindset (Baber, 2021). The literature suggested a strong relationship between BI to use technology and various motivational behaviors. This makes it a necessity to further investigate the effects of motivational variables on students' BI to use remote learning tools.

Mindsets, i.e., growth and fixed mindset, create a meaning system that connects motivational variables such as goals and attributions (Hong et al., 1999). Mindsets have been investigated concerning other motivational variables such as feedback-seeking behavior (Papi et al., 2020), responses to failure (Sadeghi, Sadighi, & Bagheri, 2020), self-efficacy (Bai & Wang, 2020; Rhew et al., 2018), task values (Bai & Guo, 2019; Bedford, 2017), self-regulation (Black & Allen, 2016; Job et al., 2015), grit (Khajavy & Macintyre, 2020), online engagement (Tseng, Kuo, & Walsh Jr., 2020), and BI to use e-learning systems (Baber, 2021). The common line of agreement among these studies is that the growth mindset significantly affects these different variables, while the fixed mindset impacts these adversely.

There is also a growing interest in mindsets in the EFL context (Irie, Ryan & Mercer, 2018). Concerning technology acceptance, Tseng et al. (2020) suggested that growth mindset is positively related to the online engagement of university students. Similarly, Baber (2021) also argued that university students' growth mindset predicted BI to use an e-learning system during the COVID-19 pandemic. Such studies addressing the emergence of new settings in EFL learning and teaching are of the essence in the domain-specific literature as they bring attention to the dynamism of the contemporary education systems.

Another motivational variable affecting BI to use technology is subjective task value. Expectancy-value Theory (EVT) is a component that predicts academic performance, task choices, and persistence (Wigfield & Eccles, 2000). The variable has been studied in relation to academic performance, task choices, and persistence in a variety of domains, including the EFL context. There are also studies conducted in the EFL context to investigate the relationship between subjective task value and other motivational variables such as learning interest, self-concept, second language (L2) beliefs (Arens, Schmidt & Preckel, 2019), behavioral intentions (Ranelucci, Rosenberg, & Poitras, 2020), learning motivation, and self-regulation (Wang & Zhan, 2020). Although the importance of subjective task value in technology acceptance has been emphasized in a variety of domains (Chang, 2013; Chiu & Wang, 2008; Khechine et al., 2020), there has been limited research about behavioral intentions associated with technology use (Ranelucci et al., 2020).



However, as mentioned above, with the onset of new global situations, like the COVID-19 pandemic, most recently, there is a need to address the rapid proliferation in e-learning and study the use of remote learning tools. Particularly, the analysis of the motivations of EFL students to use these tools is essential for this domain in terms of the theoretical and practical implications such investigations would carry. Nevertheless, the research in the EFL context is even more limited than in the general literature on the matter (Bailey et al., 2020). Therefore, the current global setting is opportune for expanding the number and versatility of similar domain-specific studies. For example, specifically during the COVID-19 pandemic, the emergence and the dynamic, practical implication of emergency remote teaching in different national and international contexts could prove to contribute to the literature significantly. Integrating the motivational variables to the analysis of the BI of university students, specifically, is a promising route such investigations could take in light of the steady growth in the body of university students and the more complex system of education involved in such institutions. Therefore, the current study implements TAM in analyzing learner acceptance of remote learning tools concerning two external variables, mindset and perceived value of English language in the context of English preparatory schools in Turkish universities during the pandemic.

## **1.2. Purpose of the Study**

The aim of the study is to investigate the relationship between BI of EFL students studying at a preparatory school to use remote learning tools and growth mindset, fixed mindset, the perceived value of English language, attitude towards remote learning

tools, the perceived usefulness of remote learning tools, the perceived ease of use of remote learning tools, time spent on MyReadingLab, and time spent on MyGrammarLab in the COVID-19 era. Gender was also included as a controlling variable.

### **1.3. Significance of the Study**

Because of the COVID-19 pandemic, there have been drastic changes introduced to the daily lives of people worldwide, young and old alike. However, one of the most influenced facets of life during the outbreak, particularly for the younger cohorts, has indubitably been education. Most students have been affected by the sudden change in how educational institutions carry out educational processes. Even though technology has been integrated into educational contexts for a long time, the abrupt change in the delivery of instruction from face-to-face to remote education has caught off guard teachers and students as well as policymakers on national and international levels.

This sudden transition from traditional to remote education is called ERT (Hodges, 2020). As students have been forced to use remote learning tools to keep up with their lessons, their perceptions and attitudes towards these tools have become theoretically and practically essential subjects in the field of education. Although Computer Assisted Language Learning (CALL) has been employed for foreign language education for more than four decades (Lee & Bailey, 2020), this dramatic change has equally affected the field of teaching and learning EFL as well. Even though remote or online education in EFL is not a new concept, the urgent transition to ERT may prove troublesome for both teachers and students alike (Eraslan, 2020). Since it has

become a necessity for EFL learners to make use of remote learning tools, inquiring into the acceptance of these tools has become even more critical during the COVID-19 period. Naturally, there have been few studies investigating learners' technology acceptance in the COVID-19 era, and most of these studies were domain-general. These studies indicated that students had high levels of technology acceptance towards ERT and the use of remote learning tools (Gismalla et al., 2021; Khan et al., 2020; Oblitas & Jorge, 2021; Oumar, 2021; Wang, Lin, & Su, 2021). Such evidence from the literature can give valuable insights to teachers, curriculum developers, and policymakers to ensure the effective use of remote learning tools.

The motivational variables that affect BI of students to use remote learning tools are as central to the propensity of students to use these tools in EFL education as is technological acceptance. The relevant literature provides evidence for the relationship between the variables of subjective task value, also called perceived value in the present study, and BI to use such tools (Bailey et al., 2015; Chang, 2013; Chiu & Wang, 2008; Chiu et al., 2007; Fryer, Bovee, & Nakao, 2014; Khechine et al., 2020). However, there have been limited studies focusing on the relationship between these variables. Therefore, findings of the relationship between students' interest in, the importance they attach to, and their enjoyment of the English language and BI to use remote learning tools may give researchers insights into studying subjective task value in the EFL domain. In this way, practitioners could better understand the BI of students regarding technology use. In addition, the results may also help policymakers analyze the matter in a way that may contribute to their planning and adaptation of technology

integration processes. This could be done through relevant interventions to improve the value students attach to English.

Furthermore, despite the research in different domains that focus on the relationship between mindsets and BI to use remote learning tools (Tseng et al., 2020; Baber, 2021), there have been no specific studies in the literature which investigate these variables in the EFL context. Therefore, it is imperative to study mindsets as part of the investigation of the BI to use remote learning tools among university students in the EFL domain. This investigation would contribute to the theorization of mindsets in relation to the behavior of higher education students in the context of emergency remote teaching during the COVID-19 era. Thus, the presented results would contribute to the literature and offer insight into this dynamic in a localized context while also offering avenues for comparative studies in EFL education.

Consequently, with the dynamically and continuously changing global setting that presents ample opportunities for future investigations of the relationship between variables discussed above, a focus on local contexts would enrich domain-specific studies in EFL during and after the COVID-19 era. In this regard, the study is an effort to make a significant contribution to the literature by investigating the technology acceptance of English preparatory school students in Turkey and its relation to two external variables, mindset and perceived value of the English language during the pandemic. Consequently, the results of the present study would provide a backdrop against which further studies addressing this variable would be conducted.

#### **1.4. Definition of Important Terms**

*Emergency Remote Teaching (ERT)*: A impermanent change in education from face-to-face to distance education in case of crisis (Hodges et al., 2020).

*Web 2.0 Tools*: Web-services “as well as its numerous technologies that enable interaction, collaboration and sharing between users” (Selevičienė, 2020, p. 19).

*Technology Acceptance Model (TAM)*: A widely used model which was developed by Davis (1989) and was founded upon the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1975) to measure user acceptance of technologies. The present study adapted and used a modified version of the model by Selevičienė and Burkšaitienė (2015).

*Perceived Ease of Use (PEU)*: “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320)

*Perceived Usefulness (PU)*: “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320)

*Attitude (A)*: “An individual’s positive or negative feelings (evaluative affect) about performing the target behavior” (Fishbein & Ajzen, 1975, p. 216)

*Behavioral Intention (BI)*: “the strength of one's intention to perform a specific behavior” (Fishbein & Ajzen, 1975, p. 216)

*Perceived Value of English Language*: Students’ perceptions of the interest, enjoyment, and importance of a task (Eccles, 1983).

*Mindset:* Also known as Implicit Theories of Intelligence, mindset refers to individuals' beliefs about their own intelligence or talent (Dweck, 2006).

*Growth Mindset:* The belief that intelligence may be cultivated over time through effort (Dweck, 2000).

*Fixed Mindset:* The belief that intelligence cannot be improved (Dweck, 2000)

*EFL Students:* Students learning English as a foreign language (EFL).

*Remote Learning Tools:* Web-based tools individuals use to create and collaborate on the Internet through various interfaces.

*Moodle:* A learning management system website/application.

*MyGrammarLab:* An online tool that helps EFL learners to practice grammar.

*MyReadingLab:* An online tool that helps EFL learners to practice their reading skills.

## **CHAPTER 2**

### **LITERATURE REVIEW**

The purpose of this chapter is to examine the relevant literature on the variables employed in this study. The first section presents a background for the use of technology in EFL and the second focuses on technology acceptance, elaborates on various technology acceptance models, and explains relevant studies. The next section gives details about the concept of mindset along with related research. In the fourth section, subjective task value is explained in detail and the related studies are presented. Lastly, a summary of the literature review is added for an overview of the chapter.

#### **2.1. Use of Technology in EFL**

Technology in general, specifically Web 2.0 tools, have recently become an indispensable part of our daily lives (McBride, 2009). Taking into account this influence, it can be suggested that integration of technology, especially Web 2.0 tools, have also had a great impact in the field of education as well (Çeçen, 2020). However, the use of technological tools in teaching and learning contexts is not a new concept.

In fact, computers have been used in language teaching and learning for a long time even before the birth of Web 2.0 tools. The term Computer-Assisted Language Learning (CALL), defined as the integration of computer applications in language teaching and learning (Levy, 1997), has existed since the early 1960s although it was not accessible to most language learning contexts due to the high costs at the time (Warschauer, 1996). However, with the availability of personal computers in the 1980s, practical applications of CALL became more common in the teaching and learning of all language skills (Zhang & Wang, 2016). With the emergence of the Internet and World Wide Web (WWW) along with Web 1.0 and Web 2.0, the use of computers in language teaching and learning dramatically increased. This has led to a surge in the number of studies that examine the role of these technologies in the field.

Although the definition of Web 2.0 is still controversial (Lomicka & Lord, 2009; Warschauer & Grimes, 2007; Weiter, 2008), Web 2.0 tools can be described as web technologies whose purpose is to provide opportunities to improve creativity, share information and collaborate with others (Tu, Blocher, & Ntoruru, 2008). Web 2.0 tools in the EFL context include wikis, social networking tools, blogs, multimedia archives, synchronous communication tools and 3D worlds (Lee & McLaughlin, 2011). Of these, the most commonly used tools are blogs, social networking tools, and wikis (Liu et al., 2012; Luo, 2013; Yadav & Patwardhan, 2016).

A number of studies were carried out to examine the use of Web 2.0 tools such as blogs (Sanjaya, Apriani, & Edy, 2020; Soufi, Saad & Nicolas, 2015; Özdemir & Aydın, 2015), wikis (Aydın, 2014), social networking tools including Twitter (Mork,



2009) and Facebook (Özdemir, 2017), multimedia archives such as Google Drive (Jeong, 2016), synchronous communication tools like Zoom (Vurdien, 2019), and 3D worlds such as Second Life (Jehma, 2020). There are also studies that were conducted to investigate Web 2.0 tools that have become popular more recently, such as Canva, Edmodo, Quizlet (Çeçen, 2020) and Cmap (Balula, Martins, & Marques, 2014).

The literature on Web 2.0 tools indicates a number of benefits of using Web 2.0 tools. One of the most important benefits is that these tools help people to communicate, cooperate, network and have fun through a great variety of tools including blogs, social networking tools, multiplayer games (Warschauer & Grimes, 2007). Secondly, these technologies provide language learners with the potential to work collaboratively in community-based learning context (Daşkın, 2017; Richardson, 2010). Also, Web 2.0 tools are easy to use and there is no need for intensive training to use them. In addition, they make it easy to share content online (Adebanjo & Michaelides, 2010). Furthermore, they facilitate the development of 21<sup>st</sup> century skills such as creativity, collaboration, and autonomy (Ekici et al., 2017). These tools may also help students improve their English performance such as their writing (Febianti & Wahyuni, 2019; Jeong, 2016; Soufi, Saad & Nicolas, 2015), reading (Alharbi, 2015), speaking (Hsu, 2016; Sun & Yang, 2013), and listening (Chartrand, 2012; Kavaliauskienė, & Anusienė, 2009). There are also studies indicating a positive impact of Web 2.0 tools on student motivation (Girgin, 2020; Medic & Sun, 2021; Sanjaya, Apriani, & Edy, 2020).

Despite the obvious benefits, new technologies can contribute to teaching and learning only if they are used effectively by employing suitable methods and having specific objectives in mind (Hurlburt & Walla, 2008). Even then, there might be some limitations of using Web 2.0 tools in and outside the class. A possible limitation is the presence of students who do not feel comfortable with using such tools (An et al., 2009) despite assumption that the 21<sup>st</sup> century students are born into technology. Another limitation is the fact that some students may not have the required technological devices or access to the Internet (Oblinger, 2008). Also, technical issues while using such tools might impede the teaching and learning process (An et al., 2009).

In light of the rapid digitalization of the education, the use of technology is expected to bring forth important new issues in the EFL context. Both benefits and shortcomings of the technological tools used in this field have to be reexamined and the respective results have to be integrated into practice in concurrence to match the dynamic digital transformations. Therefore, the theory as well as the practice of the use of remote learning tools in EFL requires up-to-date inputs from different frames of analysis to accommodate the particularities of the contexts where the results will be implemented.

## **2.2. Technology Acceptance**

The widespread use of technological tools has encouraged researchers to study technology acceptance to provide a better experience for users. Therefore, there has been a rapid increase in the amount of research conducted to examine the acceptance of technological tools and factors that may influence their use (Cheung et al., 2011),

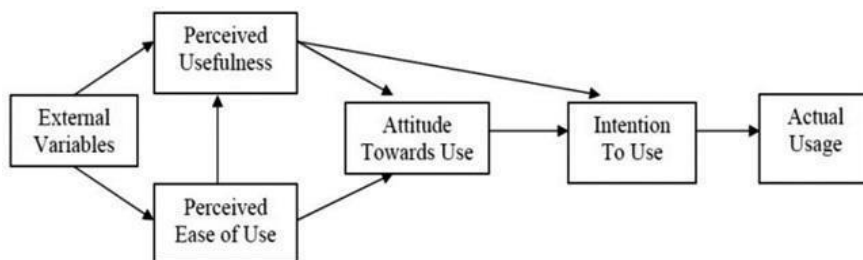
making topics, such as acceptance of e-learning systems, a lot more popular and significant (Martinez-Torres et al., 2006).

The theory that has been regarded as the basis of most of the models used for this purpose is the Theory of Reasoned Action (TRA) proposed by Ajzen and Fishbein (1975). The theory suggests that the behavioral intentions (BI) of people are affected by attitudes (A) and subjective norms (SN), which determine the actual behavior (Lai, Wang, & Lei, 2012). Built upon the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1975), one of the first models that have attempted to investigate psychological factors in technology adoption and have been used commonly in the area to conduct relevant research is Technology Acceptance Model (TAM) developed by Davis (1989).

### **2.2.1. Technology Acceptance Model (TAM)**

With its strong theoretical background, TAM has been widely accepted, especially in the investigation of users' technology acceptance and their actual use in the field of education (Arbaugh, 2000; Martinez-Torres et al., 2006). Although TAM does not have a focus on task environment and constraints as its limitation, it is used commonly used for acceptance and use of technologies because of its effectiveness in explaining usage behavior (Olushola & Abiola, 2017). Many studies using TAM indicated that this model explains a significant proportion of the variance in BI and actual use of technology (Venkatesh & Davis, 2000). Another strength of TAM is that it has been proven to be a robust technological model that provides statistically results in a variety of empirical studies (Legris et al., 2003). Therefore, TAM has been chosen instead of

According to Davis (1989), two main variables determine the acceptance of users. One of them is perceived usefulness (PU) and the other is perceived ease of use (PEU). These variables affect users' attitudes (A) towards using the technology, behavioral intention to use (BI) it, and, therefore, actual use (Figure 2.1).



*Figure 2.1. Technology Acceptance model. Note. From “User Acceptance of Computer Technology: A Comparison of Two Theoretical Models” by F. D. Davis, R. P. Bagozzi, and P. R. Warshaw, 1989, Management Science, 35(8), p. 982–1003.*

Perceived usefulness (PU) represents to what degree an individual thinks that using a system could improve efficiency and the effectiveness of the task, and it is considered to be the strongest predictor of user acceptance (Davis, 1989). Perceived ease of use (PEU) is about using a system without making an effort (Davis, 1989). In addition to these two key constructs, TAM also includes attitude (A) towards the use of technology, which investigates the desire to use technology, and behavioral intention (BI) to use technology, which is an indicator of the readiness to use technology (Davis et al., 1989).

### **2.2.2. Technology Acceptance Model 2 (TAM2)**

Many studies have been conducted to establish a more comprehensive model by adding new constructs to TAM. In order to find out what determines perceived

usefulness, Venkatesh and Davis (2000) introduced a more elaborate model, TAM2. They sought to investigate the social influence and cognitive processes in relation to perceived usefulness and intention to use. They added determinants that might predict perceived usefulness: subjective norm, output quality, job relevance, image, and result demonstrability, as well as two moderators, voluntariness, and experience (Figure 2.2). They validated the constructs through four longitudinal studies for four different systems: TAM2 explained 40 to 60% of the perceived usefulness as well as 34 to 52% of the intention to use. Several studies supported these findings, including the one by Chismar and Wiley-Patton (2002), who reported that TAM2 explained approximately 60% of perceived usefulness and usage intention.

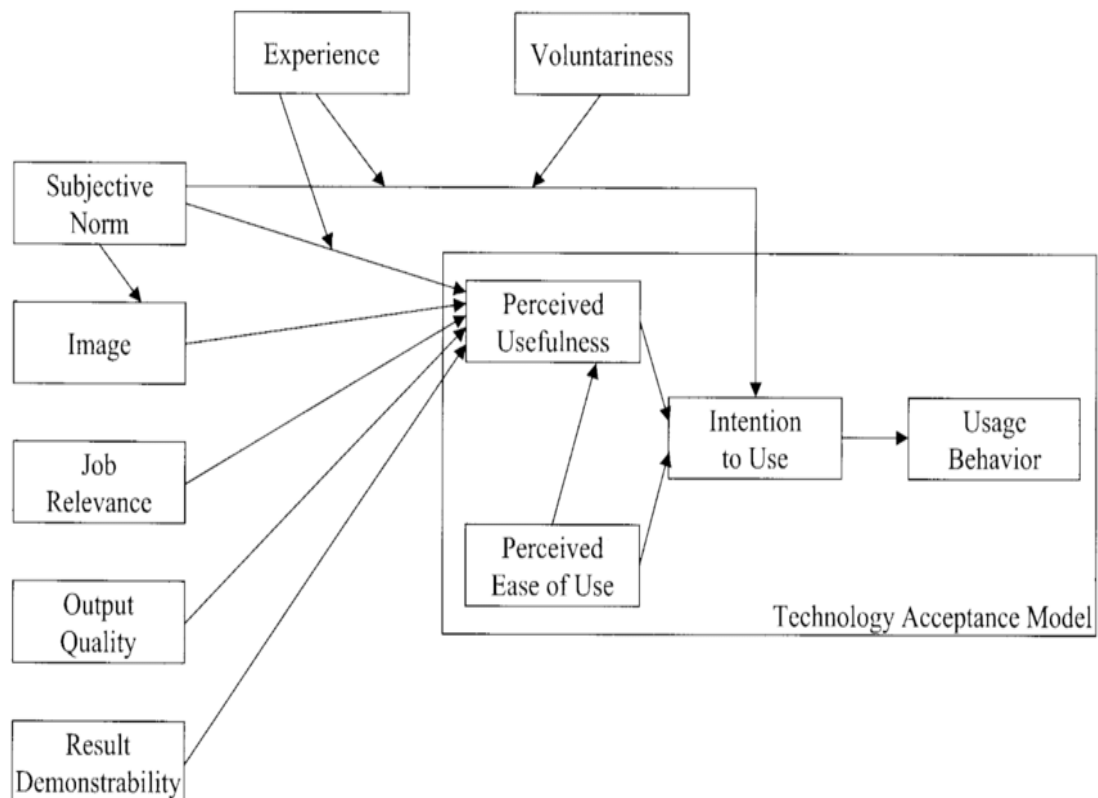


Figure 2.2. Technology Acceptance Model 2. Note. From “A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies” by V. Venkatesh and F. D. Davis, 2000, *Management Science*, 46(2), p. 186-204.

### **2.2.3. The Unified Theory of Acceptance and Use of Technology (UTAUT)**

There were some missing factors in the TAM models, whereby integrating variables was necessary (Legris, Ingham, & Collette (2003). To find a solution to the problem, Venkatesh and colleagues (2003) reviewed eight different models of technology acceptance (the Innovation Diffusion Theory, the Theory of Reasoned Action, the Theory of Planned Behavior, the Technology Acceptance Model, the Motivation Model, the Model of PC Utilization, the Social Cognitive Theory, and Combined Technology Acceptance Model & Theory of Planned Behavior) and integrated them into a single model: Unified Theory of Acceptance and Use of Technology (UTAUT). Figure 2.3 demonstrates the relationship among the variables in UTAUT. Among the determinants, performance expectancy is associated with the level of belief that the use of the system would lead to improvements in job performance. Effort expectancy is about how easy the system is for an individual. Another variable, social influence, describes the degree of the perception that other people think the individual ought to use the system. Finally, facilitating conditions explain how much an individual believes the system is supported by a technical and organizational structure. Venkatesh and colleagues (2003) argued that this model might explain 70% of the variance in individuals' behavioral intentions.

