THE EFFECT OF USING THE QUIZIZZ AS ONLINE GAME-BASED LEARNING PLATFORM ON PRIMARY TURKISH EFL LEARNERS' LISTENING SKILLS IMPROVEMENT

DARIUSH KAZEMNIA

JULY 2022

THE EFFECT OF USING THE QUIZIZZ AS ONLINE GAME-BASED LEARNING PLATFORM ON PRIMARY TURKISH EFL LEARNERS' LISTENING SKILLS IMPROVEMENT.

A THESIS SUBMITTED TO THE
GRADUATE SCHOOL
OF
BAHCESEHIR UNIVERSITY

BY

DARIUSH KAZEMNIA

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF EDUCATION
IN THE DEPARTMENT OF EDUCATIONAL TECHNOLOGY

JULY 2022

T.C.

BAHCESEHIR UNIVERSITY

GRADUATE SCHOOL

MASTER THESIS APPROVAL FORM

Program Name:	Educational Technology
Student's Name and Surname:	Dariush Kazemnia
Name of the Thesis:	The effect of using the Quizizz as an online game-based learning platform on primary Turkish EFL learners' listening skills improvement.
Thesis Defense Date:	01.07.2022

This thesis has been approved by the Graduate School which has fulfilled the necessary conditions as Master thesis.

Prof. Dr. Ahmet ÖNCÜ

Institute Director

This thesis was read by us, quality and content as a Master's thesis has been seen and accepted as sufficient.

	Title/Name	**Signature**
Thesis Advisor's	Prof. Dr. Ali ŞİMŞEK	
Member's	Prof. Dr. Rauf YILDIZ	
Member's	Dr. Sezin Eşfer ÖNDÜNÇ	

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.

Name, Last Name: Dariush Kazemnia

Signature:

ABSTRACT

THE EFFECT OF USING THE QUIZIZZ AS AN ONLINE GAME-BASED LEARNING PLATFORM ON PRIMARY TURKISH EFL LEARNERS' LISTENING SKILLS IMPROVEMENT.

Kazemnia, Dariush
Master's Program in Educational Technology
Supervisor: Prof. Dr. Ali ŞİMŞEK

July 2022, 95 pages

Language teaching is known as a complex process. In this context, many different methods are used to overcome the difficulties of teaching English. Educational games seem to have a significant role in the new era which is dominated by technology and the globalization. Due to the importance of teaching methods, this study is to identify the effects of the online Quizizz Game-Based Learning (GBL) platform on learning of listening, attitude towards listening, and permanence of knowledge learned. Furthermore, exploring the attitudes of the learners in the Quizizz Game-Based Learning (GBL) platform group is the other purpose of the study. The study group was selected from 44 3rd grade primary students in a private school in Istanbul-Turkey. For this purpose pre-test in listening, post-test in listening, and t-test were administrated to the learners in both groups. Also, one attitude scale was used for the experimental group. In the experimental group, to access the game, students were required to browse the Quizizz website using a web-connected device and input a code issued by the instructor. Students were given instructions on how to log in and use the gamified website, however, in the control group, listening was practiced without games in traditional classrooms. The results of independent samples t-tests showed the

effectiveness of the Quizizz GBL platform in listening learning and retention. The results of the attitude scale approved the effectiveness of games on English learning in listening performance. The pedagogical implications are discussed.

Keywords: Listening performance, Attitudes toward learning, Quizziz, Game-based learning

ÖZ

ÇEVRİMİÇİ OYUN TABANLI ÖĞRENME PLATFORMU OLARAK QUIZIZZ KULLANIMININ İLKOKULDAKİ TÜRK EFL ÖĞRENCİLERİNİN DİNLEME BECERİLERİNİN GELİŞTİRİLMESİNE ETKİSİ

Kazemnia, Dariush
Eğitim Teknolojisi Yüksek Lisans Programı
Tez Danışmanı: Prof. Dr. Ali ŞİMŞEK

Temmuz 2022, 95 sayfa

Dil öğretimi karmaşık bir süreçtir. Bu süreçte karşılaşılan zorlukların üstesinden gelmek için birçok farklı yöntemden yararlanılmaktadır. Bunlardan biri olarak karşımıza çıkan eğitici oyunlar, teknolojinin ve küreselleşmenin hâkim olduğu yeni çağda yerini almış bulunmaktadır. Yapılan bu çalışmada, çevrimiçi Quizizz Oyun Tabanlı Öğrenme platformunun ana dili Türkçe olan öğrencilerin İngilizce öğrenirken dinleme öğrenmesine ve öğrenilenlerin kalıcılığına etkisini incelemek amaçlanmıştır. Aynı zamanda öğrencilerin Quizizz Oyun Tabanlı Öğrenme platformuna karşı tutumlarının da incelenmesi çalışmanın diğer amacıdır. İstanbul-Türkiye'de özel bir ilkokulda bulunan 44 3. sınıf öğrencisi deney ve kontrol grubu olarak araştırmanın çalışma grubunu oluşturmaktadır.Bu amaçla, her iki gruptaki öğrencilere ön-test, son test ve kalıcılık testleri uygulanmıştır. Ayrıca deney grubu için bir tutum ölçeği kullanılmıştır. Deney grubu öğrencilerine öğretim üyesi tarafından verilen bir kod aracılığı ile internete bağlı bir cihaz üzerinden Quizizz web sitesinden quize erişmeleri sağlanırken, kontrol grubu öğrencilerinde geleneksel sınıf tekniği ile oyunsuz dinleme uygulamaları yapılmıştır. Tutum ölçeğinden elde edilen verilerin, Quizizz GBL platformunun kullanıldığı grubun diğer gruba göre dinlemeyi öğrenme ve kalıcı öğrenmeyi daha etkili bir şekilde sağladığı sonucunu vermiştir. Ayrıca tutum ölçeğinin sonuçları, eğitsel oyunların dinleme performansında İngilizce öğrenimi üzerinde

olumlu rol onaynadı gözlemnmiş ve eğitsel açıdan sonuçları da tartışılmıştır.

Anahtar Kelimeler: Dinleme performansı, Öğrenmeye yönelik tutumlar, Quizziz, Oyun tabanlı öğrenme

To My Dear Family

ACKNOWLEDGEMENTS

I would like to show my appreciation to my supervisor Prof. Dr. Ali ŞİMŞEK, who guided me throughout this thesis with his advice, criticism, and encouragement. I must also thank Dr. Yavuz Samur, head of the Educational Technology Department at Bahcesehir University, and all my instructors throughout the master's program.

I also like to thank my parents for their endless support during this journey. Most importantly, I am grateful to my dear friend and classmate, Behnam Mirpour, for his encouragement and support throughout the past two years. Without his constructive ideas, I could not have been able to overcome the intensive period of thesis time.

TABLE OF CONTENTS

LIST OF TABLES

TABLES

LIST OF FIGURES

FIGURES

LIST OF ABBREVIATIONS

CALL	Computer Assisted Language Learning
EFL	English as a Foreign Language
EFP	English File Pronunciation
FLA	Foreign Language Anxiety
FLCAS	Foreign Language Classroom Anxiety Scale
GBL	Game-Based Learning
HELLO	Handheld English Language Learning Organization
ICT	Information and Communication Technology
LCT	Listening Comprehension Test
MMOG	Massively Multiplayer Online Games
MMORPG	Massively Multiplayer Online Role-Playing Games
MALL	Mobile Assisted Language Learning
TEYL	Teaching English for Young Learners
TELL	Technology Enhanced Language Learning

Chapter 1

Introduction

Listening, as a primary component, is crucial in language acquisition and instruction. In daily life, listening is the most prevalent communication activity: we may anticipate listening two times as good as we speak, four times as good as we read, and five times as good as we write (Graham, 2003). Despite its significance, second language learners sometimes perceive listening as the hardest language skill to master (Graham, 2003; Hasan, 2000;). Learning is seen to be impossible to begin without first comprehending the input, and hearing is thus vital to speaking (Nunan, 1997). To compensate the difficulties of listening, some teaching strategies can solve the problem. One of the strategies seems to be games.

A game-based learning approach is described as learning with gameplay that has defined learning outcomes. This learning technique engages learners, encourages engagement and interaction, and promotes problem-solving by utilizing game-based mechanics, aesthetics, and plans. (Huang & Hew, 2018). In the meantime, a wide range of educational applications has been widely developed to provide a gaming and fun environment in an educational setting.

Digital games on pcs, iPads, and cellphones have become a popular teaching and learning tool among learners, instructors, and parents for use in the classroom and also out of it in the twenty-first century, especially for the teaching and learning of languages. "Quizizz" is a fun multiplayer classroom exercise that uses a computer, iPad, tablet, or smartphone to allow all students to practice together. For students, it also has an iOS app, an Android app, and a Chrome app.

Listening is one of the important skills. It is a communication channel and is essential in English as Second/Foreign Language learning. One of the most significant skills that a learner must have to communicate in a foreign language is his/her listening comprehension skill.

In Turkey, however, teachers realize the importance of listening when teaching a foreign language, the process of the skill of listening is not enough in the classroom. In Turkey three language skills (i.e., speaking, reading, and writing) received direct

instructional attention; therefore, educators expect learners to improve their listening skills on their own, based on my personal experience. Exposing students to spoken language is thought to offer appropriate education and enhance listening comprehension skills. For many learners of English, listening is a word-by-word deciphering enterprise not a search for meaning. Usually many students may discover within a short length of time that their listening is poor and consider listening to be the hardest language skill to master.

To solve the problems existed in listening skills and learning it, motivating primary level EFL students via games seems to be helpful. Naturally, some researchers have attempted to incorporate mobile devices into language teaching practice (Sudarmilah et al, 2020; Cho & Castaneda, 2019).

After engaging in game-like activities with the Conjugation Nation application, learners' affective and motivational engagement in L2 increased. The activities were largely regarded as beneficial and enhanced the participants' pleasure of learning Spanish. Their research backs up the value of games in language learning.

In addition, Kétyi (2013) claims that if teachers incorporate mobile devices into language teaching practise, learners will obtain more study time out of the class environment, be encouraged, and increase their language skills.

Similarly, Schwabe and Göth (2005) concluded in a previous study that technology could allow learners to interact in mixed reality and, as a result, deliver stimulating learning experiences. They claim that mobile games might help learners get into a mental state where they are ready to study.

Computers and mobile phones have unquestionably revolutionized people's lives, and mobile games have played a role in that transformation. Researchers from several disciplines (e.g., psychology and education) have recently taken notice of the game phenomenon and have sought to use it as a tool for growth and improvement.

Due to the importance of the games in educational contexts such as English schools, the present research was an attempt to see how using the online Quizizz Game-Based Learning (GBL) platform affects primary Turkish EFL learners’ listening skills.

1.1 Statement of the Problem

When students struggle with listening, it might have an impact on other skills since listening is the first ability that learners must understand before moving on to other English language skills including reading, speaking, and writing. Listening is more difficult than most people believe. Listening requires listeners to concentrate on what they hear in order to absorb the meaning, that is the reason why learn to listen is important because listening allows people to receive information and also make it simpler for everybody to interact with other people (Fadlilah & Ma'rifah, 2022). Many learners have difficulty understanding what they hear. Listening has a significant impact on both ordinary communication and language adoption. Nevertheless, listening is widely seen as a difficult skill, particularly for EFL students (Adnan, 2014). On the other hand, listening is the very first ability that ESL learners must develop before they can learn a foreign language. Listening is a relatively complicated skill for ESL and EFL learners when contrasted to other abilities; it is caused by the lack of experience and understanding to conduct listening practice in classroom. (Schmidt, 2009). Students' interests toward listening activities is one of the reasons for their lack of English proficiency. This is an essential issue because listening ability can improve language proficiency. As a result, there is a need to combine technology, which has become a popular trend among learners of all ages, to alleviate this concern and stimulate interest in listening skills. The pace of innovation in language teaching and learning illustrates the need for a change in traditional teaching and learning approach and pedagogy to assist the use of technology in the classroom.

In most EFL situations, such as Turkey, educational systems ignore listening skills, and foreign language learners do not have access to aural information, hence it is seen as a passive skill. Turkish EFL students can learn listening in a variety of settings, including language institutions that use varied methodologies such as game-based learning. Most researchers, it has been noted, strive to improve students' listening comprehension in English courses. Many studies have attempted to address students' weaknesses in completing listening comprehension assignments through strategy training such as mobile-assited language learnig (Al Qasim & Al Fadda, 2013), but despite extensive research, there is little evidence of educational application

of game-based systems in second language listening improvement and motivating results.

Many Turkish EFL learners, especially the ones with the low levels of general English proficiency, have difficulties with understanding listening. Furthermore, based on the personal experience during years of teaching, I can observe young EFL learners who are reluctant to listen to the tasks given in the form of listening episode. However, using some intresting teaching strategies such as games, motivates them to practice listening with high motivation. Therefore, to address the current gap in second language learning and listening skill, it is required to investigate the effect of applying game-based teaching methods on learners' English listening skill, which is an under-researched area. To this end, this research tried to investigate the effect of *Quizizz* as game-based learning platform on Turkish 3rd-grade students' receptive skill (listening) improvement through replying to the questions in their tablets or iPads at the same time in the classroom. A number of studies have been carried out to give prominence to the use of game-based learning via mobile phone for teaching and learning English. Focusing on the potential effect of game-based applications on listening, the current study sought to evaluate the potential impact of Quizizz as game-based learning with Turkish 3rd-grade students' receptive skill (listening). This research's outcomes might be promising for L2 pedagogy in multiple ways.

1.2 Purpose of the Study

This present study was an attempt to investigate the impact of Quizizz as game-based learning with Turkish 3rd-grade students' receptive skill (listening) through replying to the questions in their tablets or iPads at the same time in the classroom. Furthermore, the study aimed to explore the attitudes of learners at the treatment group towards the game-based instruction. The below research questions were developed based on the study's aim:

RQ1: Is there any statistically significant difference between the result of pretest of listening in control group and experimental group?

RQ2: Is there any statistically significant difference between the result of posttest of listening in control group and experimental group?

RQ3: Is there any statistically significant difference between the result of retention test of listening in control group and experimental group?

RQ4: What are the attitudes of EFL learners in treatment group about the effectiveness of Quizizz Game-Based Learning (GBL) platform?

1.3 Significance of the Study

EFL teachers may struggle to find strategies to encourage the development of learners' listening skills and motivate students in a safe, engaging, and playful atmosphere as a result of the needs of English learning in Turkey's academic system. This makes game-based learning potentially advantageous. The English skills and sub-skills of the students can be improved by using a variety of fun activities through games (Nurhayati, 2015). Games may also be effective because they motivate students, reduce their stress levels, and give them the chance to interact in person. Games could increase motivation (Ena, 2003).

