**BAŞKENT UNIVERSITY**

**INSTITUTE OF EDUCATIONAL SCIENCES**

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**MASTER IN ENGLISH LANGUAGE TEACHING**

**THE IMPACT OF THE GAMIFICATION TOOL KAHOOT! ON SECONDARY SCHOOL STUDENTS' GRAMMAR PROFICIENCY**

**PREPARED BY**

**GÖZDE KOÇ**

**MASTER THESIS**

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# BAŞKENT ÜNİVERSİTESİ
# EĞİTİM BİLİMLERİ ENSTİTÜSÜ

Yabancı Diller Öğretimi Anabilim Dalı İngiliz Dili Öğretimi Tezli Yüksek Lisans Programı çerçevesinde Gözde KOÇ tarafından hazırlanan bu çalışma, aşağıdaki jüri tarafından Yüksek Lisans Tezi olarak kabul edilmiştir.

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**Tez Adı:** Oyunlaştırma Aracı Kahoot!'un Ortaokul Öğrencilerinin Dil Bilgisi Yetkinliğine Etkisi

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Müdürü

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# BAŞKENT ÜNİVERSİTESİ
## EĞİTİM BİLİMLERİ ENSTİTÜSÜ
## YÜKSEK LİSANS TEZ ÇALIŞMASI ORİJİNALLİK RAPORU

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**ONAY**

**Tarih:** 06 / 06 / 2022

Dr. Öğr. Üyesi Selim Soner SÜTÇÜ

**İmza:**

*To My Family...*

# ACKNOWLEDGEMENT

# ÖZET

## Gözde KOÇ

## Oyunlaştırma Aracı Kahoot!'un Ortaokul Öğrencilerinin Dil Bilgisi Yetkinliğine Etkisi

**Başkent Üniversitesi**
**Eğitim Bilimleri Enstitüsü**
**Yabancı Diller Eğitimi Anabilim Dalı**
**İngiliz Dili Öğretimi Tezli Yüksek Lisans**

**2022**

Bu araştırmanın amacı, dil öğretiminde oyunlaştırmanın önemli araçlarından biri olan Kahoot!'un 6. Sınıf öğrencilerinin dilbilgisi öğrenmede akademik başarılarını ve Kahoot! uygulamasına yönelik görüşlerini incelemektir. Çalışmada, Kahoot! uygulamasının öğrencilerin dilbilgisi öğrenme başarısı üzerine etkisi araştırılmış ve uygulamaya ilişkin öğrenci görüşleri alınmıştır. Araştırmaya 40 kontrol grubu ve 40 deney grubu olmak üzere toplam 80 öğrenci katılmıştır. Çalışma hem nicel hem de nitel verileri içeren iki problem cümlesine cevap bulmayı amaçlamaktadır ve araştırmanın nicel verileri yarı deney tekniği, nitel verileri ise yarı yapılandırılmış görüşme ile elde edilmiştir. Öğrencilerin belirlenen dilbilgisi konularında başarısını ölçmek için güvenirlik ve geçerlilik çalışmaları yapılmış, ayırt ediciliği yüksek 20' şer sorudan oluşan ön test ve son test hazırlanmıştır. Hazırlanan ön test ve son test her iki gruba da uygulanmıştır. Dilbilgisi öğrenim sürecinde kontrol grubuna geleneksel yöntem teknikleri, deney grubuna ise Kahoot! ile 4 hafta dilbilgisi öğretimi yapılmıştır. Uygulama tamamlandıktan sonra her iki gruba da son test uygulanmış ve Kahoot! uygulaması ile içerik temelli öğretimin dilbilgisi öğrenimi üzerinde anlamlı bir fark oluşturup oluşturmadığı araştırılmıştır. Nicel veriler parametrik olmadığından bu verilerin analizinde, Wilcoxon İşaretli Sıralar Testi ve Mann Whitney U Testi kullanılmış ve sonuçlar yorumlanmıştır. Uygulama tamamlandıktan ve son test uygulandıktan sonra deney grubundan rastgele seçilen 10 öğrenciyle Kahoot! uygulaması ile ilgili görüşlerini öğrenmek amacıyla açık uçlu 5 sorudan oluşan yarı yapılandırılmış görüşme yapılmıştır. Araştırma sonuçlarına göre, Kahoot! uygulamasının öğrencilerin dilbilgisi öğrenimi üzerinde anlamlı düzeyde pozitif yönde önemli bir fark oluşturduğu görülmüştür. Ayrıca yapılan yarı yapılandırılmış görüşmeler sonucunda, ders içi materyal olarak Kahoot! uygulamasına karşı öğrencilerin son derece olumlu görüşlere sahip oldukları tespit edilmiştir. Araştırma bulguları literatürdeki diğer pek çok çalışma ile uyum içindedir. Sonuç olarak, Kahoot!'un hedef dilde dilbilgisi öğretimi için etkin olarak kullanılabileceği değerlendirilmekte ve bu konuda daha kapsamlı çalışmalar yapılabileceği önerilmektedir.

**Anahtar Kelimeler:** *Kahoot!, oyunlaştırma, bilgisayar tabanlı dil öğrenimi (BTDÖ), mobil destekli dil öğretimi (MDDÖ), öğrenci yanıt sistemi (ÖYS).*

# ABSTRACT

## Gözde KOÇ

## The Impact of The Gamification Tool Kahoot! On Secondary School Students' Grammar Proficiency

**Başkent University**
**Institute of Educational Sciences**
**Department of Foreign Languages**
**Master in English Language Teaching**

## 2022

The aim of this study is to examine at the academic achievement of Kahoot! students in 6th grade, which is one of the most essential gamification tools in language teaching and grammar acquisition, as well as their opinions on the Kahoot! application. In the study, the effect of the Kahoot! application on the grammar learning success of the students was investigated and the opinions of the students regarding the application were taken. A total of 80 students, 40 in the control group and 40 in the experimental group, participated in the study. The study aims to find answers to two problem sentences containing both quantitative and qualitative data, and the quantitative data of the research were obtained by quasi-experimental technique and the qualitative data were obtained by semi-structured interview. Reliability and validity studies were conducted, and a pre-test and post-test consisting of 20 questions with high distinctiveness were prepared to evaluate the students' success in the determined grammatical subjects. Both groups were given the pre- and post-tests that had been prepared in advance. During the grammar learning process, traditional method techniques were applied to the control group and Kahoot! to the experimental group for 4 weeks. After the application was completed, a post-test was applied to both groups and it was investigated whether the Kahoot! application and content - based language teaching made a significant difference on grammar learning. Since the quantitative data are not parametric, Wilcoxon Matched – Pairs Signed Ranks Test and Mann Whitney U Test were used in the analysis of these data and the results were interpreted. After the application was completed and the post-test was administered, a semi-structured interview consisting of 5 open-ended questions was conducted with 10 randomly selected students from the experimental group in order to learn their opinions about the Kahoot! application. According to the results of the research, it was seen that the Kahoot! application made a significant positive difference on the grammar learning of the students. In addition, as a result of the semi-structured interviews, it was determined that the students had extremely positive views towards the Kahoot! application as an in-class material. Research findings are in agreement with many other studies in the literature. As a result, it is evaluated that Kahoot! can be used effectively for grammar teaching in the target language and it is suggested that more comprehensive studies can be done on this subject.

**Key Words:** *Kahoot!, gamification, computer assisted language learning (CALL), mobile assisted language learning (MALL), student response system (SRS).*

# PREFACE

In recent years, the significance of learning English has progressively risen, and as a result, numerous innovations in the field of teaching and learning techniques have emerged. Computers, cell phones, and tablets, which are advantageous to the teaching process, are being adopted in place of traditional teaching strategies such as coursebooks and worksheets, thanks to the rapid changes in technology. Many programs and games have been created, and the teachers have used them. Kahoot! is one of the pioneer applications as a gamification tool in teaching. As a teacher, I mostly try to use technological tools in my lessons. When I use Kahoot! in my classes, I realized that Kahoot! takes students attention and I observed that students' motivation highly increased. Therefore, I decided to make my research about Kahoot!. Moreover, on the basis of my observations during lessons, the most challenging part for the students is grammatical structures of the target language. For this reason, I decided to write my thesis about the effects of Kahoot! on students' grammar success.

I have enjoyed every moment of this study. I hope this study will shed light on idealistic teachers who keep up with technology and adapt it to their lessons.

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# ABBREVIATIONS

EFL: English as a Foreign Language
ELT: English Language Teaching
CALL: Computer Assisted Language Learning
SRS: Student Response System
DGBL: Digital Game Based Learning
MALL: Mobile Assisted Language Learning

# CHAPTER I
# INTRODUCTION

The importance of learning English has gradually increased in recent years and with this increasing importance, there have been many innovations in teaching and learning methods. With the rapid development of technology, computers, smartphones and tablets which are beneficial for the teaching process are used instead of traditional teaching techniques such as coursebooks, worksheets (Mashaqbeh & Shurman, 2015, p. 34). Many applications and games have been developed and used by the instructors (Mock, 2004, p. 23). These materials give a new impulse to the education environment.

In recent years, technological applications have been seen as crucial tools for improving students' motivation and interest in learning a foreign language and acquisition (Licorish, 2018, p.12). According to Godwin-Jones (2015), teachers believe that using technology as a teaching tool contributes to learners' learning process. In teaching and learning, using technology provides enjoyable environment to the learners (p.15). The learning process might be boring and ineffective in terms of learners' motivation and interest if teachers don't improve themselves and keep up with the technology. Therefore, it is expected from teachers to use technology as a teaching tool in their lessons to generate an enjoyable classroom environment. The usage of technology, smartphones or tablets achieve a significant breakthrough in language learning and it provides learners to carry their interests outside of the classroom.

Technology in ELT classrooms allows students to use different types of media and increases students' interest and motivation in the lesson. According to Hockly (2014), technology allows students to match learning materials in previously impossible formats. The use of technology and technology itself removes the barrier of time and space for learning (p. 42). According to York & De Haan (2005), unlike traditional teaching, the technology aims to make learning applicable by making it permanent. At the same time, it allows the student to enjoy the educational process. The main purpose of using technology is to provide environments outside the classroom to interact with each other in English, which is the foreign language that the student is learning (p. 128). Therefore, technology has great potential to make learning authentic, meaningful and interactive.

Another advantage of technology is that learners can integrate games with learning a new language with the help of new applications. Therefore, Game Based Learning (GBL) and Student Response System (SRS) have been used by the instructors in the classroom. According to James Paul Gee (2003) well-organized and adapted technological games increase students' motivation and positively affect their participation in the classroom. Technological games are used for improving classroom dynamic, increasing students' success and motivation (p.18). Thomas W. Malone (1981) indicated that Kahoot! was the first tool as GBL which was adapted to SRS. Kahoot!,as a teaching material,  is the most useful SRS tool which improves students' interests and motivations by developing their auditory and cognitive intelligences in the lesson (p. 350).

The classroom remains the only place where students have to use English directly because, in EFL, students have no direct access to English outside of the classroom (Xiaoqiong & Xianxing, 2011, p.225). According to Alexander, Crescini, Juskewitch, Lachman & Pavlina (2009) SRS helps teachers and students make language engaging. Today's students need technological tools to apply what is taught, and this gives students a greater sense of responsibility (p.162). SRS is also a useful way of collecting instant data and feedback from students and teachers in terms of providing technological support to question-oriented, discussion-centered pedagogy (Beatty, 2004, p. 5). At the same time, SRS encourages reluctant and timid students by keeping their names anonymous (Moredich & Moore, 2007, p.114).

English teaching can be made more effective with new technologies by using the sense of mystery and humor that strengthen students' motivation (Lee & Hammer, 2011, p.4). At the same time, a successful learning environment can be provided by integrating technology and English lessons by using the student's interests. With the help of available technology, students can develop their self-confidence and improve their competence to learn.