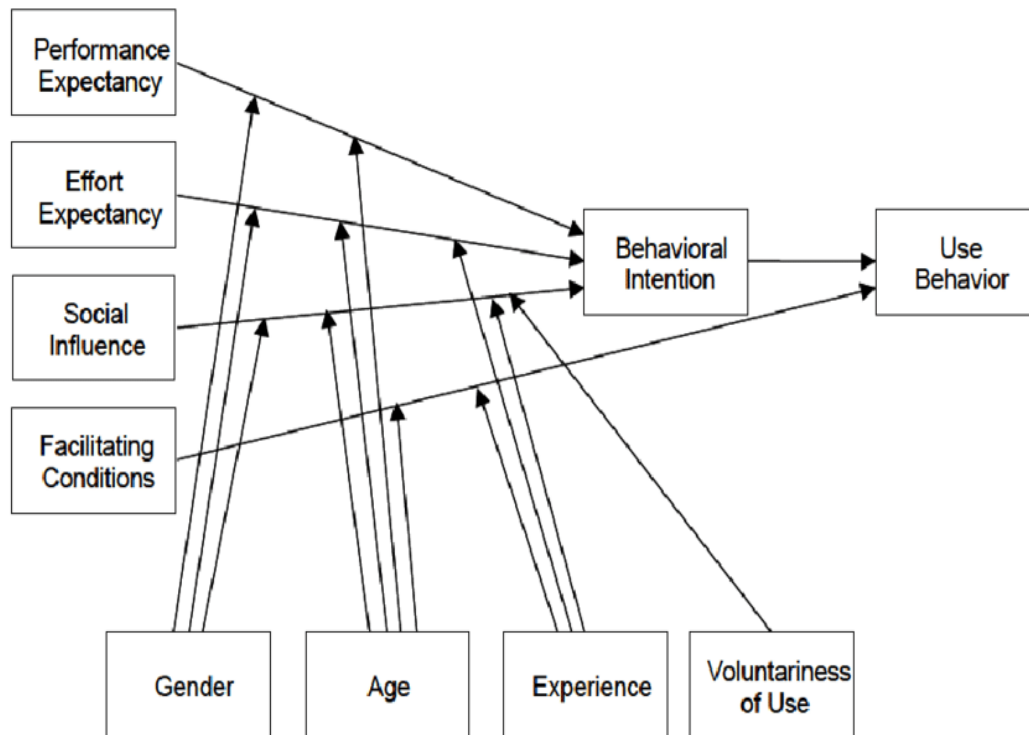


Figure 2.3. Unified Theory of Acceptance and Use of Technology. *Note.* From “User Acceptance of Information Technology: Toward a Unified View” by V. Venkatesh, M. Morris, G. Davis, and F. D. Davis, 2003, *Management Science*, 27(3), p. 245-478.

#### 2.2.4. Technology Acceptance Model 3 (TAM3)

In an attempt to further advance TAM, Venkatesh and Bala (2008) developed TAM3, which they thought might help organizations improve acceptance of using information systems. In order to provide guidance to managers, who need more practical information in their decision-making regarding their curricula, they added constructs determining perceived ease of use to TAM2 and suggested a more comprehensive model for technology adoption (Figure 2.4). There were six determinants for perceived ease of use that were integrated into TAM2. First, computer self-efficacy is the belief that a task can be accomplished using a computer. On the other hand, perceptions of external control are the belief that sources to support the individual are present.

Computer anxiety represents the fear or hesitance of an individual to use a computer, while computer playfulness describes the tendency to use a computer spontaneously. Meanwhile, perceived enjoyment is an individual’s enjoyment of the use of a computer despite possible performance issues. Finally, objective usability describes the level of effort required to use technology. TAM3 is considered to be the first attempt to understand the role of interventions in the adoption of information technologies (Cerovski, 2016).

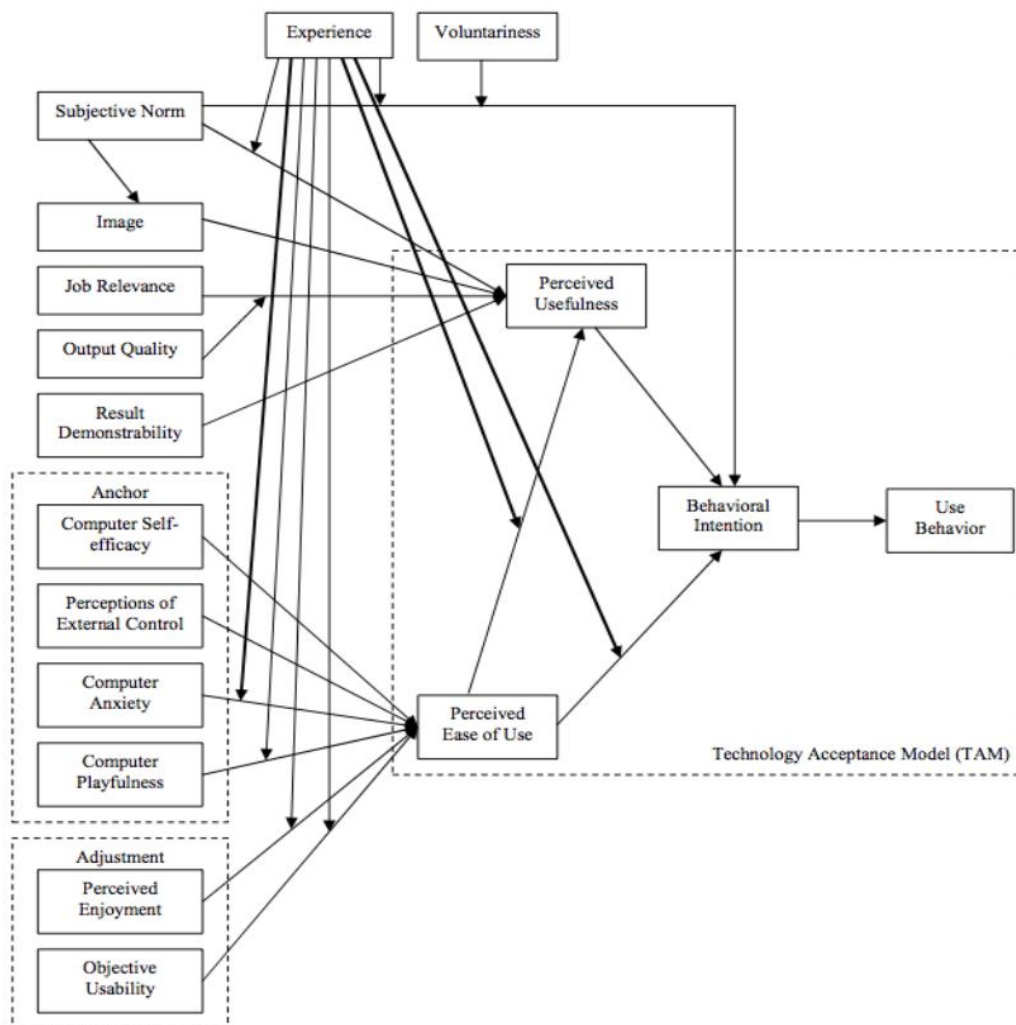


Figure 2.4. Technology Acceptance Model 3. Note. From “Technology Acceptance Model 3 and a Research Agenda on Interventions” by V. Venkatesh and H. Bala, 2008, *Decision Sciences*, 39(2), p. 273-315.



### **2.2.5. Technology Acceptance Model in English as a Foreign Language (EFL)**

#### **Context**

Among various models suggested, the Technology Acceptance Model (TAM) has been frequently used in EFL research. The study by Arshad et al. (2012) examined university students' perceptions regarding the usage of Web 2.0 tools. One hundred three senior-year students who were studying EFL participated in their study. The participants' answers to the 5-point Likert scale indicated that they mostly had positive opinions for all the constructs of TAM, with the highest scores belonging to the perceived usefulness. In other words, the students believed that Web 2.0 tools could be useful while learning English. On the other hand, perceived ease of use had the second-highest score, showing that the participants thought it was easy to use Web 2.0 tools. This was followed by attitude, which meant the participants believed that using Web 2.0 tools was an effective way to improve their English language skills. It was also reported that participants agreed that they would prefer to use Web 2.0 tools to learn English in the future. The constructs with the two lowest mean scores were awareness and actual system use. Participants reported that they rarely used Web 2.0 to learn English but were aware of Web 2.0 tools available to them. Finally, the researchers reported that the actual system usage of Web 2.0 tools was influenced by the constructs' perceived usefulness and perceived ease of use.

Another study investigating the perceptions of EFL learners towards technology examined the role of the factors in terms of academic achievement (Çakır & Solak, 2014). The factors explored in this study were anxiety, satisfaction, self-efficacy, and

the four constructs of TAM, including perceived ease of use, attitude, perceived usefulness, and BI to use e-learning tools. The sample consisted of 510 Vocational Higher School students who were studying English through e-learning. Correspondingly, the results indicated that anxiety towards e-learning led to a negative impact on achievement. Conversely, satisfaction, self-efficacy, and perceived ease of use had a positive impact on achievement.

Chung, Chen, and Kuo (2015) also used the TAM as the theoretical framework to investigate the factors regarding EFL students' BI to use mobile sources to learn English vocabulary at a university in Taiwan. The findings from this study conducted with a sample of 84 students indicated that participants' BI to use mobile tools correlated highly with self-efficacy, perceived usefulness, perceived ease of use, and compatibility of mobile devices. Furthermore, it was reported that 71% percent of the variation in BI to use mobile English vocabulary sources was explained by perceived usefulness, compatibility, perceived ease of use, and self-efficacy.

Similarly, to investigate the factors affecting the acceptance of Really Simple Syndication feeds on a tool called Blackboard, Tarhini et al. (2015) carried out a study with a sample of 235 students studying English. Although perceived ease of use did not predict perceived usefulness and attitude, attitude and perceived usefulness were strong predictors of attitude and BI to use RSS feeds on Blackboard.

In their efforts to understand the perceptions of English for Specific Purposes (ESP) students towards the use of Web 2.0 tools and its effect on technology acceptance, Selevičiene and Burkšatiene (2015) carried out a study with 101 participants at a

university in Lithuania using TAM. The findings indicated that ability to use Web 2.0 tools had a positive relation with awareness, attitude, actual system usage, and BI to use Web 2.0 tools. They also found out that gender, department, and hours spent on the Internet did not correlate with perceived usefulness, perceived ease of use, awareness, attitude, actual system usage, and behavioral intention.

In another study conducted in Turkey, Aşıksoy (2018) examined the perceptions of 207 EFL students towards Web 2.0 tools using Technology Acceptance Model (TAM). Findings revealed that the participants had high awareness of Web 2.0 tools which may help them learn English. Moreover, participants had positive attitudes towards the use of such tools, and they believed these tools could be effective while learning English.

#### **2.2.6. Technology Acceptance Model in EFL in the COVID-19 Era**

With the COVID-19 pandemic, there was a swift transition from face-to-face education to online education, especially at higher education institutions, because of the sudden disruption in education brought about by social isolation. Therefore, students' acceptance of emergency online learning or remote learning tools has been the focus of several studies since the global pandemic outbreak. However, there have been limited studies in the EFL context at the tertiary level using the framework of the TAM. One such study, conducted by Alfadda and Mahdi (2021), aimed to investigate the correlation between the constructs of TAM regarding the use of Zoom in learning English and the effects of gender and experience on the use of the tool. Seventy-five undergraduate students who took online English courses during the pandemic participated in the study. The results indicated a significant positive correlation

between the students' attitudes and behavioral intention with their actual use of Zoom. Also, computer self-efficacy positively correlated with all four constructs of TAM. However, it was reported that there was no significant correlation between gender and other variables in the study while experience positively correlated with all constructs of TAM.

Considering the paucity of the literature in exploring the constructs of TAM and their relationships with gender and motivational variables using a domain-general TAM Scale for tertiary-level EFL students, the present study may contribute to the literature.

## **2.2. Mindset**

### **2.2.1. Implicit Theories of Intelligence**

The implicit theories of intelligence, a social-cognitive take on motivation, has been explored extensively as part of the motivational research in the fields of psychology as well as education since the focus started to shift from behavioral processes to cognitive ones (Dweck, Walton, & Cohen, 2014; Dweck & Yeager, 2019). According to the implicit theories of intelligence, mindsets, as Dweck (2006) refers to them, are fundamental beliefs people have about different aspects of themselves, such as intelligence or talent (Mercer, Ryan, & Williams, 2012). The first studies related to mindset were conducted in the 1970s. Extending Kelly's (1955) concept of self-construct and Heider's (1958) social perception theory and also building upon attribution theory (Weiner & Kukla, 1970) and the concept of learned helplessness (Seligman & Maier, 1976), Dweck and Reppucci (1973) sought to find out if there was

a relationship between a child's attributions and their responses to setbacks (helpless or mastery-oriented) even when these children have the equal level of ability. Another study by Diener and Dweck (1978) confirmed the results of this study, indicating that children with learned helplessness have decreased performance when they fail while mastery-oriented ones perform better in such a context (see also Dweck, Chiu & Hong, 1995).

To find out the reasons for this discrepancy in the attributions and reactions, Elliot and Dweck (1988) examined students' achievement goals. They found that the type of achievement goals (performance goals vs. learning goals) that students have leads to different reactions to failure. The researchers stated that a student with performance goals has a tendency to try to prove their abilities while students with learning goals aim to develop their abilities. However, why some students give importance to proving their abilities and others to development remained a question to be inquired through the research on mindset.

Correspondingly, seeking an answer to this question, Dweck and Legget (1988) studied how implicit theories may guide people towards specific goals and to adaptive (mastery-oriented) and maladaptive (helpless) patterns that these goals set up. The study also elaborated on the mindsets that form in this process. Therefore, the authors develop theories of entity (fixed mindset) and incremental (growth mindset) mindset as two kinds of self-concept. They argued that intelligence is fixed for individuals with a fixed mindset. Their goals are more oriented towards performance than learning, creating a helpless pattern and leading to challenging avoidance and low persistence.

According to Dweck (1999), these individuals prefer to validate their intelligence or talents rather than improving them. On the other hand, intelligence is not fixed for people with a growth mindset. Their goal is to increase their competence, which creates a mastery-oriented pattern and fosters learning and challenge-seeking. These individuals see it as a necessity to work hard to be successful and believe that development is possible over time (Dweck, 2006). More recent studies also showed that mindset predicts achievement goals (Burnette et al., 2013; Dinger & Dickhäuser, 2013).

To further analyze this challenge-seeking hypothesis, Hong and colleagues (1999) attempted to integrate Dweck and Legget's mindset model (1988) with attribution theory. There were three studies included in this research. Study 1 explored the relationship between effort versus ability attributions and mindset. After 97 undergraduate students in the United States were given negative feedback on a test that supposedly assessed intelligence levels, the researchers asked the participants to explain why they performed poorly to determine whether their performance attributions were towards effort or ability. The researchers found that students with a growth mindset attributed to effort more than students with fixed mindsets. In addition, students who have high self-confidence but a fixed mindset still make low-ability attributions. Although the literature suggests a strong link between self-confidence and achievement, it seems this is not the case when the environment changes (e.g., when given negative feedback). This is also supported by a study conducted by Henderson and Dweck (1991). When the students were starting high school, there was no positive relationship between confidence in their intelligence at the start of the semester and

the grades they got at the end. However, their mindsets and grades were positively related.

In Study 2, Hong and colleagues (1999) investigated whether there was a difference between individuals with fixed and growth mindsets in taking remedial action. During the registration period, 168 participants at the University of Hong Kong were requested to fill in a questionnaire that measures their mindset, asking if they would be eager to enroll in a remedial course in English and what grades they received in English in their previous studies. The results showed that, when their previous grades were low, students with a growth mindset enrolled more in the remedial course compared to the ones with a fixed mindset. This shows that a growth mindset makes students more willing to take remedial action than those with a fixed mindset when they do not perform well.

Hong et al. (1999) reached similar findings in an experimental study when they conducted Study 3. They examined the causal effects of mindset at a university in Hong Kong with 60 undergraduate students. The researchers told the participants that psychological aspects of their understanding of English reading and problem-solving skills would be analyzed. The participants' theories of intelligence were manipulated by asking them to read and summarize an article randomly distributed among participants (either on the topic of fixed mindset or growth mindset). They were also asked to take an intelligence test. However, before the test, they were given 12 sample questions to prepare for the test. They were also given feedback (satisfactory or unsatisfactory) based on their performance in these 12 questions. After that, they were

presented with a choice to take a tutorial to enhance their performance in the intelligence test they would take later. After collecting their responses, the participants filled out a questionnaire to check for their attributions. Similar to the findings in Study 2, the students with a growth mindset took the tutorial more than the ones with a fixed mindset when their performances were low. Furthermore, when compared to the participants who were given the article on growth mindset, the participants reading the article on fixed mindset had a lower tendency to take the offered tutorial and also attributed less to their efforts when given negative feedback. The study indicated a causal role of implicit theories in effort attributions and effort for remedy after setback (Nussbaum & Dweck, 2008).

Because of its causal role, mindsets create a meaning system that links goals, beliefs, and behaviors. They are responsible for creating a meaning system that connects motivational variables such as effort beliefs, goals, helplessness, and attributions (Hong et al., 1999). When individuals have a fixed mindset, for example, they pursue performance goals, which suggests that high effort shows low ability and that setbacks are also attributed to lower ability (Dweck & Yeager, 2019). Robins and Pals (2002) also conducted a study supporting the mindset model suggested by Dweck and Legget (1988). In their study, they examined the relationship between mindset, attributions to academic outcomes, goals, and helpless/mastery-oriented response to challenges with 363 students in a span of 3 years. This study indicated a correlation between all variables used in the study. In another study, in which effort beliefs were also included, a similar relationship was found among the variables, including findings indicating that mastery-oriented responses predict academic achievement in math courses



(Blackwell, Trzesniewski, and Dweck, 2007). Similarly, further studies have been conducted recently exploring the relationship between mindset and other motivational variables such as self-efficacy (Bai & Wang, 2020; Rhew et al., 2017), task value (Bai & Guo, 2019; Bedford, 2017), and self-regulation (Black & Allen, 2016; Walton, Bernecker, & Dweck, 2015).

In addition to the correlation between mindset and other motivational variables, studies also suggested correlations between students' mindsets and academic success (Dweck & Yeager, 2019). In a study conducted by Yeager and colleagues (2019), the participants consisted of 12,940 ninth-grade students in the U.S. The findings from the sample representative of the nation indicated an average correlation between the mindset and the grades of ninth-grade students. Another study that focused on mindset along with self-efficacy, social awareness, self-management, academic achievement was carried out with approximately 400,000 primary and secondary school students in the U.S. (West et al., 2018). The analysis indicated a statistically significant correlation between four measures, with a growth mindset showing the strongest relationship with student GPAs at the high school level. A positive correlation between mindset and academic achievement was also observed in many other studies (Claro, Paunesku & Dweck, 2016; Li & Bates, 2017; McCuchen et al., 2015; Mouratidis, Michou, & Vassiou, 2017; Tarbetsky, Collie, & Martin, 2016).

### **2.3.2. Mindset in the EFL Context**

Despite the extensive body of mindset studies in the field of sciences and mathematics, not many studies have been conducted in the EFL context (Albalawi, 2018; Bai &

Guo, 2019; Henning, 2019; Lou & Noels, 2014). Nevertheless, there is a growing interest in the concept of mindsets in the EFL context (Irie, Ryan & Mercer, 2018). For example, Mercer and Ryan (2009) explored the role of domain-specific mindset in the EFL context by using the mindset framework by Dweck (1999). The participants of the qualitative study consisted of 9 university students from Japan and Austria. The findings from the in-depth interviews supported arguments by Dweck and colleagues (1995). They indicated that mindsets are domain-specific, and even in a specific area such as EFL, there may be some possible sub-domains to be further studied.

For a more in-depth analysis of language beliefs, Lou and Noels (2017) constructed a six-factor instrument, the Mindset of Language Learning Scale, which employs 18 items to assess mindsets in the domain of EFL, suggesting three different categories of growth and fixed mindset. While the first one, general language intelligence beliefs, deals with the malleability of language intelligence, the second category is about the students' beliefs about the possibility of improving their foreign language aptitude. The last category of beliefs is about sensitivity to age in language learning. The sample consisted of 180 university students in an English language course in the U.S. The results of the study helped them identify a total of six subsets in the three categories of beliefs. The authors also reported that mindsets in the EFL domain do not correlate with domain-general mindsets or other domain-specific mindsets, such as math and sports. For validation purposes, Collet and Berg (2020) adopted Lou and Noels' Mindset of Language Learning Scale (2017) in a study whose sample consisted of 825 university students in Japan. The results of the factor analysis corresponded to the four factors out of the six in the original scale (Lou & Noels, 2017). They also found out

that the growth mindset in English language learning correlated with high achievement, but the fixed mindset did not correlate with low achievement in the EFL context.

Bai and Guo (2019) also focused on the mindset in the EFL context by adapting Dweck's (2006) questionnaire to the domain to study the relationships between growth mindset, task values, self-regulated writing strategy use, and competence in writing. The sample consisted of 511 fourth-grade students in Hong Kong. The results indicated that students with high grades had a higher level of growth mindset when compared to the ones with low grades. A study conducted by Bai and Wang (2020) employed the same mindset scale to investigate the relationship between growth mindset, interest, self-efficacy, self-regulated strategy, and competence in writing. Results indicated that independent of their competence, self-regulated strategy use of students had a more significant correlation with growth mindset when compared to other motivational variables (see also Bai & Wang, 2020). There are also other studies that explore the relationship between language learning mindset and other variables such as grit (Khajavy & Macintyre, 2020), out-of-class language use (Flotzinger, 2015), attributions and goal orientations (Wladasch, 2016), feedback-seeking behavior (Papi et al., 2020) and responses to failure (Sadeghi et al., 2020).

A few studies examined domain-general mindsets in EFL. These focused on individuals' implicit theories of general intelligence. One of these studies was conducted by Cacali (2019) to analyze the relationship between growth mindset (adopted from Dweck, 2006) and three factors of Dörnyei's Second Language

Motivational Self System (2005), i.e., the ought-to self, the ideal second language (L2) self, and the L2 learning experience. 128 Japanese university students took part in the study, and the results indicated a statistically significant positive correlation between growth mindset and all three factors of motivation. Another study in which a domain-general mindset scale in the EFL context was used was conducted by Teimouri, Plonsky, and Tabandeh (2020). The researchers examined the relationship between grit and motivational behaviors, including mindset, with 191 EFL learners whose proficiencies ranged from beginner to upper-intermediate. The results indicated that mindset and second language learning grit had a positive correlation. Using a domain-general mindset scale, Cho and colleagues (2018) also investigated the relationship between reading comprehension, mindset, and achievement goals with a sample of EFL students (N = 107). They found that mastery and performance-avoidance goals mediated the effects of mindset on comprehension and engagement, highlighting the significance of the relationship between motivational variables in the context.