The findings of this study would be valuable to EFL teachers and teacher educators., EFL material developers and curriculum designers, Ministry of Education, and ELT researchers in using game-based applications in teaching and learning of a difficult task like English learning. As stated, there has been little direct research in Turkey that has investigated the effect of Quizziz game as an educational tool to see whether it can enhance primary level EFL learners' listening performance at English classrooms. Hence, the findings from the present study could be used to design listening courses at various levels of English education. Moreover, the findings of this research can offer valuable insights for teachers about how to make methodological changes to make a difference using games as educational tools even in the absence of fundamental curriculum reform movements.

1.4 Definition of the Key Terms

1.4.1 Game-based learning (GBL). The application of game design features and game elements in non-game environments to engage learners and solve issues is known as game-based learning.. It's been proven to help students become more motivated and engaged (Domínguez et al., 2013). In the current study, the Quizizz

Game-Based Learning (GBL) platform was used in the treatment group to explore its effectiveness on listening skill.

1.4.2 Mobile-assited language learning (MALL). The term "Mobile- Assisted Language Learning" (MALL) refers to any language-related learning activities that involve the use of mobile devices (Cho & Castaneda, 2019). In the current study, Quizizz GBL platform was used as listening teaching application in the treatment group.

1.4.3 Listening comprehension. As stated by Rost (1994) “listening is vital in language classrooms because it provides the input for the learners” (p.141). In this study, researcher-made listening tests were used to assess primary level EFL students’ listening performance at both short run and long run. Listening Comprehension Test (LCT) was developed to measure participants’ listening comprehension performance.

1.5 Limitations and Delimitations of the study

There were some limitations that made the generalizability of this study open to question. Like any other research, this study has certain drawbacks.

(a) One of the limitations was using researcher-made listening tests instead of standard tests that may affect the results. Sampling was the first restriction, and the participants were insufficient to extend findings to the community of primary-level EFL learners.

(b) The other limitation was the level of the students that made the transferability to the other level of knowledge difficult.

(c) Because no randomization was allowed and the subjects were from selected classees, the data's transferability may be limited.

(d) Finally, there were limited sessions of treatment as it was difficult to implement it in longer sessions. As game-based instruction is time-consuming and needs a lot of time to help learners become expert in this field, the results need to be interpreted cautiously. It is worth noting that perhaps, the other factors such as students' journey to the English-speaking

countries, their families' orientation to English learning, their level of motivation, and other factors could intervene the results.

A research delimitations are the qualities that restrict the range of a study and identify the research borders.

(a) One of the delimitations of the study is the learners who deliberately were selected from Turkish 3rd grade elementary level EFL students.

(b) Moreover, in this study we consider only two settings of game-based instruction and traditional listening instruction.

Chapter 2

Literature Review

2.1 Definition and Importance of Listening Comprehension

The foundational skill of listening must be cultivated at the outset of L2 learning. Learners will never be able to transit from studying a second language to learning in a second language without developing the fundamental functional skill of listening in the second language (Gu & Hu, 2018).

Teacher-centered instructing has lately given way to a range of learner-centered learning techniques in education. With this shift, instructors become not just information suppliers, but also learning promoters, encouraging students to actively create knowledge. The game-based classrooms have been recognized by educators as an innovative and effective instructional approach, especially for young learners. It completely replaces traditional education by substituting at-home practice time for in-class instruction. As stated before, the aim of the this research was investigating the effective roles of a game-based application (Quizizz) on listening performance and retention of Turkey EFL learners at primary level. Hence, this chapter elaborates on different concepts such as game-based learning, the theories supporting it, listening skill, listening process, listening and schema theory, and experimental related studies in these terms followed by the gap of the study.

Various researchers have offered similar definitions of listening. For instance, Purdy (1997) defines it as the dynamic and active process of attending to, seeing, remembering, and responding to the wants, concerns, and information that are expressed by other people in both verbal and nonverbal ways. It provides the framework for all facets of language learning and acquisition in addition to playing a permanent role in communication processes (Guo & Wills, 2005). Additionally, listening skills are thought to be fundamental to mother tongue and second language acquisition, and they are intertwined with the development of all other language skills (Vandergrift, 2007).

Rahimirad and Zare-ee (2015) identified a number of difficulties that can arise when engaging in listening activities, such as extraordinary terminology, unusual themes, quick verbal tempo, and odd or distinct accents. These are the tasks that students must accomplish every day in class. For a long period of time, listening comprehension was thought to be the least important receptive language skill (Solak & Altay, 2014). On the other hand, the importance of listening is growing, and it requires more focus (Cheung, 2010; Field, 2008; Renandya & Farrell, 2011). For a language to be spoken fluently and effectively, listening comprehension is a necessary skill. It is crucial for the growth of the other three language skills as well as the acquisition of L2 (Rost, 2002; Vandergrift, 2007).

When a person is engaged in communication, they spend 9% of their time writing, 16% reading, 35% speaking, and 45% listening, according to Hedge (2000), demonstrating the importance of listening in everyday communication. Listening comprehension is a cognitive and behavioral process that involves exercise, contact, and the use of a few tactics (Field, 2003; Rost, 2007). Listening comprehension is both a type of communication and a critical component of oral language proficiency (Liu, 2009). Listening comprehension involves two processes: decoding input and determining meaning via spoken sentences.

There are several reasons for listening in everyday situations; for example, Brown and Yule (as cited in Hedge, 2000) divided reasons into two categories: interactional communication describes social motives for interaction, such as socializing at a gathering, while transactional communication describes information exchange., such as obeying instructions. The importance of listening in the EFL/ESL classroom is summarized by Rost (2012) as follows:

• In a language classroom, listening is essential because it offers data to the student. Any learning is not able to start unless the information has been properly understood.

• The learner can interact with others through spoken language. Because learners need to interact to understand the language, having access to native speakers is critical. In addition, learners' inability to comprehend the language they hear is a motivator for engagement and learning rather than a obstacle. The learner faces a challenge in understanding authentic native speakers' spoken language

• Instructors might use listening activities to raise students' attention to different language forms (vocabulary, grammar, and patterns of interaction).

According to Harmer (2003), students engage in listening exercises for a variety of reasons.

• Listening is a vital skill, and the more learners listen to a language, the better they become at it.

• Listening to a language improves a student's ability to speak that language. Pronunciation, in particular, appears to be improving.

• Students are exposed to a wide range of voices through pre-recorded material.

• All listening, if understood, provides students with the opportunity to notice and acquire language.

• Students can study aspects of spoken English by listening to material, particularly pre-recorded material.

According to Hedge (2000), there are five main reasons to listen: to take part in social activities, information exchange, have pleasure, express thoughts, and exercise control. According to Rost (1994), listening is essential in the language class since it offers feedback for the learner. Any learning cannot begin until the information has been comprehended to the required level. As a result, the ability to listen is a requirement for speaking. The importance of listening cannot be overstated because it is the first step in learning a language. Unfortunately, in Turkish schools where English language is taught as a second language, learners' listening skills are not adequately developed.

During the late 19th Reform Movement, linguists sought to create a psychological theory of newborn language acquisition and adapt it to the teaching of language, and listening began to play a key role in language instruction (Rost, 2001). The significance of listening in language acquisition was highlighted in research from the 1980s to the 1990s. Listening comprehension is a collaborative, interpretive process in which listeners create meaning in real time (Murphy, 1991).

According to a great number of studies, listening comprehension is made up of several steps. Listeners had to first distinguish between the sound, stress, intonation, and pitch of the language. Second, they had to be aware of all of the information that the speakers said, and third, they had to remember it until it could be used.

2.1.1 The process of listening. During the late 19th Reformers, linguists sought to develop a psychological theory of baby language acquisition and adapt it to the teaching of language, and listening began to play a vital role in language training (Rost, 2001). The importance of hearing in language acquisition was stressed in research from the 1980s through the 1990s. Listening comprehension is a collaborative, interpretive process in which listeners create meaning in real time (Murphy, 1991). According to a bulk of studies, listening comprehension is made up of numerous steps. Listeners have to first differentiate the language's sound, stress, intonation, and pitch. Second, they had to be aware of all of the information that the speakers said, and third, they had to remember it until it could be understood.

According to Janusik (2007), there are two types of models that explain listening. One model focuses upon a listener's internal processing that occurs while he or she is listening and it focuses only on factors inside the listener. Janusik describes the first model as cognitive, and the second model as a behavioural one, since it involves factors outside the listener. Janusik uses these descriptors to point to the nature of listening as a complex process involving both behavioral and cognitive functions and also to point out the tendency of scholars to focus on different aspects of the process (Janusik, 2007).

Perception, parsing, and usage are the three phases of language comprehension, according to Anderson (1995). Learners quickly transported information from echoic memory to short-term memory in order to evaluate the sounds for meaning, while listeners heard noises from a speaker and created a picture in their short-term memory.

The parsing mechanism rebuilt the communications into proper words which could be recalled quickly. Long-term memory was used by listeners to link the incoming message to what they already understood. When new information can be related to old knowledge, comprehension occurs (Clark & Clark, 1977, as cited in Jou, nd). According to Liu (2009), the three steps of the technique are perceptual processing (segmenting phonemes), parsing (segmenting words), and use (using long-term sources of knowledge to describe meaning). (See Figure 1).

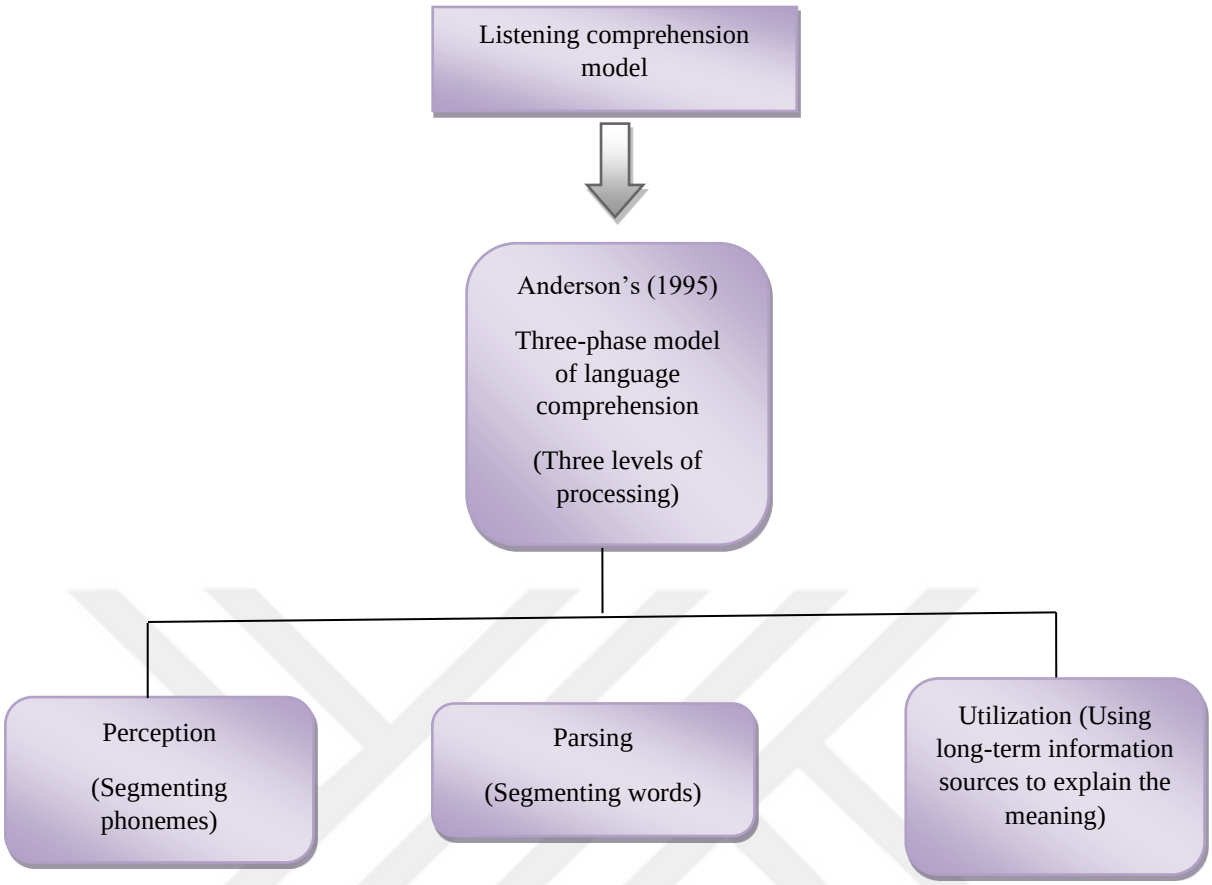

Figure 1. Three-phase model of listening comprehension (Adapted from Anderson, 1995, cited in Liu, 2009, p.16)

According to Tyagi (2013), the five stages of listening include hearing, comprehending, remembering, assessing, and responding.

• Hearing is the physical reaction to and perception of sound. Hearing is the reaction generated by sound waves activating the receptor cells in the ear. The brain examines the world for information and only focuses on a few noises. Attention is a critical requirement for excellent listening since it allows for selective perception.

• Understanding: To understand the importance of the inputs we've seen and listened, we must first analyze the importance of the information we've experienced; symbolic inputs have symbolic meanings. Our interpretations of these symbols are influenced by our prior connections and also the environment in which they emerge. To be successful in interpersonal communication, the listener must grasp the sender's original goal and also the context presumed by the sender.

• Remembering: Remembering is a crucial part of the listening process because it indicates that the human has not only received and comprehended a message, but it has also contributed it to the brain's memory store. Listening requires selective attention, so what is recalled may change significantly from what was initially seen or heard.

• Evaluating: At this point, only active listeners can participate. They often examine evidence, differentiate fact from opinion, as well as decide whether or not a message has bias or prejudice. The active listener does not start this action too early since starting this step of the process before the message has been sent would outcome in the listening procedure being terminated.

Responding: To complete the procedure, the recipient must provide verbal and/or nonverbal information. This step has become sender's only visible way of judging the level of message transmission completion. (Tyagi, 2013). (See Figure 2).