Computers and the Internet provide opportunities for students to study wherever they are and to offer students something of interest. Technology, including computers and the Internet, seems to create the desired environment to develop learner autonomy (Chun & Plass, 2000, p.165). The Internet also increases the students' motivation in terms of providing something for students regarding their interests. It also helps students develop their language learning strategies by providing rich authentic language input in a social setting. According to Dlaska (2002), the Internet encourages students to take responsibility

for their own learning, both while working on their own, and both inside and outside the classroom (p.135).

Today, the need for technology-based teaching tools has become more and more important, because the traditional teaching model has become more difficult. The studies have shown that technology-based teaching tools have positive effect on classroom management, students' success and their motivation (Kaur & Naderajan, 2019, p.52). New technologies have been integrated in L2 teaching and Computer Assisted Language Learning (CALL) has become central to progress in teaching techniques (Sailer, 2013, p.35). According to Nutta (1998) "computer-based instruction can be effective method of teaching L2 grammar" (p.52). Nutta's study showed that using computer-based games increases learners' ability to understand grammar structures of the target language. For this reason, in this study, Kahoot!, which is an instrument of CALL method, will be applied in order to assess the impact of 6th grade students' grammar success in target language.

## 1.1. Problem Statement

Traditional teaching methods often focus on a specific area of learning, the cognitive or psychomotor area. This, on the other hand, hardly meets the triad of knowledge, competence and attitude. As a result, teaching methods that focus on a particular learning area both hinder active learning and delay or stop learning by decreasing students' motivation. New century skills require students to use more than one skill at the same time in solving real-life problems. As a result, learning environments must be created as a whole. These holistic designs require new learning approaches and environments. Traditional techniques, of course, contain incredibly significant and useful knowledge that has been filtered for thousands of years, but today's children require much more (Warschauer, 1998, p. 62). As a result, conventional learning models have begun to give way to technology-based learning models, settings, and tools, which have become more difficult for students. Studies show that technology-based learning tools have a positive effect on classroom management, student achievement and motivation. These new technologies have also been integrated in second language education, and Computer Assisted Language Learning (CALL) has been the main point in the advancement of education techniques. When teaching second language grammar, computer-based learning has been demonstrated to be beneficial, and using computer-based games has been shown to improve students' ability to understand the target language's grammatical structures (Simoes, 2015, p. 13). This research looked into

various aspects of all of these situations in order to evaluate the effect of Kahoot!, a CALL method tool, on 6th grade students' grammar achievement in the target language. The study's problem situation for this assessment was formed by the following main and sub-problems.

The following major and sub-research questions have been formulated:

1. Does Kahoot! have any significant impacts on 6th grade EFL learners' achievements with respect to grammar knowledge?

    1.1. Is there any significant difference between the pre-test scores of the experimental group receiving grammar instruction through Kahoot! and the control group receiving grammar instruction in content – based language teaching?

    1.2. Is there any significant difference between the pre-test and post-test scores of the experimental group receiving grammar instruction through Kahoot!?

    1.3. Is there any significant difference between the pre-test and post-test scores of the control group receiving grammar instruction in content – based language teaching?

    1.4. Is there any significant difference between the post-test scores of the experimental group receiving grammar instruction through Kahoot! and the control group receiving grammar instruction in content – based language teaching?

2. What are the EFL learners' attitudes and opinions about the use of Kahoot! for grammar instruction?

## 1.2. The Aim of the Study

This study aims to examine the effects of Kahoot! as a gamification tool on English language learners' achievements with respect to grammar knowledge and to analyze students' attitudes and opinions about the use of Kahoot! for grammar instruction.

## 1.3. The Importance of the Study

Many linguists provide a variety of techniques and methods to teach English as a foreign language. Since grammar is one of the cornerstones of learning a language, it plays a significant role in the content of these techniques and methods. A student, who has not learned the grammar of a language, has problems in using and learning the language correctly. Although different grammar teaching methods and techniques that have been used for years have greatly contributed to students' language learning, the development of technology in recent years has brought a different perspective to traditional methods. As technology occupies a large place in students' daily lives, teachers have also had to

incorporate technology and technological applications into their grammar teaching. Students' motivation, attitude toward the course, and achievement are all influenced by the technology tools used in the classroom. The contribution and perspectives of the Kahoot application, which is used as a technological tool, to students' grammar acquisition are studied in this research, which holds a significant role in the literature.

# CHAPTER II

# CONCEPTUAL FRAMEWORK

## 2.1. English as a Foreign Language

English as a foreign language has a crucial place in human life in globalizing world. English has become one of the languages to be learned to communicate with people, find reliable sources, socialize etc. For this reason, learning English has become one of the basic needs of every individual. At the beginning of the 20th century, scientists researched how to teach a foreign language correctly. In this challenging process, many different methods have been developed, changed over time or new methods have emerged. According to Richards and Rodgers (2007), there have been changes in language teaching methods according to the types of competencies that learners need. As a result, as technology advances, people's language requirements have evolved, and the relevance of language acquisition has grown even more (p.116). English is the most taught language in our country however our country hasn't reached the desired level in the foreign language. Some of the reasons of the failure of foreign language learning are instead of using modern curriculum development studies in teaching, teachers prefer traditional teaching approach. Haznedar (2010) in all English education programs in Turkey claimed that despite the improvement efforts, the point reached today is still not good, and he argued that the reason for this is crowded classes and inadequate physical conditions. Some of the obstacles encountered in foreign language teaching education include issues with qualified teacher education, language policies, and language teaching methodologies. He claims that education is deteriorating due to errors in language policy and modern language teaching methods, as well as an increase in the number of students. Decisions are made without consulting teachers, and despite this, the teacher is blamed for the educational failure. Setting standards in foreign language instruction is one strategy to address this problem. Additionally, teachers ignore the individual differences among students and they do not use technology in their classroom as much as it should be. According to Demirel (2013), there are ten essential principles of learning a foreign language. These concepts are as follows:

- Activity scheduling.

- Improving the four basic language abilities.

- Making use of audio and visual assistance

- Teaching from the tangible to the abstract, from simple to complex.

- One structure at a time should be taught.

- The usage of the mother tongue is restricted.

- Ensuring active participation.

- Establishing a link between learned material and everyday living.

- Maintaining student motivation

- Taking consideration individual differences.

The problems experienced will be considerably reduced if foreign language education is provided in accordance with these principles (Ertuğ, 2014, p. 44).

For this reason, it is necessary to research the most appropriate methods developed for learning English and to support foreign language learning in the best way. People had seen the expansion of computers in both educational institutions and households by the 1980s. Many schools have been using computers since the early 1980s, and CALL software has grown more widely available on the market (Ittelson, 2000). CALL is a new force in language learning. Despite the reluctance of many in the profession of language instruction, it is growing and demonstrating that in the hands of qualified instructors, it can be a powerful instrument (Knowles, 2004). Computer-assisted language teaching, which has recently been widely researched and has many studies on its effectiveness, is one of the effective methods used for learning English. Some problems in English teaching can be solved by using computer-assisted language learning. Christopher (1995) compared the success of fifth-grade students who used computers in several areas to those who solely used traditional methods. Students are placed into three groups: the first uses the computer for 60 minutes each week, the second uses it for less time and for fewer work, and the third, the control group, employs the traditional method. The results showed that there was a significant difference between the students who used computer assisted learning and who used traditional learning method. Nagata (1996) investigates the relative efficacy of computer-assisted production (output) and comprehension (input) practice in second language learning. According to the findings, the output-focused group develops greater grammatical abilities than the input-focused group. Uberman (1998) analyzed the influence of CALL on vocabulary learning. He accepts the useful function of CALL in vocabulary teaching after quoting and analyzing many expert opinions. Al-Qumoul (2005) conducts research to see how an instructional software application for English language functions affects the accomplishment of tenth graders. The data analysis findings show that students who study English language functions via a software program outperform students who learn the by traditional method.

**2.2. The Importance of Grammar in Language Learning**

Today, large investments are made in education and projects are being developed. The reason for this is that education is as vital to the future of nations as it is to the future of individuals. In the field of education, students in different age groups are offered different levels of mathematics, science, social studies, foreign language lessons, and so on. Language, according to Duman (1998), is the earliest and most significant condition of human socialization since it maintains a society's culture alive and passes it down through generations (p.414). In order to transfer information, nations require a strong mother tongue. Grammar, according to Banguoğlu (1986), helps us in better understanding and expressing our thoughts and feelings, as well as teaching us how to use language effectively and the language order is maintained by grammar. Grammar examines the language in terms of shape, sentence, sound structures and determines the rules (p.234). Grammar teaching, on the other hand, aims to teach students to use the language effectively, properly and correctly by using sentence structures and some methods and carries out activities for this purpose.

According to many linguists and teachers, grammar is a keystone for communicating with people. According to Harmer (2022), learning grammar, involves learning and teaching the form of the words. At the same time, he emphasizes that there are rules that individuals trying to learn English should pay attention to. Some of these are sentences and clauses, nouns and noun phrases, verbs, adverbs and adjectives (p.45). Grammar, according to Ellis (2006), cannot be defined, but it may be mentioned as a teaching strategy that will take students' attention (p.90). According to Burns (2009), grammar, is a "nurturing resource" that aids students in learning a language rather than explicitly teaching it. He also added that, there are three main theoretical grammar principles that impact English teaching practice (p.12). Traditional grammar, for example, recognizes language as a set of rules and requires students to define and classify words. Second, formal grammar views language as a brain-based cognitive development that people are predisposed to from birth. Last but not least, functional grammar, this approach is used effectively as a way of communication between people in daily activities.

The role of grammar is to provide the linguistic structure that allows us to discuss language. Putting words and phrases together correctly to form sentences. Nations understand and speak the language without any formal education or direction, but they are unable to explain it or its rules. Grammar also plays an important role in writing and reading processes. Without knowing the grammar rules, a person cannot express himself efficiently

and accurately and write professionally. It is very important for the author to express his thoughts and at the same time for the readers to understand what is written. Without grammar, the reader may have to constantly go back and reread an article or story that he has read. This disturbs the reader's reading experience, causing them to lose interest in the subject or perhaps give up and quit reading (Dalil, 2013, p.67). The role of grammar in foreign language teaching is that the teacher divides the language into many parts. That is, it reinforces the basic rules and structures for students to understand by teaching them to communicate. Grammar is, without a question, at the forefront of foreign language acquisition and is extremely essential. People trying to learn a foreign language must first learn the structure of the language, starting from the grammar of that language (Harmer, 2015, p.32). Ellis (1994) suggests that "the ideal approach to teaching grammar is a combination of both formal instruction and involving students in communicative activities." (p.45)

Grammar is an effective instrument for students who are learning a foreign language. Grammar helps learners for learning foreign language faster. Long (1983) looked at eleven research and found that six of them revealed that students and adults who got EFL instruction developed quicker and had a faster educational process (p.183). As a result, students do not tire of learning the conjugations of words and verbs since they fully understand the grammar rules and can use them in a number of contexts after they have learned how to use grammar. Students are unable to comprehend grammatical rules and forms on their own, which may lead to incorrect assumptions that delay the learning process. For this reason, grammar should be taught explicitly to students.

## 2.3. Computer Assisted Language Learning (CALL)

Computers have come to dominate many aspects of life thanks to the fast technological developments. In the early 1960s, computers began to be used in the field of education, and in the 1980s, with the introduction of personal computers (PCs), they began to be used commonly. With the effects of the Internet on lives, great changes have occurred in education (Gündüz, 2005, p.210). Computers have become an invariable part of the educational process with their introduction into the classroom.

As defined by Gamper and Knapp (2002) Computer Assisted Language Learning (CALL) is a research field that explores the usage techniques of computers in language learning (p.332). The term CALL was first used at a TESOL convention in Toronto in 1983

by chairs with unanimity (Chapelle, 2001, p.67). According to Davies (2003) CALL is an approach that improves teaching and learning, during which computers are used as an aid in the presentation, reinforcement and evaluation of the material to be learned (p.13).