Overall, the rising popularity of mindset research can be observed in the EFL field. Nevertheless, the research on mindset has been rather limited in scope and number in the Turkish context (Ergen, 2019), whereby the main focus of these studies has remained with the experience of the instructors. Ergen (2019), for instance, conducted a study in Turkey to investigate the relationship between teachers' mindset and technology self-efficacy using Dweck's (2006) mindset instrument. The participants consisted of 146 in-service EFL teachers. The results indicated a positive correlation between teachers' mindset and their self-efficacy in using technology. A similar study by Yılmaz (2020) examined the relationship between teachers' self-efficacy beliefs in

technology use and mindsets. Unlike Ergen (2019), Yılmaz used the mindset scale explicitly designed for teachers (Gero, 2013), and the findings suggested a significant correlation between teachers' mindsets and their self-efficacy in technology use.

Altunel (2019), on the other hand, examined the issue from the perspective of the students, particularly analyzing the relationship between EFL learners' foreign language anxiety and mindset. The author used the domain-general mindset scale (Dweck, 2006), and the sample consisted of 203 participants from two universities, a state and a private university. The results indicated no significant correlation between the mindset and the anxiety of the students. Similarly, Delibalta's 2020 study investigated the relationship between mindsets and causal attribution among students, using a sample of 380 EFL learners at a university in Turkey. The results showed a positive, weak correlation between success attribution and mindset, but there was a significant negative correlation between failure attribution and mindset.

Taking into consideration the lack of prior research using the framework of domain-general mindsets with tertiary level EFL students in Turkish context and its possible correlation with other motivational variables, the present study aims to contribute to the literature by examining the correlation between mindset and technology acceptance as well as the perceived value of English language in the COVID-19 era.

## **2.2. Perceived Value of English Language**

Reasons why some learners have more motivation to learn than others and what factors influence their behaviors have been investigated by educational psychologists,

particularly in the last few decades (Loh, 2019). One of the main theories to study learners' motivations is the expectancy-value theory (EVT) based on Atkinson's model (1957). It suggests that two key factors, expectancy for success and subjective task values, predict academic performance, task choices, and persistence (Wigfield & Eccles, 2000) in many areas, including language learning (MacIntyre & Blackie, 2012). These factors are two parts of a whole, and they are inseparable (Dörnyei, 2001). Individuals choose to behave in certain ways depending not only on their expectations of the outcomes but also on the values that they attach to the outcomes they expect (Borders, Earleywine, & Huey, 2004).

One of the key factors of EVT, expectancy for success, is defined as learners' belief about their future performance in a certain task (Eccles et al., 1983). For instance, a student with a high expectancy for success in the English language may expect to have good performance in a future task. Expectancy for success predicts subjective task values as learners tend to value tasks more when they feel that they are good at them (Wigfield & Eccles, 2000). Subjective task values can be defined as learners' motivation for choosing tasks and can be considered as a single factor or be categorized into four factors: utility, intrinsic, and attainment value as well as cost (Eccles et al., 1983). Firstly, attainment value is concerned with the importance that students give to doing well in a task, and it is related to students' performance and mastery goals (Eccles & Wigfield, 2002). Secondly, the utility value is about students' short-term and long-term aims (Eccles & Wigfield, 2002). It refers to the "usefulness of a task or a specific domain related to the students' current and future goals, such as career aspirations" (Loh, 2019). Research suggests that tasks relevant to students' personal

lives motivate them (Wigfield & Eccles, 2000), and utility value is directly related to students' personal lives and goals. Thirdly, intrinsic value refers to how much students enjoy participating or completing a task (Eccles & Wigfield, 2002) and is found to be closely related to attainment value (Loh, 2019). Lastly, cost refers to the amount of effort required for the task, especially focusing on negative aspects of working on it (Jacobs & Eccles, 2000). Although the cost has generally been investigated within the EVT framework, more recent studies argued that it should be considered a distinct dimension of subjective task value (Barron & Hulleman, 2015; Jaing, Rosenzweig, & Gaspard, 2018; Perez et al., 2014). Also, even though subjective task value is considered multidimensional (Eccles et al., 1983), attainment, utility, and intrinsic values are generally studied as a single factor as they have been found to be highly correlated (Eccles & Wigfield, 1995; Kosovich et al., 2015; Xie, 2020). This is also supported by previous findings that indicate the unidimensional structure (Kosovich et al., 2015; Part et al., 2020)

Subjective task value, which is sometimes referred to as task value, values, value beliefs (Part et al., 2020), and perceived value, influences achievement choices as well as academic performance, effort, and persistence (Wigfield & Eccles, 2000). In a study conducted by Jacobs et al. (2005), the researchers studied longitudinal data from 864 children in Michigan to investigate self-perceptions of children, their task values, and task choices. They found that task values influence choices in STEM and non-STEM fields.

In another longitudinal study investigating the relationship between youth's out-of-class activities course enrollment in math and science and values (Simpkins, Davis-Kean, & Eccles, 2006), data were collected from 227 participants at fifth and 10<sup>th</sup> grade. The results indicated that the value variable played a key role in the number of courses taken and grades. Similarly, Johnson et al. (2006) also investigated how well the value predicted students' academic achievement. The data collected from 139 college students in the U.S. indicated that value is a strong predictor of achievement of college students. In another study on value, Guo et al. (2017) studied how value is related to academic performance and coursework aspirations in physics, chemistry, earth science, and biology. They included information about 18,047 students from the 8<sup>th</sup> grade. The results suggested that students with high intrinsic and utility values have better academic performance and aspire to engage in science subjects. Part et al. (2020) also found that the unidimensional subjective task value, as well as specific value beliefs, predicted achievement in an undergraduate-level science course with 334 participants at the tertiary level. Several other studies examine the relationship between subjective task value and achievement in a different context (Arens et al., 2018; Eccles & Wigfield, 2002; Guo et al., 2015)

A number of studies also investigated subjective task value in the EFL context. For instance, a study by Mills, Pajares, and Herron (2007) included the variable perceived value of English language as an external variable from Eccles's (1983) Student Attitude Questionnaire in their study to focus on the impact of self-efficacy on the academic performance of 303 college students studying French as a foreign language. The findings revealed that perceived value predicted the achievement of these students.



In a similar study, Chen (2007) investigated how well self-efficacy in English listening, English anxiety, the perceived value of English language and culture (also adapted from Eccles, 1983) predicted EFL learners' English listening performance. The data collected from 227 EFL students at a Taiwanese university indicated that students' performance in English listening was predicted by the perceived value of English language. These findings have been supported by other studies in similar contexts (Arens et al., 2018; MacIntyre & Blackie, 2012; Mori & Gobel, 2006; Plante et al., 2013; Rahimi & Abedini, 2009; Trautwein et al., 2012).

In addition to studies that focus on its relationship with achievement and achievement choices, there are also some studies conducted in the EFL context to focus on the relationship between subjective task value and other motivational variables such as learning interest, self-concept, second language (L2) beliefs (Arens et al., 2018), BI (Ranelucci, Rosenberg, & Poitras, 2020), learning motivation, and self-regulation (Wang & Zhan, 2020). With the widespread use of technology, more recent studies have also examined the relationship between subjective task value and technology acceptance. However, although subjective task value has been employed in various contexts, there has been limited research in relation to behavioral intentions regarding technology use (Ranelucci et al., 2020). In this limited pool of studies, Chiu and Wang (2008) can be distinguished for their investigation of the relationship between the subjective task value components (i.e., attainment value, intrinsic value, and utility value) and BI of university students to use web-based learning. The data collected from 286 university students from Taiwan indicated that all three components of subjective task value significantly predicted the students' BI to use web-based tools. In another

study, Chang (2013) studied the relationships of perceived value and satisfaction to investigate their influence on the BI to continue to use e-learning systems in libraries. The data collected from 302 graduate and undergraduate students demonstrated that perceived value is a predictor of BI to use e-learning systems. Focusing on amotivation in e-learning instead of BI, Fryer, Bovee, and Nakao (2014) investigated the role that amotivation has in the e-learning component with 440 students from a Japanese university. They proposed that low task values lead to a lack of motivation to participate in e-learning studies. Similarly, Khechine, Raymond, and Augier (2020) sought to find the predictors of the BI to use a learning management system using the data that was collected from 99 university students in an online course. The researchers adapted UTAUT by another construct, intrinsic value. They found that intrinsic value significantly predicted university students' BI to use a learning management system.

As a result, notwithstanding the prevalence of the focus on the effect subjective task value has on technology acceptance in the general literature, there has been scarce domain-specific research carried out on this relationship. One such rare study was carried out by Bailey, Almusharraf, and Hatcher (2020), who investigated course satisfaction, motivation for asynchronous collaborative writing and video-synchronous speaking, and their effects on BI to use technology for EFL. The sample consisted of 186 students from an online foreign language course. The researchers found that intrinsic value, incorporation of the constructs of subjective task value and intrinsic motivation, had an effect on the BIs of student to use synchronous and asynchronous English e-learning tools.

Therefore, there is a significant gap in the literature concerning the role subjective task value plays in identifying learners' BI to use remote learning tools. With the onset of digitalization of teaching and learning, investigation of how students' perceived value of English language predicts the BI to use technological tools among EFL students is of the essence for theoretical and practical implications such studies would carry, especially in the COVID-19 era which has brought upon a marked growth in the use of technological tools among university students.

## **2.5. Summary of Literature Review**

With the widespread use of technological tools, technology acceptance research has become more important. Technology Acceptance Model (TAM) (Davis, 1989), which a framework with solid foundations, has been widely used in many contexts, especially technology acceptance in education. In addition to perceived usefulness and perceived ease of use, the primary variables of TAM, attitude and BI have also been investigated in many studies, with some focusing on the influence of perceived ease of use and perceived usefulness on BI and actual use (Arshad et al., 2012; Aşıksoy, 2018; Çakır & Solak, 2014; Chung et al., 2015; Selevičiene & Burkšatiene, 2015; Tarhini et al., 2015).

Despite many extensions, the original version of TAM is still regarded as one of the most influential frameworks used in EFL research. With the transition from face-to-face education to emergency remote teaching (ERT) due to the COVID-19 pandemic, it has become compulsory for students to use remote learning tools to keep up with their lessons. For this reason, students' acceptance of remote learning tools has become

an important subject of study. However, the lack of studies in the EFL domain necessitates further research in this pandemic era (Alfadda & Mahdi, 2021), especially those investigating the variables that may predict students' BI to use remote learning tools during the pandemic.

Mindsets, which are fundamental beliefs individuals have about their intelligence or talent (Mercer, Ryan, & Williams, 2012), have been studied in the literature. In addition to studies focusing on the correlation between growth mindset and achievement (Claro, Paunesku & Dweck, 2016; Li & Bates, 2017; McCuchen et al., 2015; Mouratidis, Michou, & Vassiou, 2017; Tarbetsky, Collie, & Martin, 2016), some studies explored the relationship between growth mindset and other motivational variables such as self-efficacy (Bai & Wang, 2020; Rhew et al., 2017), task value (Bedford, 2017; Bai & Guo, 2019), and self-regulation (Black & Allen, 2016; Walton, Bernecker, & Dweck, 2015). There have been various studies using domain-general and domain-specific mindset scales (Albalawi, 2018; Bai & Guo, 2019; Collet & Berg, 2017; Henning, 2019; Lou & Noels, 2014; Lou & Noels, 2017) in the EFL domain as well. Therefore, further studies on mindsets may significantly contribute to the research regarding the BI of students to use remote learning tools.

Another framework that focuses on students' motivation is the expectancy-value theory (EVT). EVT suggests that expectancy for success and subjective task value predicts academic performance, task choices, and persistence (Arens et al., 2018; Eccles & Wigfield, 2002; Guo et al., 2015; MacIntyre & Blackie, 2012; Part et al., 2020; Wigfield & Eccles, 2000). In addition to its relationship with academic

performance (Chen, 2007; Mills, Pajares & Herron, 2007; Mori & Gobel, 2006; Plante et al., 2013; Rahimi & Abedini, 2009; Trautwein et al., 2012), the relationship between subjective task value and other motivational variables such as learning interest, self-concept, second language (L2) beliefs (Arens et al., 2018), BI (Ranelucci, Rosenberg, & Poitras, 2020), learning motivation, and self-regulation (Wang & Zhan, 2020) has also been studied in the EFL context. With the influence of new technologies, recent studies have also examined the relationship between subjective task value and technology acceptance. However, there has been limited research in BI associated with technology use (Ranelucci et al., 2020). Therefore, there is a significant gap in the literature regarding the role subjective task value in students' BI to use remote learning tools.

## **CHAPTER 3**

### **METHOD**

The chapter presents in detail the research methodology of the study, including the research design, research questions, description of variables, participants, data collection instruments, data collection procedures, data analysis, and limitations.

#### **3.1. Research Design**

This correlational study was conducted to find out the relationship between behavioral intentions of English as a Foreign Language (EFL) students studying at a preparatory school to use remote learning tools and the variables of growth mindset, fixed mindset, the perceived value of English language, perceived ease of use of remote learning tools, perceived usefulness of remote learning tools, attitude towards remote learning, time spent on MyReadingLab, and time spent on MyGrammarLab in the COVID-19 era. As quantitative studies investigate the relationship between dependent and independent variables and give more accurate information about the relationships (Fraenkel, Wallen, & Hyun, 2015), quantitative data were collected in this study. As the conditions were not manipulated, the study has a non-experimental nature. Also,

the relationship between variables was sought to predict likely outcomes and no causal conclusions can be drawn from the findings. These elements justify using correlational analyses in the study as Fraenkel et al. (2015) also argued that correlational research is used to find out the relationship between two or more variables when there is no manipulation. Among the variables, behavioral intention to use remote learning tools was the outcome variable. The predictive variables were growth mindset, fixed mindset, the perceived value of the English language, the perceived ease of use of remote learning tools, the perceived usefulness of remote learning tools, attitude towards remote learning, time spent on MyReadingLab, and time spent on MyGrammarLab. The data used in the analyses were collected from English preparatory school students. Adaptations of the Technology Acceptance Model (Davis, 1989), Mindset Scale (Dweck, 2000), and Perceived Value of English Language Scale (Mills, Pajares, & Heron, 2007) were used in the study.

### **3.2. Research Questions**

The research questions addressed are as follows:

1. What are English preparatory school students' perceptions of the use of remote learning tools (behavioral intention, perceived ease of use, perceived usefulness, and attitude) in the COVID-19 era?
2. How well do gender, growth mindset, fixed mindset, the perceived value of English language, perceived ease of use of remote learning tools, perceived usefulness of remote learning tools, attitude towards remote learning tools,

time spent on MyReadingLab, and time spent on MyGrammarLab predict behavioral intentions of English preparatory school students to use remote learning tools in the COVID-19 era?

### **3.3. Description of Variables**

*Perceptions of the use of remote learning tools:* The scale of measurement is an interval. The variables were measured through an adapted version of the Technology Acceptance Model (TAM) (Davis, 1989) questionnaire developed by Selevičienė and Burkšaitienė (2015), and the scale was adapted into Turkish by the researcher. The scale has four dimensions: attitude, perceived ease of use, perceived usefulness, and behavioral intention. According to Davis (1989), higher scores in perceived ease of use indicate higher degrees to which an individual believes that a system is effortless, and higher scores in perceived usefulness indicate the belief that using a system is helpful in doing a task. On the other hand, higher scores in attitude indicate a positive response to the use of a system, and higher scores in BI indicate that the individual made conscious plans to use a system in the future (Warshaw & Davis, 1985).

*Mindset:* The scale includes two dimensions, and its scale of measurement is an interval. The Turkish adaptation (Beyaztaş & Hymer, 2016) of the Mindset Scale (Dweck, 2000) was used in the study. There are two dimensions: fixed and growth mindset. Higher scores in growth mindset indicate that an individual believes



intelligence can be improved over time through effort, while higher scores in fixed mindset demonstrate the belief that intelligence cannot be improved (Dweck, 2000).

*Perceived value of English language:* This variable was measured through the Turkish adaptation of the dimension ‘perceived value of language’ of the Self-Efficacy Scale by Mills, Pajares, and Herron (2007) from Eccles’s Student Attitude Questionnaire (1983). The Turkish adaptation was carried out by the researcher. There is only one dimension in the scale, and its scale of measurement is an interval.

*Time Spent on MyGrammarLab:* It is the time students spend while using a grammar tool that covers the topics in the coursebooks and other resources covered in the class. Students can use the tool on the web or on their smartphones.

*Time Spent on MyReadingLab:* It is the time students spend while using a reading tool that provides extra reading activities with questions in different formats. Students can use the tool on the web or on their smartphones.

### **3.4. Participants**

This study was carried out at a private university in Ankara, Turkey. The medium of instruction is English; therefore, there is a preparatory school at the university to help students reach a certain English proficiency. In order to move onto their studies at their departments, students have to provide an exam result/certificate from a recognized national/international exam or pass the English proficiency exam administrated by the preparatory school. If the students cannot pass the proficiency exam or provide a certification, they have to study at the preparatory school at an appropriate level to

prepare for the proficiency exam and their academic studies. There are four levels based on the Common European Framework of Reference for Languages (CEFR): A for upper-intermediate, B for intermediate, C for pre-intermediate, and D for elementary level students.

Due to COVID-19, there was a rapid transition to online education at the university in Spring 2020. Lessons are done through Zoom and the learning management system 'Moodle,' and additional remote learning tools such as MyReadingLab and MyGrammarLab are used.

The target population is the English preparatory schools at private universities in Ankara. The accessible population of this study consisted of 835 EFL learners studying at the preparatory school at a private university in Ankara. The population size and the number of items in the scales were taken into account to determine the sample size. With a confidence level of 99% and a margin error of 5%, the minimum sample size required was found out to be 370 for the study.

Cluster random sampling was employed to select the participants from the population. First, in order to ensure the sample is representative, the sample size in each level was calculated proportionally to the population in each level. There were 18 classes in A level, 12 in B level, 10 in C level, and four in D level. As there was an average of 20 students in each class, the number of classes to collect data from was determined for each level, and one class to each level was added to ensure sufficient data were collected. Eleven classes from A level, seven classes from B level, six classes from C

level, and three classes from D level were randomly selected for data collection. Overall, 388 English preparatory school students took part in the study.

The sample characteristics, including gender, possession of a personal computer or tablet, English proficiency level, and age, are presented in Table 3.1. Concerning the English proficiency level of the participants, 47.2% ( $n = 183$ ) of the participants were from A level; 27.3% ( $n = 106$ ) from B level; 19.3% ( $n = 75$ ) from C level; and 4.9% ( $n = 19$ ) from D level. Of 388 participants, 64.2% ( $n = 249$ ) were female and 34% ( $n = 132$ ) were male. This result was in line with the expectations because of the information on the percentages of gender distribution of the accessible population (female = 62%, male = 38%) obtained from the Student Affairs at the university. Among the participating students, 90.7% ( $n = 352$ ) of them owned either a computer or a tablet for their personal use. Examining the age range of the participants, it can be seen that 16.5% ( $n = 64$ ) were 18; 36.1% ( $n = 140$ ) were 19, 34.0% ( $n = 132$ ) were 20, 8.8% ( $n = 34$ ) were 21; and 1.3% ( $n = 13$ ) were either 22 years old or above.

The demographic information gathered from the participants also included time students spent on the Internet and the frequency of the use of mobile applications to improve their language skills. Findings revealed that students spent an average of 5.2 hours on the Internet ( $M = 5.2$ ;  $SD = 2.24$ ).

**Table 3.1**

*Frequency Table of the Participants for Gender, Personal Computer, English Proficiency Level, and Age*

		f	%
Gender	Female	249	64.2
	Male	132	34.0
	Missing	7	1.8
Personal Computer/Tablet	Yes	352	90.7
	No	31	8.0
	Missing	5	1.3
English Proficiency Level	A	183	47.2
	B	106	27.3
	C	75	19.3
	D	19	4.9
	Missing	5	1.3
Age	18	64	16.5
	19	140	36.1
	20	132	34.0
	21	34	8.8
	22 and above	13	3.6
	Missing	5	1.3

*Note.* n = 388

For the frequency of the use of mobile applications, 5-point Likert-type question was employed (1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always). The data showed that the most frequently used mobile application was BBC Learning English ( $M = 2.28$ ;  $SD = 1.37$ ), followed by Duolingo ( $M = 2.02$ ;  $SD = 1.16$ ), Voscreen ( $M = 1.88$ ;  $SD = 1.26$ ), Cake ( $M = 1.59$ ;  $SD = 1.04$ ), HelloTalk ( $M = 1.38$ ;  $SD = 0.86$ ), Memrise ( $M = 1.30$ ;  $SD = 0.83$ ), Busuu ( $M = 1.27$ ;  $SD = 0.68$ ), and EWA ( $M = 1.26$ ;  $SD = 0.73$ ) (Table 3.2). An open-ended question asking about any other mobile application that the participant uses did not reveal any other application that was used commonly among the students.

**Table 3.2**

*Means and Standard Deviations of the Use of Mobile Applications*

	<i>M</i>	<i>SD</i>
BBC Learning English	2.28	1.37
Duolingo	2.02	1.16
Voscreen	1.88	1.26
Cake	1.59	1.04
HelloTalk	1.38	0.86
Memrise	1.30	0.83
Busuu	1.27	0.68
EWA	1.26	0.73

### **3.5. Data Collection Instruments**

The detailed descriptions of the demographic information part as well as the three scales used in the study, and the results of the pilot study are given in this section.

#### **3.5.1. Demographic Information**

The demographic information section included short-answer questions for age, gender, time spent on the Internet, and time spent on MyGrammarLab. Closed-ended questions with ordered categories were used to collect data on English proficiency level and computer/tablet possession. Additionally, a 5-point Likert-type was used to ask participants about the frequency of their use of mobile applications (1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always), which was followed by another open-ended question that asked about any other mobile application that the participant uses.

### 3.5.2. Technology Acceptance Model (TAM) Questionnaire

The adaptation of TAM questionnaire (Davis, 1989) by Selevičienė and Burkšaitienė (2015) was used in the present study. The instrument was adapted to Turkish by the researcher. The term ‘Web 2.0 tools’ used by Selevičienė and Burkšaitienė was also changed in the present study with the term ‘remote learning tools’. The items were translated to Turkish by two English Language instructors. Then the back-translations were done by two other English language instructors. After examining the original version and the translations, the researcher finalized the Turkish adaptation of the survey instrument.