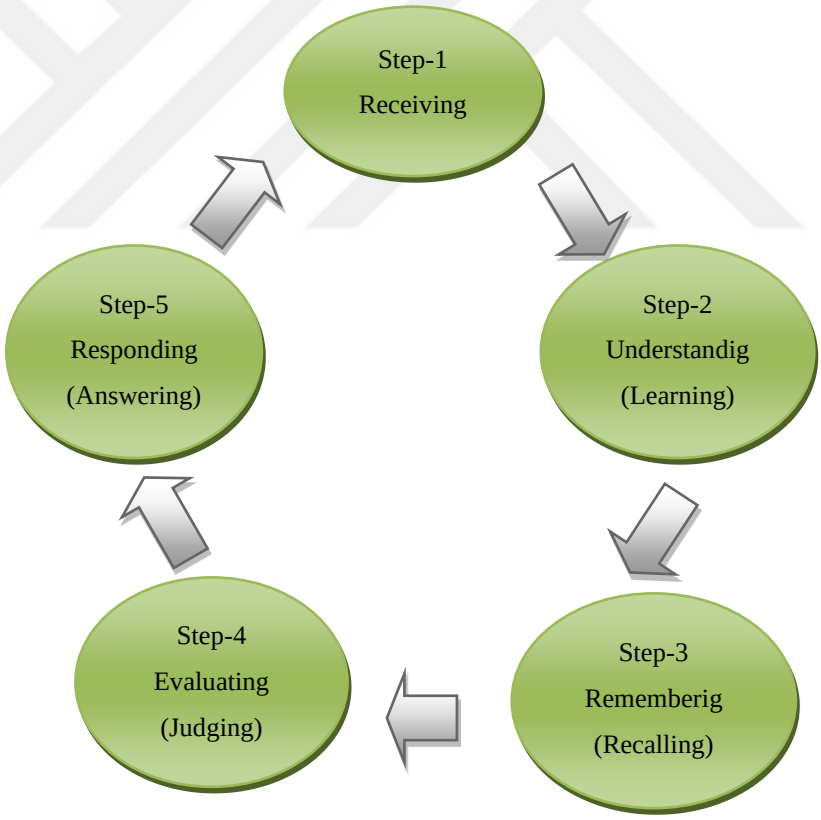

Figure 2. Five stages of listening process

2.1.2 Schema theory and listening comprehension. Listening pedagogy in the 1970s stressed bottom-up language processing. During this period, cognitive psychology started to concentrate on the individual as an active processor of linguistic input. Since applied linguists began to profit from cognitive psychology research in the 1980s and 1990s, the position of listening began to shift. They used the principles of bottom-up and top-down processing to language acquisition, which they derived from cognitive psychology. As a result, they began to suggest that improving understanding requires both language and knowledge schema. This led to an awareness of the significance of background knowledge and schema in comprehension. As a result, since the 1980s, listening pedagogy has shifted from a linguistic-based approach to a schema-based approach that emphasizes the necessity of activating learners' past knowledge.

Schema Theory is a cognitive psychology concept that describes the psychological process of understanding and knowing. Schema theory describes the function of background information in language comprehension (Rumelhart, 1980). Schemata, according to cognitive scientists, are primarily useful for processing aural stimuli connected to commonplace. They believe that schemata create text meaning expectations in listeners. The more closely the aural input matches the elements that listeners expect based on their previous schemata, the more efficient the aural text comprehension is (Dunkel, 1991; Garrod, 1986; Faerch & Kasper, 1986; Markham & Latham, 1987; Schmidt-Rinehart, 1994).

Schema theory is concerned with the listening process, in which listeners generate meaning from the material they have just heard using their predictions, inferences, intentions, and prior knowledge. The listener's previous experiences and knowledge are blended with the words they hear. Listeners' ability to recognise information is determined by schema. Listening comprehension is the outcome of a combination of "bottom-up" and "top-down" listening skills. Listeners analyse a listening text in two ways: bottom-up and top-down. They rely on their linguistic expertise to decode, or create, a message from sounds, words, and phrases, using bottom-up skills. Top-down processing is also used to deduce what the speaker was trying to communicate.

Listening instruction can be undertaken in three stages: Pre-listening, while-listening, and post-listening (Underwood, 1989 & Willis, 1996). There are two sorts

of pre-listening activities: vocabulary pre-teaching and schema activation. The vocabulary pre-teaching activities help learners' bottom-up processing. According to (Rost, 2002; Ur, 1984), in bottom-up processing, listeners decode the sounds, words, clauses, sentences, and discourse of a passage, in a linear fashion, to elicit meaning. Pre-listening exercises with schema activation are intended to aid learners' top-down processing while listening. Learners use their background information or schema to create or reconstruct the meaning of a passage in top-down processing. Pre-listening practices based on schema activation assist learners in grasping the overall meaning of passages or activating earlier experiences.

According to Hulstijin (2003), in order to develop a mental picture of what they have heard, listeners blend language knowledge with world information in the form of memory schema. Long (1989) observes that this world information is structured and retained in the type of schemata, which are typical situations and sequence of events that describe frequent circumstances. This organized information serves as a vital foundation for language understanding since it helps simplify the processing of ambiguous or incomplete information (Li, 2003).

Hinkel (2006) argues that activating schema in pre-listening is among the variety of teaching styles now acknowledged as necessary. If its effect on word recognition which is the central process in listening (Rost, 2005, p.24), could be identified, the teachers of listening would be in a better position to approach listening instruction with confidence.Researchers now regard schematic knowledge to be one of the aspects influencing understanding. Applications of schema theory to L2 listening, on the other hand, has remain largely unexplored. Only a limited number of research deals with the importance of schema-based theory in the L2 listening pedagogy.

In the SLA literature, the relevance of intelligible input as an essential element in L2 language learning is well recognized. According to Krashen (1982), the most successful technique to teach a foreign language is to bring huge volumes of understandable input in a low-anxiety atmosphere. L2 listening comprehension is aided by familiarity with passage content, according to Berne (1985). Similarly, Johnson says that giving pupils with previous knowledge makes it easier for them to study and comprehend novel literature (Johnson, 1982). It is critical to activate pupils' stored knowledge structures (schemata) in order to improve comprehension and create new schemata. According to Zeng (2007), the listening teaching process is an

information processing and storing process in which students must apply their language skills, prior knowledge, and engagement with the listening material.

Actually, each new experience modifies our existing schemata. When confronted with a new culture or discourse group, we develop a new schema. If the listener has 'learned' from an event, this formation or alteration of schemata is an essential component of the listening process. It is worth mentioning that several empirical research have been conducted to identify that pre-listening activity, model activation or lexical pre-teaching, improves L2 learners' listening comprehension. The accumulation of schemata, according to Rumelhart (1997), is the most important factor in successful reception and retention of new auditory material.

2.2 Game-Based Learning

Simes, Daz, and Fernández (2013) define game-based learning as a paradigm that applies elements of video games to non-game applications. Computer games are recognised as a conceivably strong motivational method of additional learning, and GBL has been used in a variety of fields at a wide range of educational levels (Hainey et al., 2016). According to Koivisto and Hamar (2014), game-based learning has been suggested as a method for encouraging people to engage in personally and socially sustainable habits, like exercise, purchasing, and education. (Girard, Ecalle, & Magnant, 2013). In the lives of children and adolescents, digital games are supposed to be recreational pastimes. Coyne (2003) asserts that playing video games can aid in a student's development of moral principles and world knowledge. Game-based learning is the use of game design elements and game mechanics to captivate audiences and address problems in settings other than games.

It has been demonstrated to raise student involvement and enthusiasm (Domnguez et al., 2013). According to Prensky (2001), games appeal to players because they are "a type of fun and play" (p. 118), as well as having the following characteristics:

• Rules: The most significant feature that distinguishes games from free play is the presence of rules. Players are given specific directives by the rules, which ensures fairness and excitement.

• Clear goals and objectives: Players like the process of obtaining the described future state, therefore clear goals and objectives are a source of motivation.

• Outcome and feedback: Other players' outcomes and feedback allow players to assess their own performance and aid them in achieving the goal. The very root of learning is instant feedback. Applause, for example, can increase players' emotions (e.g., satisfaction), which is a major draw of sports.

• Conflict, competition, challenge, and opposition: These characteristics are the sources of difficulties that players must solve in games; they elicit arousal and encourage players to be innovative and enthusiastic.

A clear trend in Mobile-Assisted Language Learning (MALL) or mobile-learning domain is development of game-based mobile learning applications. The theories supporting game-based learning are MALL and computer-assisted language learning (CALL) that following are elaboration on these terms.

2.2.1 Computer assisted language learning (CALL). Computer-Assisted Language Learning (CALL) may be the first concept that comes to mind when thinking of technology in language teaching. The short definition of CALL is "the exploration and study of computer applications in language teaching and learning" (Levy, 1997, p.1). Large computers were used to develop it initially. CALL was regarded as a fantastic method of language learning because computers did not become tired and irritable when repeatedly delivering the same material (Huang, Huang, Huang, & Lin, 2012).

In the early 1980s, the phrase Computer Assisted Language Learning (CALL) became widely used in language instruction. CALL, according to Levy, is "the search for and study of computer applications in language teaching and learning" (1997, p. 1). CALL, according to Beatty, is "any method in which a student utilizes a computer to enhance his or her language" (2003, p. 7), whilst Egbert states that CALL is “learners learning language in any context with, though, and around computer technologies” (2005, p. 4).

As was indicated earlier, the introduction of the Internet gave rise to substitute abbreviations for CALL. Bush and Terry (1997) established the concept of Technology Enhanced Language Learning (TELL), which places more emphasis on the technology supplied by computers than the computers themselves. In the second part of the

twentieth century, computer technology began to impact education. Since that time, technology has advanced quickly, having a considerable impact on the study of languages.

According to Richards and Schmidt (2013) CALL is a language learning and teaching technique that employs digital technology to display, rehearse, enhance, and assess learning resources. CALL is the use of a computer in the instruction or study of a foreign or second language.

It should be highlighted that all CALL applications serve as supporting resources for language teaching and learning. They are unable to take the place of the teacher. Technology must be used as a tool, not as a magic bullet, as Davies (2012) cautions. In language learning scenarios, the teacher's presence is still crucial, and a CALL software can be utilized to support the teacher. Another important element is that instructors should understand how to utilize CALL in an effective way in order to get the best results. According to Hubbard (2009), CALL knowledge and skills should be upgraded on a regular basis in order to stay up with the field's rapid technological advancements. As a result of quickly changing technology and issues with CALL, such as the requirement of sitting in front of a computer at a set time, MALL and ubiquitous language learning have grown popular.

2.2.2 Mobile assisted language learning. Mobile learning is the practice of learning while on the go. Two significant innovations are driving the present interest in mobile learning. The first is the broad adoption of mobile technology together with the development of new technological capacities like location-based services, internet access, and multimedia display. This advancement presents the opportunity to design constructivist learning environments where the social context and student self-management are paramount (Sandberg, Maris, & de Geus, 2011).

Combining various media with a learning context, as defined by Mayer (2003), is consistent with the dual-channel hypothesis. It implies that individuals can process information from various sources concurrently, enabling them to build more detailed memory structures for the topic under consideration. Modern portable technologies can make use of this basic human ability. Another significant change is the growing acceptance that learning in informal environments is equally important to learning in formal educational contexts. This development complies with the constructivist idea

of authenticity, enabling pupils to take part in pursuits that are significant to them (Mayer, 2003; Sharples, 2000). Meaning can be achieved in two different ways: first, by providing content that is related to previously taught material, and second, by providing material that is pertinent to the situation at hand.

This growth is in line with the constructivist notion of authenticity, which allows students to participate in activities that are important to them (Mayer, 2003; Sharples, 2000). Meaningfulness may be achieved in two ways: first, by offering content that can be related to previously learned information, and second, by delivering information that is relevant to the current circumstance.

2.3. Instruction-Based Games and English Learning

There is little information available about game play and how it varies in formal and informal settings around the world. Whether playing video games for fun or leisure, players are free to explore the game world and gameplay mechanics; yet, when playing as part of a group or in an organized activity, outside objectives and rules may have an impact on how players approach the game. In contrast, formal gaming data was gathered using a structured curriculum in earlier investigations. 'Informal' gameplay, on the other hand, took place at any time outside of the event sessions, including free-play and each night at home. Overall, comparisons between formal and informal play did not show any appreciable differences (Binzak et al., 2016). In relation to the current study and how digital games might be incorporated into formal versus informal learning contexts, the parallels between formal and informal gameplay present fascinating discoveries. Instead of looking into non-digital games for amusement, the focus is on digital serious games for fully instructional reasons, to synthesize the findings and find a balance between learning and playing.

Therefore, the focus is on digital serious games for fully pedagogical purposes, to synthesize the findings in order to find a balance between learning and playing rather than investigating non-digital games for entertainment.

The majority of studies on digital gaming examine the elements of electronic-games with language learning potential. Many scholars have concentrated on how students utilize digital games to learn languages (DeHaan, 2005). Additionally, a number of studies have been done on language acquisition-related game design tools

and principles (Morton & Jack, 2005). Ang and Zaphiris (2007) distinguished two approaches to the use of games in learning languages: virtual environments and collaborative learning.

Moreover, in their leisure time, people spend more time playing video games, according to recent trends (Stanley & Mawer, 2008). This brings new possibilities to re-evaluate what we know about learning, trying to use this phenomenon for the benefits of English language learning. According to Seftin-Green (2004) informal learning can take place in various locations and communications. It can be said that playing digital games contributes and enhances learning where many schools do not –in the use of learned content by doing. However, whether blending informal and formal contexts of learning can foster language knowledge and promote results is the purpose of conducting the current research. A lot happens when you play a decent digital game. You learn to play through practicing, playing, and mastering numerous abilities, gaining information, making objectives, and accomplishing them.

Because you are intensely involved, your attention is devoted to playing on a cognitive, emotional, and possibly social level. In order to continue playing games, you need to learn new game rules, stories, and languages (Reinhardt, 2019). You can also learn by doing (Prensky, 2001), or by using story and fantasy aspects (Gunter et al., 2008). ESL/EFL experts see the usage of digital game-based learning as a crucial component in motivating students. According to their definition, games are entertaining, and by making learning enjoyable, they help students learn more effectively. ESL/EFL specialists believe in the use of digital game-based learning as an essential element in student's motivation. For them games are fun and based on this definition game makes learning enjoyable so that students will be able to learn better.