Computer-assisted language teaching is a method in which the computer, the applications and programs on the computer are used in language learning. CALL is frequently used today because it increases students' success, active participation and motivation in the lesson. According to Demirel (2014), the use of computers for different activities and applications in learning and teaching processes is expressed as "computer assisted education". Computer-assisted education is frequently used in language teaching due to the rapid developments in technology (p.16). In particular, presentation assignments given to students, presentations by teachers, listening pieces, videos, programs of textbooks, online games, songs, sites that provide quizzes, web pages, etc. are often used in English teaching. Beatty (2004) claimed that CALL's material design, pedagogical theories and the use of technology in teaching constitute a whole and this system is particularly useful for language learning. Therefore, computer-assisted language learning refers to language lesson programs that use the computer as a tool. Students can use a computer to acquire new material, review previous sessions, and test their language learning abilities. The language curriculum is unique in that it places a strong emphasis on the individual and allows students to participate in their classes and make their own decisions (p.8). Warschauer & Healey (1998) divides CALL into three main categories. These are; behaviorist CALL, communicative CALL and integrative CALL. Each type of CALL reflects different technologies and different pedagogical theory (p.65).

Table 2.1. The Stages of CALL (Kern, 2000, p.64)

| Stage | 1970s-1980s: Structural CALL | 1980s-1990s: Communicative CALL | 21st centruy: Integrative CALL |
|---|---|---|---|
| Technology | Mainframe | PCs | Multimedia and Internet |
| English – Teaching | Grammar – Translation & Audio Lingual | Communicative Language Teaching | Content – Based ESP/EAP |
| View of Language | Structural (a formal structural system) | Cognitive (a mentally constructed system) | Socio – cognitive (developed in social interaction) |
| Principal use of Computers | Drill and Practice | Communicative Exercises | Authentic Discourse |
| Principal Objective | Accuracy | Fluency | Agency |

### 2.3.1. Behavioristic Computer Assisted Language Learning

Behavioristic CALL is a theory which was accepted in 1960s and the first idea about computer integrated teaching started at 1950s (Warschauer, 1996, p.32). With the start of behavioristic CALL, the students had a chance to practice and drill the language by using audio-lingual method (Moras,2001, p.13). According to Warschauer and Healey (1998), computers were accepted as a teacher who criticizes learners, allows students to work at their own pace, and never gets tired. The initial version of CALL appeared in the 1950s and consisted mostly of drill and practice activities. CALL applications of the time reflected behavioristic learning theories and were termed as 'drill and kill' modes (p.54). The computer is seen as a never-ending teacher. In the mainframe era, behaviorist CALL was created and used for the first time.

### 2.3.2. Communicative Computer Assisted Language Learning

Communicative CALL was dominant in the 1970s and 1980s. Communicative CALL advocates reject behavioral approaches to language learning because they see learning as a creative exploration process. Communicative CALL allows students to learn more interactively. According to Warshauer & Healey (1998), grammar should be taught indirectly to students and students should be encouraged to use their original expressions. The second step, Communicative CALL, also known as Cognitive CALL, followed the first, behavioristic stage. In the 1970s and 1980s, it became popular. It rejected the behavioristic method's long-term impacts from the previous stage and applied cognitive approach ideas, emphasizing on the process of learning, discovery, and improvement. Students communicate with each other while using computers, according to communicative CALL, and computer usage is not limited to the activities they perform (p.88). One of them was Underwood (as cited in Warschauer, 1996, p.4) defined the fundamental aspects of Communicative CALL as:

- Instead of manipulating pre-prepared words, learners are encouraged to create their own phrases.
- Bells are not used to reward, motivate, or evaluate students.
- Flexible in reaction to a range of student replies and avoids correcting students' errors.

- It creates an atmosphere where students feel natural to use the target language by using only the target language, and it never tries to achieve what a textbook can do.

According to Murray's studies, Communicative CALL tried to combine the beneficial aspects of the behavioristic approach, engagement, with the constructivist approach, interaction, in order to avoid potential disadvantages (Beatty, 2004, p.14).

### 2.3.3. Integrative Computer Assisted Language Learning

According to Warschauer (1996), learners defined multimedia technology as having only but not limited to text, graphics, sound animation and video on a single device, and this undoubtedly added a lot to the learners (p.90). Teachers have always sought to find methods for teaching the language more efficiently by identifying the flaws in all three stages of CALL, discarding some techniques, and teaching the language more effectively since they are focused on teaching languages in the best possible way, teachers have embraced new different methods rather than trying to close the deficiencies in the ways that have previously been explored.

Today, there are many programs that reflect teaching theories, but according to Davies and Williamson (1998) programs cannot semantically correct students' grammatical errors. As a result of these shortcomings, integrative CALL has developed. Integrative CALL aims to integrate and combine language learning skills such as writing, reading, speaking and listening (p.9).

### 2.4. Mobile Assisted Language Learning (MALL)

Whenever technology devices appear, which are the positive benefits of being in the age of technology, it has always been interesting to use them in language learning. In parallel with the high speed of mobile learning, mobile-assisted foreign language learning is also developing rapidly. Even some universities have distributed free Apple devices to their students to support mobile-assisted foreign language learning (Chinnery, 2006, p.12). Today, teachers and students use mobile devices for language learning. The use of tablets and mobile phones in language learning has become widespread and has been actively used since they entered the field of education. As a result, MALL (mobile assisted language learning) has emerged. Computer assisted language learning was once superior then mobile assisted language learning due to its importance in the field of education. However, the evolution of mobile phones and tablets, it has become a new wide study field. One of the

main reasons for the popularity of mobile-assisted language learning is that these devices are portable and can be utilized anywhere (Kukulska-Hulme, 2008, p. 285).

The opportunities offered by mobile devices for learning in education have made MALL very popular in recent years. For this reason, the use of mobile phones in education has attracted attention of some researchers. Mobile learning is applied and used in different parts of language learning. According to Burston (2015), MALL is used in reading, listening and vocabulary areas. Research conducted within the scope of MALL also looked at the potential for usability in areas such as grammar, speaking and pronunciation, dictionary use, etc. Learners made the most of the studies on vocabulary learning on mobile devices (p.14). As a result of these investigations, it has been shown that increasing vocabulary is the most researched area in the MALL field.

## 2.5. Student Response System (SRS)

Every kid is unique, and technology plays a significant role in their life (Prensky, 2001, p.5). In this aspect, SRS is a method that can best suit the demands of educators. Clickers, according to Berry (2009), not only support adult learning styles, but they may also change any student-centered learning environment into a more teacher-centered learning one (p.295). As a result, SRS gives feedback to the teacher by continuously monitoring the students' learning processes and supports the teacher's goal of increasing student participation in the lesson. According to Caldwell (2007), students used basic and scientific approaches such as raising their hands during traditional lessons; however, this was not a sufficient way for all students to attend the lesson. They developed a simple click technology to solve the dull and passive teacher-student interaction that occurs during lessons, when it is impossible for students to retain the same level of concentration (p.12). The impact of student response systems on student achievement, class involvement, and motivation have been widely researched. Çakıroğlu, Erdoğdu and Gökoğlu (2018) examined the participation levels of secondary school students in English education in one of their studies. In this study, two groups of students used clickers for the topic "like/dislike" and answered multiple choice questions at different times. As a result of this study, the researchers stated that even the students with the lowest self-confidence could communicate through clickers (p.175).

## 2.6. Gamification

Games have increased in popularity and reality as a result of technological developments. For some, reality is more like a game (Çağlar & Kocadere, 2015, p.84). Huizinga described our species as "Homo Ludens" in the 1930s, which means "playful

human beings." Games have become an integral aspect of people's life today. There are numerous games and gamified applications related to learning and awareness widely available, and the act of playing games is now being utilized to improve learning and performance in learning-teaching processes (Yıldırım & Demir, 2014, p.660). Gamification's main goal is to use game design elements in non-game topics, situations, or services to stimulate and promote desirable behaviors. Gamification is described as a motivation-enhancing method used to emphasize desired actions, according to Huotari and Hamari (2013). In this context, gamification takes into account the needs and goals of users by providing an intrinsic motivation along with dedication (Kapp, 2012 p. 90). According to Zichermann and Cunningham (2011) stated that the rules and way of thinking in the game were developed to attract the attention of the players and to solve problems. Although gamification was first used in digital media and marketing fields, the concept of gamification has been used in other fields since 2010 (Deterding, Dixon, et. al., 2011). According to Pappas (2014), it is also mentioned that gamification is very beneficial in learning. These are listed as follows;

- Gamification will provide motivation for interest and commitment to the lesson,
- The concept of e-learning will be entertaining as well as instructive,
- The information will become permanent,
- It will give students the opportunity to experience their real lives,
- It will provide an effective learning environment.

### 2.6.1. Kapp's Gamification Approach

According to Kapp (2012), gamification is a combination of game thinking and aesthetic elements. Gamification is the process of incorporating everyday life experiences, teamwork, and game thinking into activities. According to Kapp (2012), gamification makes game-based thinking important and gamification is not just about medals or rewards. Gamification does not make learning unimportant, on the contrary, if the games are designed correctly, learning becomes effective and permanent. Gamification is not a new phenomenon and has been used for years. Gamification is suitable for any learning situation and can be easily created.

### 2.6.2. Chou's Octalysis Model

Yu-kai Chou, the "Gamification Guru of the Year," was interviewed by Yılmaz (2015), who introduced the "Octalysis" gamification framework designed by Yu-kai Chou.

Figure 2.1. Octalysis Gamification Framework (Yıldırım, 2016, p.32)
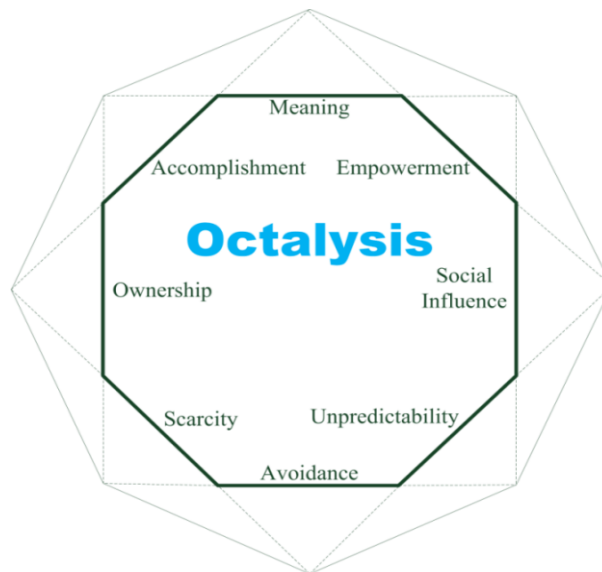


The right-hand components and impulses are deeply linked to creativity, social perspectives, and self-expression, according to the Octalysis framework. Extrinsic motivation-based impulses are located on the left side of the roof. In the Octalysis framework, items at the top result in positive items and items at the bottom result in negative items. An individual who aims to be successful in gamification must prepare an activity that will cause positive productivity with all impulses and components (Chou, 2013; Economou et al., 2015).

### 2.6.3. Werbach's Pyramid

Figure 2.2. Werbach's Gamification Hierarchy (Werbach, 2012, p.44)
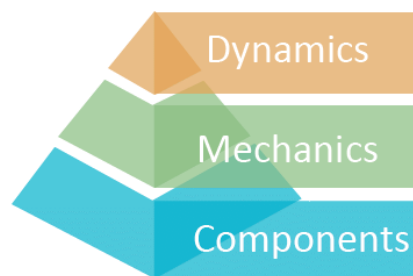


According to Werbach (2016), gamification can be applied in different ways and accordingly, he proposed a gamification framework called pyramidal. According to this pyramid; dynamics form the top layer of the hierarchy. One of the most crucial aspects to consider in a game is game dynamics, although it cannot be featured directly in the game. Emotions, narration, constraints, progression, and relationship all contribute to the abstract structure of the game. Mechanisms are the second level of the hierarchy. Reward, rank, win conditions, challenge, luck factor, teamwork, feedback, sourcing, transactions/shopping are

all gamification techniques. The components are at the bottom and top of the hierarchy. Components are game structures that are composed of mechanics and dynamics. Levels, badges, points, quests, leaderboards, avatars, collectibles, challenges, teams, virtual items, and freedom of collaboration are all key components, according to Werbach (2012).