The original instrument employed by Selevičienė and Burkšaitienė (2015) had six dimensions and 19 items. However, the dimensions “awareness” and “actual system usage” were not translated and used in the present study because the participants had to use the remote learning tools as part of their education. The instrument consists of 16 items using a 5-point Likert-type scale ranging from “strongly disagree (1)” to “strongly agree (5).” There are four dimensions in the instrument: *perceived usefulness* (PU), *perceived ease of use* (PEU), *attitude* (A), and *behavioral intention* (BI). There are six items for PU, four items for PEU, three items for A, and three items for BI. The sample items for each dimension were as follows: “Remote learning tools can help me improve my reading skills while learning English” (PU, item 1); “Remote learning tools are easy to use” (PEU, item 10); “Remote learning tools are useful while studying English” (A, item 11); “I intend to use remote learning tools to improve my English in

the future” (*BI*, item 6). Cronbach’s  $\alpha$  coefficients for four dimensions were: .85 for *PU*, .87 for *PEU*, .88 for *A*, and .77 for *BI* (Selevičienė & Burkšaitienė, 2015).

### **3.5.3. Perceived Value of English Language Scale**

The Perceived Value of English Language Scale, a dimension of the Self-Efficacy Scale by Mills and colleagues (2007), was used in the study. The original version was about the French language, so the name of the subject matter was changed to English. The Turkish adaptation was carried out by the researcher. The items were translated to Turkish by two English Language instructors. Then the back-translations were done by two other English language instructors. After examining the original version and the translations, the researcher finalized the Turkish translation of the survey.

The unidimensional scale consists of nine close-ended items on an 8-point rating scale ranging from “definitely false (1)” to “definitely true (8).” A sample item is as follows: ‘Studying the English language is an enjoyable experience’ (item 7). Cronbach’s  $\alpha$  coefficient was found to be .87 (Mills et al., 2007).

### **3.5.4. Mindset Scale**

The adult version of the Turkish adaptation (Beyaztaş & Hymer, 2016) of Implicit Theories of Intelligence Scale (also known as Mindset Scale), which was developed by Dweck (2000), was used in the study. The scale consists of eight items with two dimensions: growth and fixed mindset. It is on a 6-point Likert-type scale ranging from “strongly disagree (1)” to “strongly agree (6).” The sample items from each dimension are as follows: “You can learn new things, but you cannot really change your basic

intelligence” (*fixed mindset*, item 6); “No matter who you are, you can change your intelligence a lot” (*growth mindset*, item 3). Cronbach’s  $\alpha$  coefficient was .86 for fixed mindset and .79 for growth mindset (Beyaztaş & Hymer, 2016).

### **3.6. Pilot Study**

For all three scales, the pilot study was performed. Eight classes were randomly selected based on the total number of students in each level, and 132 students participated in the study. Exploratory factor analysis (EFA) and reliability analysis through Cronbach alpha coefficients were performed using SPSS 25.0. The demographic information on the students who participated in the pilot study are presented in Table 3.3.

#### **3.6.1. Exploratory Factor Analysis for TAM**

As the TAM was adapted to Turkish and items were also revised for remote learning tools in the present study, EFA was performed to explore the factorial structure of the TAM. Before the analysis, assumptions for EFA were checked. First, the data set was checked to find out any missing data, and it was found out that the missing cases were less than 5% and were missing completely at random (Tabachnick & Fidell, 2013). Therefore, no changes were made in the data set regarding the missing data. Next, trimmed means, z-scores, box plots, and histograms were checked for outliers. There were no standardized scores above 3.29, so no outliers were observed (Field, 2017).



**Table 3.3**

*Frequency Table of the Participants of the Pilot Study for Gender, Personal Computer, English Proficiency Level, and Age*

		F	%
Gender	Female	76	58.8
	Male	54	41.2
	Missing	0	0
Personal Computer/Tablet	Yes	122	93.1
	No	8	6.1
	Missing	1	.8
English Proficiency Level	A	37	28.2
	B	30	22.9
	C	34	26
	D	28	21.4
	Missing	2	1.5
Age	18	33	25.2
	19	60	45.8
	20	31	23.7
	21	5	3.8
	22 and above	2	1.5
	Missing	0	0

For univariate normality, skewness and kurtosis values as well as the results of Kolmogorov-Smirnov and Shapiro-Wilk tests were examined. Skewness and kurtosis values were within the range of -1.5 and 1.5, and Kolmogorov-Smirnov and Shapiro-Wilk test results were significant. Mardia's test result was also significant (337,  $p < .05$ ), indicating that there was a violation of multivariate normality; therefore, Principal Axis Factoring was chosen as the extraction method to carry out the EFA (Costello & Osborne, 2005).

The scatterplot matrix was also checked, and no evidence for curvilinearity was found. When the correlation matrix was analyzed, it was observed that the correlation

coefficients were above .30. The result Bartlett's Test of Sphericity,  $\chi^2 (120) = 1170.79$ ,  $p < .000$ , indicated that there was a significant difference between the correlation matrix and the identity matrix, deeming the correlation matrix appropriate for factor analysis (Field, 2017). Then the result of Kaiser-Meyer-Olkin (KMO) (.89) was used for the verification of the adequacy of sample size as it was above .60 (Tabachnick & Fidell, 2013). As all the correlations among the factors were above .32, oblimin rotation was used (Osborne, 2015).

The factor analysis employed resulted in a three-dimensional structure, explaining 63.67% of the variance (Table 3.4).

**Table 3.4**

*Eigenvalues, Percentages of Variance, and Cumulative Percentages of the TAM Questionnaire*

Factor	Eigenvalue	% of variance	Cumulative %
1	7.81	48.83	48.83
2	1.31	8.19	57.02
3	1.06	6.65	63.67

Table 3.5 presents the factor loadings for the three-dimensional structure. Factor loadings ranged between .39 and .83 for Factor 1, .53 and .86 for Factor 2, and .60 and .92 for Factor 3.

**Table 3.5***Factor Loadings for Oblimin Three-Factor Solution for the TAM Questionnaire*

Item	Factor loading		
	1	2	3
Item 4	<b>.83</b>	-.06	.05
Item 1	<b>.76</b>	.01	.04
Item 15	<b>.71</b>	-.03	-.12
Item 12	<b>.65</b>	-.05	.00
Item 5	<b>.62</b>	.01	.02
Item 14	<b>.61</b>	.09	-.01
Item 2	<b>.59</b>	.10	-.15
Item 7	<b>.58</b>	-.03	-.18
Item 13	<b>.47</b>	.23	-.19
Item 3	<b>.39</b>	.13	-.15
Item 10	-.16	<b>.86</b>	-.09
Item 11	.35	<b>.54</b>	-.12
Item 8	.24	<b>.53</b>	.10
Item 6	.00	-.04	<b>-.92</b>
Item 16	.10	-.04	<b>-.85</b>
Item 9	.13	.26	<b>-.60</b>
	Factor correlations		
Factor 1	-		
Factor 2	.49	-	
Factor 3	-.67	-.40	-

Only items of the *behavioral intention to use* (items 6, 9, and 16) worked as intended. The remaining factors, particularly *attitude* and *perceived usefulness*, merged under Factor 1. Similar issues were observed when the factor analysis was carried out by limiting the number of factors to four, as in the original factor structure. Therefore, the findings of EFA were used only for revising the items.

A total of four items were modified based on the results of exploratory analysis. As Item 2 and Item 5, which were part of *perceived ease of use* in the original scale, loaded

on the *perceived usefulness* dimension, some changes were made in these items. Item 2 “Learning English through remote learning tools is easy for me.” (Uzaktan öğrenme araçları aracılığıyla İngilizce öğrenmek benim için kolaydır.) was changed into “I find it difficult to use remote learning tools.” (Uzaktan öğrenme araçlarını kullanmakta zorlanırım.). The part “learning English” was omitted from the item because none of the other items in the factor included this aspect. Similarly, in order to make sure that the item loads on the *perceived ease of use*, Item 5 “Remote learning tools are flexible in interacting and collaborating with peers and instructors” (Uzaktan öğrenme araçları, akranlar ve hocalarla iletişim kurmada ve iş birliği yapmada esneklik sağlar.) was changed into “Remote learning tools make it easy to interact with peers and instructors” (Uzaktan öğrenme araçları, akranlar ve hocalarla iletişim kurmayı kolaylaştırır.).

Items of the *attitude* dimension (Item 3 and 11) were also revised in terms of clarity and increased emphasis on “learning English.” Item 3 “The advantages of using remote learning tools overweigh the disadvantages of using it.” (Uzaktan öğrenme araçlarını kullanmanın avantajları, kullanmamanın dezavantajlarından fazladır.) was reworded as “It is advantageous to use remote learning tools while learning English.” (Uzaktan öğrenme araçlarını İngilizce öğrenirken kullanmak avantajlıdır.). Item 11 “Remote learning tools are useful *for* my studies.” (Uzaktan öğrenme araçları çalışmalarım için faydalıdır.) was altered into the statement “Remote learning tools are useful in my English studies.” (Uzaktan öğrenme araçları İngilizce çalışmalarım için faydalıdır.).

When the pilot data were used to check the reliability of the original four-dimension structure of the TAM, it was found out that Cronbach's  $\alpha$  coefficients for four dimensions were within an acceptable range:  $\alpha = 0.86$  for *PU*,  $\alpha = 0.67$  for *PEU*,  $\alpha = 0.76$  for *A*, and  $\alpha = 0.90$  for *BI* (Cortina, 1993). However, the dimension *PEU* produced a reliability value lower than .70. Item-total correlations and Cronbach's alpha if item deleted for each dimension are presented in Table 3.6.

### **3.6.2. Exploratory Factor Analysis for Perceived Value of English Scale**

Assumptions of the EFA were examined before carrying out the analysis. For possible outliers, trimmed means, z-scores, and box plots were checked, and a total of 5 outliers were identified. However, as there were few outliers compared to the data set, they were included in the data set. Histograms, skewness – kurtosis values, and the results of Kolmogorov-Smirnov, and Shapiro-Wilk tests were examined for univariate normality. Skewness and kurtosis values were between -1.5 and 1.5, except for items 1 and 6. In addition, Mardia's test gave a significant result (116.27), indicating a violation of multivariate normality. As there were multiple concerns related to normality, Principal Axis Factoring was preferred as the extraction method. Bartlett's Test of Sphericity's significant value (525.01,  $df = 36$ ,  $p = .00$ ) indicated that the correlation matrix differs significantly from the identity matrix. Thus, it was appropriate to conduct the analysis. KMO (.79) was above the minimum value of .60 for sampling adequacy.

The results of the analysis indicated a three-factor structure according to the eigenvalue greater-than-one rule. As the original scale was considered to have a single factor

(Mills et al., 2007), the factor analysis was rerun by setting the number of factors to be extracted as one. The single-factor structure explained 43.34% of the variance. Factor loadings ranged from .31 to .90 (Table 3.7).

**Table 3.6**

*Item Total Correlations and Cronbach's Alpha If Item Deleted Values for TAM*

Items	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Items of PU		
Item 1	.64	.85
Item 4	.69	.84
Item 7	.69	.84
Item 12	.58	.86
Item 14	.64	.85
Item 15	.74	.83
Items of PEU		
Item 2	.48	.58
Item 5	.36	.66
Item 8	.54	.53
Item 10	.43	.62
Items of A		
Item 3	.52	.76
Item 11	.66	.59
Item 13	.59	.67
Items of BI		
Item 6	.82	.84
Item 9	.74	.90
Item 16	.83	.82

*Note.* Cronbach's Alpha Values for perceived usefulness (PU), perceived ease of use (PEU), attitude (A), and behavioral intention to use (BI) are .86, .67, .76, and .90, respectively.

**Table 3.7**

*Factor Loadings for Oblimin Single-Factor Solution for Perceived Value of English Language Scale*

Item	Factor Loading
Item 7	.90
Item 4	.89
Item 3	.79
Item 8	.58
Item 9	.52
Item 2	.49
Item 1	.41
Item 6	.33
Item 5	.31

Cronbach alpha coefficient (.81) was above the suggested value of .70 (Cortina, 1993) and the item-total correlations were between .30 and .79 (Table 3.8).

### **3.6.3. Exploratory Factor Analysis for Mindset Scale**

Preliminary assumptions for exploratory factor analyses were checked before the analysis. The data were checked for missing values, outliers, and univariate normality. Mardia's test result (114.97) was significant, so multivariate normality was violated; therefore, Principal Axis Factoring was employed as the extraction method. As KMO value (.89) was above .60, verifying the adequacy of the sample size. The significant result of Bartlett's Test of Sphericity (821.30,  $df = 28$ ,  $p = .00$ ) also showed that it was appropriate to conduct factor analysis.

**Table 3.8**

*Item Total Correlations and Cronbach's Alpha If Item Deleted Values for Perceived Value of English Language Scale*

Items	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item 1	.38	.81
Item 2	.41	.81
Item 3	.70	.77
Item 4	.79	.76
Item 5	.32	.83
Item 6	.30	.82
Item 7	.78	.76
Item 8	.47	.80
Item 9	.56	.79

*Note.* Cronbach's alpha value was .81.

A three-factor structure was identified based on eigenvalues greater-than-one rule. However, as the researchers who adapted the original scale to the Turkish version (Beyaztaş & Hymer, 2016) suggested that there were two factors, the number of factors to be extracted was limited to two. The two-factor solution explained 71.76% of the variance (Table 3.9).

Factor loadings ranged between .46 and .93 for Factor 1, *fixed mindset*, and between .39 and 1.02 for Factor 2, *growth mindset* (Table 3.10). It was also observed that Item 3 and Item 6 loaded on both factors. However, no changes were made to the scale, and the items were used as they were in the original version.



**Table 3.9**

*Eigenvalues, Percentages of Variance, and Cumulative Percentages of the Mindset Scale*

Factor	Eigenvalue	% of variance	Cumulative %
1	5.44	68.01	68.01
2	.799	10.00	78.00

**Table 3.10**

*Factor Loadings for Oblimin Two-Factor Solution for the Mindset Scale*

Item	Factor loading	
	1	2
Item 4	<b>.93</b>	.03
Item 1	<b>.93</b>	.03
Item 2	<b>.85</b>	-.07
Item 3	<b>-.46</b>	.45
Item 7	.13	<b>.02</b>
Item 5	-.11	<b>.73</b>
Item 8	-.08	<b>.65</b>
Item 6	.38	<b>-.39</b>
	Factor correlations	
Factor 1	-	
Factor 2	-.74	-

For the Mindset Scale, Cronbach's  $\alpha$  coefficients for two dimensions, *growth* and *fixed mindset*, were .88 and .91, respectively (Table 3.11). As there were no items with a low item-total correlation value, no revisions were made based on the reliability analysis.

**Table 3.11**

*Item Total Correlations and Cronbach's Alpha If Item Deleted Values for Mindset Scale*

Items	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Items of GM		
Item 3	.75	.85
Item 5	.79	.83
Item 7	.78	.84
Item 8	.67	.88
Items of FM		
Item 1	.85	.86
Item 2	.79	.83
Item 4	.78	.84
Item 6	.67	.88

*Note.* Cronbach's Alpha Values for fixed mindset (FM) and growth mindset (GM) were .88 and .91, respectively.

### **3.7. Data Collection Procedures**

The permission for the study was obtained from the METU Human Subjects Ethics Committee. There were no requests from the committee to revise or omit items. After receiving the permission, the researcher contacted the head of the preparatory school to get permission to collect the data during the lesson hours to ensure sufficient participation.

A pilot study was done at the preparatory school. For the pilot study, the number of students taking into account the number of items in the scales was determined to be 160. Proportionally to the population in each proficiency level, as the average number

of students was 20 in each class, a total of 8 classes were randomly selected. Out of 152 total responses, 132 cases with complete responses were obtained. It took the participants approximately 8 minutes to fill out the survey.

For the main study, 27 classes were chosen randomly. Their instructors were contacted and given information about the study. The link to the survey was shared with the instructors, who agreed to spend the last 10 minutes of one of their lessons. The instructors had approximately one week to share the link with their classes. They were also asked to remind students that the students' decision whether to participate or not in this study was voluntary and that, if they agreed to participate, their identities would remain anonymous, and the data collected would remain confidential. As the survey was in Turkish, the instructors were asked to permit non-Turkish students to leave the session after sharing the survey link.

### **3.8. Data Analysis**

To check the factor structures of three scales with the main study data, confirmatory factor analysis was conducted using the statistical modeling program MPLUS 8.1. To evaluate the goodness of fit, chi-square, comparative fit index (CFI), Tucker–Lewis index (TLI), standardized root mean squared residual (SRMR), and root mean square error of approximation (RMSEA) values were checked. For chi-square, a good model fit is considered an insignificant result with the cut-off point of .05 (Barret, 2007). However, as the chi-square statistics can be easily influenced by sample size (Tabachnick & Fidell, 2014), other fit indices should be reviewed in case the result of chi-square statistics is significant (Byrne, 2001). A TLI or CFI value higher than .95

is considered as indicative of a good fit (Hu & Bentler, 1999). An RMSEA value that is lower than .05 indicates a good fit, and values between .05 and .08 indicate a moderate fit; however, if the value is higher than .10, it is considered a bad fit to the model (Browne & Cudeck, 1992). An SRMR value that is lower than .05 is considered a good fit (Byrne, 2001). Cronbach's  $\alpha$  coefficients were also examined.

In order to find the answer to the research question, hierarchical multiple regression analysis was conducted using SPSS 26.0 because it is possible to control for covariates and specify the entry order of independent variables that might predict the dependent variable (Tabachnick & Fidell, 2013). The predictor variables were entered in four steps in the following order: (1) gender, (2) time spent on MyGrammarLab, (3) growth mindset, fixed mindset, the perceived value of English language, (4) the perceived usefulness of, the perceived ease of use of, and attitude towards remote learning tools. The outcome variable to be predicted by these variables was BI to use remote learning tools. The only categorical variable was gender; the other variables were continuous. The following assumptions of multiple regression analysis were conducted: linearity, normality of errors, homoscedasticity, multicollinearity, independence of errors, and outliers. An alpha value of .05 was utilized in the present study.

### **3.9. Limitations**

There were several limitations of the study. Firstly, as self-reported questionnaires were used, students were assumed to reflect their ideas accurately. However, the responses could have been affected by a variety of factors, including the tendency to give responses that are considered desirable by others (Kuncel & Tellegen, 2009) and

to prefer the positive end of the rating scale independent of the contents of items (Weijters, Baumgartner & Schillewaert, 2013). Secondly, although the target population was English preparatory school students at private universities in Ankara, the accessible population was only one English preparatory school at a private university. Therefore, further research is necessary for more generalizable results. Also, because of the correlational research design's predictive nature, only non-causal relationships can be inferred based on the findings. Finally, remote learning tools are a group of applications with a variety of functions that can be used for different goals in different context. Therefore, grouping them under a single name, i.e., remote learning tools, while performing the analysis might lead to some misconceptions in the generalization of results of the study to other contexts where different remote learning tools are used.

## CHAPTER 4

### RESULTS

Psychometric characteristics of the scales, as well as descriptive and inferential statistics of the study, are presented in this chapter. The first section investigates the reliability and validity of the scales employed in the study. The second section covers the results of the descriptive statistics. The last section focuses on the hierarchical multiple regression analysis conducted to answer the research question.

#### **4.1. Psychometric Characteristics of Scales**

This study employed three scales: the TAM Scale, the Mindset Scale, and the Perceived Value of English Language Scale. Confirmatory Factor Analysis (CFA) was done to test the factorial structure of the three instruments.

##### **4.1.1. Validity and Reliability Analysis of TAM**

Davis (1989) suggested a four-dimensional structure for the original version of TAM. Similarly, Selevičienė and Burkšaitienė (2015) also stated that, in the scale that was adapted to English language learning context, there were four factors: *perceived ease*

of use, perceived usefulness, attitude, and behavioral intention. Therefore, CFA was carried out for the present study in order to check the proposed four-dimensional structure of the scale using MPLUS 8.1. The study used the data collected from 364 participants for the analysis. To evaluate the goodness of fit, chi-square, comparative fit index (CFI), Tucker–Lewis index (TLI), standardized root mean squared residual (SRMR), and root mean square error of approximation (RMSEA) values were reviewed. In addition, modification indices were examined. It was observed that  $\epsilon 1 - \epsilon 3$  and  $\epsilon 6 - \epsilon 16$  pairs had high error covariance. Therefore, both pairs were allowed to correlate with each other. The results after this modification revealed a significant chi-square value ( $p < .05$ ,  $X^2 = 232.40$ ). However, as chi-square is mostly dependent on sample size, values of SRMR, RMSEA, CFI, and TLI are considered in case of a significant chi-square (Byrne, 2001). The results were as follows: CFI = .95, TLI = .94, RMSEA = .06, and SRMR = .01. CFI value was above .95, and TLI also indicated an acceptable value. SRMR value was below .05, thus indicating a good fit (Hu & Bentler, 1999). Similarly, the RMSEA value suggested a moderate fit as the value was between .05 and .08 (Browne & Cudeck, 1992).

Finally, the standardized regression weights of all the items in the scale were significant, ranging from .50 to .93. The values were between .69 and .84 for *perceived usefulness*; .50 and .80 for *perceived ease of use*; .83 and .89 for *attitude*; .75 and .93 for *behavioral intention*. Also, the correlation between the four factors ranged from .69 to .99. Figure 4.1 demonstrates the factor structure of the scale through standardized estimates.