Around two billion people play digital games, and some of them do so to learn languages, yet very few of these games are used in Turkey's educational system (Yukselturk et al., 2018). The use of gaming in the curriculum for taught language learning is hampered by a variety of practical and educational challenges. These concerns include how to locate chances for language acquisition through gameplay, what kinds of games to choose or make, and how to include gameplay and related activities into the curriculum (Godwin-Jones, 2014). Research-generated data is necessary to solve these problems since it can be used to inform future game development as well as teach

us how to use gaming in the classroom more effectively. For us, gathering, analyzing, and sharing data from digital games is a huge barrier, but new technical advancements and approaches, like experimental research, may open up new possibilities.

The distinction between formal and informal settings is the most fundamental one that can be established in this context. At this point, informal settings—i.e., everyday activities and situations related to daily leisure time—have received a lot of attention because learning occurs there primarily unintentionally on the part of individuals involved (Tissot, 2004; Selfton-Green, 2006). This makes it utterly safe to assert that "the game" is the important factor. Playing games with a pretty explicit instructional goal may not always be harmful to players, though. This is reinforced by a recent, extensive study of students, which discovered that the vast majority of those surveyed were worried about using games with overtly educational objectives in a casual situation (Dunwell, Freitas, & Jarvis, 2011). Evidently, regardless of whether there are explicitly instructional objectives or not, what matters most is the anticipation of playing a game that has good playability and gives a rich and interesting game experience. In actuality, the issue of expectation is crucial for both design and development.

Digital gaming can help students learn foreign language skills like speaking and writing (Kovalik & Kovalik, 2002; Salies, 2002; Spelman, 2002; Marcedonia, 2005), as well as improve cross-cultural understanding and communicative competence (Jung & Levitin, 2002). In contrast, the present study investigates the influence of digital games on phrasal verb understanding, with a focus on pedagogical and game-playing results and experiences.

Playing a decent mobile game necessitates practicing and refining abilities, as well as essential knowledge, in order to set and attain goals. You must be completely immersed in the game and concentrate on it on social, emotional, and cognitive levels in order to achieve the game's objectives. You become more and more driven to master everything the game provides in order to win, including the language, plot, and rules of the game, in order to keep playing and acquiring knowledge (Reinhardt, 2019). As you go through the game and complete its goals, you may also learn by doing (Prensky, 2001) or by using its narrative and fantasy features (Gunter et al., 2008).

Language learning through digital games is becoming increasingly popular in the international era, with a rising emphasis on the relationship between learning and playing (Cornillie, Thorne, & Desmet, 2012). In classroom or on their own time, learners are using digital games to learn from them and study a language, is a common theme in the literature. However, the purpose, qualities, and implementation of game-based language instruction are less well-studied in the literature, making it difficult to discover relevant research or recommendations for teachers or even students (Dehaan, 2019). Meanwhile, there is a paucity of data on the impact of game-based learning on listening ability, which this study attempted to fill.

2.4. Empirical Studies on GBL Instruction

There have been a lot of research on MALL and second language skills including hearing (Liu & Chu, 2010; Miangah & Nezarat, 2012) and speaking (Grimshaw & Cardoso, 2018) as well as academic achievements (Grimshaw & Cardoso, 2018, Su & Cengt, 2015; Partovi & Razavi, 2019). Mobile technologies, such as cell phones and pocket computers, are the most widely used of all technical gadgets, and they play a significant role in people's lives (Saran, Seferoglu, & Cagiltay, 2009).

There have been several research on the impact of mobile applications on English learning. For example, Liu and Cho (2010) investigated how universal games enhanced English learning motivation and accomplishment in a ubiquitous learning environment that was context-aware. On a school location, an English curriculum was carried out using the Handheld English Language Learning Organization (HELLO).

HELLO uses the ARCS motivation theory to motivate students to participate in learning activities, which incorporates a number of teaching methods, including collaborative learning, ubiquitous game-based learning, and context-aware learning. Participants were two groups of students who participated in the learning activities defined in a curriculum using both the pervasive game-based learning and non-gaming learning methods. Campus Environment, Campus Life, and Campus Story are the three learning activities that make up the "My Campus" curriculum. Teachers and juniors from high schools were present. The students were given examinations, a survey, and interviews as part of the experiment. The examination of learning results and motivation found that compared to non-gaming approaches, including common games

into English learning process might enhance learning results and motivation.They also mentioned.

To encourage students to participate in learning activities, HELLO employs the ARCS motivation theory, which encompasses a number of instructional tactics such as ubiquitous game-based learning, collaborative, and aware of its environment. Two groups of students participated in learning activities outlined in a curriculum utilizing both the widely used game-based learning and non-gaming learning methods. Three learning activities are included in the 'My Campus' curriculum: 'Campus Environment,' 'Campus Life,' and 'Campus Story.' Among the attendees were high school instructors and juniors. As part of the experiment, students were given exams, a survey, and interviews. When compared to non-gaming strategies, the researchers observed that introducing popular games into the English learning process might improve learning results and motivation. They also found a connection between learning results and motivation.

The question of whether utilizing a mobile application increased students' motivation was examined by Sandberg, Maris, and de Geus in 2011. The study included three groups. The first group received classroom English language education regarding zoo animals and their characteristics. The second group attended classroom lectures and utilized a mobile app in a public zoo. The third group was given the identical treatment as the second but was permitted to keep the mobile app at their residence for one night. To evaluate the individual improvement in knowledge of a selected set of English terms, pre- and posttests were administered.

The results revealed that the group that brought the phone home performed far better. However, when the extra learning time spent outside of class was managed, the third group's greater performance vanished. The findings show that students are driven to utilize the app during their free time.

The effects of playing games on acquiring English vocabulary were examined by Derakhshan and Khatir in 2015. They highlighted that mastering vocabulary is one of the most difficult components of learning the target language for English language learners. For many years, it has been well recognized to use educational games to teach vocabulary.

As a result, their article examined how employing games can enhance vocabulary learning in situations when English is being used as a second or foreign

language. Numerous studies have found that games help students learn vocabulary by increasing their ability to recall words, promoting student engagement, enhancing their conversational skills, and motivating them. Games can also assist instructors in developing circumstances where the language is relevant and meaningful. Derakhshan and Khatir's study aimed to employ educational games to help teachers and students improve their vocabulary knowledge. In their article, they recommended using game-based learning strategies and activities in the classroom. I'm hoping that more people will become aware of educational games and start using them in the classroom to learn and teach foreign languages.

Arashnia and Shahrokhi investigated the influence of mobile phone use on the listening abilities of Iranian pre-intermediate EFL learners in 2016. They looked into any distinctions between teaching listening using a mobile phone and traditional methods. In Shiraz, Iran, two treatment and control groups, each with 30 students, were formed from the sixty English language students. A typical pre-test on pronunciation was created to gauge the learners' understanding at the start of the course. The experimental group was given instructions via mobile phone, whereas the control group was given instructions via traditional methods. The pre-test was reconfigured into a posttest and administered to both groups following 16 therapy sessions. The results revealed that the experimental group performed much better than the control group participants and seemed to have a higher score. The outcomes demonstrated that pronunciation teaching delivered via a mobile device was superior to pronunciation instruction provided just in-person. According to the study, EFL students who receive teaching via mobile phone may be able to learn the listening skills properly.

Vasalou et al., (2017) employed digital games-based learning for dyslexic children based on a social constructivist concept of engagement and learning during group game play. They examine the Words Matter case from a process-focused, social constructivist point of view. Using dyslexic students in mind, the game was created with elements from casual games and evidence-based special education approaches. They use a systematic theme analytic method to analyze video recordings of children's verbal and nonverbal interactions in combination with their game logs, focusing on the nature of student-student and student-tutor social interactions. According to their findings, children instinctively discuss game performance, material, activities, and feelings through "game talk."

This game conversation fosters a strong feeling of social connection and playfulness while also allowing for tutor and student-led interventions, resulting in a load of new learning possibilities. In addition to its social theoretical perspective on digital game-based learning, their study investigates game-based social interactions as well as game design decisions, providing for further implications for pedagogical practice and game design.

Many countries' EFL curricula now include Teaching English to Young Learners (TEYL). Theoretically, language learners will learn more effectively the earlier they grow accustomed to the language. The primary purpose of TEYL is to provide a foundation of essential oral communication skills that will enable more advanced writing communication abilities.

Ratminingsih, Mahadewi, and Divayana (2018) conducted a descriptive study to provide light on two topics: (1) teachers' opinions of the program's efficacy; and (2) students' motivation and academic success after receiving instruction through an interactive game based on ICT. Following a one-day in-service teacher education program on the application of an ICT-based interactive game, 30 primary school English teachers had three mentorship sessions with six sample schools chosen at random from two clusters. The findings show that the instructors had a favorable opinion of the training, and they saw it as an opportunity to advance their teaching and lesson planning skills. The usage of interactive games based on ICT also increased the students' motivation to study English, which led to better learning outcomes.

Yukselturk, Altok, and Başer (2018) investigated the influence of game-based language learning employing Kinect technology on students' attitudes and self-efficacy beliefs. In Central Turkey, a public university conducted the study. Despite Turkey's emphasis on foreign language education, a number of elements, such as the frequency of instruction and student motivation, prevent pupils from improving their language skills. According to the report, these issues may be reduced by successfully using technology innovations in the classroom. As a result, game-based language learning is gaining popularity, in which students perform meaningful tasks based on real-life scenarios to develop their communication skills. In this study, a pre-test/post-test quasi-experimental examination was implemented. The learners were first-year students who had to take English as part of their curriculum. A total of 62 people took part in the event. Two questionnaires were used to investigate self-efficacy beliefs and

attitudes regarding English. When the experimental group's average scores were compared to the control group's average scores, the results demonstrated a substantial positive shift in numerous sub-factors of attitude and self-efficacy. The research explains why game-based learning activities based on Kinect technology should be used in foreign language classes.

Azman and Farhana Dollsaid (2018) investigated the usage of Massively Multiplayer Online Games (MMOGs) as a sort of serious game with promise for learning EFL. It referenced findings from a case study that investigated the impact of role-playing in MMOGs on the communication habits of EFL game players. Furthermore, the study's findings show that effective game learning ideas, which incorporate game dynamics and inspire language learners to become active producers of information, knowledge, and language, may be used to language learning. The first findings essentially indicate the use of online games as a teaching instrument for natives in the 4.0 era, which intends to involve the digital of the twenty-first century. According to the study, MMOGs, specifically Massively Multiplayer Online Role-Playing Games (MMORPGs), can help provide contextualized and genuine language engagement chances in English between online multilingual speakers.

Cho and Castaneda (2019) investigated whether students' motivational and affective engagement in L2 altered after engaging in game-like activities with a mobile app in Spanish classrooms. A total of 82 American students were studied for their motivational and emotional involvement. According to paired t-tests, students' intrinsic goal orientation, attitudes on controlling their learning, and self-efficacy for learning all rose significantly after engaging in game-like activities. Students' enjoyment of studying in Spanish lessons improved as well; moreover, students rated the game-like activities provided by a mobile application well. According to the findings of the interviews, components of the activities using a mobile application help in the involvement of university students.

Fouz-González (2020) investigated if the English File Pronunciation (EFP) app may assist EFL learners in improving their pronunciation. A total of 52 Spanish EFL students enrolled in an English Studies program were chosen. Participants' perception and production (imitative, controlled, and spontaneous) were assessed before and after training using pre- and posttests. The study focused on a variety of segmental elements

that are often fossilized in advanced Spanish EFL learners' interlanguage, such as English /ae/ and the /s – z/ contrast.

The EFP app was used for two weeks as part of the training. The software was allowed to be used for roughly 20 minutes per day by the students. They were separated into two groups at random (control and experimental). However, after the posttest, the control group began to receive instruction and, two weeks later, took a second posttest, making them experimental as well. Although the dissimilarities were not statistically significant for every sound or activity, training increased learners' perception and production of the goal attributes significantly.

Troussas, Krouska, and Sgouropoulou (2020) looked into how mobile learning and game-based learning may be used in higher education and analyzed a mobile game-based learning application that promotes individualized and collaborative learning. It mixed pleasure with an educational component through knowledge assessment and advancement through a user-friendly interface. Quizizz used artificial intelligence and adaptivity approaches to provide consumers with a unique learning experience through gaming.

In a systematic review, Degirmenci (2021) focused on specific research published between 2018 and 2021. The aim of this literature review was to see what the current literature had to say about Quizizz's effectiveness and role, as well as to characterize teachers' and students' attitudes regarding the program. The outcomes of this study reveal that (1) Quizizz is successful and plays vital role in English language learning and teaching, as well as having positive effects on English learning and teaching, and (2) instructors and students have favorable attitudes of Quizizz.

Finally, Chen, Tseng, and Cheng (2022) developed an online simulation game that provides a genuinely situated educational environment for decreasing FLA levels and improving English vocabulary acquisition in EFL elementary school students. In this study, 110 fifth-grade students from four different classes participated. The experimental group (n = 57) was assigned at random to the online simulation game, whilst the control group (n = 53) received training on-site. Using the Foreign Language Classroom Anxiety Scale (FLCAS), each participant was classed as having low, moderate, or high anxiety. The online game engine, according to this study, helped low, moderate, and high anxiety students lessen their FLA more successfully than onsite teaching.

Kita (2021) investigated how to use the online software forms through cellphones to enhance the classroom experience for both students and teachers in two classes. To develop, distribute, collect, and evaluate surveys and quizzes, the teacher utilized Forms. The views of students toward English, as well as their motivation to study the language with these tools, were investigated. They were given review tests through cellphones that featured game-like characteristics and provided real-time feedback. On their smartphones, they received surveys about their level of confidence in studying, review quizzes, and smartphone usage. The results imply a more positive attitude about English in general, as well as increased confidence.

In a systematic review, Degirmenci (2021) concentrated on certain studies released between 2018 and 2021. This literary review's objectives were to define teachers' and students' opinions on Quizizz and to find out what the most recent research has to say about the efficiency and function of Quizizz. The results of this study demonstrate that: (1) Quizizz is effective and has a big role in teaching and learning English; (2) Quizizz is well-liked by teachers and students; and (3) Quizizz has favorable effects on teaching and learning English.

Finally, Chen, Tseng, and Cheng (2022) developed an online simulation game to provide a virtually situated learning environment for decreasing FLA levels and increasing English vocabulary learning in EFL primary school students. The study comprised 110 fifth-grade students from four separate courses. The experimental group (n = 57) consisted of two classes that were assigned to play the online simulation game at random, whereas the control group (n = 53) consisted of two courses that got on-site training. Using the Foreign Language Classroom Anxiety Scale, each participant was classed as having low, moderate, or high anxiety. According to this study, the online simulation game helped low, moderate, and high anxiety students lower their FLA more effectively than onsite training. Situated learning in the online simulation game explicitly and visibly connected English vocabulary acquisition with the actual world, which might further boost their English vocabulary learning. The English vocabulary learning of students with moderate and high anxiety rose considerably after playing the online simulation game. These findings imply that an online simulation game can foster a contextual learning environment, hence reducing EFL students' FLA and facilitating their English vocabulary learning.