Although there are many words such as "productivity games", "playful design" and "behavioral games" that are used closely with the concept of gamification, gamification has become more accepted and the most well-known word than other expressions (Deterding, 2011, p.11). The purpose of gamification is different from game design. Instead of being used to enhance engagement, it's primarily focused on pure entertainment. Marczewski (2015), makes a distinction between game and gamification design. He highlights that both the basic idea of enjoying and the business objective of gaming are different. The first step in the game design process is to define the objective, which is usually the basic idea of enjoying a game (p.18). Deterding, Dixon, Khaled, and Nacke (2011) stated that gamification then follows with a goal-oriented approach. Gamification is defined as the employment of game design principles in non-game context. (p.12). Also, Sheldon (2012) stated that the use of gaming mechanics to non-game activity (p.54).

The term gamification was first used in 2008, and it was described as the use of game structure components in non-game environments. After 2008, scientists have broadened and defined the term gamification as follows;

a. The process of problem solving by applying game thinking and game mechanics. (Deterding, et al., 2011, p.15)

b. To promote terminal behaviors, game mechanics dynamics and frameworks are used. (Lee & Hammer, 2011, p.4)

c. Gamification is the application of game mechanics, aesthetics and game thinking to drive people to take action, promote learning and find solutions. (Kapp, 2012, p.44)

About the term gamification, there are various articles which explore several design components for gamification of education, as well as their impact on learners, which refer to as learner outcomes.

### 2.6.4. Theoretic Approaches in Gamification

Along with the fact that gamification contains important parts of the game elements, motivation and motivational behavior change are seen on the basis of gamification. In this context, taking into account the theoretical approaches in gamification studies in the field of

education, Malone Motivation Model, Self-determination Theory and Fogg Behavior Model are the main approaches that should be emphasized. These three approaches will help to achieve a better result by understanding the psychological basis of gamification in the process of implementing gamification on a system (Glover, 2013, p.64).

### 2.6.4.1. Malone and Lepper Intrinsic Motivation Classification

This model, which was developed by Malone and whose starting point was educational computer games, was developed with Malone and Lepper and took the final form of the intrinsic motivation classification. This classification; consists of struggle, curiosity, fantasy and control elements.

- Struggle: Having the most appropriate level of difficulty according to one's performance towards a goal or result.
- Curiosity: The formation of a state of curiosity by taking into account the knowledge status of the person and presenting the appropriate level of information in a complex and contradictory way.
- Fantasy: Making the person think that s/he is in that environment or taking on a character by creating an imaginary environment or extraordinary environments.
- Control: The person has authority and can use his/her authority through different options within the structure. (Lepper, 1973, p.135)

### 2.6.4.2. Self-Determination Theory

Self-determination theory is an important motivation theory that deals with extrinsic and intrinsic motivation problems. In this theory, three basic psychological needs, which are universal and human innate, are mentioned, namely autonomy, competence and relatedness. These needs must be nurtured for people to reach their potential (Ryan & Deci, 2000, p.72).

- Autonomy: The ability of a person to act according to his own will without being affected by any external factor, to make a choice.
- Competence: Having the motivation to do any job or affecting the level of motivation.
- Relatedness: One's need to be in contact with other people.

### 2.6.4.3. Fogg Behavior Model

According to Fogg (2009), in order to achieve the desired behavior, one must have three components: sufficient motivation, skill and an effective trigger. (p.4)

- Motivation: The necessary motivation for the desired behavior to occur.

• Skill: The opportunity and skill that the person has to acquire the behavior.

• Trigger: Triggering the behavior to occur and initiate.

## 2.7. Gamification in Education

Gamification is the process of using game-based activities and using video games to interact with students or solve problems. Gamification is the application of educational evaluation by transferring it to video games. Creating interactive games for classroom teaching encourages independent and collaborative learning. Gamification also improves critical thinking and problem-solving skills (Icard, 2014, p.39). Gamification aims to make the learning process more interesting and promote a fun learning environment that motivates students. The progress indicators in a game also make learning and self-assessment more visible. As games are often a part of daily life among students, students feel much more comfortable in the game environment. This helps students adopt the new learning tool. Using technological materials develops effective learning experiences. Theoretically, the fun game environment increases students' responses and participation in the learning process, thus producing positive learning outcomes (Dellos, 2015, p.50). Gamification, which was originally a marketing term, has become a technique used to increase and encourage desired behaviors in students by connecting game elements with real life (Simoes et. al., 2013, p.6). Teachers, who are well equipped with technological tools, try to use game elements such as, competition, rules and guidelines, social interactions challenges, rewards, new identities. With the in-class and out-of-class educational games used, language learning has been seen as an important material affecting students' motivation and success by stepping forward compared to other fields (Chen et, al., 2018, p.70).

Jane McGonigal who is an American game designer, leading gamification enthusiast and an expert has stated that games are evolving from leisure gadgets to serious tools that can influence all aspects of life (Simoes, 2015, p.5). Zarzycka-Piskorz (2020) stated that games can be used to measure sport accomplishments, progress in language acquisition cognitive processes and simulate real life scenarios to prepare participant for upcoming events (p. 20). Moreover, they have the potential to alter one's behavior. To clarify this claim, Pawel Tkaczyk (2012) found that the average adolescent had spent approximately 10,000 hours playing computer games. It implies the existence of a parallel world of activity, including education. (p. 46)

Figure 2.3.Effectiveness and meaning of gamification (Dicheva, 2015, p.85)

| Understanding the Target Audience and the Context | → | Defining Learning Objectives | → | Structuring the Experience | → | Identifying Resources | → | Applying Gamification Elements |
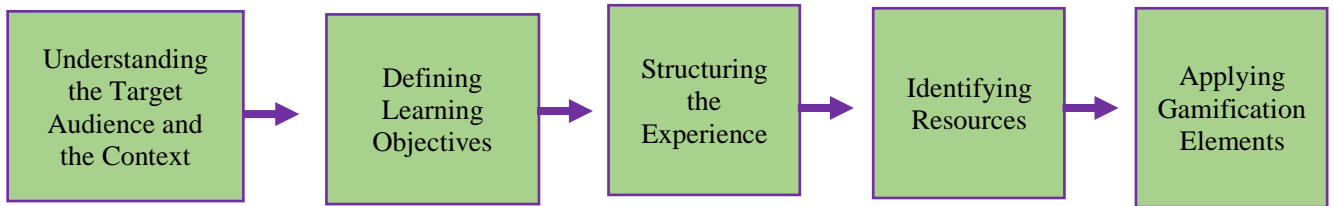
Many educators believe that gamification will not only raise students' enthusiasm to learn but will also improve the effectiveness and meaning of their engagement in assignments. It is proven that gamification may be associated to majority of passing students is a pairing in the literature, which tends to support this view point (de Mar-cos et. al., 2017, p.85). Gamification of learning environments could be a strong tool for information acquisition, as well as a way of improving key abilities like problem-solving, cooperation and communication (Dicheva et. al., 2015, p.85).

According to Kapp (2012) gamification can enhance learner involvement in the learning process. Storytelling and feedback were explored as game design features. Storytelling is the game's narrative, which can be used to keep learners interested and engaged. Feedback's frequency, intensity, and immediacy are also critical for maintaining engagement throughout the learning process. A significant success element for a gamified educational endeavor in the balance between learning and gameplay (p. 75).

Another researcher Brewer et al. (2013) tested the effects of gamification on young learners in a lab setting. The authors included a scoring system and a prize system in the experimental tasks to address the issue of children's lack of motivation. The task completion rate jumped from 73 percent to 97 percent with the gamified systems. As a result, gamification contributed to increase children's motivation to complete tasks (p. 389).

Gibson et. al., (2013) indicated that badges which is used for points and leaderboards can be a strong tool for organizing competitions and communicating objective completion, achievement and status. Badges can also encourage learners to enhance their performance by increasing their engagement, skill acquisition and time spent on learning (p.65).

In gamifying a 3D art lesson for university students, Villagrasa and Duran (2013) included gaming elements such as a storyline and leaderboard. When compared to traditional teaching techniques, the purpose of gamification is to boost student participation and motivation (p. 430).

According to Lin et. al., (2018) when gamification is implemented into a class environment, learning becomes much more natural and it attracts students' attention. Additionally, gamification allows students to concentrate more on the subject and it provides them to remember the information. Namely, it is clear that game-based learning helps students to participate and gives them the opportunity to get involved in lessons (p.570).

In his article "How Games Make Kids Smarter", Gabe Zicherman (2011) provides evidence that playing games might increase IQ level of the learners. He also claims that students who say "learning is enjoyable" and "learning is multiplayer" are in the most successful instructional settings. Students should have a multitask abilities in order to be successful. They must be able to communicate, socialize and collaborate during playing the game. According to Zicherman this will lead students to continuous and permanent learning (p. 43)

A case study which was conducted by Sheldon (2012) showed that by using gamified tools such as badges, XP quests and points, students who were in 7th grade in Hawaii showed an increase of 30% in their academic. Namely, this study has proven that with the use of gamification, the performance of middle school students gradually increases. (p. 32)

## 2.8. Gamification in EFL

Learning a new language is a deep and complicated process that an individual should attend intellectually, emotionally and physically to be able to learn a new language. Gamification's major goal is to promote users' participation and motivation by using game components such as points, leaderboards and rapid feedback. These components are also used in L2 learning techniques. Throughout the years, technology in L2 learning has played an important role. According to Ybarra and Green (2003), technology has played crucial role in learning second language learning  (p.56). Flores (2015) stated that "In L2 learning, integrating technology has become essential and the integration of Computer Assisted Language Learning (CALL) has been instrumental for the development of teaching and learning" (p. 37).

Traci Sitzmann (2011), a professor at the University of Colorado Denver, conducted a year-long study on the effectiveness of gamification. She gathered information from a total of 6,476 adults. The results revealed the following  improvement rates of learners learning in the following ways (p.512);

- Skill-based knowledge level increased by 14%
- Factual-knowledge level increased by 11%
- Retention of material learnt increased by 9%

Using technology in EFL classes has a critical role and it attracts students' curiosity. Shyamlee and Phil (2012) claimed that;

The last two decades have deposed a revolution due to incipience of technology, and has shifted the dynamics of various industries, and has also affected the industries and the way people communicate and work in the society. This speedy rising and advancement of information technology has proposed a greater pattern to explore the new teaching model. As a result, technology plays a highly important role in English teaching (p. 69).

The innovative new approach which is called gamification occurred in the mobile applications which aimed to support the learners' participation in 2010. According to Bicen & Kocakoyun's (2018) study, using gamification in the classroom environment attracts students' excitement and increases their motivation to achieve learning goals. As a result, gamification can be used as an effective learning process while teaching L2 (p.22).

Çakıroğlu et al. (2018) examined the effect of students' involvement and academic achievements by using gamification tools. A total of 37 undergraduates between the ages of 18 and 24 took part in the study. It was found that the experience of gamification improved the students' academic performance and engagement in the classroom environment (p.175).

There are very few studies that focus on the effects of gamified learning on the success of students in a specific area of language learning, just like vocabulary learning. One of these studies is the pretest posttest quasi-experimental study conducted by Yip and Kwan (2006) on two different groups of engineering students. Vocabulary teaching in one of the groups was supported by websites. The control group, on the other hand, learned the words with the traditional method. The results showed that the experimental group made more academic progress than the control group (p.240).