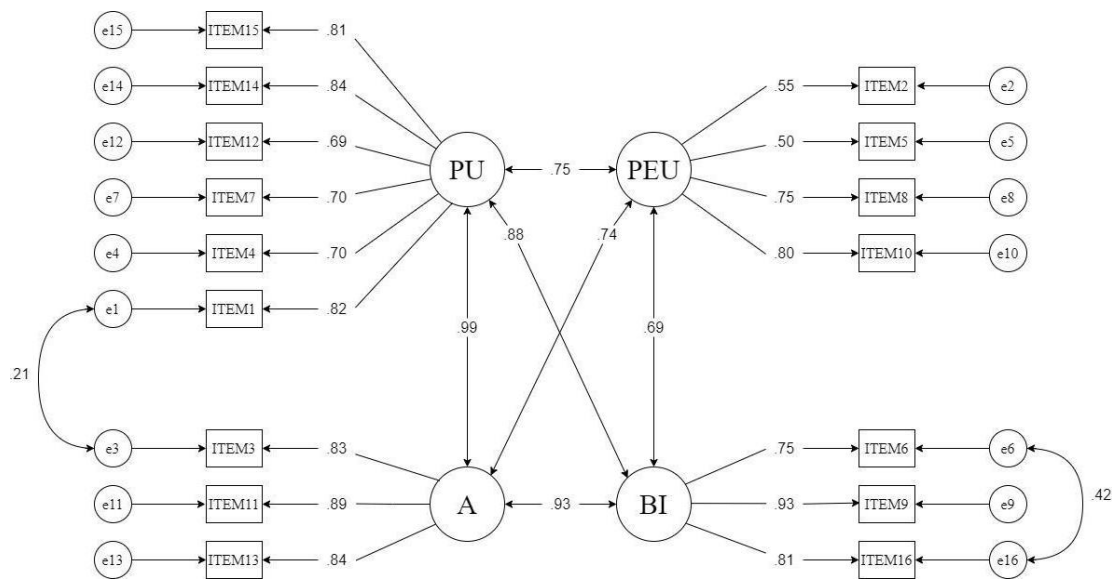


Figure 4.1. TAM Scale's Factor Structure with Standardized Estimates. Note. TAM items; PU: perceived usefulness; PEU: perceived ease of use; A: attitude; BI: behavioral intention. All coefficients are significant at  $p < .05$ ,  $X^2 = 232.40$ . Root mean square error of approximation (RMSEA) = .06; the comparative fit index (CFI) = .95; the Tucker-Lewis index (TLI) = .94; standardized root mean squared residual (SRMR) = .01.

In order to check the internal consistency of the scale for reliability, Cronbach's  $\alpha$  coefficients were examined. The values for four dimensions were:  $\alpha = .87$  for *perceived usefulness*,  $\alpha = .70$  for *perceived ease of use*,  $\alpha = 0.88$  for *attitude*, and  $\alpha = .90$  for *behavioral intention*, which indicated an acceptable level of reliability because the values should be at least .70 (Fraenkel et al., 2015). Item-total correlation values of all items were greater than .30, showing items' high contribution to the total score (Table 4.1).



**Table 4.1***Item Total Correlations and Cronbach's Alpha If Item Deleted Values for TAM*

Items	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Items of PU		
Item 1	.71	.84
Item 4	.62	.86
Item 7	.59	.86
Item 12	.62	.86
Item 14	.74	.84
Item 15	.76	.83
Items of PEU		
Item 2	.45	.66
Item 5	.58	.57
Item 8	.30	.75
Item 10	.64	.53
Items of A		
Item 3	.80	.80
Item 11	.73	.86
Item 13	.77	.82
Items of BI		
Item 6	.77	.86
Item 9	.76	.87
Item 16	.84	.80

*Note.* BI: behavioral intention; PEU: perceived ease of use; PU: perceived usefulness; A: attitude. Cronbach's Alpha Values for PU, PEU, A, and BI are .87, .70, .88, and .90, respectively.

#### **4.1.2. Validity and Reliability Analysis of the Perceived Value of English Language Scale**

The purpose of running the CFA for the Perceived Value of English Language Scale was to confirm the single-factor structure of the scale proposed by Mills, Pajares, and Herron (2007). Examining modification indices revealed three pairs of high error

covariances ( $\epsilon_5$  with  $\epsilon_9$ ;  $\epsilon_7$  with  $\epsilon_8$ ;  $\epsilon_3$  with  $\epsilon_4$ ). They were allowed to be correlated. The results of the analysis after the modification indicated a significant chi-square value of  $\chi^2$  (54.11,  $n = 381$ ) in addition to the following indices: CFI = .96, TLI = .94, RMSEA = .06, and SRMR = .04. CFI, TLI, and SRMR values indicated a good fit, but the RMSEA value was an indicator of a moderate-fitting model. The standardized estimates of the items in the scale ranged from .22 to .83 (Figure 4.2). The three items that had values below .40 were Item 1 (.34), Item 5 (.32), and Item 6 (.22).

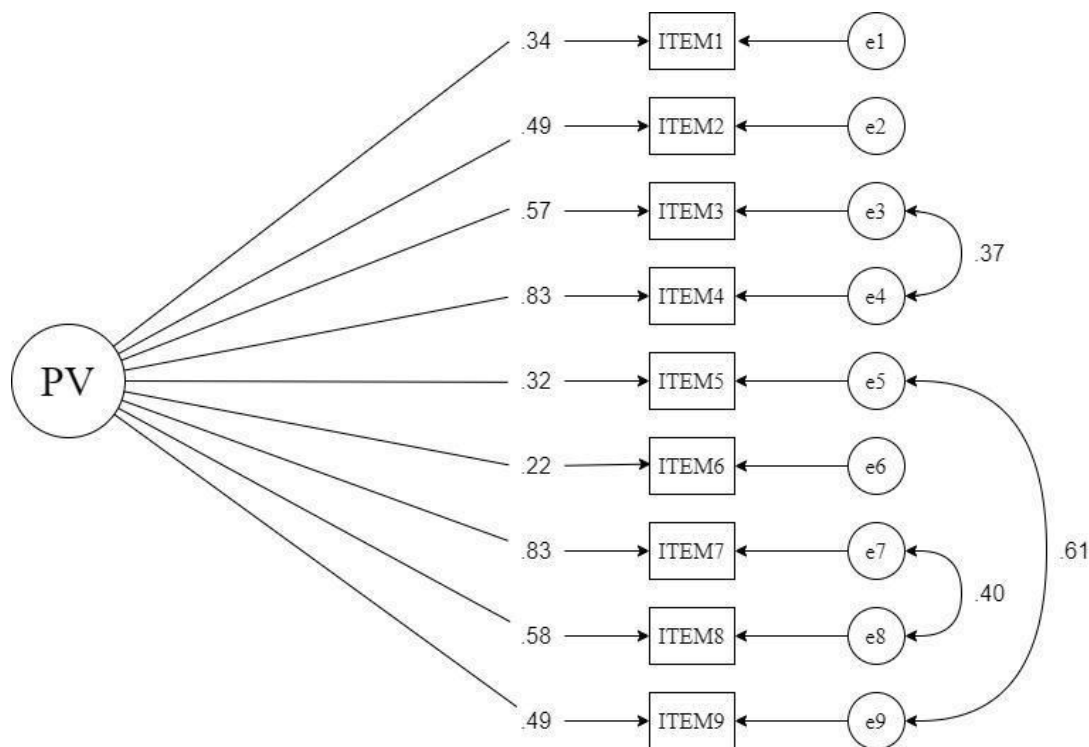


Figure 4.2. The Perceived Value of English Language Scale's Factor Structure with Standardized Estimates. Note. Perceived Value of English Language items. PV: Perceived value of English language. All coefficients are significant at  $p < .05$ ,  $X^2 = 54.11$ . Root mean square error of approximation (RMSEA) = .06; the comparative fit index (CFI) = .96; the Tucker-Lewis index (TLI) = .94; standardized root mean squared residual (SRMR) = .04.

Cronbach's  $\alpha$  coefficient for the scale indicated a value of .81, showing an acceptable level of reliability (Fraenkel et al., 2015). Item-total correlations ranged between .21 and .75 (Table 4.2). Consistent with the findings of CFA, Item 1 (.29) and Item 6 (.21) had low item-total correlation. As deleting those items would not increase the reliability value, those items were decided to be kept in the scale.

**Table 4.2**

*Item Total Correlations and Cronbach's Alpha If Item Deleted Values for the Perceived Value of English Language Scale*

Items	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item 1	0.29	0.81
Item 2	0.39	0.81
Item 3	0.53	0.79
Item 4	0.75	0.76
Item 5	0.43	0.80
Item 6	0.21	0.82
Item 7	0.75	0.76
Item 8	0.58	0.78
Item 9	0.62	0.78

*Note.* Cronbach's alpha value was .81.

#### **4.1.3. Validity and Reliability Analysis of Mindset Scale**

Similar to the original scale by Dweck (2000), the Turkish adaptation of the Mindset scale was suggested to have two factors (Beyaztaş & Hymer, 2016). The CFA analysis conducted for the present study was to confirm the two-factor structure of the scale. The first attempt of the analysis required modifications because of the error pairs  $\epsilon_1 - \epsilon_2$ ,  $\epsilon_5 - \epsilon_7$ ,  $\epsilon_7 - \epsilon_8$ , which were allowed to covary. The second analysis resulted in the

following fit indices:  $\chi^2$  (16,  $n = 380$ ) = 28.11, CFI = .99, TLI = .99, RMSEA = .05 and SRMR = 0.02. Despite the significant chi-square result, the RMSEA value indicated a moderate fit while CFI, TLI, and SRMR values implied a good fit. The first factor, the growth mindset, had four items with standardized estimates ranging from .50 to .93, while the second factor, the fixed mindset, had four items with standardized estimates between .70 and .87 (Figure 4.3).

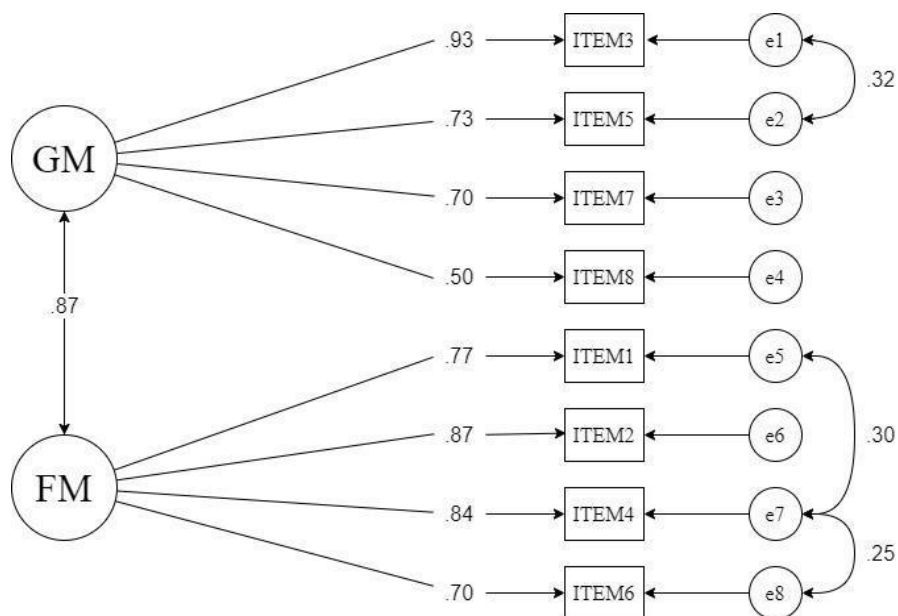


Figure 4.3. Mindset Scale's Factor Structure with Standardized Estimates. Note. Mindset Scale items. PV: Perceived Value of English Language. All coefficients are significant at  $p < .05$ ,  $X^2 = 28.11$ . Root mean square error of approximation (RMSEA) = .05; the comparative fit index (CFI) = .99; the Tucker-Lewis index (TLI) = .99; standardized root mean squared residual (SRMR) = .02.

Reliability coefficients for the dimensions of growth mindset and fixed mindset were .84 and .88, respectively. The item-total correlation ranged between .51 and .75 for the growth mindset and .65 and .83 for the fixed mindset, implying acceptable reliability (Table 4.3).

**Table 4.3**

*Item Total Correlations and Cronbach's Alpha If Item Deleted Values for Mindset Scale*

Items	Item-Total Correlation	Cronbach's Alpha if Item Deleted
Items of GM		
Item 3	0.73	0.77
Item 5	0.71	0.78
Item 7	0.75	0.76
Item 8	0.51	0.86
Items of FM		
Item 1	0.73	0.85
Item 2	0.83	0.81
Item 4	0.77	0.83
Item 6	0.65	0.88

*Note.* Cronbach's Alpha Values for growth mindset (GM) and fixed mindset (FM) were .84 and .88, respectively.

#### **4.2. Results of Descriptive Statistics**

Descriptive statistics were generated to investigate the participant data related to the perceived value of the English language, mindset, and technology acceptance. Mean scores and standard deviations of the variables are given in Table 4.4. According to the results of the descriptive analysis, the perceived value of the English language of students, measured with an 8-point rating scale, was found to be positive ( $M = 5.96$ ,  $SD = 1.08$ ). Also, students had the tendency to have a growth mindset ( $M = 4.09$ ,  $SD = 1.14$ ) rather than a fixed mindset ( $M = 2.62$ ,  $SD = 1.26$ ). When the different dimensions of technology acceptance were compared, it was found that the attitude that students have ( $M = 3.35$ ,  $SD = 1$ ) was slightly higher than their perceived usefulness ( $M = 3.33$ ,  $SD = 0.89$ ), perceived ease of use ( $M = 3.27$ ,  $SD = 0.82$ ) and BI to use remote learning tools ( $M = 2.93$ ,  $SD = 1.17$ ).

**Table 4.4***Descriptive Statistics for PV, Mindset, and TAM*

Variables	<i>M</i>	<i>SD</i>
Perceived Value of English Language <sup>1</sup>	5.96	1.08
Mindset <sup>2</sup>		
Growth Mindset	4.09	1.14
Fixed Mindset	2.62	1.26
Technology Acceptance <sup>3</sup>		
Perceived Usefulness	3.33	0.89
Perceived Ease of Use	3.27	0.82
Attitude	3.35	1.00
Behavioral Intention	2.93	1.17
Time Spent on MyGrammarLab	2.83	4.17

*Note.* *n* = 387. <sup>1</sup>8-point rating scale. <sup>2</sup>5-point rating scale. <sup>3</sup>6-point rating scale.

### 4.3. Results of Multiple Regression Analyses

A hierarchical multiple regression analysis was carried out to examine how well gender, growth mindset, fixed mindset, the perceived value of English language, the perceived ease of use of remote learning tools, the perceived usefulness of remote learning tools, attitude towards remote learning tools, and time spent on MyGrammarLab predict BI to use remote learning tools. The predictor variables were entered in four steps in the following order: (1) gender, (2) time spent on MyGrammarLab, (3) growth mindset, fixed mindset, the perceived value of English language, (4) the perceived usefulness of, the perceived ease of use of, and attitude towards remote learning tools.

### 4.3.1. Assumptions of Multiple Regression Analysis

After the analysis of the missing data, which indicated that the missing values were less than 5 % and missing completely at random (Tabachnick & Fidell, 2013), the assumptions of multiple regression analysis were checked. The assumptions included normality of errors, linearity, homoscedasticity, multicollinearity, independence of errors, and outliers (Field, 2017). First of all, to check the normality of the residuals, P-P plots and histograms were examined (Figure 4.4).

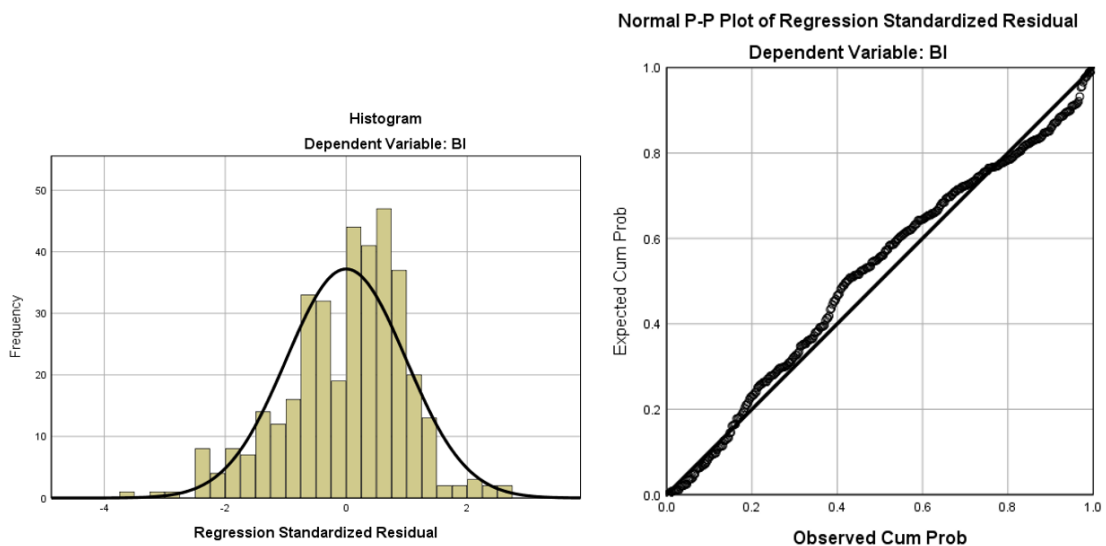


Figure 4.4. Histogram and P-P plot of Residuals

Despite slight skewness, the researcher concluded that it is acceptable because of the large sample size (Field, 2009). Next, in order to check the assumption regarding linearity of residuals and homoscedasticity, partial regression plots and the scatterplot of residuals were examined, and no violation was observed. Another assumption that was checked was the absence of multicollinearity. A high correlation (.94) was observed between time spent on MyGrammarLab (MGL) and time spent on

MyReadingLab (MRL). Supporting this result, the tolerance scores of MGL (.12) and MRL (.12) were below .20, and VIF scores of MGL and MRL (8.18 and 8.17, respectively) were larger than the acceptable score of 4 (Hair, Babin, Anderson, & Black, 2019). Because of the violation of the assumption, time spent on MRL was omitted from the analysis. Furthermore, the assumption of independence of errors was checked by examining the Durbin-Watson coefficient. Because the value of 1.88 was between the acceptable values of 1 and 3, the independence of errors assumption was not violated (Field, 2013). Finally, outliers were examined through standardized residual values and Mahalanobis Distance values. When the standardized residual values were examined, it was observed that the cases with values above 1.96 were less than 5%, and the ones with values above 2.58 did not exceed 1% (Field, 2013). However, there was one case whose value was above 3.29. The results of the analysis for Mahalanobis Distance values indicated two cases above the critical value of 26.11. When these cases were removed, and the analysis was conducted again, there was no significant influence on the results. Therefore, the two cases were retained in the data set.

#### **4.3.2. Intercorrelations Among the Predictors and Their Relation to the Dependent Variable**

Before the result of the regression analysis, intercorrelations among predictors and their relation to the dependent variable were explored. The intercorrelations of behavioral intention and predictor variables are presented in Table 4.5.



**Table 4.5***Intercorrelations for Behavioral Intention and Predictor Variables*

Variable	1	2	3	4	5	6	7	8
Behavioral Intention	-.10	.12*	.38*	.17*	-.09	.76*	.54*	.80*
Predictor Variables								
1. Gender	--							
2. MGL	.03	--						
3. Perceived Value	-.06	.16*	--					
4. Growth Mindset	-.11*	-.02	.21*	--				
5. Fixed Mindset	.10	-.05	-.21*	.70*	--			
6. Perceived Usefulness	-.03	.12*	.37*	.20*	-.13*	--		
7. Perceived Ease of Use	.09	.10	.24*	.10	-.03	.65*	--	
8. Attitude	-.08	.10	.34*	.18*	-.11*	.86*	.59*	--

Findings indicated a statistically significant and positive relationship between the outcome variable, students' BI to use remote learning tools, and the predictor variables. Attitude had the highest statistically significant correlation ( $r = .80, p < .05$ ) with the outcome variable. Attitude was followed by perceived usefulness, the perceived ease of use, the perceived value of English language, growth mindset, and time spent on MyGrammarLab (MGL).

There were also significant correlations among predictor variables. The highest correlation was between attitude and perceived usefulness ( $r = .86, p < .05$ ). Attitude had significant positive correlations with perceived value, growth mindset, and perceived ease of use, but it had a significant negative correlation with the fixed mindset. In addition, perceived ease of use was positively correlated with perceived

value and perceived usefulness. Perceived usefulness also had positive correlations with perceived value and growth mindset. Furthermore, there was a positive correlation between perceived usefulness and MGL, perceived value, growth mindset, but a negative correlation between perceived usefulness and fixed mindset.

Moreover, the perceived value had a positive correlation with growth mindset, but a negative correlation with fixed mindset. The negative correlation between growth mindset and fixed mindset was also significant. Finally, MGL was positively correlated with perceived value and perceived usefulness.

#### **4.3.3. Results of Regression Analysis for Behavioral Intention to Use Remote Learning Tools**

Hierarchical multiple regression was carried out to investigate how well the independent variables predicted behavioral intention to use remote learning tools. The standard error of b (SE of b), unstandardized regression coefficients (b), the squared semi-partial correlations ( $sr^2$ ), the standardized regression coefficients ( $\beta$ ),  $R^2$  values, and  $\Delta R^2$  values of BI are presented in Table 4.6.

In Step 1, the predictive value of gender was investigated. Accordingly, gender did not significantly predict students' BI to use remote learning tools,  $F(1, 367) = 3.81, p > .05$  and was accounted for only 1% of the variance. In Step 2, introducing Time Spent on MyGrammarLab led to statistically significant results due to the increase in  $R^2, R^2 = .03, F(1, 366) = 5.76$ ; the variable ( $\beta = .12, t = 2.40, p < .05$ ) contributed to BI. This step explained an additional 2% of variance in BI. In Step 3, through the control of

gender and time spent on MyGrammarLab, adding three additional variables resulted in a statistically significant results,  $R^2 = .17$ ,  $F(3, 363) = 21.11$ . The step accounted for additional 14% of the variance. While perceived value of English language ( $\beta = .35$ ,  $t = 7.11$ ,  $p < .05$ ) and growth mindset ( $\beta = .17$ ,  $t = 2.48$ ,  $p < .05$ ) contributed significantly to the variation in BI, fixed mindset ( $\beta = .12$ ,  $t = 1.71$ ,  $p > .05$ ) did not significantly contribute to the variation. In the final step, after controlling for the previous variables, three variables including perceived usefulness, perceived ease of use, and attitude, significantly predicted BI,  $R^2 = .67$ ,  $F(3, 360) = 182.63$ , with perceived usefulness ( $\beta = .24$ ,  $t = 3.76$ ,  $p < .05$ ) and attitude ( $\beta = .52$ ,  $t = 8.74$ ,  $p < .05$ ) making the greatest contributions. However, perceived ease of use ( $\beta = .06$ ,  $t = 1.44$ ,  $p > .05$ ) did not contribute significantly. Direction of the relationship is positive for all of them. That is, higher scores in perceived value, attitude, perceived usefulness, growth mindset, and time spent on MyGrammarLab indicated higher levels of BI to use remote learning tools.