2.5 Chapter summary

This chapter reviewed the related literature in listening, schemata theory supporting it, game-based instruction, the terms such as MALL and CALL related to game-based English learning, and the related empirical studies have been done in the area of English learning using game-based tools and applications. It is worth mentioning that in the nowadays world, the shift from teacher-centered toward learner-centered education and in this modern period, the role of learners is highlighted more than the teacher's role. Furthermore, in the globalized and modern world and with the increasing role of computers in English classrooms, the need to use modern applications such as computers in the classrooms seems to be of prime importance, more especially in nowadays world that the universe is in a big challenge with Corona Virus and most of the instructional settings are closed. Computer-assisted language learning and computer-mediated communication have had substantial influence on language learning and instruction as a result of technical advancements and widespread linkages among learners, as well as the introduction of current digital gadgets into classrooms. It has facilitated learning by integrating the traditional task-based instruction with some useful applications which allow students to go beyond simply written interactions and get access to different models of meaning (Hauck & Youngs, 2008). To add an extra explanation, it can be claimed that the final aim of learning a second language can be training and preparing students who are autonomous students with low levels of anxiety and high levels of motivation in order to learn English skills and sub-skills. To the best of the knowledge of the researcher, there have been numerous research studies on technology and language teaching/learning, but there appeared to be few studies, to be optimistic, specifying the role of the Quizizz Game-Based Learning (GBL) platform as a motivating tool on listening performance and retention of Turkish EFL learners. As a result, this research was an aim to bridge the gap.

Chapter 3

Methodology

3.1 Introduction

As stated earlier, the objective of this study was to investigate the effect of Quizizz Game-Based Learning (GBL) platform on listening performance and retention of Turkish EFL learners. Also, probing the perception of primary level EFL students in treatment group was the other objective of this study. The previous chapter dealt with a detailed review of the related literature with the relevant studies carried out on the topic. This chapter has to do with the method applied to answer the research questions that is the design of the study, the participants, the data gathering tools, the procedures, and data analysis methods.

3.2 Design of the study

This study sought to determine how Turkish primary level EFL learners' listening abilities, memory retention, and attitudes were affected by the Quizizz game-based learning (GBL) platform. Moreover, because the samples were not assigned randomly, Creswell (2012) recommends using a quasi-experimental approach when using preserved classes as the experimental and control groups. As a result, this study should be regarded as quasi-experimental. In order to do this, a quasi-experimental research design was used with a control group for the pretest and posttest. "A typical experimental study typically investigates research questions using comparisons or control groups" (Gass & Mackey, 2005). This type of research is classified as a between-group design by Gass and Mackey (2005), in which one of the groups (the control group) gets no treatment. This study looked at the impact of treatment on two groups: experimental and control. Additionally, this study should be viewed as quasi-experimental because the samples were chosen by the researcher using a non-random sampling approach. Utilizing Quizizz game-based learning was the independent

variabl. The dependent variables were listening skills improvement and their attitude towards Quizizz online game-based platform.

3.3 Participants

The participants of the present study were 3rd grade primary students (n=44) in a private school in Istanbul-Turkey. With one experimental and one controll group, the study took a quasi-experimental approach. One treatment group (n=22 including 10 female and 12 male students) and one control group (n=22 including 9 female and 13 male students). Because the researcher chose these two groups at random from the entire population, this could be considered as a cluster sampling. The students aged 8-9 were assigned to two classes using convenience sampling. Their mother tongue was Turkish with almost the same cultural background. It is worth noting that all 3rd grade students in the above mentioned school have had experience of working with Quizizz game-based learning from 1st grade for practicing their lessons. They were completely familiar with all features of this platform during the past two years. They used to work with Quizizz not only in their English lessons, but also in their Turkish lessons with their homeroom teachers. In terms of their English skills, the students were able to use the present simple tense and past simple tense to make a variety of sentences in written and spoken English, as a result, the researcher thought at the start of the study that there was no difference between the groups. Table 1 visualizes the information related to the sample.

Table 1

Information About the Sample

Groups	Gender	N	Age	Grade
Treatment group	10 female and 12 male students	22	8-9 years	3rd grade primary students
Control group	9 female and 13 male students	22	8-9 years	3rd grade primary students

3.4 Instruments

The data gathering tools used in this study were one pretest in listening, an immediate post-test in listening, a delayed post-test in listening, and also Likert type attitude scale. The pretest and immediate post-test in listening were the same including maximum 20 questions with multiple choice answers as the researcher intended to see how much gain they get (gain scores). A version was conducted for pretest and immediate post-test of listening, and B version for retention test. The retention test contained 20 questions which were totally different from pre-post test, but with the same language level. This test was chosen dissimilar to pre-post test deliberately in order to avoid familiarization. A and B were equivalent (See Appendix A for a sample copy of the listening pretest and posttest). An insightful viewpoint from an individual with a proven track record in the field who is regarded by others as an experienced professional and who can provide useful information, scientific proof, evaluations, and analyses is referred to as content validation through expert judgement (Fernandez-Gomez et al., 2020). Therefore, the tests including pre, post and retention were expert-validated. Three experienced English teachers in the foreign language department of the same school where this study was conducted, approved the content and validity of pre-post test and retention test according to students' English level.

The pretest was administrated one week before the treatment which took six weeks, the post-test was conducted at the end of the treatment, and the retention test was conducted after two weeks. The researcher created the pre, post, and also the retention test, that was employed in this study. They were made up of 20 questions that tested listening abilities in terms of listening improvement. The tests were given to the students for a total of 40 minutes. The retention test a 20 items tests in listening with the multiple choice format and two audio files that each of them contained 10 questions. The level of listening retention test, similar to the pretest and post-test, was elementary and it was validated by three experienced teachers from the pool of the institute (See Appendix B for a sample copy of the retention test in listening).

The attitude scale was determined to be the best way to learn about students' perspectives of and attitudes toward the use of Quizziz in the English language environment. The questionnaire was included 20 items and divided into two parts. The

first 10 questions were designed to investigate their attitude towards English Language Learning (ELL) covering the area of love of English, interest in learning English desire for, and expectation of learning English, and the second 10 questions' dimensions addressed are fun, effective learning, engagement, motivation, the utility for learning. This scale allows participants to indicate how much they agree or disagree with the statements delivered. As the participants were young learners, the 5 Likert type scale (See Appendix C) was including icons (happy to unhappy).

Expert opinion was employed to assess the validity of the tools used in this investigation. Furthermore, the items of the questionnaire were read and explained in the participants' mother tongue by their homeroom teacher in Turkish, to minimize any potential bias caused by misunderstandings in the language. A set of 15 kids from a different class at the same school were also asked to pilot the tests and attitude scale. The students that took part in the pilot survey were existing Quizziz app users who were chosen because their biographical features were comparable to those of the experimental group, such as age and gender distribution. Piloting the instrument ensured that the instructions were clear and the items were written in a consistent manner. A Cronbach's alpha test was used to indicate the questionnaire reliability. The reliability of the questionnaire was .78 which was in the acceptable range (.8 to .7). The reliability of the pre, posttests and retention test were .8 and .82 respectively according to KR-20 test. According to the result, the KR-20 index for both of the tests were in the good range (from .8 to .9). Internal consistency is measured using the Kuder-Richardson 20 and Cronbach's alpha tests. KR-20 is recommended when the items and data are binary (right or wrong), whereas Cronbach's alpha is used when using Likert-type scales with non-binary data.

3.5 Procedure

There were different data gathering tools that used in the study as instruments. There were one pretest in listening, one post-test in listening, a delayed post-test in listening, and an attitude questionnaire. The pretest and post-test in listening were the same including 20 questions with multiple choice answers as the researcher intended to see how much gain they get (gain scores). The students were given the questions

and after listening to the listening tracks for twice they had to complete it. A version was conducted for pretest of listening and post-test and B version for retention test. A and B were equivalent (See Appendix A for a sample copy of listening pretest and post-test). The retention test was different to avoid familiarization. The pretest was administrated one week before the treatment, the post-test one week after treatment, and the retention test was conducted after two weeks.

To avoid any potential bias caused by misunderstandings in the language, the items of the questionnaire were read and explained in the participants' mother tongue by their homeroom teacher in Turkish. The tests and attitude surveys were also piloted with a group of twenty-four students from a various class at the same school. The students who took part in the pilot survey were already Quizizz app users who were chosen because their biographical characteristics, such as age and gender distribution, were identical to those of the treatment group. The instrument's piloting ensured that the instructions were clear and that the items were written consistently. The scale reliability was determined using the Cronbach's alpha test. Based on the results of Cronbach's on the piloting phase, which was conducted with pilot students from the same population, the test reliability was reported to be .76. The listening tests had a total score of 20. (See Appendix B for a sample copy of listening delayed post-test).

To determine whether the control or experimental group would be assigned, the researcher flipped a coin to determine whether the A or B group would be assigned to the control and experimental groups, potentially avoiding any potential group selection biases. Individuals in the experimental group used the app for one full session per week over the course of six weeks. Both treatment and control groups received classes from the same teacher-researcher, who conducted them in the same way, with the same materials and resources, and in the same learning environment. Quizizz technology was not available to the control group as a tool for reviewing, introducing, and consolidating language information. Instead, they'd review old material and be exposed to new material through non-gamified methods.

The tests were administrated in both groups, but the attitude scale was distributed among learners in the treatment group. Regarding attitude questionnaire, it is worth noting that the students' attitudes on Quizizz game application was measured through a 5 Likert-type scale using the icons or symbols (happy to unhappy) including 20

items. The questionnaire utilized in this study is a combination of instruments used in previous studies on the same subject (Firat, A. 2009; Cárdenas-Moncada et al., 2020). The attitude scale included some items about the application under study and some items were about the English Language Learning. The items were graded from one to five. Attitude scale was implemented after the immediate post-test.

The experimental and control groups were assigned to classes randomly, and the teacher for both groups was the researcher. According to school lesson plan and materials for 3rd grade students, the teacher needed to apply the lessons through two course books named *Cambridge Voices & Polka Dot Plays* from Cambridge University Press (level 3) in all classrooms. The main focus of these two books was on listening and speaking with the variety of pre and post listening activities, group works and speaking activities. Therefore, both control and experimental groups were exposed to listening activities with their assigned course books and related materials were aligned with listening and speaking skills. The mutual teacher of these two groups had 5 sessions (each forty-minutes) in a week with each control and experimental group. Moreover, one session was considered as practicing the taught contents in a week. Hence, the experimental group totally had 240 minutes of being exposed to Quizizz during six weeks of treatment (every session was 40 minutes and treatment was 6 weeks). It is worth mentioning that the difference between the students in control and experimental groups during six-weeks treatment was that the experimental group was exposed to the gamified lessons using online Quizizz game platform for practicing listening skills whereas there was no game-based learning activities for control group to practice listening except for the ones in their course books and worksheets. In control group, the participants were asked to listen to the audio files in their course books and answer the variety of questions including True or False, gap filling, matching, etc., while in experimental group they practiced the listening skill using a game-based content platform to answer the questions.

To access the quiz, students in the treatment group had to use a web-connected device to browse the Quizizz website and input a code supplied by the instructor. The gamified platform's functionality and how to log in were explained to the student during past two years. It is worth noting that all 3rd garde students in mentioned school have had experience of working with Quizizz game-based learning since 1st grade for

practicing their lessons. The participants were completely familiar with all features of this platform. They used to work with Quizizz not only in their English lessons, but also in their Turkish lessons with their homeroom teachers. The Quizizz has the option of playing in team mode and individually. As players in teams were needed to interact with each other to communicate instructions among themselves, this option was not an appropriate way for listening quiz, so the individual mode was chosen according to aim of the research. Participants were supposed to linsten to audio files, which were created by native English speakers, from the smartboard in their classrooms. After listening to the audio tracks, the players were then required to answer the questions besed on the contents in listening track. In majority of Quizizz games, there are multi-choice questions, however in some other games, the students need to listen to a sentence and unjumble the words to make the exact sentences they hear.

After answering every single question, teacher can show the scoreboard on the smartborad for students to see who could get the highest points. When students see their points on the scoreboard, the sense of competition gets increased in the classroom. Moreover, at the end of the game, when teacher looks at the final result given by Quizizz, she/he can see students' final scores. By this way, instructor can make sure which questions were more challenging for the learners in order to work on it more (See figure 3 and 4).

Figure 3. The user interface and scoreboard of Quizizz

Figure 4. The final result of Quizizz

Furthermore, the use of a native accent in games might assist students in improving their listening skills. Teachers may readily identify students who want assistance with a certain skill or topic by using post-quiz reports. Teachers can get started quickly with a video instruction, a downloadable teacher guide, example quizzes, and real-time chat assistance. Teachers can add question explanations to provide students with standardized feedback.

Following the experimental group received treatment, both the control and experimental groups were given an immediate post-test to see if there is any difference between the two groups. (Creswell, 2012). After treatment which lasted for 6 weeks, the attitude questionnaire was delivered among the learners in the treatment group. Following the treatment of the experimental group, a post-test was given to both the control and experimental groups to see whether there was any difference between the two groups (Creswell, 2012). After two weeks, a delayed post-test in listening will be conducted to compare the results of the post-test and delayedpost-test.

3.6 Data Analysis

The data collected in the study was analyzed using quantitative data analysis methodologies. The data of this study was analysed via SPSS version 28. To analyze

the data and answer the study questions, descriptive and inferential statistics were utilized. Additionally, normality was reported. Besides that, independent samples t-test were used for the tests that were normally distributed to test the null hypotheses concerning the comparison of two groups' listening performance and retention before and after the treatment sessions. In this regard, the related assumptions also were checked. The alpha level for significant testing was set at 0.05.

Chapter 4

Findings

4.1 Introduction

The main aim of this study was to investigate the effect of Quizizz Game-Based Learning (GBL) platform on listening performance and retention of Turkish EFL learners. Also, probing the perception of primary level EFL students in treatment group was the other objective of this study.

4.2 Equivalency of Groups on Pretest Scores

The first research question aimed to investigate the existence of any statistically significant difference between the result of pretest of listening in control group and experimental group. To answer this question, a set of data analysis tests was run. Table 2 illustrates the descriptive statistics of the pretests of both groups in listening test.