## 2.9. Kahoot!

Gamification and media have been used by teachers since the development of technology. In learning process, students like the effective way of learning through media and online tools. Online tools have attracted the students learning while having fun. Kahoot! is an educational website and an education-based interactive game that users can have fun while learning. "Kahoot! is a game-based student response system (GSRS) where the classroom is temporarily transformed into a game show and the teacher is the game show host, and the students are the contenders" (Wang, 2015, p.220). Kahoot!

([https://kahoot](https://kahoot).com/) is a free game-based digital platform established by the Norwegian University of Science and Technology. It has design elements that encourage learning (points, leaderboards, timelines, music effects, and nicknames). Motor movements are vital for achieving pleasant outcomes at a fundamental level, and learning from reward-related experiences can strengthen the production of previous motions (Madan, 2013, p.21). A pointing system is often used in Kahoot!. A higher score is gained for every correct answer. Kahoot! is unique in that the faster you answer, the more points you get. Users can also create quizzes using Kahoot! for teaching or for fun. The quizzes that the users create can be multiple-choice questions including videos and pictures. There are also written answer questions in the full version of Kahoot!. There can be time limitations set for each question. Once a quiz has been prepared, teachers can choose to make their quiz public or private, as well as randomize the sequence of the questions. Based on the settings being used by teachers, students may or may not receive points for each question they properly or correctly answer. At the end of the quizzes, on the leaderboard, top five students will see their names. Teachers can keep the track of their students' progress in an excel file which is downloadable in Kahoot! for free of charge. Kahoot! can be played individually or in groups.

### 2.9.1. Procedure of Using Kahoot!

Kahoot! is an online student response system (SRS) game that anyone can create their own account and quizzes for education or for fun. To play Kahoot!, some steps must be followed. First step is creating an account with an e-mail address.

Figure 2.4. Logging in Kahoot!
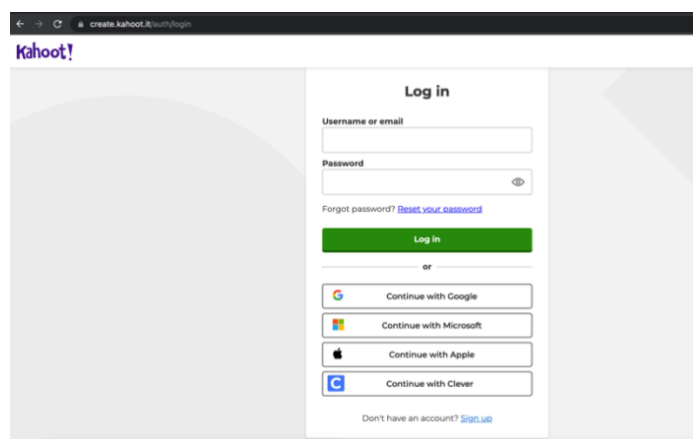
After login or sign-up process, a category (if you are a teacher choose teacher or if you are a student choose student) must be chosen. and the registration form must be completed. In the second step, the host (generally teachers) create their own quizzes by clicking the create button.

Figure 2.5. Creating a Kahoot!
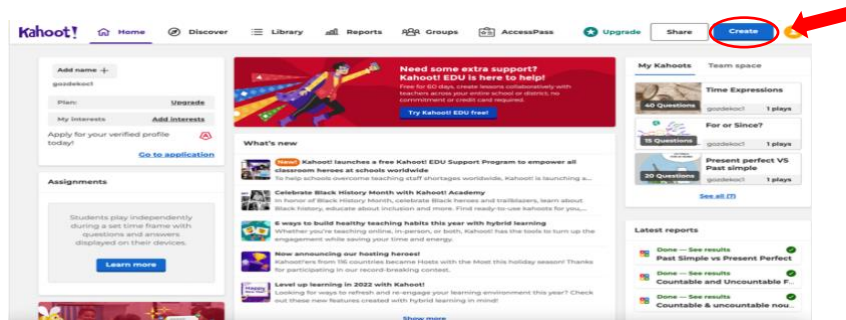


After clicking the create button, you may start writing your own quiz questions. You may choose question types. In test knowledge you can choose between quiz, true or false, type answer, puzzle. In collect opinions part, you can choose poll, word cloud, open-ended or brainstorm. You may choose time limitations and scores for each question. Some of the options are limited if you do not have a premium account in Kahoot!.

Figure 2.6. Arranging the question type in Kahoot!
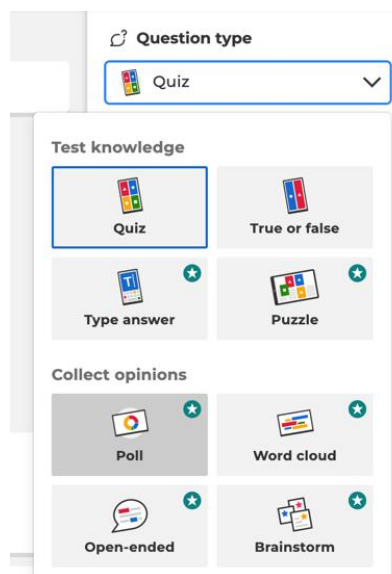
After arranging the question type, time and score limitation you may start writing your questions (you may also upload some photos about your question). There are four answer boxes that you can write, you can also write more than one correct answer.

Figure 2.7. Writing questions and answers in Kahoot!
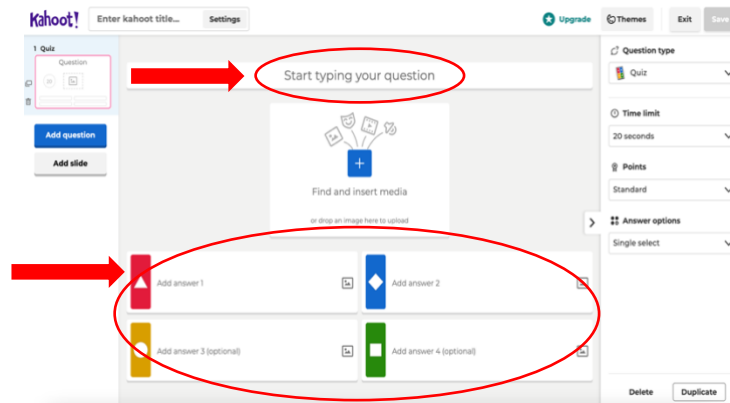


When you finish creating your questions you will see a green save button on the top right of the page. After saving process you may also return back to your Kahoot! and make some changes. You can find your Kahoot!s in the library button on the site. Your Kahoot! now is ready to play.

Figure 2.8. Saving Kahoot!
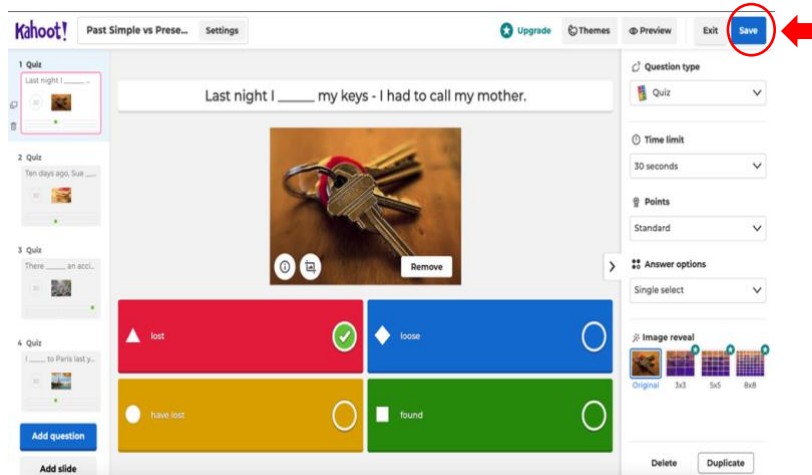


To play Kahoot! the teacher will start Kahoot! in web browser and reflect it on a screen. Students write the single-use code to their tablets or mobile phones or they can scan the QR code to join the game by writing their nicknames.

After getting responses from the students Kahoot! will give top five students names on the leaderboard. If the teacher wants to see the statistics of the students' responses individually or as a group there is a statistics button on the web site also its downloadable which is used to give feedbacks to the students.

Figure 2.9. Starting the Kahoot and Entering the game Kahoot!
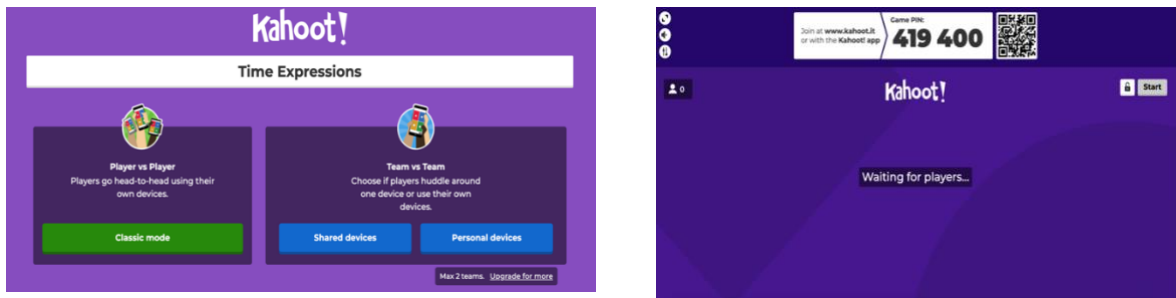


Figure 2.10. Steps of Kahoot! and feedback



### 2.9.2. Kahoot! in Education

Student response systems (SRS) have been used since sixties for only biology and chemistry lessons (Judson, 2002). From sixties to the present time, a lot of studies have been conducted about SRS with outcomes developed classroom dynamics, impressions of students and teachers and effective impacts on exams (Caldwell, 2007, p.15). SRS have also affected classroom environment, learning, assessment even students' attendance of the class. When Kahoot! was first introduced, it was strongly focusing on being a game-based learning platform, and hence it may be considered as Game-based Student Response System (GSRS) (Wang, 2015, p.222). There were several games platforms which looked like Kahoot!.

Socrative was also an online platform that enables formative assessment to gather data from the students by using forms, and the game Space Race. In their teams' students are answering the questions and their main goal is to move their rocket across the screen as quickly as feasible (Coca & Slisko, 2013, p.20). Quizlet is another online platform that students can practice variety of subjects through speller, flashcards, space race, tests (Gruenstein, McGraw, & Sutherland, 2009, p.4). Quizlet's main focus is to evaluate students spelling and test the students if they can give the correct definitions of the words. Quizizz is also a game-based learning platform. In Quizizz the students do not have to wait for other classmates to answer the question. Also, students can see the questions on their tablets or mobile phones this allows them to answer the questions in a fast way without waiting for their peers (Chaiyo & Nokham, 2017, p.181). Additionally, there are numerous SRS applications which does not offer game features like Learning Catalytics which gives an opportunity to students for numerical, algebraic, textual or graphical responses (Schell, Lukoff, & Mazur, 2013, p.235). Contrary to all these systems that was mentioned above, Kahoot! provides more competitive gaming experience by engaging students.

In many related works, Kahoot! is shown as future of SRS applications. Aljaloud (et al., 2015) stated that "On the other hand, some SRS applications such as Kahoot! have synthesized the best aspects of SRS and smartphone applications by introducing a competitive game element to SRS" (p. 323). McLaughlin & Yan (2017) mentioned that using formative assessments have a great impact on students' cognitive skills such as self-regulation, learning performance, motivation and attitude towards the lesson by using some dynamic tools such as ranking, music, pictures, scoring and video (p. 563).

According to quasi experiment study which was conducted by Sarkar (2017) the students, whom were exposed to game based learning such as Kahoot!, were more successful than the ones who exposed to traditional teaching methods (p.3). Namely, it can be clearly understood from the literature review that was mentioned above, using SRS systems provides more learning outcomes compared to traditional teaching methods.