To sum up, the results of hierarchical multiple regression analysis showed that overall, 67% of the variation in students' BI to use remote learning tools was explained by the variables included in the analysis. The largest contributions to the outcome variable were by perceived value of English language ( $sr^2 = .34$ ) and attitude ( $sr^2 = .26$ ). Other significant predictors were growth mindset, time spent on MyGrammarLab, and perceived usefulness.

**Table 4.6**

*Summary of Hierarchical Regression Analysis for Variables Predicting Behavioral Intention (n = 369)*

Variables	<i>b</i>	<i>SE</i> <i>B</i>	$\beta$	<i>t</i>	<i>sr</i> <sup>2</sup>	<i>R</i> <sup>2</sup>	$\Delta F$
<i>Step 1</i>						.0 1	3.81
Gender	-.25	.13	-.10	-1.95	-.10		
<i>Step 2</i>						.0 3	5.76*
Time Spent on MyGrammarLab	.04	.02	.12	2.4*	.12		
<i>Step 3</i>						.1 7	21.11 *
Perceived Value of English Language	.40	.06	.35	7.11*	.34		
Growth Mindset	.18	.07	.17	2.48*	.12		
Fixed Mindset	.11	.06	.12	1.71	.08		
<i>Step 4</i>						.6 7	182.6 3*
Perceived Usefulness	.31	.08	.24	3.76*	.11		
Perceived Ease of Use	.08	.06	.06	1.44	.04		
Attitude	.60	.07	.52	8.74*	.26		

\**p* < .05.

### 4.3. Summary of the Results

The study was conducted to find out the relationship between behavioral intentions of students studying at a preparatory school for remote learning tools and growth mindset, fixed mindset, the perceived value of English language, perceived ease of use of remote learning tools, perceived usefulness of remote learning tools, attitude towards remote learning tools, and time spent on MyGrammarLab. Gender was used as a controlling variable. The results of the regression analysis indicated that, while gender,

fixed mindset, and perceived ease of use did not have a significant influence on predicting behavioral intention, the perceived value of English language, growth mindset, perceived usefulness, and attitude significantly predicted behavioral intention. Of these variables, perceived value of the English language was the strongest predictor, followed by attitude, growth mindset, perceived usefulness, and time spent on MyGrammarLab.

## **CHAPTER 5**

### **DISCUSSION**

The chapter starts with an analysis of the findings of the study about the relevant literature. The second section presents the implications of the study. The last section provides recommendations for further research.

#### **5.1. Discussion of the Results**

The primary goal of the study was to investigate how well English preparatory school students' behavioral intentions to use remote learning tools were predicted by variables including gender, time spent on MyGrammarLab, growth mindset, fixed mindset, the perceived value of English language, the perceived ease of use of remote learning tools, the perceived usefulness of remote learning tools, and attitude towards remote learning tools in the COVID-19 era. Data were collected from 388 EFL students studying at a preparatory school in a private university in Ankara, Turkey, during the pandemic.

First, the participant data related to the perceived value of the English language, mindset, and technology acceptance were examined utilizing descriptive statistics. According to the results of the descriptive analysis, the perceived value of the English language of students was found to be positive. Few studies have focused on the perceived value of the English language (Loh, 2020), and fewer still employed the subjective value scale constructed by Eccles (1983). Using an adaptation version of Eccles' (1983) scale, Mills et al. (2007) reached similar conclusions in a study where the sample was tertiary students learning French. Moreover, the present study results are consistent with the findings from the study by Chen (2007), who investigated the perceived value of the English language and culture of EFL learners. In the foreign language learning context, the perceived value of the target language is considered an essential factor in motivation (Chen, 2007). As the most commonly used language globally, it is no surprise that university students are interested in learning the English language and attach importance to it. However, as the findings are obtained in a period of crisis, i.e., the COVID-19 pandemic, when emergency remote teaching is the primary mode of education, comparison with findings of similar studies after the pandemic is deemed necessary.

Regarding the mindset variable, it was observed that EFL preparatory school students tended to have a growth mindset rather than a fixed mindset. Dweck (1999) argued that approximately 40% of individuals have a growth mindset, and 40% a fixed mindset. However, the present study's findings indicate that English preparatory school students tend to have a growth mindset. This supports the studies conducted to investigate students' mindsets in the EFL context in Turkey (Altunel, 2019; Delibalta,

2020). Consequently, the inclination to have a growth mindset may result from the widespread of social media in recent years that plays a central role in the lives of young people, like the sample of the present study, EFL preparatory school students at the universities. The emergence of role models as embodied by “influencers” on social media platforms could motivate students to improve certain aspects of their life through effort and dedication. In other words, the popularization of the concept of personal development with the digitalization leading up to the COVID-19 pandemic and the rapid growth in numbers of technology and social media users during this period might be possible causes for the prevalence of growth mindset among EFL students at the university level. Therefore, as students with growth mindsets are more motivated to study English and more optimistic about their proficiency in English in the future (Cacali, 2018), paying utmost attention to the concept of mindsets in the EFL context is crucial both during and after the COVID-19 era.

Regarding the different dimensions of technology acceptance, a positive attitude towards remote learning tools was identified. Also, they believed these tools might be helpful while learning English. Regarding the construct of perceived ease of use, students reported that it was easy to use the remote learning tools. Furthermore, it was found that the students wanted to continue to use remote learning tools in the future. These results were in line with previous studies conducted in the Turkish context (Aşıksoy, 2018; Çakır & Solak, 2014; Keleş, 2013) and in others such as England (Tarhini et al., 2015) and Lithuania (Selevičiene & Burkšatiene, 2015). However, a study focusing on the tools *Edmodo*, *Quizlet*, and *Canva* had different results regarding perceived usefulness (Çeçen, 2020). The results in the study indicated that elementary



and pre-intermediate level EFL students were neutral about the level of usefulness of Web 2.0 tools, and intermediate level students did not believe these tools would be helpful while learning English. Hence these findings contradict the results of the present study; this might result from the difference in interests of the learners in the specific context (Çeçen, 2020). Another study with diverging findings was conducted by Arshad et al. (2012), who argued that students found it challenging to use Web 2.0 tools. However, the present study results can be justified by the increase in access that students have to various technological tools since the introduction of Web 2.0. Nowadays, young people use such technology on a daily basis to fulfill different needs and in various aspects of their lives. The same tools, modified versions, or similar tools have been used to the same extent for educational purposes. This use has intensified in recent years, incorporating remote education options, primarily in higher institutions. COVID-19 pandemic, in particular, has become an essential factor that has enhanced the exposure to such remote learning tools in schools and universities alike. Nevertheless, notwithstanding this widespread use and obvious advantages of technological tools in education (Arkorful & Abaidoo, 2014; Bakia, Shear, Toyama, & Lasseter, 2012; Sadeghi, 2019), the downsides of online learning and teaching are still a major concern in the field (Coman et al., 2020). Therefore, the possible influence of COVID-19 on students' technology acceptance is noteworthy in considering the results of the present study.

In addition, hierarchical multiple regression analysis was also carried out in the present study. The results indicated how well gender, growth mindset, fixed mindset, the perceived value of English language, the perceived ease of use of remote learning

tools, the perceived usefulness of remote learning tools, attitude towards remote learning tools, and time spent on MyGrammarLab predicted behavioral intentions to use remote learning tools.

First and foremost, one of the external variables, the perceived value of the English language, was the strongest predictor of BI. At the time of the present investigation, there were no studies that used Eccles' (1983) theoretical framework to analyze the relationship between the perceived value of the English language and the BI to use remote learning tools among EFL students. However, there are various studies in the literature in other contexts supporting the present study's findings. In the context of an online English course, Bailey and Almusharraf (2015) found that intrinsic value, incorporation of the constructs of subjective task value and intrinsic motivation, affected students' BI to use synchronous and asynchronous e-learning tools. In another study, Chiu and Wang (2008) found that all three components of subjective task value, i.e., attainment, intrinsic, and utility value, significantly predict the BI of university students to use web-based learning. The finding of the study carried out by Chang (2013) also demonstrated that perceived value is a determinant of BI to use e-learning systems in libraries. Although they focused on amotivation to use e-learning instead of BI, a similar result was found in Fryer, Bovee, and Nakao (2014). They argued that low task values lead to a lack of motivation to participate in e-learning studies. Chiu et al. (2007) also pointed out that constructs of perceived value, i.e., attainment, utility, and intrinsic value, are significant predictors of a learner's continuance intentions. Similarly, Khechine, Raymond, and Augier (2020) found that intrinsic value predicted university students' BI to use a learning management system. These findings support

Eccles' (2005) argument that values may significantly predict long-term motivation for continued learning.

Consequently, the findings of the present study indicate an intriguing result: the perceived value of the English language is a stronger predictor than perceived ease of use, attitude, and perceived usefulness, which were strong predictors in many previous studies (Baber, 2021; Ejdys, 2021; Lee, 2010; Lee, Yoon, & Lee, 2009; Sang et al., 2010; Tarhini et al., 2015; Tzeng, 2011). In light of these findings, it can be inferred that perceived usefulness and attitude are not sufficient in determining EFL students' BI to use remote learning tools in the COVID-19 era (Almaraeh, 2014; Coman et al., 2020; Venkatesh et al., 2003; Zare et al., 2016). The findings suggested that subjective task value in the English language domain significantly influenced students' motivation to use remote learning tools. Moreover, it can be concluded that the purpose of students while using remote learning tools is a significant factor in determining students' BI to use these tools. In the present study, the purpose of EFL preparatory school students was to learn English which significantly affected the use of remote learning tools in this sample, hence indicating the central role the perceived value of English language plays as a motivational variable in this relationship. Notably, in the backdrop of the COVID-19 pandemic, the purpose of using the tools for English preparatory school students seems to have a significant impact on their intentions to keep using these tools during emergency remote teaching. However, the answer to whether the perceived value of English will still predict the BI toward the use of technological tools among these students after the emergency situation is lifted needs to be investigated in a comparative frame to the present findings.

Among the constructs of TAM, perceived usefulness and attitude significantly predicted BI. The result aligns with the findings in both of the studies carried out by Davis (1989). Nevertheless, perceived ease of use did not significantly predict BI to use remote learning tools. Although Venkatesh and Davis (2000) put forth that perceived ease of use was a strong predictor of usage intentions while they were working on TAM 2, recent studies in the field corroborate the findings (Baber, 2021; Ejdys, 2021; Lee, 2010; Lee, Yoon, & Lee, 2009; Sang et al., 2010; Tarhini et al., 2015; Tzeng, 2011). Although not in the EFL context, a study in Turkey by Yalçın and Kutlu (2019) also demonstrated that university students' perceived usefulness of learning management systems predicts their intention to use them. It can be thus inferred that the more useful the students find the tools they use, the more determined they are to use them in the future. Also, when students have a positive attitude towards using remote learning tools, they would like to continue using them further. A possible explanation for this could be the advent of the technology era. One reason for the findings about the variable of perceived ease of use can be that students at this age are "surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age" (Prensky, 2001, p. 1), hence not finding it challenging to make these tools part of their lives. Also, teachers' role in introducing these tools to students may affect their attitudes about using and the perceived usefulness of the tools. Students may develop a similar attitude when teachers have a positive attitude towards these tools and act as role models. If teachers encourage students to use the tools by giving a rationale on why students should use

them and how useful the tools can be, students may have a higher level of acceptance in terms of perceived usefulness.

The findings of the present study also demonstrated that a growth mindset significantly predicted the BI of the students to use remote learning tools, while a fixed mindset did not. There have been no specific studies in the literature investigating the relationship between mindsets and BI to use remote learning tools in the EFL domain. However, Tseng, Kuo, and Walsh Jr. (2020) found that a growth mindset has a positive relationship with the online engagement of university students. Similarly, Baber (2021) also discussed that graduate and undergraduate university students' growth mindset predicted BI to use an e-learning system during the COVID-19 pandemic. Therefore, the results of the present study subscribe to the general conclusion in the literature about the positive effect of the growth mindset on the BI of students to use remote learning tools. Considering the many adaptations of TAM through the addition of variables since its conception, it is surprising that such an influential motivational variable in the domain has not been studied extensively as an external variable. Therefore, the study contributes to the domain-specific analyses of this relationship by focusing on English preparatory school students.

Considering the time spent on MyGrammarLab, it was found out that the variable contributed to BI. A possible explanation for this may be the immediate effect that students can observe in their performance while doing grammar exercises. As there are more than one exercise on each grammar topic, the increase in the performance in the following exercises may give students the idea that the tool can be helpful in their

studies in the future, as well. There have been no studies focusing on this remote learning tool to compare with the present study results. However, this finding demonstrates that, like the participants in the present study who used MyGrammarLab, students who are already using a type of remote learning tool in their English language learning are more prone to continue using remote learning tools in the future. Furthermore, these findings regarding the time spent on MyGrammarLab contribute to the literature by diversifying the area where there is a lack of research investigating the use of remote learning tools that focus on specific language skills.

Finally, it was found that gender did not significantly predict students' BI to use remote learning tools. This complements the findings in various other studies (Alfadda & Mahdi, 2021; Lu, Lin, & Fan, 2013; Selevicene, 2015; Teo, Fan, & Du, 2015; Wang & Wang, 2010; Whitley, 1997;). However, there are also studies arguing that gender has an impact on the technology acceptance of students (Padilla-Meléndez et al., 2013; Sánchez-Franco, 2006; Terzis & Economides, 2011). In these studies, however, although they focus on technology acceptance, the role that gender plays is not related to BI but to perceived ease of use and usefulness.

## **5.2. Implications for Practice**

The results of this study suggest significant pedagogical implications in EFL. The first implication concerns the finding that, in the COVID-19 era, students with a growth mindset wish to use remote learning tools to learn English in the future. Therefore, mindset interventions to help students foster and enhance growth mindset that can be carried out during this emergency remote teaching period might effectively facilitate

continuance to use remote learning tools. Furthermore, these interventions need to be supported by policymakers and school management. In addition, while developing rubrics for writing and speaking assessments, effort should also be considered as part of the criteria for better grades. Alternatively, teachers can be trained regarding the topic of mindset through in-service professional development activities. The teachers can also be encouraged to use their knowledge in the classroom by helping students gain awareness of mindset. Also, they can boost students' growth mindset by stressing that mistakes are natural and encouraging them to make mistakes (Prince, 1991). Praise for effort rather than grades may also help students develop a growth mindset.

Secondly, as the perceived value of the English language predicted BI to use remote learning tools in the study, instructors can improve students' positive values for the subject. This can be done by explaining the rationales behind doing specific tasks, talking about why these tasks are essential for them, encouraging the students to have a personal interest in the subject as a role model, and giving them more chances to have a say in the activities or to be able to choose tasks (Schunk et al., 2014). Also, curriculum and material units can ensure that students are interested in the themes, topics, and materials chosen or developed for the lessons. COVID-19 pandemic, especially, makes the curriculum and content design particularly important because of the sudden transition to emergency remote teaching (ERT). Thus, with the enhanced digitalization and the decrease in interpersonal exchanges, materials previously used in face-to-face education may prove inadequate. Consequently, not only for ERT in the COVID-19 era but also for the continuation of the use of remote learning tools after the pandemic, curriculum designers and material developers can be trained in

developing the type of content that students would find interesting and relevant to their lives.

Thirdly, as attitude was one of the strong predictors of BI to use remote learning tools, importance can be given to boosting students' positive attitudes towards such tools. This may be accomplished through training in using such tools by which students can be more aware of the advantages of using them. Also, all the functions of remote learning tools can be provided along with customized materials to make these tools more attractive to students (Wang, 2021).

Another strong predictor of BI to use remote learning tools is perceived usefulness. Providing suitable materials and platforms is key to encourage continuous use of remote learning tools (Wang, 2021). Considering this, a variety of these tools can be offered to students as they find them effective while studying English. However, the purpose should not be just implementing technology in education, but instead, finding the most appropriate ways to ensure continuance intention to use remote learning tools (Fathali & Okada, 2018).

In addition, the findings regarding students' technology acceptance of remote learning tools may help curriculum designers and policymakers to be aware of the factors influencing students' attitudes towards such tools and their BI to use them. Moreover, phenomena such as disengagement of the students and their active participation in using the tools could be better addressed through the implementation of the findings from research similar to the present study (Tfazflkou, Perifanou, & Economides, 2021). It should be taken into consideration that, even when the COVID-19 ceases to



be an issue in education, “‘Pandora’s box’ has been opened, which leaves room for multiple institutional evaluations and a review of the professional development of members of the teaching staff, by reconsidering the role both of digital competencies and didactic ones” (Popa et al., 2021, p. 11).

### **5.3. Recommendations for Further Research**

The present study constitutes a backdrop for further studies on the use of remote learning tools in EFL, providing significant implications for the digitalization of education in this domain. Furthermore, the methodology and the study’s findings contribute to the literature by addressing the prevalent theoretical and practical considerations in the field. Therefore, some recommendations can be given for further research.

This study was carried out in a state of crisis when the conventional forms of education changed, and emergency remote teaching (ERT) was adopted due to the COVID-19 pandemic. Therefore, the study merely investigates the current situation for BI of students to use remote learning tools and its predictors in this period. Longitudinal studies may further help measure students’ actual usage and study it as part of the model. These studies can clarify if this form of remote teaching used in this emergency will further promote online learning at the tertiary level and whether the perceived value of the English language and growth mindset will still predict BI when face-to-face education is readopted. Through such studies, the comparison between emergency remote teaching and conventional online teaching will also contribute to the literature.

Moreover, the present study used an adaptation of the original TAM. Similar studies can be conducted on this topic using other models such as TAM2, TAM3, and UTAUT, which include various factors to the core factors. For instance, the external variables could also include students' anxiety or perceived isolation (Tzafklou et al., 2021) as well as technical problems, teachers' lack of technology knowledge, and teaching styles (Coman et al., 2020). These would enrich the literature regarding the situation of emergency remote teaching during the COVID-19 period. After the pandemic, such studies can be carried out in face-to-face, blended, and conventional online education to enhance the relevant literature's scope.

The study's findings contributed to the literature in the most meaningful way by indicating that the perceived value of the English language was the strongest motivational variable in predicting English preparatory school students' BI to use remote learning tools. It is evident that students' purpose while using these tools and the value they attach to the specific subject has been proven to influence BI. For this reason, an analytical focus on subjective task values and their impacts on BI to use remote learning tools should be further extended in the literature. Moreover, the scale used in the present study needs further validation with different populations. Also, research in different local and international contexts after the pandemic could help improve the framework.

Additionally, because of the lack of studies on the mindsets at the tertiary level, especially for students using online learning (Clark & Sousa, 2018), the study contributes to the domain-specific analyses of this relationship by focusing on English

preparatory school students. Replication of this study can be carried out to explore the relationship between students' domain-general mindsets and BI to use remote learning tools. Domain-specific mindset studies would be consequential for the literature in the field of education. The theoretical considerations of such research would also carry significance for intersectional studies in psychology, policy-making, and other similar areas.

Furthermore, the variables predicting BI to use remote learning tools used in the study are theoretically of great importance, in their own right, to the research efforts in education, notably in light of rapid digitalization. Especially mindset and perceived value of the English language can be investigated to determine what factors influence them. In this way, steps can be taken to study these variables in more detail in an effort to ensure that students continue to use remote learning tools.

In addition, as the accessible population was only the one private university in Turkey, similar studies should be carried in the EFL context in state and private universities in Turkey to be able to make generalizations regarding the EFL preparatory school students' BI to use remote learning tools and its predictors in this national frame. Variables such as school type (state vs. private university) and proficiency levels can be studied to understand better factors affecting BI to use such tools. Similar studies conducted in primary and secondary schools and the tertiary level may further diversify the findings in this area of research. Alternatively, the same research design and the focus on the acceptance of remote learning tools among university students could prove contributive to the field of education if replicated in different national

settings. At the same time, the international learning context could also present interesting findings of the relationship between the aforementioned variables.

Also, studies can be carried out to investigate the use of MyGrammarLab and its role in the technology acceptance of students in various contexts to contribute to the literature about remote learning tools. Instead of merely focusing on the usage of such tools, the relationship between the use of these specific tools and students' BI to use them can be studied. The results of the studies on such particular tools may help relevant parties to use or not use these tools depending on students' acceptance. The findings can help instructors, curriculum designers, content-makers, and policymakers to decide to improve the ones that students do not find helpful or appropriate. Hence, this focus would carry more consequences to implementing and integrating such research findings on the practical level.

Lastly, although the present study was limited in its scope by certain factors, such as time allocated to the research process and the geographical consideration, the researcher recognizes the importance of methodological versatility and intersectionality in conducting this type of research. Therefore, from the methodological point of view, including qualitative data in the design in further studies could be helpful for a deeper investigation of learners' acceptance of remote learning tools. Such studies may lead to the discovery of more factors that predict continuance in the use of remote learning tools, while the present study could provide a comparative ground and a theoretical backdrop for further studies.

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## **APPENDICES**

### **APPENDIX A**

#### **SAMPLE ITEMS FROM DATA COLLECTION INSTRUMENTS**

Sevgili Öğrencimiz,

Aşağıda İngilizce dili için algılanan değer, uzaktan öğrenme araçları kullanımı ve zihniyete dair sorular yer almaktadır. Bu soruları içtenlikle doldurmanız daha doğru sonuçlara ulaşılmasına katkı sağlayacaktır. Sizden kimlik belirleyici hiçbir bilgi istenmemektedir. Cevaplarınız tamamıyla gizli tutulacak, sadece araştırmacılar tarafından değerlendirilecektir. Katılımcılardan elde edilecek bilgiler bilimsel yayınlarda kullanılacaktır. Soruları boş bırakmamaya özen gösteriniz. Katılımınız için şimdiden teşekkür ederiz.

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## BÖLÜM I

YÖNERGE: *Bu bölüm, İngilizce diline dair algınızı incelemektedir. Lütfen verilen ifadelerin sizin için ne kadar doğru/yanlış olduğunu, ilgili rakamı işaretleyerek belirtiniz.*

**1**            **2**            **3**            **4**            **5**            **6**            **7**            **8**

Kesinlikle Yanlış

Kesinlikle Doğru

Lütfen her öge için uygun yanıtları seçin:

	1	2	3	4	5	6	7	8
1. İngilizce öğrenmek benim için önemlidir.								
9. İngilizce ödevlerini yapmayı seviyorum.								