Table 2

Descriptive Statistics of Groups on the Listening Pretest

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Pretest-experimental	22	8.00	11.00	9.63	1.5652
Pretest-control	22	8.00	11.00	9.86	1.6245

Table 2 reveals that the mean score of the GBL group as the treatment group in pretest of listening is 9.63 with SD of 1.56. In addition, the mean of students at the pretest of control group with SD of 1.62 is 9.86. As it is obvious from the above table, the means of the pretest in two groups were not different, however, the differences between them needed to be tested statistically. Thus, the assumption of parametric test

needed to be tested. One of the assumptions is that the data should be normally distributed. Table 3 shows the normality of the data in two groups in pretest of listening.

Table 3

Test of Normality of Listening Pretest

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Control	.138	22	.200*	.939	22	.229
Experimental	.128	22	.200*	.962	22	.475

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The Sig. in control group with df = 22 is .229, and the Sig of experimental group with df=22 is .475. As both of the significance levels are higher than 0.05; thus, the data is normally distributed. In addition, as the magnitude of differences in the means of two groups was very small, prior to the main investigation, it may be claimed that the two groups had the same degree of listening comprehension. Table 4 indicates the results of independent samples t-test in pretest of listening.

Table 4

Independent Samples t-test for Pretest of Listening

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pretest	Equal variances assumed	.016	.691	.065	44	.948	.0333	.5106	-.9887	1.0554
	Equal variances not assumed			.065	44	.948	.0333	.5106	-.9888	1.0554

As the results showed as the significant value was higher than the p value, then two groups were homogeneous in listening test before treatment. Levene's test for the equality of variances was .016 (F= .016) with a significant level of .691. The results also represent the t-test value of .065 to manifest the equality of means with a significant level of .948. As for the equal variances, the results show that the significant level of .948 is more than 0.05. It shows that there is no significant difference between two groups' scores. Therefore, it can be concluded that groups were homogeneous before the treatment in the level of listening proficiency.

4.3 Equavalency of Groups on Posttest Scores

The second research question was as follows:

RQ2: Is there any statistically significant difference between the result of posttest of listening in control group and experimental group?

The results of descriptive statistics of the posttest of groups in listening test are represented at Table 5.

Table 5

Descriptive Statistics of Groups on the Listening Posttest

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Posttest-experimental	22	16.00	20.00	18.54	1.876
Posttest-control	22	11.00	17.00	13.95	1.772

Table 5 reveals that the mean score of the GBL Quizzes group as the treatment group in posttest of listening is 18.54 with SD of 1.87. In addition, the mean of students at the posttest of control group is 13.95 with SD of 1.77. As it is clear from Table 5, the means of the posttest in two groups were slightly different, however, the differences between them needed to be tested statistically. Like the procedure was done for the first research question, there is a need for running the normality of the data. Table 6 indicates the normality of the data in two groups in posttest of listening.

Table 6

Test of Normality of Listening Posttest

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Control	.145	22	.200*	.854	22	.321
Experimental	.137	22	.200*	.932	22	.419

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The Sig. value in control group with df = 22 is .321, and the Sig. of experimental group with df=22 is .419. As both of the significance levels are higher than 0.05; thus, the data is normally distributed. In addition, as the magnitude of differences in the means of two groups was very small, it can be concluded that the two groups enjoyed the same level of listening comprehension after the treatment. The above tables were not enough for final conclusion to ensure the homogeneity or heterogeneity of the groups under study. Hence, there was a need for running an independent samples t-test between groups. Table 7 indicates the results of independent samples t-test in posttest of listening.

Table 7

Independent Samples t-test for Posttest of Listening

	Levene's Test for Equality Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2.214	.130	1.9	44	.036	21.72	11.2	-.65	44.13
Equal variances not assumed			2.3	44	.029	21.72	9.32	2.61	40.43

According to the above table, Levene's test of the equality of variances is F=2.21 with a significant level of .036. Since the Sig value is less than the p values, hence, it can be concluded that there is a significant difference between two groups of treatment and control in listening performance.

4.4. Equavalency of Groups on Retention Test

The third research question was an attempt to examine the existence of any statistically significant difference between the result of retention test of listening in control group and experimental group. Table 8 illustrates the descriptive statistics of learners in retention test.

Table 8

Descriptive Statistics of Groups on the Retention Test

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Retention-experimental	22	15.00	20.00	18.36	1.734
Retention-control	22	12.00	18.00	14.27	1.761

Table 8 illustrates that the mean score of the GBL Quizzes group in the retention test is 18.36 with SD of 1.73. In addition, the mean of students of control group in retention test is 14.27 with SD of 1.76. As it is axiomatic, the means of the learners in two groups were different, so there is a requirement to report the normality of the data and after that to run an independent samples t-test. Table 9 reports the normality of the data in two groups in retention listening.

Table 9

Test of Normality of Retention Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Control	.149	22	.200*	.882	22	.411
Experimental	.145	22	.200*	.873	22	.402

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The Sig. value in control group with df = 22 is .411, and the Sig. of experimental group with df=22 is .402. As both of the significance levels are higher than 0.05; thus, the data is normally distributed. After this phase, an independent samples t-test was run (See Table 10).

Table 10

Independent Samples T-test for Retention Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2.338	.130	1.9	44	.047	21.780	11.27	-.6508	44.212
Equal variances not assumed			2.3	44	.027	21.780	9.326	2.615	40.945

According to Table 10, Levene's test for the equality of variances was 2.33 with a significant level of 0.47. The results also represent the t-test value of 01.9 to manifest the equality of means with a significant level of 0.47. As for the equal variances, the results show that the significant level of 0.47 is lower than 0.05. It indicates that there is a significant difference between two groups' scores in retention test. Therefore, it

can be deduced that groups were not homogeneous in retention test. Furthermore, based on mean comparisons, the means of treatment group in posttest and retention test of listening are 18.5, and 18.3, and the means of control group in posttest and retention test of listening are 13.9 and 14.2. As it is clear the mean of GBL group is higher than that of control group in both posttest and retention test of listening. Furthermore, as the results showed, the mean of treatment group was higher than the control group in retention test.

4.5 Attitudes of EFL Learners towards Quizizz GBL Platform

Finally, the last research question aimed to investigate the attitudes of EFL learners in treatment group about the effectiveness of Quizizz Game-Based Learning (GBL) platform. To answer these study questions, the researcher performed a series of appropriate computations and statistical analysis, generating specific answers. This chapter presents all of the data analysis techniques and outcomes in chronological sequence. Before delving into the study's research topics, it was critical to ensure that the distribution of scores on the attitude scale did not contradict the premise of normality. The normality of scores was investigated by the significance value of Kolmogrov-Smirnov. Table 11 shows the results of the normality tests on attitude scale for Turkish EFL learners.

Table 11

Tests of Normality on Attitude Scale

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
EFL	*Statistic*	*df*	*Sig.*	*Statistic*	*df*	*Sig.*
Learners	.321	22	.603	.465	22	.591

As Table 11 illustrates, the significance values of Kolmogorov-Smirnov test for EFL learners in attitude scale were found to be more than 0.05, indicating the normality of scores distribution. To explore the attitudes of EFL learners on different sub-categories of attitude scale, the frequencies and percentages of each item were reported. Table 12 shows the results on the three sub-categories (Love of English,

Interest in learning in English, and Desire for and expectation from learning English) related to general English learning category, which include the answers related to the first 10 items.

Table 12

Descriptive Statistics of Items Related to ELL

		Item	N	Min	Max	Mean	SD
Love of English	1	It is fun to learn English.	22	3	5	4.59	.59
	2	I like English lessons.	22	3	5	4.63	.58
	3	I love my English teachers.	22	3	5	4.81	.50
	4	English is easy to learn.	22	1	5	3.90	1.01
Interest in learning in English	5	I would like to continue learning English.	22	3	5	4.59	.50
	6	English is an important lesson.	22	3	5	4.59	.66
	7	I like to study English in my free time.	22	1	5	3.81	1.05
Desire for and expectation from learning English	8	I don't like to attend English lessons.	22	2	5	4.45	.96
	9	I will use English in many places when I grow up.	22	3	5	4.40	.66
	10	Learning English will help me make more friends around the world.	22	3	5	4.68	.64

To identify the min and max lengths of the 5-point Likert type scale, the range was measured by (5-1=4) because there were 5 options, and then divided by 5 to get the scale's greatest value (4/5=0.8). As a result, the intervals were calculated to be 0.8. Then, to identify the maximum of this cell, the number one, which is the lowest value on the scale, was added. The cell length is determined as follows:

From 1 to 1.80, means totally disagree, from 1.81 to 2.60, means disagree, from 2.61 to 3.40, the answer is no idea, from 3.41 to 4.20, means agree, and from 4.21 to 5.00, means totally agree.

As shown in the Table 12, 22 surveyed learners reported using attitude scale. In terms of Love of English which includes 4 itmes, as it is clear, the students totally agreed with the first item (It is fun to learn English) of this sub-category (M=4.59, SD=.59). The participants seemed to totally agree that they like English lessons (M=4.63, SD=.58) and they love their English teachers (M=4.81, SD=.50). Additionally the students agreed that English is easy to learn (M=3.90, SD=1.01).

The next three items related to the sub-category of Interest in learning English such as I would like to continue learning English, English is an important lesson, and I like to study English in my free time. Very similar to the first four items, most of the students had positive attitudes to this sub-category in general. The participants totally agreed that they would like to continue learning English (M=4.59, SD=.50) and English is an important lesson (M=4.59, SD=.66). They also agreed that they like to study English in their free time (M=3.81, SD=1.05).

Desire for and expectation from learning English was the last sub-category related to the attitudes of the learners towards the general English. Item 8 was a reverse item and they totally disagreed that they don’t like to attend English lessons (M=4.45, SD=.96). Moreover, they totally agreed with the items that they will use English in many places when they grow up (M=4.40, SD=.66) and learning English will help them make more friends around the world (M=4.68, SD=.64).

The next category of attitude scale was related to the learners’ attitudes towards the platform used in the treatment group. Table 13 illustrates the descriptive statistics related to Quizizz GBL platform and its role in listening performance of EFL learners in Turkey.

Table 13

Descriptive Statistics of Items Related to Quizizz GBL Platform

		Item	N	Min	Max	Mean	SD
Fun	11	Learning English by Quizizz is very fun.	22	1	5	4.45	1.05
	12	I feel excited when playing Quizizz.	22	1	5	4.45	1.1
Effective learning (utility of learning)	13	Playing Quizizz helps me learn easier.	22	3	5	4.13	0.63
	14	It is easy to use Quizizz.	22	3	5	4.31	0.89
	15	I always ask my teacher to play Quizizz.	22	1	5	3.95	1.29
	16	I would like to use Quizizz in the other classes to help me learn.	22	1	5	3.9	1.19
Engagement and motivation	17	Quizizz makes the lessons more interesting and energetic.	22	1	5	4.50	1.05
	18	I would like to compete with my classmates to win the game.	22	1	5	4.18	1.18
	19	Quizizz makes me nervous and angry.	22	3	5	4.36	.72
	20	The pictures, music, and videos in Quizizz are interesting and fun.	22	3	5	4.45	.73

Based on the above table, the sub-categories of fun, effective learning, and engagement and motivation were related to the category of Quizizz GBL platform. According to the results, the students totally agreed that learning English is very fun by Quizizz (M=4.45, SD=1.05) and they feel excited when playing Quizizz (M=4.45, SD=1.1).

Items number 13 to 16 related to the sub-category of effective learning by Quizizz. The students agreed that playing Quizizz help them learn easier (M=4.13, SD=.63). The next item received a high weight on agreement that it is easy to use Quizizz (M=4.31, SD=.89). The participants agreed that they always ask their teacher to play Quizizz (M=3.95, SD=1.29) and they would like to use Quizizz in the other classes to help them learn (M=3.90, SD=1.19).

Engagement and motivation were the last category that encompassed the items 17 to 20. According to the results, the participants totally agreed that Quizizz makes the lessons more interesting and energetic (M=4.50, SD=1.05). Additionally, they agreed that they would like to compete with their calssmates to win the game (M=4.18, SD=1.18). Item number 19 was a reverse item and the students totally disagreed with the item that indicates Quizizz makes them nervous and angry (M=4.36, SD=.72). Finally, the participants totally agreed that the pictures, music, and videos in Quizizz are interesting and fun (M=4.45, SD=.73).

According to the results, in general, and to sum up, most of the learners had positive attitudes towards general English learning and Quizizz platform that was used in the current study.

4.6 Chapter Summary

In the present chapter, both descriptive and inferential results were explained through tables and after that research questions were provided with answers. The results showed the effective roles of Quizizz GBL platform on listening performance of Turkish EFL learners in both short and long terms as well as their positive attitudes towards the used platform. The next chapter includes conclusion, summarizes the major findings, offers implications, and provides suggestions for further research.

Chapter 5

Results and Recommendations

This chapter primarily covers the following topics: (1) the researcher's conclusions based on the study's findings; (2) the significance for curriculum designers, language instructors, and learners; and (3) the recommendations for additional lines of research in the same field, followed by closing remarks.

5.1 Discussion

As already stated, the primary goal of the present study was to explore the impact of Quizizz GBL platform on improving listening skill of Turkish elementary EFL learners at short run. Furthermore, the other research aim was to determine if playing Quizizz GBL platform improve retention of listening skill of Turkish elementary EFL learners at long time. The outcome of independent samples t-test showed evidences of the effectiveness of Quizizz GBL platform on both listening learning and retention of Turkish elementary EFL learners. So, it was an evidence that using game-based English for learning is very popular nowadays because it is portable with high mobility. With growing interest in the game-based application, these programs now are being used for education. According to the findings from this research, the game-based application can be used for motivating students to learn English and facilitate learning English in terms of listening skill both inside and outside the school, as the results of data analysis in terms of the attitude scale showed.

One justification for the effectiveness of GBL instruction in listening across time can be the mitigation of listening with the voice of native speakers, which seemed to cause a type of connection between ear (listening) and tongue (speaking). The other reason can be the high levels of practice or repetition that was the gist of Quizizz GBL platform, and the students practiced it with high motivation.