### 2.9.3. Kahoot! in EFL

Since the existence of Kahoot! in 2013 its popularity has widely spread all over the world especially in schools (Pede, 2017, p.23). Kapuler (2015) stated that Kahoot! was ranked thirty-sixth out of a hundred among SRS applications (p. 15). Kahoot! has three

significant features. Chiang categorize these features as "Kahoot! offers a game-like response platform (Johns, 2015; Medina & Hurtado, 2017, p.89) and a multimedia tool promoting participation (Siegle, 2015) for learners, which provides a competitive learning format (Dellos, 2015) and leads to easy acceptance by the click generation." (p. 34). Moreover, according to Bicen and Karakoyun (2018) SRS applications are powerful tools that promote by increasing students' problem solving and cognitive skills, critical thinking and knowledge (p. 22). According to Wichadee and Pattanapichet (2018) a quasi-experiment study with 77 students at a private university in Thailand on gamified learning performance in language learning was conducted with thirty-eight students which are in experimental group and thirty-nine control group. Ten vocabulary quizzes and five grammar quizzes were applied to these students. While the experimental group was assessed with Kahoot!, control group was assessed by traditional paper based quizzes. At the end of the experiment, they found that there was a significant difference between control group and experimental group. Experimental group achieved success by means of fun and competitive environment provided by Kahoot! (p. 79).

Another literature review conducted by Klimova and Kacetl (2018) about effectiveness in vocabulary acquisition by using computer game-based learning showed that Kahoot! has a positive impact on students' motivation and concentration on vocabulary acquisition. It also decreases students' unwillingness and anxiety in the lesson. That's why, Kahoot! is a great game-based platform for foreign language learning classes (pp. 26-34).

Uzunboylu (2009) conducted a study to determine the effectiveness of Internet-based education on English grammar teaching, while the experimental group used Kahoot! for English grammar exercises, the control group did similar grammar exercises with the traditional method. It was found that the success of the students in the experimental group was higher than the success of the students in the control group. In summary, it is possible to benefit from technology in teaching grammar (pp. 140-150)

According to the study of Erkensiz and Dusmez (2006), computer-assisted teaching not only facilitates the teacher but also ensures active participation of the students in the teaching process. In addition, computer-assisted English teaching is more effective than traditional learning. For this reason, many studies are carried out in the field of computer-assisted English learning. (pp. 12-24)

In the study of Ateş et al. (2006), it was observed that computer assisted language teaching had a positive effect on the attitudes of high school preparatory class students towards English and computers. After the experiment process started, the motivation of the students for learning English with interactive applications and the observation of their interest in computers may have affected their positive attitudes. (p. 13)

According to Baş (2011)'s study; Students who learned using computer-assisted language learning (CALL) were found to be more successful than those who used traditional language learning methods. Considering their attitudes towards the English lesson, it was found that the students who received CALL had more positive attitudes. In addition, students in the classroom using CALL were more willing to learn English and participate in the lesson. Compared to traditional teaching methods, it has been emphasized that computer-assisted language learning is beneficial for the student academically, socially and emotionally. CALL also includes developing new teaching materials to meet the needs of learners with different learning styles. CALL can be used effectively in English lessons in classrooms (p. 53)

In the study of Tabar and Khodareza (2012) in which they examined the effect of multimedia on vocabulary learning, 60 students were divided into four groups and the experimental and control groups were randomly assigned. All four groups were applied the same procedure, but the control groups did not carry out experimental process. The groups were pre-tested before starting the application. In eight sessions, the words selected from the students' books were taught to the students in the experimental group using Kahoot!. The students in the control group were taught using the teacher-based method. After the application, a post-test was applied to the students. The results of the study showed that students who received computer-assisted vocabulary instruction were more successful in the post-test when compared to students who received teacher-based instruction. Therefore, computer assisted vocabulary teaching has a significant effect on students' vocabulary learning (pp. 78-86).

Zarzycka-Piskorz (2016) stated in his study on Kahoot! that 68% of the students found Kahoot! fun, but almost one out of three students thought the opposite. 90% of the students stated that they learned the target grammar structures at the end of the game. Moreover, 80% of the students said that they would recommend teaching in this way. Other findings are also positive. About 70% of the students said that they were motivated for learning grammar, but

26% were indifferent. Since the game is about losing and winning, the passion to win has dominated the game. Almost half of the students were seriously interested in the game to win the prize for being the first in the competition. The students were highly motivated by the 15% probability of winning (pp. 18-36).

Chotimah and Rafi (2018) examined Kahoot! in reading teaching and stated that students' participation with Kahoot! increased and they gave their full attention to the game. In other words, students showed better success in reading comprehension and were more motivated. Because the students enjoyed the activity while playing via their phones and their concentration increased to understand the questions about the reading passage. (pp. 168-170)

Turan and Meral (2017) conducted a quasi-experimental study with 46 students by using the online student response system Socrative and the online game-based student response system Kahoot! in control and experimental groups. According to the results of the study, it was seen that game-based student response systems increased achievement and participation, while reducing test anxiety when compared to non-game-based student response indicated (p. 110).

In studies on student response systems, it is seen that students develop positive attitudes towards SRS and this practice is beneficial. According to Çelik's (2015) study, the effect of Student Response Systems on vocabulary learning of students in a foreign language class was investigated and it was seen that vocabulary test results were better in classes where the student response system was applied. It has been found that the student response system increases students' motivation and participation in classroom activities, and also provides feedback to both teachers and students (p. 34).

Medina and Hurtado (2017) concluded that using interactive or student response systems with university students increased students' participation and interaction in the course. They also found that using Kahoot! increased student motivation and improved vocabulary acquisition. The results of the survey are the students' Kahoot! showed that they enjoyed playing it and found it easy to use. Medina and Hurtado (2017) emphasized that Kahoot! can be used for informal assessment and gamification should be used in language classes (pp. 443-445)

## 2.10. Related Studies

Compared to previous generations, digital platforms have been used extensively in the last 20 years. Thanks to the virtual world, people can easily participate actively in all kinds of activities. (McGonigal, 2011). The development of technology has brought many innovations to the field of education, as it has affected every field, and has enabled the development of traditional teaching environments. The term "gamification", which emerged in this process, has become a teaching material that teachers frequently use in education and training. Gamification is not a game, but a structured and target-oriented teaching material (Kapp, 2012). The literature review showing the effects of gamification, which is used as a teaching method, on students' academic achievement is as follows.

According to the report of NMC-Horizon (2014), gamification in education is becoming increasingly popular. According to this published report, it was found that the addition of gamification software to LMS and web applications at Kaplan University increased the grades of its students by 9%, and the students who failed the course decreased by 16%. A study by Krause (2015) showed that in classrooms where gamification was applied, students' retention and achievement tests increased by 25% and their average scores increased by 23%. It was found that the performance of the students increased by 40% in terms of memorability. Likewise, Dietz-Uhler, Fisher, and Han (2007) designed an online course. They created an interactive learning environment for students by using gamification elements. As a result of the statistics made at the end of the courses, it was found that the success of the students was 95% above the average of the previous six semesters.

Gibson (2012) emphasized that badges, scores and scoreboards used in games are an important technique for students to reach their goals and increase their success. In addition, it has been found that the badges used have positive effects on students' motivation. Kapp (2012) stated that gamification can increase students' participation in the learning process. Game designs that include storytelling and feedback have been shown to enhance student participation and have a positive impact on motivation. The balance between learning and playing, according to Kapp (2012), is a crucial success factor for a gamified educational project.

Few studies have been found investigating gamification in the Turkish context. In one of these studies, Şahin and Samur (2017) conducted a literature review in the context of Turkey. Most of the studies show the effect of gamification on motivation and the rewards used in gamification on student achievement. Yıldırım and Demir (2014) found that game designs increase students' motivation and course participation. In a study conducted by Güler

and Güler (2015), it was stated that integrating game elements in educational design positively affects students' motivation. Similarly, Kocadere and Çağlar (2015), who conducted a study in which they designed a gamified evaluation system, stated that the gamified systems used had a positive effect on students' motivation, fun and success.

Ar (2016) wrote a master's thesis aiming to reveal the effect of learning using the gamification technique on high school students. In his research, he designed a tool using gamification, and by making pre-test and post-test applications, he concluded that the group trained using gamification technique was more successful than the group trained using traditional techniques. In another study conducted in Turkey, Turan et. al., (2016) compared gamification with traditional methods and investigate the effects of gamification on students' cognitive levels, achievements and perceptions. The findings they obtained indicate that gamification increases both the cognitive and achievement levels of students, and students have positive thoughts about their gamified learning experiences.

Polat (2014) investigated the effect of gamification method on students' general language motivation and students' attitudes towards gamification. The study was conducted with 32 university students. In the study carried out in the experimental design, it was stated that there were 16 students in each of the experimental and control groups. In the six-week study, a pre-test and a post-test were used to measure the motivation of the participants, and a questionnaire consisting of multiple-choice and open-ended questions was used to gather information. According to the results of the study, there was no statistically significant difference between the results of the pre-test and post-test that the students in the experimental group took from the motivation scale. However, the survey results showed that the students had a positive attitude towards the gamification method.

In their study, Sarı and Altun (2016) aimed to determine students' opinions about the effects of including gamification elements in teaching activities on students' interest, motivation and course participation. According to the results of the analysis, it was found that the students' interest and motivation towards the lessons increased and their willingness to participate in the lesson increased in the lessons in which gamification elements were used. A study by Genç and Ersoy (2017) aimed to reveal the effect of vocabulary teaching through gamification in Turkish lessons on the development of vocabulary and motivation for vocabulary learning of primary school students. The results of the research showed that there was a significant difference between the pre-test and post-test average scores of vocabulary teaching through gamification and teacher-centered vocabulary teaching groups.

Hebebci and Usta (2018) aimed to examine teachers' views on the use of digital badges in educational environments. The research was carried out with 15 teachers from different branches working in the same educational institution. According to the results of the research, it was stated that teachers generally have positive views on the use of digital badges in educational environments.

When the studies in the literature are examined, many studies have been carried out on gamification in the form of in-class, computer laboratory and online learning at many levels from primary education to graduate level. It is seen that the studies mainly focus on variables such as success, student motivation and attitude towards the course, and gamification generally has a positive effect on these variables.

# CHAPTER III

# METHODOLOGY

## 3.1. Research Model

      This study is designed by using quasi-experimental unequalised control group pattern with mixed method principles. Johnson (2004) defines mixed method as the integration of qualitative and quantitative approaches, data collection tool and data analysis in order to obtain in-depth research data or verify the collected data (p.118). Mixed method approach provides more in-depth, more comprehensive data and result at high level research (Halkier, 2011, p.790). Embedded mixed pattern, which is one of the mixed methods, is used in this study. Embedded mixed design adds a qualitative phase or a qualitative phase such as case study into a quantitative phase such as experimental study (Creswell & Clark, 2018, p.24). This supportive phase is added to support the general pattern (Creswell & Clark, 2018, p.28). In this study, qualitative and quantitative data are gathered and jointly analysed by implementing this approach. Classes and Kahoot! exposure time are controlled by the experimental group. For the first research question and sub-research questions, pre-test and post-test are applied to each group and quantitative data is gathered. For the second research question, as suggested by various researchers using this method, qualitative data is gathered by determining the interactions and reactions of the students to Digital Game Based Learning (DGBL).

## 3.2. Collection of Data

### 3.2.1. Participants and Sampling

      Research data are gathered from 6th grade students at a Private College Secondary School. While determining the sample, a suitable sampling technique was used since it is difficult to collect data using experimental technique (including quasi-experimental technique) for Social Sciences. This sampling technique is a popular sampling technique which is used at situations where it is extremely hard for a researcher to design a sample and access the experimental subjects while applying the method that was used for experimental technique. With this technique, the sample is chosen from easily accessible and practical units due to time, money and job restrictions (Büyüköztürk, et. al., 2008, p.32). For these reasons, 80 6th grade students amongst approximately 500 school students who are chosen using a suitable sampling technique , create the sample of this research.