## BÖLÜM II

*YÖNERGE: Bu bölümde uzaktan öğrenme platformlarının kullanımına yönelik algınız incelenmektedir. Uzaktan öğrenme platformları, COVID-19 nedeniyle derslerde ve ölçme/değerlendirme süreçlerinde düzenli olarak kullanılan Moodle, MyGrammarLab, MyReadingLab gibi platformları kapsamaktadır. Lütfen soruları bu araçlarla olan deneyiminizi düşünerek cevaplayınız. Lütfen ifadelerle ne ölçüde katılıp katılmadığınızı ilgili seçeneği işaretleyerek belirtiniz.*

Lütfen her öge için uygun yanıtları seçin:

Hiç katılmıyorum (1)

Katılmıyorum (2)

Ne katılmıyorum ne de katılıyorum (3)

Katılıyorum (4)

Tamamen Katılıyorum (5)

	1	2	3	4	5
2. Uzaktan öğrenme araçlarını kullanmakta zorlanırım.					
6. İngilizce öğrenme etkinliklerimde uzaktan öğrenme araçlarını gelecekte de kullanma niyetindeyim.					
10. Uzaktan öğrenme araçlarının kullanımını kolaydır.					

### BÖLÜM III

YÖNERGE: *Amacı zekaya ilişkin görüşlerinizi incelemek olan bu bölümde, verilen ifadelere ne ölçüde katıldığınızı/katılmadığınızı lütfen ilgili rakamı işaretleyerek belirtiniz.*

Lütfen her öge için uygun yanıtları seçin:

Hiç Katılmıyorum (1)

Çoğunlukla Katılmıyorum (2)

Biraz Katılmıyorum (3)

Biraz Katılıyorum (4)

Çoğunlukla Katılıyorum (5)

Tamamen Katılıyorum (6)

	1	2	3	4	5	6
3. Her kim olursanız olun, zeka düzeyinizi önemli ölçüde değiştirebilirsiniz.						
6. Yeni şeyler öğrenebilirsiniz ancak sahip olduğunuz temel zeka düzeyinizi değiştiremezsiniz.						

## BÖLÜM IV

1. Yaşınız:

2. Cinsiyetiniz:

3. İngilizce sınıf seviyeniz:

- A
- B
- C
- D

4. Kişisel bilgisayarınız/tabletiniz var mı?

- Var
- Yok

5. Ders saatleri dışında, günde ortalama kaç saat internet kullanıyorsunuz?

6. MyReadingLab platformunu haftada ortalama kaç saat kullanıyorsunuz?

7. MyReadingLab platformunu haftada ortalama kaç saat kullanıyorsunuz?

8. Mobil uygulamaları İngilizce öğrenmek için ne sıklıkla kullanıyorsunuz?

	Hiçbir Zaman	Nadiren	Bazen	Çoğu Zaman	Her Zaman
Duolingo					
Busuu					
Cake					
Memrise					
Hellotalk					
Voscreen					
BBC Learning English					
EWA					

9. 8. soruda verilenlerin haricinde, İngilizce öğrenmek için kullandığınız başka mobil uygulama varsa lütfen yazınız.



## APPENDIX B

### APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ  
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21 ARALIK 2020

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

#### Sayın Yeşim Çapa AYDIN

Danışmanlığını yaptığımız Metin Halis KAYA'nın "*İngilizce Hazırlık Öğrencilerinin Teknoloji Kabul Düzeyleri, İngilizce Diline Dair Algıdıkları Değer ve Zihniyetleri Arasındaki İlişkinin İncelenmesi*" başlıklı araştırmanız İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve **383-ODTU-2020** protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerinize sunarız.

Prof.Dr. Mine MISIRLISOY  
İAEK Başkanı

## APPENDIX C

### TURKISH SUMMARY / TÜRKKÇE ÖZET

#### GİRİŞ

COVID-19 salgını sebebiyle yüz yüze eğitimden çevrimiçi eğitime geçiş, Acil Uzaktan Öğretim (AUÖ) kavramının ortaya çıkışına vesile olmuştur (Hodges vd., 2020). Bu dönemde öğrenciler, derslerine devam edebilmek için uzaktan öğrenme araçlarını kullanmak zorunda kalmıştır. Bu nedenle, öğrencilerin bu araçlara bakış açısı, eğitim alanındaki araştırmaların önemli bir gündemi haline gelmiştir. Özellikle yabancı dil olarak İngilizce öğretimi alanında, çevrimiçi veya uzaktan öğretim yeni bir kavram olmasa da, salgının sebep olduğu bu ani değişiklik hem öğretmen hem de öğrenciler için bazı zorlukları beraberinde getirebilmektedir (Eraslan, 2020). İngilizceyi yabancı dil olarak öğrenen öğrencilerin de bu süreçte uzaktan öğrenme araçlarını kullanması bir gereklilik haline geldiğinden, COVID-19 döneminde öğrencilerin bu tür teknolojik araçları kabulünün araştırılması gerekmektedir. Teknoloji kabulünde güçlü temellere dayanan Teknoloji Kabul Modeli (TKM) (Davis, 1989), yabancı dil olarak İngilizce öğrenimi gibi birçok alanda yaygın bir biçimde kullanılmıştır (Arshad vd., 2012; Aşıksoy, 2018; Çakır ve Solak, 2014; Chung vd., 2015; Selevičiene ve Burkšatiene, 2015; Tarhini vd., 2015). Bu model, farkındalık, algılanan kullanım kolaylığı, algılanan kullanılabilirlik, tutum, gerçek kullanım ve

davranışsal niyet değişkenlerini içermektedir. Salgın sürecinde, doğal olarak, teknoloji kabulüne dair henüz çok fazla araştırma yapılmamıştır. Fakat şu ana kadar birçok alanda yapılan araştırmalar, öğrencilerin salgın döneminde uzaktan öğrenme araçlarına karşı olumlu bir tutum içerisinde olduğunu göstermektedir (Gismalla vd., 2021; Khan vd., 2020; Oblitas ve Jorge, 2021; Oumar, 2021; Wang, Lin, ve Su, 2021). Fakat İngilizcenin yabancı dil olarak öğrenimi alanındaki kısıtlı araştırmalar, özellikle salgın döneminde bu alanda araştırmalar yapılmasını gerekli kılmaktadır (Alfadda & Mahdi, 2021). Bu araştırmalardan elde edilen bulgular, öğretmenlere, müfredat geliştiricilerine ve politika yapıcılara uzaktan öğrenme araçlarının etkili kullanımı konusunda değerli bilgiler sunabilir. Bunun yanında, İngilizceyi yabancı dil olarak öğrenen öğrencilerin uzaktan öğrenme araçlarına karşı davranışsal niyetlerini etkileyen faktörlerin araştırılması da, öğrencilerin eğitim süreçlerinde bu araçları kullanmaya devam edip etmemeleri konusunda önemli bulgular sunabilir.

Öğrencilerin uzaktan öğrenme araçlarını kullanmaya dair davranışsal niyetlerini etkileyebilecek bir motivasyon kavramı zihniyettir. Zihniyetler, bireylerin kendi zeka veya yeteneklerine dair temel inançlarıdır (Mercer vd., 2012). Gelişim zihniyeti ve sabit zihniyet olmak üzere iki zihniyet türü vardır. Gelişim zihniyetine sahip olan bireyler zekalarını çaba harcayarak zamanla geliştirebileceklerine inanırken, sabit zihniyete sahip olan bireyler zekalarının herhangi bir şekilde gelişmesinin mümkün olmadığına inanır (Dweck, 2000). Yabancı dil olarak İngilizce öğrenimi alanında, akademik başarı ile arasındaki ilişkinin yanı sıra, zihniyetin diğer motivasyon değişkenleri ile ilişkileri de birçok çalışmanın konusu olmuştur (Albalawi, 2018; Bai ve Guo, 2019; Collet ve Berg, 2017; Henning, 2019; Lou ve Noels, 2014; Lou ve

Noels, 2017). Fakat motivasyon konusunda bu kadar önemli olan bir kavramın öğrencilerin teknoloji kabulü ile ilişkisini irdeleyen araştırma çok sınırlıdır (Baber, 2021; Tseng vd., 2020). Bu yüzden, zihniyet ve uzaktan öğrenme araçları arasındaki ilişkiyi inceleyen araştırmalar alanyazına katkıda bulunacaktır.

Motivasyona odaklanan bir diğer kavram da Beklenti-Değer Teorisi'dir (Eccles, 1989). Teori, başarı beklentisi ve öznel değer değişkenlerinin akademik başarı, görev seçimi ve azmi yordadığını ortaya koymaktadır (Arens vd., 2018; Eccles ve Wigfield, 2002; Guo vd., 2015; MacIntyre ve Blackie, 2012; Part vd., 2020; Wigfield ve Eccles, 2000). Bunun yanında, yabancı dil olarak İngilizce öğrenimi alanında, öznel değer diğer motivasyon değişkenleriyle ilişkilerini inceleyen birçok çalışma yapılmıştır (Arens vd., 2018; Ranelucci vd., 2020; Wang ve Zhan, 2020). Teknolojik araçlarının eğitimde kullanımının yaygınlaşmasıyla, öznel değer ve teknoloji kabulünü irdeleyen araştırmalar yapılmış olsa da, öğrencilerin teknoloji kullanımına dair davranışsal niyetlerini inceleyen çalışmalar çok sınırlıdır (Ranelucci vd., 2020). Bu çalışmalar, öğrencilerin İngilizce diline ilişkin algıladıkları değer ile uzaktan öğrenme araçlarına dair davranışsal niyetleri arasında ilişkiyi kanıtlayan veriler sunmaktadır (Bailey vd., 2015; Chang, 2013; Chiu ve Wang, 2008; Chiu vd., 2007; Fryer, Bovee, ve Nakao, 2014; Khechine vd., 2020). Bu yüzden, özellikle uzaktan öğrenme araçlarının daha sık kullanıldığı COVID-19 döneminde, öğrencilerin İngilizceye karşı ilgisi, attıkları değer ve öğrenirken aldıkları zevk ile uzaktan öğrenme araçlarına dair davranışsal niyetleri arasındaki ilişki önem arz etmektedir.

Sonuç olarak, uzaktan öğrenme araçlarının kullanımının daha da yaygınlaştığı COVID-19 salgını döneminde, yabancı dil olarak İngilizce öğrenen üniversite öğrencilerinin davranışsal niyetlerine ve bunu yordayan faktörlere odaklanan yerel bağlamdaki araştırmalar alanyazına katkıda bulunacaktır. Ayrıca bu araştırmalar, yabancı dil olarak İngilizce öğretimi alanında, hem Acil Uzaktan Öğretim döneminde hem de sonrasında, politika yapıcıların durumu daha iyi analiz etmesi ve planlamalarını bu bulgulara göre yapması açısından faydalı olacaktır. Dolayısıyla, bu çalışmanın amacı cinsiyet, gelişim zihniyeti, sabit zihniyet, İngilizce diline ilişkin algılanan değer, MyGrammarLab çevrimiçi uzaktan öğrenme aracında harcanan zaman, uzaktan öğrenme araçlarına dair algılanan kullanım kolaylığı, algılanan kullanılabilirlik ve tutum değişkenlerinin İngilizce hazırlık okulu öğrencilerinin COVID-19 döneminde uzaktan öğrenme araçlarına ilişkin davranışsal niyetlerini yordama gücünü araştırmaktır.

### **Araştırma Soruları**

Çalışmada iki araştırma sorusuna cevap aranmıştır:

- İngilizce hazırlık okullarında okuyan öğrencilerin COVID-19 döneminde uzaktan öğrenme araçlarına dair algıları nasıldır (algılanan kullanılabilirlik, algılanan kullanım kolaylığı, tutum ve davranışsal niyet)?
- Cinsiyet, gelişim zihniyeti, sabit zihniyet, İngilizce diline ilişkin algılanan değer, MyGrammarLab’de harcanan zaman, MyReadingLab’de harcanan zaman, uzaktan öğrenme araçlarına dair algılanan kullanım kolaylığı, algılanan kullanılabilirlik ve tutum değişkenlerinin İngilizce hazırlık okulu öğrencilerinin

COVID-19 döneminde uzaktan öğrenme araçlarına ilişkin davranışsal niyetlerini yordama ne derecede yordamaktadır?

## YÖNTEM

### Araştırma Deseni

Çalışmanın amacı, cinsiyet, gelişim zihniyeti, sabit zihniyet, İngilizce diline ilişkin algılanan değer, MyGrammarLab platformunda harcanan zaman, uzaktan öğrenme araçlarına dair algılanan kullanım kolaylığı, algılanan kullanılabilirlik ve tutum değişkenlerinin İngilizce hazırlık okulu öğrencilerinin COVID-19 döneminde uzaktan öğrenme araçlarına ilişkin davranışsal niyetlerini yordama gücünü araştırmaktır. Manipülasyon olmadığında, iki veya daha fazla değişken arasındaki ilişkiyi incelemek için kullanılan ilişkisel araştırma modeli (Fraenkel vd., 2015) kullanılmıştır. Nicel araştırmalar bağımlı ve bağımsız değişkenler arasındaki ilişkiyi araştırdığı ve ilişkiler hakkında daha doğru bilgiler verdiği için (Fraenkel vd., 2015) nicel veri toplanmış ve veri toplama kaynağı olarak anket kullanılmıştır.

### Örnekleme

Araştırmanın hedef evreni, Ankara'da bulunan vakıf üniversitelerindeki İngilizce hazırlık okullarıdır. Erişilebilir evren ise, Ankara'da özel bir üniversitenin İngilizce hazırlık okulunda öğrenim gören 835 öğrenciden oluşmaktadır. Örnekleme büyüklüğünü belirlemek için, evren büyüklüğü ve ölçekteki madde sayısı dikkate alınmıştır. Katılımcıların evrenden seçilmesinde rastgele küme örnekleme kullanılmıştır. Araştırmaya toplam 388 İngilizce hazırlık okulu öğrencisi katılmıştır.

## Veri Toplama Araçları

Araştırmada kullanılan anket, dört farklı bölümden oluşmaktadır. İlk bölümde, Selevičienė ve Burkšaitienė (2015) tarafından uyarlanan Teknoloji Kabul Modeli anketi (Davis, 1989) kullanılmıştır. Ölçme aracı bu çalışma kapsamında araştırmacı tarafından Türkçeye uyarlanmıştır. Selevičienė ve Burkšaitienė tarafından kullanılan 'Web 2.0 araçları' terimi de bu çalışmada 'uzaktan öğrenme araçları' terimi ile değiştirilmiştir. Selevičienė ve Burkšaitienė (2015) tarafından kullanılan anket altı boyut ve 19 maddeden oluşmaktadır. Ancak “farkındalık” ve “gerçek sistem kullanımı” boyutları, katılımcılar zaten eğitimlerinin bir parçası olarak uzaktan öğrenme araçlarını kullanmak zorunda olduğu için, bu çalışmada kullanılmamıştır. Ölçek, “kesinlikle katılmıyorum (1)” ile “kesinlikle katılıyorum (5)” arasında değişen 5'li Likert tipidir ve 16 maddeden oluşmaktadır. Ölçeğin dört boyutu vardır: algılanan fayda (PU), algılanan kullanım kolaylığı (PEU), tutum (A) ve davranışsal niyet (BI). Algılanan fayda için altı madde, algılanan kullanım kolaylığı için dört madde, tutum için üç madde ve davranışsal niyet için üç madde vardır. Her boyut için örnek maddeler aşağıdaki gibidir: “Uzaktan öğrenme araçları İngilizce öğrenirken okuma becerilerimi geliştirmeme yardımcı olabilir” (PU, madde 1); “Uzaktan öğrenme araçlarının kullanımı kolaydır” (PEU, madde 10); “Uzaktan öğrenme araçları İngilizce çalışırken faydalıdır” (A, madde 11); “Gelecekte İngilizcemi geliştirmek için uzaktan öğrenme araçlarını kullanmayı düşünüyorum” (BI, madde 6). Dört boyut için Cronbach  $\alpha$  katsayıları, algılanan fayda için .85, algılanan kullanım kolaylığı için .87, tutum için .88 ve davranışsal niyet için .77'dir (Selevičienė & Burkšaitienė, 2015).

İkinci bölümde, Mills ve arkadaşları (2007) tarafından hazırlanan Öz Yeterlik Ölçeğinin bir boyutu olan İngiliz Diline İlişkin Algılanan Değer Ölçeği kullanılmıştır. Orijinal versiyon Fransızca öğrenen öğrenciler için hazırlandığından, ilgili kısımlar İngilizce diline uyum sağlayacak şekilde değiştirilmiştir. Türkçe uyarlaması bu çalışma kapsamında araştırmacı tarafından gerçekleştirilmiştir. Tek boyutlu ölçek, “kesinlikle yanlış (1)” ile “kesinlikle doğru (8)” arasında değişen 8 puanlık bir derecelendirme ölçeğinde dokuz maddeden oluşmaktadır. Örnek bir madde şu şekildedir: 'İngilizce öğrenmek keyifli bir deneyimdir' (madde 7). Cronbach  $\alpha$  katsayısı .87 olarak bulunmuştur (Mills ve diğerleri, 2007).

Araştırmada Dweck (2000) tarafından geliştirilen Örtülü Zeka Kuramları Ölçeğinin (bir diğer adıyla Zihniyet Ölçeği) Türkçe uyarlamasının (Beyaztaş ve Hymer, 2016) yetişkin versiyonu kullanılmıştır. Ölçek, gelişim zihniyeti ve sabit zihniyet olmak üzere iki boyutludur ve sekiz maddeden oluşmaktadır. “kesinlikle katılmıyorum (1)” ile “kesinlikle katılıyorum (6)” arasında değişen 6'lı Likert tipi bir ölçektir. Örnek maddeler şunlardır: “Yeni şeyler öğrenebilirsin ama temel zekanı gerçekten değiştiremezsin” (sabit zihniyet, madde 6); “Kim olursan ol, zekanı büyük ölçüde değiştirebilirsin” (gelişen zihniyet, madde 3). Cronbach  $\alpha$  katsayısı sabit zihniyet için .86 ve gelişim zihniyeti için .79'dur (Beyaztaş ve Hymer, 2016).

### **Veri Toplama Süreci**

Araştırmanın yapılabilmesi için ODTÜ İnsan Araştırmaları Etik Kurulu'ndan izin alınmıştır. Komiteden maddelerin gözden geçirilmesi veya çıkarılması yönünde herhangi bir talep olmamıştır. Araştırmacı izin aldıktan sonra yeterli katılımı sağlamak



adına ders saatleri içinde veri toplamak için hazırlık okulu müdürü ile iletişime geçmiştir. Hazırlık okulunda pilot uygulama yapılmıştır. Pilot çalışma için ölçeklerdeki madde sayısına göre öğrenci sayısı 160 olarak belirlenmiş, 132 öğrenci anketi tamamlamıştır. Katılımcıların anketi tamamlama ortalaması yaklaşık sekiz dakikadır.

Ana çalışma için 27 sınıf rastgele seçilmiştir. Öğretmenler ile iletişime geçilerek çalışma hakkında bilgi verilmiştir. Anket bağlantısı, derslerinden herhangi birinin son 10 dakikasını ankete ayırmayı kabul eden öğretmenlerle paylaşılmıştır. Anket Türkçe olduğu için öğretmenlerin anket bağlantısını paylaştıktan sonra Türk olmayan öğrencilerin oturumdan ayrılmalarına izin vermeleri istenmiştir.

### **Veri Analizi**

Üç ölçeğin faktör yapılarını kontrol etmek için istatistiksel modelleme programı MPLUS 8.1 kullanılarak doğrulayıcı faktör analizi yapılmıştır. Uyum iyiliğini değerlendirmek için ki-kare, karşılaştırmalı uyum indeksi (CFI), Tucker-Lewis indeksi (TLI), standartlaştırılmış hata kareleri ortalamasının karekökü (SRMR) ve yaklaşık hataların ortalama karekökü (RMSEA) değerleri kontrol edilmiştir.

SPSS 26.0 kullanılarak hiyerarşik çoklu regresyon analizi yapılmıştır. Yordayıcı değişkenler şu sırayla dört adımda girilmiştir: (1) cinsiyet, (2) MyGrammarLab'de harcanan zaman, (3) gelişim zihniyeti, sabit zihniyet, İngilizce diline ilişkin algılanan değer, (4) algılanan kullanışlılık, algılanan kullanım kolaylığı ve uzaktan öğrenme araçlarına karşı tutum. Bu değişkenler tarafından yordanacak sonuç değişkeni, uzaktan

öğrenme araçlarını kullanmaya yönelik davranışsal niyettir. Cinsiyet, kullanılan tek kategorik değişkendir; diğer tüm değişkenler süreklidir. Çoklu regresyon analizinin şu varsayımları irdelenmiştir: hataların normalliği, doğrusallık, eş varyanslılık, çoklu doğrusallık, hataların bağımsızlığı ve aykırı değerler. Bu çalışmada .05 alfa değeri kullanılmıştır.

### **Araştırmanın Sınırlılıkları**

Çalışmanın çeşitli sınırlılıkları vardır. İlk olarak, öz bildirim anketleri kullanıldığından, öğrencilerin fikirlerini doğru bir şekilde yansıttıkları varsayılmıştır. Ancak yanıtlar, başkaları tarafından arzu edilen yanıtlar verme eğilimi (Kuncel ve Tellegen, 2009) ve maddelerin içeriğinden bağımsız olarak derecelendirme ölçeğinin olumlu sonunu tercih etme (Weijters, Baumgartner ve Schillewaert, 2013) gibi çeşitli faktörlerden etkilenmiş olabilir. Bunun yanı sıra, hedef kitle Ankara'daki özel üniversitelerdeki İngilizce hazırlık sınıfı öğrencileri olmasına rağmen, erişilebilir nüfus sadece bir özel üniversitedeki İngilizce hazırlık okuludur. Ayrıca, ilişkisel araştırma tasarımının öngörücü doğası nedeniyle, bulgulara dayalı olarak sadece nedensel olmayan çıkarımlar yapılabilir. Son olarak, bu çalışmada uzaktan öğrenme araçları tek bir başlık altında toplandığından, bu araştırmanın sonuçlarının genellenerek tek bir uzaktan öğrenme aracı hakkında yanıltıcı çıkarımlarda bulunulmasına sebep olabilir.