The current study's findings are consistent with those of Gass and Selinker (as cited in Turgut & Irgin, 2009), who claimed that the natural repetition in games gave language learners continual exposure to the target language, increasing the chances that acquisition would take place. The findings also line up with a study conducted in

2010 by DeHaan, Reed, and Kuwada, who sought to determine how music video games affected Japanese EFL learners' ability to recall vocabulary in a second language. They cited the interactiveness of the games, or the degree toward which users may adjust the structure and control of a mediated real - world environment, as their argument for the usefulness of games on language learning. They contend that several educational components were put into the games to instruct and amuse the player, and that learning occurs when there is some interaction between the player and the pedagogical components.

Considering the effectiveness of game-based instruction on language skill improvement, the current study's results are compatible with those of Donmus' (2010) investigation into the use of educational games and social networks in foreign language instruction. His research's findings suggested that playing educational games helped pupils who frequently connected on Facebook. Additionally, given that this learning medium is created with an appealing and dynamic interface, the results are consistent with Sudarmilah, et al., (2020)'s efforts to stimulate vocabulary acquisition, make it easier for kids to understand, and increase kids' enthusiasm for learning. The Android-based visual form of the Edugame application was developed to enhance the growth of children's reading and speaking abilities. The prototyping methodology, which includes needs analysis, prototype design, prototype assessment, program writing/coding, program testing, program evaluation, and implementation, was used to create this application. In order to enhance kids' comprehension of words when learning vocabulary, the Edugame program encourages an engaging and participatory learning process.

The black box testing outcomes, pretest and posttest, paired sample t-test, SUS, and Aiken V in Sudarmilah, et al., (2020) study demonstrated that all of the findings were legitimate, allowing it to be determined that there were substantial variations in the learning process before and after the usage of the program. Their reasons for the real effectiveness of the application under the study was its attractiveness and fun nature. The same reason can be used for the current study as the results of attitude scale approved that students in treatment group considered learning English and working with listening tasks as fun and working with games did not make them nervous. According to several research (Abidin & Zaman, 2017; Lee et al., 2019; Moutinho & Sá, 2018), the game show elements, graphics, points, and soundtrack

lead to an improved educational setting. The use of visuals, audio, and music in games and training apps has been shown in several studies to have favorable impacts (Baydas & Cicek, 2019; Bicen & Kocakoyun, 2018). The current game-based application was created with the goal of providing a platform that was so stimulating, enjoyable, and encouraging that it will have a favorable impact on learning results, classroom dynamics, and lessen the anxiousness of gifted children. The findings of this study may point to a connection between classroom dynamics and learning outcomes, particularly for low-level students, as well as motivation and enjoyment.

The fact that the application encouraged students to actively participate in learning English by listening to it and remembering it is one argument for the Quizizz GBL platform's effectiveness. The benefits of employing technology in English language learning are consistent with how the teacher monitored the pupils' learning progress and reviewed what they had learnt. Students can pick when and where to learn English using this game-based approach. Student-centered learning is used throughout the process. Applications for listening have grown in popularity in the field of language instruction, and "podcasting" particularly appealing to language students. Podcasts may provide current and relevant listening practice both inside and outside of the class.

Podcasting is a form of online interaction that is somewhat like to gaming and enables students to look for and find inspiring educational content on their own (Kavaliauskiene, 2008). The present study's outcomes are somewhat consistent with prior research that demonstrated substantial variations in student performance when learners were subjected to podcasts for listening comprehension (Anusiene & Kavaliauskiene, 2009; Lu, 2007). The fact that podcasts offer students a fun opportunity to experience meaningful discussions that can improve their listening comprehension and vocabulary development is one reason for this encouraging outcome. In addition, participants increased their confidence in their overall comprehension of English, as Lu (2007) also highlighted.

The study's final question focused on how EFL students felt about utilizing the Quizizz GBL platform in their classes, particularly when testing listening comprehension. These findings corroborate those of prior studies that discovered EFL students have a favorable opinion of using applications in EFL classes for listening comprehension (Li, 2010; De Menezes & Morera, 2009). Although there are

difficulties and opportunity for development, the fundamental finding of the current study is that game-based applications have a good impact on learning. The study demonstrates that although there have been several studies on the educational benefits of employing games and applications for EFL learners, more empirical research is still needed, particularly on classroom dynamics, student anxiety, and student views.

5.2 Implications of the Study

The findings of this research may have vital ramifications for many EFL instructors who are looking to use an effective strategy for teaching listening and assisting students in long-term retention. The games in their lessons can be used as an addition to their curriculum. Through games like Quizizz GBL platform combined with audios and visuals, teachers may simply teach practically any classroom task. Any topic or activity can be taught using games as an introduction and development tool. Teachers encourage students' active engagement in class by using game-based applications. There are tens of thousands of mobile applications available, and their creators tout benefits for their users (Douglas, Wojcik, & Thompson, 2012), despite the lack of rigorous studies examining their efficacy. Users of educational applications for students must be aware of their functions and purposes in order to teach students how to utilize them more efficiently. Because each program is created for a certain purpose and has a variety of features that may or may not serve the needs of L2 primary level students, EFL students and teachers need to understand how different applications differ from one another. Another crucial factor is how well-suited an application is for educational material.

The current study has significance for EFL students in that, rather of learning listening by rote, they can use a combination of tactics, such as the Quizizz GBL platform, in their own learning experiences. Using the Quizizz GBL platform can assist students enjoy learning, making the learning experience more pleasant, amusing, and enjoyable, resulting in good attitudes about game-based learning.

The conclusions of this study can also aid course designers. They can add games as fun and tasks to their courses for young learners, or they can convey the gist of what has been taught in a lesson to the students in order to teach the points, from grammar

to vocabulary, with the help of meaningful learning that can occur in dialogue games. The findings have implications for teacher education and in-service training, as game-based learning abilities will become more integrated into teachers' professional knowledge and skill repertoires.

The main goal of the present study was to find out the effects of Quizizz GBL platform on listening performance and retention of EFL students at beginner level in a context like Turkey. Furthermore, the attitudes of the learners in the treatment group was explored via a researcher-made attitude scale with 20 items. According to the outcomes of independent samples t-test, the results indicated that the role of Quizizz GBL platform was more significant in listening enhancement of EFL students. Also, the outcomes illustrated that the effectiveness of Quizizz GBL platform was significant in listening retention test which resulted in positive attitude of learners in the experimental group. The results were evidences for the applicability of games.

Games are motivating for EFL students, and as Uberman (1998) pointed out, games are a technique to enable learners not only have fun and enjoy themselves while learning the language, but also to practise it. According to the findings, some tactics are beneficial in understanding and production, and teachers need to be aware of the nature of various instructional strategies in order to pique their own learners' interest in language learning and production. Finally, it is frequently suggested that games are merely for entertainment and have no impact on teaching and learning. However, data analysis found that games, particularly the Quizizz GBL platform, contribute to Turkish EFL students' listening performance and retention if they provide children with opportunity to study and practice the language. To summarize, practicing listening through the Quizizz GBL platform was found to be a useful and enjoyable method for language learners. As a result of the data, it was concluded that employing games to motivate EFL students was beneficial. The conclusion is that different instructional strategies can provide varied results. Because of this, it is recommended that EFL teachers and EFL learners select the optimum technique for learning second language skills or sub-skills.

5.3 Recommendations

The current study, as previously noted, had significant limitations. The sample size for this study was limited to 44 third-grade students. As a result, the findings should not be generalized. Furthermore, the participants were from the primary level at a private school and their level of English was limited. The other restriction, as previously stated, was the treatment's period which was only 6 weeks. Based on results of this study, some suggestions for additional research may be made. Here are a few of them:

1. To make comparisons, it is proposed that this study be replicated with a greater number of participants at varied levels of language proficiency for more accurate and reliable outcomes.

2. Because the length of the treatment may be essential in producing findings, a comparable research over a longer period of time may be done to compare the results of the studies.

3. Moreover, the Quizizz game-based approach was solely employed for English language instruction in this study. It may be used to different subjects in the future, and its effectiveness may be examined. Furthermore, participants were only asked about instructure-paced mode, despite the fact that the Quizizz platform has many updated features that may be studied.

4. The alignment between difficulties reported by instructors and those seen by program administrators or outside observers can be examined by interested researchers using mixed-method approaches. In addition to L2 grammar and students' attitudes, they can look into additional factors like autonomy, anxiety, self-regulation, and other things.

REFERENCES

Abidin, H. Z. & F. K. Zaman. (2017). Students' perceptions on game-based classroom response system in a computer programming course. *In 2017 IEEE 9th International Conference on Engineering Education (ICEED)*, 254-259.

Adnan, A. (2014). Improving students' listening ability through movie report. Proceedings of ISelt FBS Universitas Negeri Padang, 2, 69-75.

Al Qasim, N., & Al Fadda, H. (2013). From Call to Mall: The Effectiveness of Podcast on EFL Higher Education Students' Listening Comprehension. *English Language Teaching*, *6*(9), 30-41.

Anderson, J. R. (1995). *Cognitive psychology and its implications* (4th ed.). New York: Freeman.

Ang, C. S., Zaphiris, P., & Mahmood, S. (2007). A model of cognitive loads in massively multiplayer online role playing games. *Interacting with computers*, *19*(2), 167-179.

Arashnia, M., & Shahrokhi, M. (2016). Mobile assisted language learning: English pronunciation among Iranian pre-intermediate EFL learners. *Journal of Applied Linguistics and Language Research*, *3*(4), 149-162.

Azman, H., & Farhana Dollsaid, N. (2018). Applying massively multiplayer online games (MMOGs) in EFL teaching. *Arab World English Journal (AWEJ) Volume*, *9*.

Baydas, O., & Cicek, M. (2019). The examination of the gamification process in undergraduate education: A scale development study. *Technology, Pedagogy and Education*, *28*(3), 269-285.

Beatty, K. (2003) *Teaching and Researching Computer Assisted Language Learning*, New York: Longman.

Berne, J. E. (1995). How Does Varying Pre-listening Activities Affect Second Language Listening Comprehension? *Hispania*, 78(2), 316-329.

Bicen, H., & Kocakoyun, S. (2018). Perceptions of students for gamification approach: Kahoot as a case study. *International Journal of Emerging Technologies in Learning*, *13*(2), 72-93.

Binzak, V. J., Anderson, C. G., Kumar, J. D. A., & Berland, M. (2016). Comparing gameplay across formal and informal contexts. *Proceedings of the 1st DiGRA and FDG*, 1-2.

Brinton, D., & Gaskill, W. (1978). Using news broadcasts in the ESL/EFL classroom. *TESOL Quarterly*, *12*(4), 403-413.

Buck, G. (1995). How to become a good listener? In D. Mendelsohn & J, Rubin (Eds.), A guide for the teaching of second language listening. (pp. 113-131). San Diego: Dominie Press.

Burger, G. (1989). Are TV programs with video subtitles suitable for teaching listening comprehension? *Zielsprache Deutsch*, *20*(4), 10-13.

Bush, M. D., & Terry, R. M. (1997). *Technology-enhanced language learning*. Ntc Publishing Group.

Cárdenas-Moncada, C., Véliz-Campos, M., & Véliz, L. (2020). Game-based student response systems: The impact of Kahoot in a Chilean vocational higher education EFL classroom. *Computer-Assisted Language Learning Electronic Journal (CALL-EJ)*, *21*(1), 64-78.

Cameron, K., & Bizo, L. A. (2019). Use of the game-based learning platform KAHOOT! to facilitate learner engagement in Animal Science students.

Carrell, P. L., &Eisterhold, J. (1983). Schema Theory and ESL Reading Pedagogy.*TESOL Quarterly,* 17 (4), 553-73.

Chen, S. Y., Tseng, C. Y., & Cheng, C. Y. (2022). An investigation of personalized entertaining three-tier tests: a prior knowledge perspective. *Interactive Learning Environments*, 1-19.

Cho, M. H., & Castaneda, D. A. (2019). Motivational and affective engagement in learning Spanish with a mobile application. *System, 81*, 90-99.

Clark, H., H & Clark, E., V. (1977). "First Sounds in the Child's language" in *Psychology and Language: An Introduction to Psycholinguistics.* New York: Harcourt Brace Jovanovich, Inc.

Cornillie, F., Thorne, S. L., & Desmet, P. (2012). ReCALL special issue: Digital games for language learning: challenges and opportunities: Editorial Digital games for language learning: from hype to insight?. *ReCALL*, *24*(3), 243-256.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

DeHaan, R. L. (2005). The impending revolution in undergraduate science education. *Journal of Science Education and Technology*, *14*(2), 253-269.

Degirmenci, R. (2021). The Use of Quizizz in Language Learning and Teaching from the Teachers' and Students' Perspectives: A Literature Review. *Language Education and Technology*, *1*(1), 1-11.

De Menezes, C. Q., & Moreira, F. L. (2009). Podcast–Enhancing Skills in the English Class. *Composição Gráfica*, 203.

Derakhshan, A., & Khatir, E. D. (2015). The effects of using games on English vocabulary learning. *Journal of Applied Linguistics and Language Research*, *2*(3), 39-47.

Domínguez, A., Saenz-de-Navarrete, J., De-Marcos, L., Fernández-Sanz, L., Pagés, C., & Martínez-Herráiz, J. J. (2013). Gamifying learning experiences: Practical implications and outcomes. *Computers & education*, *63*, 380-392.

Donmus, V. (2010). The use of social networks in educational computer-game based foreign language learning. *Procedia-Social and Behavioral Sciences*, *9*, 1497-1503.

Douglas, K. H., Wojcik, B. W., & Thompson, J. R. (2012). Is there an app for that?. *Journal of Special Education Technology*, *27*(2), 59-70.

Dunkel, P. (1991). Listening in the native and second/foreign language: Toward an integration of research and practice. *TESOL quarterly*, *25*(3), 431-457.

Dunwell, I., de Freitas, S., & Jarvis, S. (2011). Four-dimensional consideration of feedback in serious games. In *Digital games and learning* (pp. 42-62). Continuum Publishing.

Egbert, J. (2006). Learning in context. *Teacher education in CALL. Amsterdam: John Benjamins*, 167-181.

Ena, T. O. (2003). *Developing Interactive Computer Based on Language games Using Microsoft Power Point*. Graduate School of Malang University, Malang.

Fadlilah, A., & Ma'rifah, U. (2022). ENHANCING STUDENTS'LISTENING SKILL THROUGH QUIZIZZ AUDIO FEATURE IN ONLINE LEARNING AT JIARAWANON-UTIS 4 SCHOOL. ETERNAL (English Teaching Journal), 13(1), 91-102.

Færch, C., & Kasper, G. (1986). One learner—two languages. *Interlingual and Intercultural Communication, Tübingen, Gunter Narr*, 211-228.