      Quasi-experimental technique is applied to the determined sample and the study was realized with two groups in accordance with this technique . First group is the experimental

group which comprises of 40 6<sup>th</sup> grade students who attend a private college. The other group is the control group which consists of 39 people. A book called "Power Up 6" which was published by Cambridge University Press was used for both groups. Students' level is presumed B1 Preliminary.

### 3.2.2. Data Collection Tools

In this study, quantitative data was gathered from the participants using quasi-experimental technique. As per this technique's pattern, two groups were formed as experimental and control groups, achievement tests which consisted of 20 questions were administered as pre-test and post-test to each group, and quantitative data for this study were gathered using these results. The questions used for these achievement tests were selected from questions with high reliability, validity and distinctiveness. The entire test was designed to be at a medium difficulty level. The accomplishment tests used in the study were selected from the "Sınav College Assessment and Evaluation Unit Question Bank" of previously analysed questions. Table 3.1. and Table 3.2. provides statistical information on these issues. Statistical information about the achievement test used for the pre-test is given in Table 3.1.

Table 3.1. Statistical information about the achievement test used for pre-test

| QUESTION NO | DIFFICULTY LEVEL | DIFFICULTY | DISTINCTIVENESS | INDEX OF VALIDITY |
|---|---|---|---|---|
| 1 | EASY | 0.66 | 0.68 | 0.64 |
| 2 | EASY | 0.58 | 0.83 | 0.79 |
| 3 | MEDIUM | 0.55 | 0.58 | 0.61 |
| 4 | HARD | 0.38 | 0.71 | 0.68 |
| 5 | MEDIUM | 0.58 | 0.83 | 0.82 |
| 6 | MEDIUM | 0.61 | 0.68 | 0.69 |
| 7 | EASY | 0.58 | 0.72 | 0.69 |
| 8 | HARD | 0.50 | 0.78 | 0.80 |
| 9 | EASY | 0.58 | 0.83 | 0.81 |
| 10 | MEDIUM | 0.61 | 0.44 | 0.43 |
| 11 | HARD | 0.40 | 0.67 | 0.69 |
| 12 | MEDIUM | 0.61 | 0.78 | 0.69 |
| 13 | MEDIUM | 0.63 | 0.32 | 0.36 |
| 14 | HARD | 0.37 | 0.73 | 0.71 |
| 15 | MEDIUM | 0.67 | 0.44 | 0.39 |
| 16 | MEDIUM | 0.47 | 0.72 | 0.78 |
| 17 | EASY | 0.50 | 0.89 | 0.85 |
| 18 | EASY | 0.53 | 0.74 | 0.72 |
| 19 | MEDIUM | 0.50 | 0.78 | 0.75 |
| 20 | MEDIUM | 0.47 | 0.80 | 0.81 |

Statistical information about the achievement test used for the post-test is given in Table 3.2.

Table 3.2. Statistical information about the achievement test used for the post-test

| QUESTION NO | DIFFICULTY LEVEL | DIFFICULTY | DISTINCTIVENESS | INDEX OF VALIDITY |
|---|---|---|---|---|
| 1 | MEDIUM | 0.65 | 0.42 | 0.40 |
| 2 | EASY | 0.57 | 0.84 | 0.80 |
| 3 | EASY | 0.59 | 0.71 | 0.67 |
| 4 | MEDIUM | 0.42 | 0.69 | 0.80 |
| 5 | MEDIUM | 0.51 | 0.80 | 0.74 |
| 6 | MEDIUM | 0.62 | 0.36 | 0.34 |
| 7 | HARD | 0.36 | 0.69 | 0.67 |
| 8 | MEDIUM | 0.59 | 0.76 | 0.70 |
| 9 | EASY | 0.52 | 0.75 | 0.73 |
| 10 | MEDIUM | 0.57 | 0.55 | 0.63 |
| 11 | HARD | 0.38 | 0.71 | 0.69 |
| 12 | MEDIUM | 0.55 | 0.85 | 0.81 |
| 13 | HARD | 0.42 | 0.68 | 0.70 |
| 14 | MEDIUM | 0.60 | 0.63 | 0.67 |
| 15 | HARD | 0.51 | 0.77 | 0.82 |
| 16 | MEDIUM | 0.46 | 0.81 | 0.82 |
| 17 | EASY | 0.60 | 0.70 | 0.66 |
| 18 | MEDIUM | 0.63 | 0.46 | 0.45 |
| 19 | EASY | 0.48 | 0.86 | 0.84 |
| 20 | EASY | 0.61 | 0.87 | 0.77 |

**Reliability Co-efficient:0,70**

An English book Power Up 6 by Cambridge Press, which is also used in many schools in Turkey, was used for each group. For the experimental group, target grammar was taught using Kahoot! for four weeks, for the control group, target grammar was taught using traditional teaching methods in classroom and Kahoot! was not used for the control group.

Qualitative data of the research were obtained by semi-structured interview, which investigated the students' opinions about the gamification tool Kahoot!. After four weeks of teaching, only the experimental group participants participated in the semi-structured interview. The control group students did not participate in this interview. After the application was completed and the post-test was administered, 10 students from the experimental group volunteered to interview. In order to explain the answer of sub-problem

"What are the students' views on learning English grammar via Kahoot!?" interview questions were used. The questions were also examined by a expert to ensure the validity of the interview questions. At the same time, it was determined that the questions were understandable by conducting a preliminary interview with five students who knew the application before. The final version of the interview form was created by making necessary adjustments to the questions. The following are the interview questions, which are mainly composed of 5 items and are designed to test students' opinions on Kahoot! and English grammar instruction:

1. What do you think about the game Kahoot! as an in-class activity that you have participated in?
2. How did you feel while you were playing Kahoot!?
3. Should the game Kahoot! be used for English lessons?
4. What do you think about learning English grammar via Kahoot!?
5. Has Kahoot! changed your opinions towards learning grammar?

### 3.2.3. Data Analysis

In the analysis of the data, in order to test the quantitative data acquired from the study, Mann Whitney-U test was applied for unrelated samples, Wilcoxon signed rank test was applied for related samples. SPSS Statistics 22 was used in analysing the data. Data related to the semi-structured interview was reached by content analysis.

Before analysing, data accuracy was checked, and data were organized. Afterwards, lost data were examined to check whether there is an extreme value and a person from whom a post-test measurement was not taken was excluded from data set. During normality analysis, coefficients of kurtosis and skewness were examined, and it was seen that the data were not distributed normally. Therefore, it is decided to continue analysis with non-parametric tests since the data were not distributed normally and the sample group was small (Büyüköztürk, 2011). From research questions, Wilcoxon signed rank test was conducted for related samples in order to examine the difference between the pre-test- post-test points of the experimental group who took grammar lessons via "Kahoot! and the difference between the pre-test-post-test points of the control group who received course-book based language education. Mann Whitney-U test was used in order to examine the difference between post-test grades of the experimental group who took grammar lessons via Kahoot! and the control group who took grammar lessons by course-book based language education. Analysis results were reported.

In this research, "What are the EFL learners' attitudes and opinions about the use of Kahoot! for grammar instruction?" Qualitative data was analyzed using content analysis at the end of the interviews to seek answers to the question and to obtain the ideas of the students. According to Yıldırım and Şimşek (2016), the process used in content analysis for the analysis of semi-structured interviews with students is to collect similar data within the framework of certain themes and concepts, organize and interpret these statements in a way that the reader can understand. The first step in data analysis in qualitative research is to prepare and organize the collected data for analysis. For this, the interviews are written on a piece of paper and arranged according to their types. The researcher separates the data into relevant wholes, assigns codes to these meaningful sections, and ensures that the data in these sections are grouped with comparable codes during the coding process. According to Yıldırım and Şimşek (2016), The generated codes are brought together and evaluated in the first step, and themes that can explain and categorize the data are discovered. This is referred to as thematic coding. In this study, the answers of 10 students who voluntarily participated in the interview for the analysis of qualitative data to open-ended questions prepared in advance were analyzed as mentioned above. First, the data was written down, arranged for analysis, carefully read and coded, the themes were determined, the themes were associated with each other, and the meanings of the themes were interpreted, as in Creswell's (2014) Data Analysis Chart in Qualitative Research. Finally, an experienced analyst analyzed the data to ensure the accuracy of the information acquired.

After the application was completed and the post-test was administered, 10 students from the experimental group volunteered to interview. In order to explain the answer of sub-problem "What are the students' views on learning English grammar via Kahoot!?" interview questions were used. The questions were also examined by three consultants to ensure the validity of the interview questions. At the same time, it was determined that the questions were understandable by conducting a preliminary interview with five students who knew the application before. The final version of the interview form was created by making necessary adjustments to the questions. According to Stewart and Cash (1985), interviewing is defined as a reciprocal and interactive process by asking and answering questions in line with a predetermined purpose. Stewart and Cash (1985) divided the interview types into two as structured and unstructured. Interviews with predetermined questions and answers are structured and open-ended interviews are unstructured interviews (Yıldırım & Şimşek, 2016).

Karasar (2013), on the other hand, described the interview as a data collection technique through oral communication. Karasar (2013) divided the interview types into three as structured, semi-structured and unstructured. In this interview, both pre-prepared questions, which are the requirements of the structured interview, were used, and new questions were asked when deemed necessary according to the rule that new questions can be asked according to the developments in unstructured interviews. Therefore, this interview can be qualified as a semi-structured interview. Karasar (2013) stated that personal information can be obtained more easily in individual interviews. For this reason, individual interviews were conducted to make the students feel comfortable. Each student was asked an interview question, and after the student answered, the next question was passed. After one student answered all the questions, the second student was interviewed. The 6 interview questions prepared after the application examine the students' views on Kahoot! and on learning English grammar.

### 3.3. Limitations

This study aims to determine the impact of Kahoot! application on secondary school students' academic success in English grammar on a specific grammar topic (Past Simple and Present Perfect Tense). There were two groups. One of them was experimental group which consisted of 20 students who were in 6th grade in Sınav College. The other group was control group. This group also consisted of 20 students who were in 6th grade in Sınav College. For both groups the book called "Power Up 6" by Cambridge University Press was used. The students' English proficiency is ranked as B1 Preliminary.

# CHAPTER IV

# FINDINGS AND DISCUSSION

## 4.1. Findings

### 4.1.1. Findings related to the first question of the research "Does Kahoot! have any significant impacts on 6th grade EFL learners' achievements with respect to grammar knowledge?"

Table 4.1. Wilcoxon signed rank test results of pre-test points of the students who received grammar lesson via Kahoot! pre-test and post-test.

Table 4.1. Wilcoxon signed rank test results of pre-test points of the students who received grammar lesson via Kahoot! pre-test and post-test

| Post-test-Pre-test | N | Rank Average | Rank Total | Z | p |
|---|---|---|---|---|---|
| Negative Rank | 2 | 23.50 | 47.00 | 4.70 | .000* |
| Positive Rank | 36 | 19.28 | 694.00 | | |
| Equal | 1 | | | | |

Wilcoxon signed rank test results regarding pre-test and post-test results of the students who are amongst the experimental group and received grammar lessons via Kahoot! are given in Table 4.1. The analysis results show that there is a significant difference between pre-test and post-test points of the students who are amongst the experimental group (z=4.70, p<.05). When the rank total of the difference points is considered, this observed difference is in favour of positive ranks meaning post-test points. As per the analysis results, application of grammar lessons via Kahoot! programme is effective in increasing the success points of the students.