## SONUÇ

İngilizce diline ilişkin algılanan değer, zihniyet ve teknoloji kabulü ile ilgili verilerini araştırmak için betimsel analiz sonuçlarına göre, sekizli derecelendirme ölçeği ile ölçülen öğrencilerin İngilizce diline ilişkin algıladıkları değer olumlu bulunmuştur ( $M = 5.96, SD = 1.08$ ). Ayrıca öğrencilerin beşli değerlendirme ölçeğinde sabit zihniyetten ziyade ( $M = 2.62, SD = 1.26$ ) gelişim zihniyetine ( $M = 4.09, SD = 1.14$ ) sahip olma eğiliminde olduğu ortaya çıkmıştır. Teknoloji kabulünün farklı boyutları ele alındığında, öğrencilerin uzaktan öğretim araçlarına karşı tutumunun ( $M = 3.35, SD = 1$ ) algılanan kullanılabilirlikten ( $M = 3.33, SD = 0.89$ ), algılanan kullanım kolaylığından ( $M = 3.27, SD = 0.82$ ) ve davranışsal niyetlerinden ( $M = 2.93, SD = 1.17$ ) daha yüksek olduğu bulunmuştur.

Cinsiyet, gelişim zihniyeti, sabit zihniyet, İngilizce diline ilişkin algılanan değer, uzaktan öğrenme araçlarının algılanan kullanım kolaylığı, uzaktan öğrenme araçlarının algılanan kullanılabilirliği, uzaktan öğrenme araçlarına karşı tutum ve MyGrammarLab'de harcanan zamanın, öğrencilerin uzaktan öğrenme araçlarını kullanmada davranışsal niyetlerini ne derece yordadığını incelemek için hiyerarşik bir çoklu regresyon analizi yapılmıştır. Yordayıcı değişkenler analize şu sırayla dört adımda dahil edilmiştir: (1) cinsiyet, (2) MyGrammarLab'de harcanan zaman, (3) gelişim zihniyeti, sabit zihniyet, İngilizce diline ilişkin algılanan değer, (4) uzaktan öğrenme araçlarına dair algılanan kullanılabilirlik, algılanan kullanım kolaylığı ve tutum. Regresyon analizinin sonuçları, cinsiyet, sabit zihniyet ve algılanan kullanım kolaylığının davranışsal niyeti yordama üzerinde anlamlı bir etkisi olmadığını

göstermiştir. Fakat sonuçlar, İngilizce diline ilişkin algılanan değer, gelişim zihniyeti, algılanan fayda ve tutumun davranışsal niyeti önemli ölçüde yordadığını göstermiştir. Bu değişkenlerden en güçlü yordayıcının İngilizce diline ilişkin algılanan değer olduğu görülmüştür. Bu değişkeni tutum, gelişim zihniyeti, algılanan fayda ve MyGrammarLab'de harcanan zaman izlemiştir.

## TARTIŞMA

İngilizce diline ilişkin algılanan değer, uzaktan öğrenme araçlarının kullanımına dair davranışsal niyetin en güçlü yordayıcısı olarak bulunmuştur. İngilizce hazırlık öğrencilerinin İngilizce diline ilişkin algıladıkları değer ve öğrenme araçlarını kullanmaya yönelik davranışsal niyetleri arasındaki ilişkiyi analiz etmek için Eccles'in (1983) teorik çerçevesini kullanan başka çalışma yoktur. Ancak literatürde, başka bağlamlarda yapılan ve bu çalışmanın bulgularını destekleyen çeşitli çalışmalar bulunmaktadır (Bailey ve Almusharraf, 2015; Chang, 2013; Chiu vd., 2007; Chiu ve Wang, 2008; Fryer, Bovee ve Nakao, 2014; Khechine, Raymond ve Augier, 2020). Bu bulgular Eccles'in (2005) öznel değerlerin sürekli öğrenme için uzun vadeli motivasyonu önemli ölçüde yordayabileceği yönündeki argümanını desteklemektedir.

Sonuç olarak, bu çalışmanın bulguları ilgi çekici bir sonuca işaret etmektedir: İngiliz diline ilişkin algılanan değer, daha önceki birçok çalışmada güçlü yordayıcılar olan algılanan kullanılabilirlik, algılanan kullanım kolaylığı ve tutumdan daha güçlü bir yordayıcı olduğu bulunmuştur (Baber, 2021; Ejdays, 2021; Lee, 2010; Lee, Yoon ve Lee, 2009; Sang ve diğerleri, 2010; Tarhini ve diğerleri, 2015; Tzeng, 2011). Bu bulgular ışığında, İngilizceyi yabancı dil olarak öğrenen öğrencilerin COVID-19

döneminde uzaktan öğrenme araçlarını kullanmaya yönelik davranışsal niyetlerini belirlemede algılanan kullanılabilirlik ve tutumun yeterli olmadığı sonucuna varılabilir (Almaraeh, 2014; Coman vd., 2020; Venkatesh vd., 2003; Zare vd., 2016). Bulgular, İngilizce diline dair öznel değer, öğrencilerin uzaktan öğrenme araçlarını kullanma motivasyonunu önemli ölçüde etkilediğini ortaya koymuştur. Ayrıca öğrencilerin uzaktan öğrenme araçlarını kullanma amacının, öğrencilerin bu araçları kullanmaya yönelik davranışsal niyetlerini belirlemede önemli bir faktör olduğu sonucuna varılabilir. Özellikle COVID-19 salgını nedeniyle geçiş yapılan Acil Uzaktan Öğretim (AUÖ) döneminde, İngilizce hazırlık öğrencilerinin uzaktan öğrenme araçlarını kullanma amacının, bu araçları kullanmaya devam etme niyetleri üzerinde önemli bir etkisi olduğunu görülmektedir. Ancak, salgın sona erdikten sonra, bu öğrencilerin İngilizce diline ilişkin algıladıkları değer uzaktan öğrenme araçlarının kullanımına yönelik davranışsal niyetlerini hala yordayıp yordamadığı mevcut bulgularla karşılaştırmalı bir çerçevede araştırılmalıdır.

Uzaktan öğrenme araçlarının kullanımına ilişkin algılanan fayda ve tutum, davranışsal niyeti önemli ölçüde yordamıştır. Sonuç, Davis (1989) tarafından yürütülen her iki çalışmanın bulguları ile uyumludur. Fakat algılanan kullanım kolaylığı, uzaktan öğrenme araçlarını kullanmaya yönelik davranışsal niyeti yordamamıştır. Venkatesh ve Davis'in (2000) Teknoloji Kabul Modeli 2 üzerinde çalışırken algılanan kullanım kolaylığının kullanım niyetlerinin güçlü bir yordayıcısı olduğunu bulmalarına rağmen, bu alanda yapılan son çalışmalar mevcut çalışmanın bulgularını doğrulamaktadır (Baber, 2021; Ejdays, 2021; Lee, 2010; Lee, Yoon ve Lee, 2009; Sang vd., 2010; Tarhini vd., 2015; Tzeng, 2011). İngilizcenin yabancı dil olarak öğrenimi bağlamında

olmasa da, Türkiye'de Yalçın ve Kutlu (2019) tarafından yapılan bir araştırma, üniversite öğrencilerinin öğrenme yönetim sistemlerine dair algıladıkları kullanılabilirliğin, kullanma niyetlerini öngördüğünü göstermiştir.

Dolayısıyla, çıkarılabilecek bir başka sonuç, öğrencilerin uzaktan öğrenme araçlarını ne kadar yararlı bulurlarsa, gelecekte bunları kullanma konusunda o kadar kararlı olduklarıdır. Ayrıca, öğrencilerin uzaktan öğrenme araçlarını kullanmaya yönelik olumlu bir tutuma sahip olmaları, bu araçları kullanmaya devam etmelerini sağlayabilir. Algılanan kullanım kolaylığı değişkenine ilişkin bulguların bir nedeni, bu yaştaki öğrencilerin “bilgisayarlar, video oyunları, dijital müzik çalarlar, video kameralar, cep telefonları ve dijital dünyanın diğer tüm oyuncak ve araçlarıyla çevrelenmiş olmaları ve bunları kullanmaları” (Prensky, 2001, s. 1) ve dolayısıyla bu araçları kolaylıkla hayatlarının bir parçası haline getirebilmeleri olabilir.

Ayrıca bulgular, gelişim odaklı bir zihniyetin, sabit zihniyetin aksine, öğrencilerin uzaktan öğrenme araçlarını kullanmaya dair davranışsal niyetini önemli ölçüde yordadığını göstermiştir. Alanyazında İngilizcenin yabancı dil olarak öğrenimi alanında uzaktan öğrenme araçlarını kullanmaya yönelik zihniyet ve davranışsal niyet arasındaki ilişkiyi araştıran çalışma bulunmamaktadır. Fakat konuyla ilgili bir çalışmada Tseng, Kuo ve Walsh Jr. (2020), gelişim zihniyetinin üniversite öğrencilerinin çevrimiçi katılımı ile olumlu bir ilişkisi olduğunu bulmuşlardır. Benzer şekilde Baber (2021), COVID-19 salgını döneminde üniversite öğrencilerinin gelişim zihniyetinin bir çevrimiçi öğrenme sisteminin kullanımına dair davranışsal niyeti yordadığını ortaya koymuştur. Bu nedenle, bu çalışmanın sonuçları, gelişim

zihniyetinin öğrencilerin uzaktan öğrenme araçlarını kullanma davranışsal niyetleri üzerindeki olumlu etkisi hakkında alanyazındaki genel sonuca katkıda bulunmaktadır. TKM'nin başlangıcından bu yana birtakım değişkenlerin eklenmesi yoluyla birçok uyarlaması göz önüne alındığında, alanda bu kadar etkili olan bir motivasyon değişkeninin benzer şekilde eklenip çalışılmamış olması şaşırtıcıdır. Bu nedenle çalışma, İngilizce hazırlık okulu öğrencilerine odaklanarak bu ilişkinin alana özgü analizlerine katkıda bulunmaktadır.

MyGrammarLab'de harcanan sürenin de uzaktan öğrenme araçlarının kullanımına dair davranışsal niyete katkı sağladığı bulunmuştur. Bunun olası bir açıklaması, öğrencilerin dilbilgisi alıştırmaları yaparken performanslarında gözlemleyebilecekleri etki olabilir. Her dilbilgisi konusunda birden fazla alıştırma olduğu için, sonraki alıştırmalardaki performansın artması, öğrencilere aracın gelecekte de çalışmalarında yardımcı olabileceği fikrini verebilir. Mevcut çalışma sonuçlarıyla karşılaştırmak için bu uzaktan öğrenme aracına odaklanan herhangi bir çalışma yapılmamıştır. Ancak mevcut çalışmanın bulguları, MyGrammarLab'i İngilizce öğrenimlerinde zaten bir tür uzaktan öğrenme aracı kullanan öğrencilerin gelecekte uzaktan öğrenme araçlarını kullanmaya devam etme eğiliminde olduklarını göstermektedir. MyGrammarLab'de harcanan zamana ilişkin bu bulgular, belirli dil becerilerine odaklanan uzaktan öğrenme araçlarının kullanımını araştıran çalışmaların sınırlı olduğu alanyazına katkı sağlamaktadır.

Son olarak, cinsiyetin öğrencilerin uzaktan öğrenme araçlarını kullanmaya dair davranışsal niyetlerini yordamadığı bulunmuştur. Bu bulgu, benzer araştırmalardaki

bulguları desteklemektedir (Alfadda ve Mahdi, 2021; Lu, Lin ve Fan, 2013; Selevicene, 2015; Teo, Fan ve Du, 2015; Wang ve Wang, 2010; Whitley, 1997;). Öte yandan, öğrencilerin teknoloji kabulü üzerinde cinsiyetin önemli bir rolü olduğunu savunan çalışmalar da bulunmaktadır (Padilla-Meléndez vd., 2013; Sánchez-Franco, 2006; Terzis ve Economides, 2011). Ancak bu çalışmalarda teknoloji kabulüne odaklanılsa da, cinsiyetin oynadığı rol davranışsal niyetle değil, algılanan kullanım kolaylığı ve kullanılabilirliğiyle ilişkilendirilmiştir.

### **Uygulamaya Yönelik Öneriler**

Uygulamaya yönelik ilk öneri, COVID-19 döneminde gelişim zihniyetine sahip öğrencilerin gelecekte İngilizce öğrenmek için uzaktan öğrenme araçlarını kullanmak istemesiyle ilgilidir. Öğrencilerin Acil Uzaktan Öğretim (AUÖ) döneminde gelişim zihniyetini geliştirmelerine yardımcı olacak zihniyet müdahaleleri, öğrencilerin uzaktan öğrenme araçlarını kullanmaya devam etmesini sağlayabilir. Ayrıca, bu müdahalelerin politika yapıcılar ve okul yönetimi tarafından desteklenmesi gerekmektedir. Bunun yanı sıra, yazma ve konuşma değerlendirmeleri için puanlama yönergeleri geliştirilirken, öğrencilerin harcadığı çaba da ölçütlerin bir parçası olarak düşünülmelidir. Ek olarak, öğretmenlere hizmet içi mesleki gelişim faaliyetleri yoluyla zihniyet konusunda eğitim verilebilir. Öğretmenler hataların öğrenmenin doğal bir parçası olduğunu vurgulayarak ve onları hata yapmaya teşvik ederek öğrencilerin zihniyetlerini geliştirebilirler (Prince, 1991).

İngilizce dilinin algılanan değeri, çalışmada uzaktan öğrenme araçlarını kullanmaya yönelik davranışsal niyetin bir yordayıcısı olduğundan öğretmenler, öğrencilerin derse



dair öznel değerlerini geliştirmelerine yardımcı olabilir. Bu, belirli aktivitelerin yapmanın gerekçelerini açıklayarak, bu aktivitelerin kendileri için neden önemli olduğu hakkında konuşarak, öğrencileri bir rol model olarak konuya kişisel ilgi duymaya teşvik ederek ve öğrencilere derste daha fazla söz sahibi olma şansı vererek yapılabilir (Schunk vd., 2014). Ayrıca program geliştirme ve materyal birimleri, öğrencilerin ilgi duyacağı de temalar, konular ve materyaller seçebilir. Özellikle COVID-19 salgını nedeniyle benimsenen Acil Uzaktan Öğretimde (AUÖ) yüz yüze eğitimde kullanılan materyaller ve etkinlikler yetersiz kalabileceğinden, müfredat ve içerik tasarımını özellikle önemli kılmaktadır. Sonuç olarak, yalnızca COVID-19 döneminde değil, aynı zamanda salgın sonrasında uzaktan öğrenme araçlarının kullanımının devam etmesi için, müfredat tasarımcıları ve materyal geliştiriciler, öğrencilerin ilginç ve alakalı bulacağı içerik türlerini geliştirme konusunda eğitilebilir.

Tutum, uzaktan öğrenme araçlarını kullanmaya yönelik davranışsal niyetin güçlü yordayıcılarından biri olduğundan, öğrencilerin bu tür araçlara yönelik olumlu tutumlarını artırmaya önem verilebilir. Bu, öğrencilerin bu araçları kullanmanın avantajlarının daha fazla farkına varabilecekleri eğitimler yoluyla gerçekleştirilebilir. Ayrıca, uzaktan öğrenme araçlarının tüm işlevleri, bu araçları öğrenciler için daha çekici hale getirmek için özelleştirilmiş materyallerle birlikte sunulabilir (Wang, 2021).

Uzaktan öğrenme araçlarını kullanmaya yönelik davranışsal niyetin bir başka güçlü yordayıcısı da algılanan kullanılabilirliktir. İyi seçilmiş materyaller ve uzaktan öğrenme araçları sağlamak, bu araçların sürekli kullanımını teşvik etmede yardımcı olur (Wang,

2021). Ancak amaç sadece teknolojiyi eğitimde uygulamak değil, uzaktan öğrenme araçlarını kullanma niyetinin devamlılığını sağlamak için en uygun yolları bulmak olmalıdır (Fathali ve Okada, 2018).

Son olarak, öğrencilerin uzaktan öğrenme araçlarını teknoloji kabulüne ilişkin bulguların yardımıyla, program geliştiriciler ve politika yapıcılar, öğrencilerin bu tür araçlara yönelik tutumlarını ve gelecekte bunları kullanmaya yönelik davranışsal niyetlerini etkileyen faktörlerin farkında olmalıdır. COVID-19 salgını eğitimde bir sorun olmaktan çıktığında bile, ‘Pandora'nın kutusu’ açılmıştır ve bu, kurumların, çalışanların hem dijital yetkinliklerin hem de didaktik yetkinliklerinin hesaba katılarak, mesleki gelişim süreçlerini gözden geçirmesini gerektirmektedir (Popa vd., 2021).

### **Araştırmaya Yönelik Öneriler**

Bu çalışma, COVID-19 salgını nedeniyle geleneksel eğitim biçimlerinin değiştiği ve acil uzaktan öğretimin (AUÖ) benimsendiği bir kriz durumunda gerçekleştirilmiştir. Bu nedenle mevcut çalışma, öğrencilerin uzaktan öğrenme araçlarını kullanmaya yönelik davranışsal niyetlerinin yordayıcılarını mevcut kriz durumunda araştırmaktadır. Bu konuda yapılacak boylamsal çalışmalar, TKM'nin bir parçası olan gerçek kullanın değişkenini incelemeye yardımcı olabilir. Bu tarz çalışmalar, acil uzaktan öğretim döneminin, yükseköğretim düzeyinde çevrimiçi öğrenmeyi salgın sonrasında da teşvik edip etmediğini inceleyebilir. Ayrıca, İngilizce diline ilişkin algılanan değer ve gelişim zihniyetinin yüz yüze eğitime yeniden geçildiğinde davranışsal niyeti yordayıp yordamayacağını açıklığa kavuşturabilir.

Bu çalışmada Teknoloji Kabul Modeli'nin (TKM) bir uyarlaması kullanılmıştır. TAM2, TAM3 ve UTAUT gibi modeller kullanılarak bu konuda benzer çalışmalar yapılabilir. Örneğin, dışsal değişkenler arasında öğrencilerin kaygısı veya algılanan izolasyonu (Tzafklou vd., 2021) ile teknik sorunlar, öğretmenlerin teknoloji bilgisi eksikliği ve öğretim tarzları (Coman vd., 2020) yer alabilir. Salgın sonrası ilgili alanyazının kapsamını genişletmek için bu tür çalışmalar yüz yüze, harmanlanmış ve çevrimiçi eğitimde gerçekleştirilebilir.

Bu çalışma, İngilizce diline ilişkin algılanan değer, İngilizce hazırlık sınıfı öğrencilerinin uzaktan öğrenme araçlarını kullanmaya yönelik davranışsal niyetlerini yordamada en güçlü değişken olduğunu ortaya koyarak alanyazına en anlamlı şekilde katkıda bulunmuştur. Bu nedenle, alanyazında farklı konular ve derslere dair öznel değerler ve bunların uzaktan öğrenme araçlarını kullanmaya yönelik davranışsal niyet üzerindeki etkilerine odaklanılabilir. Ayrıca, salgın sonrası farklı yerel ve uluslararası bağlamlarda benzer araştırmalar yapmak, alanyazına katkı sunabilir.

Yükseköğretim düzeyinde özellikle çevrimiçi öğrenmeyi deneyimleyen öğrencilerin genel zihniyeti üzerine yapılan çalışmaların eksikliği nedeniyle (Clark ve Sousa, 2018) bu çalışma, İngilizce hazırlık okulu öğrencilerine odaklanarak bu ilişkinin alanyazınına katkıda bulunmaktadır.

Çalışmada kullanılan ve uzaktan öğrenme araçlarını kullanmaya dair davranışsal niyeti yordayan değişkenlerin her biri, özellikle hızlı dijitalleşme sebebiyle, ilgili alanyazın için büyük önem taşımaktadır. Özellikle zihniyeti ve İngiliz diline ilişkin algılanan değer, hangi faktörlerin onları etkilediğini belirlemek için araştırılabilir. Bu sayede

öğrencilerin uzaktan öğrenme araçlarını kullanmaya devam etmelerini sağlamak için bu değişkenleri daha detaylı incelemeye yönelik adımlar atılabilir.

Erişilebilir evrenin Türkiye'deki sadece bir özel üniversite olması nedeniyle, İngilizce hazırlık sınıfı öğrencilerinin uzaktan eğitime yönelik davranışsal niyetleri ve yordayıcıları konusunda genellemeler yapabilmek için benzer çalışmaların Türkiye'deki diğer devlet ve vakıf üniversitelerinde aynı bağlamda yapılması gerekmektedir. Bu tür araçları kullanmaya yönelik davranışsal niyeti etkileyen faktörleri daha iyi anlamak için okul türü (devlet ve vakıf üniversiteleri) ve yeterlilik düzeyleri gibi değişkenler üzerinde çalışılabilir. İlkokul, ortaokul, lise ve yükseköğrenim düzeyinde yürütülen benzer çalışmalar, bu araştırma alanındaki bulguları daha da çeşitlendirebilir. Ayrıca, diğer ülkelerde yapılan çalışmalar da bu değişkenlere dair alanyazına katkı sağlayacak bulgular sunabilir.

İlgili alanyazına katkı sağlamak için MyGrammarLab ve benzer uzaktan öğrenme araçlarının öğrencilerin teknoloji kabulündeki rolü ile ilgili çalışmalar yapılabilir. Sadece bu tür araçların kullanımına odaklanmak yerine, bu araçlara dair algı ve davranışsal niyet arasındaki ilişki incelenebilir.

Son olarak, benzer araştırmalara nitel verilerin dahil edilmesi, öğrencilerin uzaktan öğrenme araçlarının kullanımına dair davranışsal niyetlerinin derinlemesine araştırılmasına yardımcı olabilir. Bu tür çalışmalar, uzaktan öğrenme araçlarının kullanımına dair davranışsal niyeti yordayan başka faktörlerin keşfedilmesini sağlayabilir.

## APPENDIX D

### THESIS PERMISSION FORM / TEZ İZİN FORMU

#### ENSTİTÜ / INSTITUTE

- Fen Bilimleri Enstitüsü** / Graduate School of Natural and Applied Sciences
- Sosyal Bilimler Enstitüsü** / Graduate School of Social Sciences
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**TEZİN ADI / TITLE OF THE THESIS (İngilizce / English):** Predictors of Preparatory School Students' Behavioral Intention to Use Remote Learning Tools in the Covid-19 Era

**TEZİN TÜRÜ / DEGREE:** **Yüksek Lisans / Master**  **Doktora / PhD**

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2. **Tez iki yıl süreyle erişime kapalı olacaktır.** / Secure the entire work for patent and/or proprietary purposes for a period of **two years.** \*
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