Fernández-Gómez, E., Martín-Salvador, A., Luque-Vara, T., Sánchez-Ojeda, M. A., Navarro-Prado, S., & Enrique-Mirón, C. (2020). Content validation through expert judgement of an instrument on the nutritional knowledge, beliefs, and habits of pregnant women. Nutrients, 12(4), 1136.

Field, J. (2003). Promoting perception: Lexical segmentation in L2 listening. *ELT Journal*, *57*, 325-334.

FIRAT, A. (2009). *A study on young learners' attitudes towards learning English* (Doctoral dissertation, Master Thesis, Unpublished. Turkey: Adana: Çukurova University).

Fouz-González, J. (2020). Using apps for pronunciation training: An empirical evaluation of the English File Pronunciation app. *Language Learning & Technology*, *24*(1), 62-85.

Gass, S., Mackey, A., & Ross-Feldman, L. (2005). Task-based interactions in classroom and laboratory settings. *Language learning*, *55*(4), 575-611.

Graham, S. (2003). Learner strategies and advanced level listening comprehension. *Language Learning Journal*, *28*, 64-69.

Grimshaw, J., & Cardoso, W. (2018). Activate space rats! Fluency development in a mobile game-assisted environment. *Language Learning & Technology*, *22*(3), 159-175.

Godwin-Jones, R. (2014). Games in language learning: Opportunities and challenges. *Language Learning & Technology*, *18*(2), 9-19.

Gu, Y., & Hu, G. (2018). Types of listening. *TESOL Encyclopedia of English language teaching. Hoboken, NJ: Wiley. Electronic publication ahead of print version. Published online*, *18*.

Gunter, G. A., Kenny, R. F., & Vick, E. H. (2008). Taking educational games seriously: using the RETAIN model to design endogenous fantasy into standalone educational games. *Educational technology research and Development*, *56*(5), 511-537.

Guo, N., & Wills, R. (2005). *An investigation of factors influencing English listening comprehension and possible measures for improvement.* Retrieved January 25, 2012 from: www.aare.edu.au/05pap/guo05088.pdf

Harmer, J. (2003). Popular Culture, Methods, and Context. *ELT journal*, *57*(3), 288-94.

Hasan, A. (2000). Learners' perceptions of listening comprehension problems. *Language, Culture and Curriculum*, *13*, 137-153.

Hainey, T., Connolly, T. M., Boyle, E. A., Wilson, A., & Razak, A. (2016). A systematic literature review of games-based learning empirical evidence in primary education. Computers & Education, 102, 202-223.

Hedge, T. (2000). *Teaching and Learning in the Language Classroom*. Oxford: Oxford University Press.

Hinkel, E. (2006). Current perspectives on teaching the four skills. *Tesol Quarterly*, *40*(1), 109-131.

Huang, B., & Hew, K. F. (2018). Implementing a theory-driven gamification model in higher education flipped courses: Effects on out-of-class activity completion and quality of artifacts. *Computers & Education*, *125*, 254-272.

Huang, Y. M., Huang, Y. M., Huang, S. H., & Lin, Y. T. (2012). A ubiquitous English vocabulary learning system: Evidence of active/passive attitudes vs. usefulness/ease-of-use. *Computers & Education*, *58*(1), 273-282.

Huang, Z., Ling, X., Wang, P., Zhang, F., Mao, Y., Lin, T., & Wang, F. Y. (2018). Modeling real-time human mobility based on mobile phone and transportation data fusion. *Transportation research part C: emerging technologies*, *96*, 251-269.

Hubbard, P. (2009). Educating the CALL specialist. *International Journal of Innovation in Language Learning and Teaching*, *3*(1), 3-15.

Hulstijn, J. (2003). 12 Incidental and Intentional Learning. *The handbook of second language acquisition*, *19*, 349.

Janusik, L. A. (2007). Building listening theory: The validation of the conversational listening span. *Communication Studies*, *58*(2), 139-156.

Jung, C. S., & Levitin, H. (2002). Using a simulation in an ESL classroom: A descriptive analysis. *Simulation & Gaming*, *33*(3), 367-375.

Kapp, K. M. (2012). *The gamification of learning and instruction: game-based methods and strategies for training and education.* John Wiley & Sons.

Kavaliauskienė, G. (2008). Podcasting: A tool for improving listening skills. *Teaching English with Technology*, *8*(4).

Kavaliauskienė, G., & Anusienė, L. (2009). English for specific purposes: Podcasts for listening skills. *Santalka*, *17*(2), 28-37.

Kétyi, A. (2013). *Using smart phones in language learning – A pilot study to turn CALL into MALL*. Retrieved from https://www.researchgate.net/publication/259009520_Using_Smart_Phones_in_Language_Learning_-_A_Pilot_Study_to_Turn_CALL_into_MALL

Kita, Y. (2021). Using Forms Quizzes to Enhance Students' Motivation in Language Learning at a Japanese University. *Indonesian Journal of English Language Teaching and Applied Linguistics*, *5*(2), 219-235.

Kovalik, D. L., & Kovalik, L. M. (2002). Language learning simulations: A Piagetian perspective. *Simulation & Gaming*, *33*(3), 345-352.

Krashen, S. (1981) *Second Language Acquisition and Second Language Learning* Oxford: Pergamon Press.

Krashen, S. (1982). *Principles and Practice in Second Language Acquisition*. Oxford: Pergamon Press.

Krashen, S. & Terrell, T. D. (1983). *The Natural Approach*. Eaglewood Cliffs, NJ: Prentice-Hall.

Krashen, S. (1985). *The Input Hypothesis: Issues and Implication.* London: Longman.

Krashen, S. (1989). *Language Acquisition and Language Education: Extensions and Applications*. New York/London: Prentice Hall International.

Krashen, S. (2003). *Explorations in Language Acquisition and Use: The Taipei Lectures*. Portsmouth: Heinemann.

Krashen, S., & Terrell, T. (1983). *The Natural Approach*, Pergamon Press, Oxford and New York, Alemany Press, San Francisco.

Lee, C.-C. , Hao, Y., Lee, K.S., Sim, S.C., & Huang. C.-C. (2019). Investigation of the effects of an online instant response system on students in a middle school of a rural area. *Computers in Human Behavior, 95*, 217-223.

Levy, M. (1997). Theory-driven CALL and the development process. *Computer Assisted Language Learning*, *10*(1), 41-56.

Li, C. (2010). Groundswell. Winning in a world transformed by social technologies. *Strategic Direction*.

Li, J. (2003). The importance of flexibility in listening comprehension. *Teaching English in China*, 52, 19-22.

Liu, Y.C (2009). The Utilization of Listening Strategies in the Development of Native English Speakers at the College Level. *Modern Language Journal*, 80(1), 76-90.

Long, D. R. 1989. Second language listening comprehension: A schema-theoretic perspective. *Modern Language Journal*, 73(1), 32-40.

Lutz, S., & Huitt, W. (2003). Information processing and memory: Theory and applications. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved December 25, 2012, from http://www.edpsycinteractive.org/papers/infoproc.pdf

Macedonia, M. (2005). Games and foreign language teaching. *Support for learning*, *20*(3), 135-140.

Markham, P., & Latham, M. (1987). The influence of religion-specific background knowledge on the listening comprehension of adult second-language students. *Language learning*, *37*(2), 157-170.

Mayer, R. E. (2003). Elements of a science of e-learning. *Journal of educational computing research*, *29*(3), 297-313.

Mendelsohn, D. J. (1994). *Learning to listening: A strategy-based approach for the second-language learner.* CA: Dominie Press, Inc.

Miangah, T. M., & Nezarat, A. (2012). Mobile-assisted language learning. *International Journal of Distributed and Parallel Systems*, *3*(1), 309.

Morton, H., & Jack, M. A. (2005). Scenario-based spoken interaction with virtual agents. *Computer Assisted Language Learning*, *18*(3), 171-191.

Moutinho, A., & Sá, S. (2018). Implementing active learning through pedagogical coaching in control systems lectures. Presented at *3rd international conference of the Portuguese society for engineering education (CISPEE), IEEE (2018), 1-6.*

Murphy, J. (1991). *Restructuring schools: Capturing and assessing the phenomena*. Teachers College Press, 1234 Amsterdam Avenue, New York, NY 10027 (hardcover: ISBN-0-8077-3112-9; paperback: ISBN-0-8077-3111-0).

Nunan D. (1997). *Listening in Language Learning*. The Language Teacher. The Japan Association of Language Learning. 21(9), 47-51.

Nunan, D. (2003). Listening in a second language. The English Centre, University of Hong Kong. Retrieved September 18, 2012. From: http://www.jaltpublications.org/tlt/articles/2003/07/nunan

Nurhayati, D. A. W. (2015). Using local drama in writing and speaking: EFL learners' creative expression. *Journal of English Language Teaching and Linguistics, 1*(1), 51-77.

Paivio, A. (1986). *Mental representation: A dual-coding approach*. New York: Oxford University Press.

Partovi, T., & Razavi, M. R. (2019). The effect of game-based learning on academic achievement motivation of elementary school students. *Learning and Motivation*, *68*, 101592.

Prensky, M. (2001). Fun, play and games: What makes games engaging. *Digital game-based learning*, *5*(1), 5-31.

Rahimirad, M., & Zare-ee, A. (2015). Metacognitive Strategy Instruction as a Means to Improve Listening Self-Efficacy among Iranian Undergraduate Learners of English. *International Journal of Instruction*, *8*(1), 117-132.

Ratminingsih, N. M., Mahadewi, L. P. P., & Divayana, D. G. H. (2018). ICT-Based Interactive Game in TEYL: Teachers' Perception, Students' Motivation, and Achievement. *International Journal of Emerging Technologies in Learning*, *13*(9).

Renandya, W. A., & Farrell, T. S. (2011). 'Teacher, the tape is too fast!'Extensive listening in ELT. *ELT journal*, *65*(1), 52-59.

Reinhardt, J. (2019). Social media in second and foreign language teaching and learning: Blogs, wikis, and social networking. *Language Teaching*, *52*(1), 1-39.

Richards, J. C., & Schmidt, R. W. (2013). *Longman dictionary of language teaching and applied linguistics*. Routledge.

Rivers, W.M. (1981). Listening Comprehension: Appraoch Design, Procedure. *TESOL Quartly*, USA.

Rost, M. (1993). *Listening in Language Learning*. New York: Longman.

Rost, M. (1994). *Introducing listening*. London: Penguin.

Rost, M. (2001). *Teaching and researching listening*. London: Longman.

Rost, M., (2002). *Teaching and Researching Listening. Longman*, London.

Rost, M. (2007). Commentary: I'm only trying to help: A role for interventions in teaching listening. *Language learning & technology*, *11*(1), 102-108.

Rumelhart, D. (1980). *Schemata: The building blocks of cognition*. In R.C. Spiro, B. C.

Saliés, T. G. (2002). Promoting strategic competence: What simulations can do for you. *Simulation & Gaming*, *33*(3), 280-283.

Sandberg, J., Maris, M., & De Geus, K. (2011). Mobile English learning: An evidence-based study with fifth graders. *Computers & Education*, *57*(1), 1334-1347.

Saran, M., Seferoglu, G., & Cagıltay, K. (2009). Mobile assisted language learning: English pronunciation at learners' fingertips. *Eurasian Journal of Educational Research (EJER)*, (34).

Schank, R. C. & Abelson, R. P. (1977). *Scripts, plans, goals and understanding.* Hillsdale, NJ: Erlbaum. 50.

Schmidt, A. (2009). Listening Journals for Extensive and Intensive Listening Practice. 2–11.

Schwabe, G., & Göth, C. (2005). Mobile learning with a mobile game: Design and motivational effects. *Journal of Computer Assisted Learning*, *21*, 204-216.

Sefton-Green, J. (2004). Literature review in informal learning with technology outside school.

Sharples, M. (2000). The design of personal mobile technologies for lifelong learning. *Computers & education*, *34*(3-4), 177-193.

Simões, J., Redondo, R. D., & Vilas, A. F. (2013). A social gamification framework for a K-6 learning platform. *Computers in Human Behavior*, *29*(2), 345-353.

Stanley, G., & Mawer, K. (2008). Language learners & computer games: From. *TESL-EJ*, *11*(4), n4.

Solak, E., & Altay, F. (2014). Prospective EFL Teachers' Perceptions of Listening Comprehension Problems in Turkey. *Online Submission*, *7*(30), 190-198.

Sudarmilah, E., Irsyadi, F. Y. A., Purworini, D., Fatmawati, A., Haryanti, Y., Santoso, B., Bakhtiar, D. N., & Ustia, N. (2020). Improving knowledge about Indonesian culture with augmented reality gamification. Retrieved from https://iopscience.iop.org/article/10.1088/1757-899X/830/3/032024

Tissot, P., & Centre européen pour le développement de la formation professionnelle. (2004). Terminology of vocational training policy: a multilingual glossary for an enlarged Europe.

Troussas, C., Krouska, A., & Sgouropoulou, C. (2020). Collaboration and fuzzy-modeled personalization for mobile game-based learning in higher education. *Computers & Education*, *144*, 103698.

Turgut, Y., & Irgin, P. (2009). Students' experiences of computer games and ELL: From phenomenological perspective. *Proceeding of the 10th METU ELT Convention*, *22*, 1-7.

Tyagi, B. (2013). *Listening: An Important Skill and Its Various Aspects. The Criterion An International Journal in English.* Retrieved February 10, 2009 from http://www.the-criterion.com/V4/n1/Babita.pdf

Uberman, A. (1998, January). The use of games for vocabulary presentation and revision. In *English Teaching Forum* (Vol. 36, No. 1, pp. 20-27).

Underwood, M. (1989). *Teaching Listening.* New York: Longman.

Ur, P. (1984). *Teaching listening comprehension*. Cambridge University Press.

Vandergrift, L. (2007). Recent developments in second and foreign language listening comprehension research. *Language Teaching*, 40, 191-210.

Vasalou, A., Khaled, R., Holmes, W., & Gooch, D. (2017). Digital games-based learning for children with dyslexia: A social constructivist perspective on engagement and learning during group game-play. *Computers & Education*, *114*, 175-192.

Willis, J. (1996). A flexible framework for task-based learning. *Challenge and change in language teaching*, *52*, 62.

Yukselturk, E., Altıok, S., & Başer, Z. (2018). Using game-based learning with kinect technology in foreign language education course. *Journal of Educational Technology & Society, 21*(3), 159-173.

Zeng, Y. (2007). *Metacognitive instruction in listening: A study of Chinese non-English major undergraduates* (Doctoral dissertation).