Table 4.2.Wilcoxon signed rank test results of pre-test and post-test points of the students who received course book-based grammar lessons pre-test and post-test.

| Post-test-Pre-test | N | Rank Average | Rank Total | Z | p |
|---|---|---|---|---|---|
| Negative Rank | 13 | 17.88 | 232.50 | 1.58 | .114 |
| Positive Rank | 23 | 18.85 | 433.50 | | |
| Equal | 3 | | | | |

Wilcoxon signed rank test results regarding pre-test and post-test results of the students who are amongst the control group and received course book-based grammar lesson are

given in Table 4.2. The analysis results show that there is not a significant difference between pre-test and post-test points of pre-test and post-test of the students who are in the control group (z=1.58, p>.05). As per the analysis findings, there is not a meaningful difference between the success results of the students who received course book-based grammar lessons before and after the implementation.

Table 4.3. Mann Whitney U Test Results regarding post-test grades of the experimental group who received grammar lesson via Kahoot! and the control group who received grammar lessons through course book-based language education.

| Group | N | RT | RA | U | Z | p |
|---|---|---|---|---|---|---|
| Experimental | 40 | 45.28 | 1811.00 | | | |
| Control | 39 | 34.59 | 1349.00 | 569.00 | -2.08 | .038* |

Table 4.3. examines whether there is a change in the achievement test post-test points of the experimental group students who received grammar lessons via Kahoot! and the students who received course book-based language education. As per the applied Mann-Whitney U test results, achievement test points of the students who received grammar lessons via Kahoot! differs significantly compared to the students who received course book-based language education (U=569.00, p<.05). When the rank average is considered, success point averages of the experimental group students who received grammar lessons via Kahoot! are higher compared to the control group students who received grammar lessons through course book-based language education. As a result, it can be said that receiving grammar lessons via Kahoot! has an effect on achievement test results in language learning.

Table 4.4. Mann Whitney U Test Results regarding pre-test grades of the experimental group who received grammar lesson via Kahoot! and the control group who received grammar lessons through course book-based language education.

| Group | N | RT | RA | U | Z | p |
|---|---|---|---|---|---|---|
| Experimental | 40 | 29.78 | 1191.00 | | | |
| Control | 39 | 50.49 | 1969.00 | 371.00 | -4.38 | .000* |

Table 4.4. examines whether there is a change in the achievement test. Pre-test points of the experimental group students who received grammar lessons via Kahoot! and the students who received course book-based language education. As per the applied Mann-Whitney U test results, achievement test points of the students who received grammar lessons via Kahoot! differs significantly compared to the students who received course book-based language education (U=371.00, p<.05). When the rank average is considered, success

point averages of the control group students who received grammar lessons through course book based language education are higher compared to the experimental group students who received grammar lessons via Kahoot!. Experimental group had lower points on achievement test before the commencement of the experiment. As a result of the conducted analysis, an additional Mann Whitney- U analysis regarding the difference between the post-test and pre-test results is shown below in order to support the conducted analysis when the meaningful difference of pre-test and post-test points are taken into consideration.

Table 4.5. Mann Whitney U Test Results regarding post-test pre-test difference of the experimental group who received grammar lesson via Kahoot! and the control group who received grammar lessons through course book-based language education.

| Group | N | RT | RA | U | Z | p |
|---|---|---|---|---|---|---|
| Experimental | 40 | 50.00 | 2000.00 | | | |
| Control | 39 | 29.74 | 1160.00 | 380.00 | -3.93 | .000* |

Mann Whitney U test results regarding the difference between the post-test points and pre-test point of success points are given in Table 4.5. As a results of the conducted Mann-Whitney U test, it is seen that the achievement test points of the students who receive grammar lessons via Kahoot! differs in a meaningful way compared to the students who received course book-based language education (U=380.00, p<.05). When the rank averages considered, it is seen that the success point averages of the experimental group students who received grammar lesson via Kahoot!  are higher compared to the control group students who received grammar lessons through book-based language education. As a result, taking grammar lessons via Kahoot! has an effect on language learning.

**4.1.2. Findings related to the second question of the research "What are the EFL learners' attitudes and opinions about the use of Kahoot! for grammar instruction?"**

The answers received from the students as a result of the semi-structured interview are as follows;

1. **"**What do you think about the game Kahoot! as an in-class activity that you have participated in?"  to this question S1 answered that; "I think that Kahoot! application is a very useful tool." S2 told that; "I can understand the subjects better with Kahoot!." S3; "I find this tool very enjoyable." S4; "It is very useful." S5; "It's a very fun tool." S6; "Kahoot! is a very fun game." S7; "I like competitive games like Kahoot!." S8 told; "A game tool which makes the lesson fun." S9; "I think it's a very fun game." S10 said; "It was enjoyable and educational."

2. "How did you feel while you were playing Kahoot!?" to this question S1 answered that; "I liked it very much." S2; "I got very stressful while playing." S3 said that; "I got so excited." S4; "I got panicked because I don't like losing." S5; "I got bored." S6 said; "Kahoot! was so exciting!" S7; "I felt competitive." S8; "It was very fun, I really enjoyed while playing it." S9; "I got panicked a little." S10 said; "I felt happy while playing the game."

3. Should the game Kahoot! be used for English lessons? Why? to this question S1 answered; "Yes it should because it makes the lesson more fun." S2; "Yes, because I understood the target grammar better." S3; "Yes, it made me happy." S4; "No, actually it wasn't fun that much." S5; "Yes, because I like competitions and winning. It's a good way of practicing." S6; "Yes, I can understand better with Kahoot!." S7; "Kahoot! is a very useful tool in English lessons, so yes." S8; "Yes, because it motivates me." S9; "Yes, because it's a fun game." S10; "Yes, I understood the topic very well."

4. What do you think about learning English grammar via Kahoot!? to this question S1 answered; "Grammar learning is more fun with Kahoot!." S2; "I understood the target grammar better." S3 said; "It's a fun way to exercise so I think we should use this tool while learning grammar." S4; "It didn't make any difference in learning the grammar." S5 said; "English grammar will be very fun with Kahoot!." S6; "Learning grammar will be easier with this tool." S7; "Kahoot! is a very useful tool in learning English grammar." S8; "Grammar is easier this way!" S9; "I can understand English grammar better with this tool." S10; "I think it was a very fun lesson and I understood the grammar better with this tool."

5. "Has Kahoot! changed your opinions towards learning grammar?" to this question S1 answered; "Grammar wasn't that hard I guess." S2 said; "Yes, it changed my opinions towards grammar." S3; "I guess I learnt better with Kahoot!." S4; "Yes, it has." S5; "No, it hasn't grammar is still very hard for me to learn." S6; "Yes, it has." S7; "Grammar is fun now." S8; "It's a fun way of practicing grammar so yes." S9; "Yes, it has." S10; "Grammar learning is easier this way."

## 4.2. Discussion

The main purpose of this study is to analyse the effect of Kahoot! on secondary school children in the process of learning English grammar. So as to get this aim, data were collected. In this chapter, the results are discussed;

The first research question is "Does Kahoot! have any significant impact on 6th grade EFL learners' achievements with respect to grammar knowledge" the aim of this question is to find the effect of Kahoot! on grammar success of students. According to the findings, the

grammar lesson through Kahoot! is effective in increasing the scores of the students. This result is in parallel with other studies in the literature. Students learn grammar topics better and get higher scores on the applied achievement tests through Kahoot!. The most remarkable study on this subject is a study conducted by Zarzycka-Piskorz (2016) on university students. Accordingly, students have achieved a high success rate of 90% in learning grammar with Kahoot! (p. 47). The other study conducted by Genç & Ersoy (2017) showed that there is a significant difference between the pre-test and post-test average grammar scores of the students. Additionally, Kapp (2012) found that there is a positive correlation between grammar learning and gamification tools that used in the classrooms. Another experiment conducted by Wichadee & Pattanapichet (2018) showed that Kahoot! has a great impact on students' success. Another important study on this subject was done by Turan & Meral (2017). The study is very similar to my study and again reveals that Kahoot! is significantly effective in learning grammar topics (p. 46).

According to the findings, it was found that there is no meaningful difference between pre-test and post-test scores of the students who took the applied content – based grammar course. It can be concluded that the use of traditional approaches has an effect on student's grammar success but it may not create a significant difference. Turan et. al., (2016) compared gamification and traditional methods and found that the findings they obtained indicate that gamification increases both the cognitive and achievement levels of students. It can be assumed that learning grammar via text book has a little effect on student's grammar success and this is an important factor that slows down learning.

Considering the findings, it is seen that the students in the experimental group who took grammar lessons through Kahoot! had higher achievement test scores than the students in the control group who took grammar lessons with content – based language education. When learning environments are enriched with different methods that attract students' attention instead of traditional methods, students' academic success visibly increases. This situation is in agreement with the literature. In a study conducted by Baş (2011), it was determined that students' learning with computer-assisted learning materials is much higher than students' learning with traditional methods. In the study of Tabar & Khodareza (2012) showed that students who received computer-assisted instruction were more successful in the post-test when compared to students who received teacher-based instruction. Therefore, computer assisted teaching has a significant effect on students' achievement score (pp. 78-86). Another study conducted by Chotimah & Rafi (2018) showed that with Kahoot! students

showed better success in reading comprehension and were more motivated. Because the students enjoyed the activity while playing via their phones and their concentration increased to understand the questions about the reading passage. As a result, it can be said that lessons through Kahoot! are effective on achievement test scores.

It is found that the results of the pre-test of the students belonging to the experimental group who took grammar lessons through Kahoot! and the students who received content – based grammar education are as follows. It is seen that the achievement test scores of the students in the control group who took grammar lessons with content-based language education were higher than the students in the experimental group who took grammar lessons through Kahoot!. When the results of the analysis are examined, it is seen that the pre-test scores of the students in the experimental group were lower than the students in the control group before starting the experiment. Before starting the experiment, the experimental group students got a lower score from the achievement test. As a result of the analysis, there is a significant difference in the pre-test and post-test scores before the research. In order to fully understand this situation, the analysis of the differences in post-test and pre-test scores revealed that achievement test scores of students who attended a grammar lesson using Kahoot! differed considerably from those who did a content-based language education lesson. This finding is the most interesting and important result of the study. Thanks to the Kahoot! application, the experimental group, which had been falling behind the control group at the beginning, was able to narrow the gap and even get ahead of the control group. Accordingly, it can be said that Kahoot! enriches the learning environment and is quite successful in realizing learning. It has been proven that using Kahoot! for learning English grammar increases students' interest and motivation in the lesson, as well as their academic achievement. The students said that learning with this approach was a lot of fun, and that it should be applied in other lessons. Stating that the new information they learned became more permanent with Kahoot!, the students also found the application successful in terms of social and emotional aspects. The results obtained in this study show parallelism with the literature. In many studies in the literature, students stated that they found the Kahoot! application extremely entertaining and instructive. In the study conducted by McLaughlin & Yan (2017), it was determined that the cognitive skills of the students to whom this method was applied, as well as their self-regulation, learning performance, motivation and attitudes towards the lesson were positively affected. The method provides a significant increase in learning performance by making the learning environment fun and enjoyable and by

enabling students to participate more actively in the lesson (p. 54). A study by Krause (2015) showed that in classrooms where gamification was applied, students' retention and achievement tests increased by 25% and their average scores increased by 23%. It was found that the performance of the students increased by 40% in terms of memorability. Likewise, Dietz-Uhler, et. al. (2007) designed an online course. They created an interactive learning environment for students by using gamification elements. As a result of the statistics made at the end of the courses, it was found that the success of the students was 95% above the average of the previous six terms. Few studies have been found investigating gamification in the Turkish context. In one of these studies, Şahin & Samur (2017) conducted a literature review in the context of Turkey. Most of the studies show the effect of gamification on motivation and the rewards used in gamification on student achievement. Yıldırım & Demir (2014) found that game designs increase students' motivation and course participation. In a study conducted by Güler & Güler (2015), it was stated that integrating game elements in educational design positively affects students' motivation. Similarly, Kocadere & Çağlar (2015), who conducted a study in which they designed a gamified evaluation system, stated that the gamified systems used had a positive effect on students' motivation, fun and success. Namely, it is clearly seen as a gamification tool Kahoot! not only has a great impact on students' achievement but also it directly affects their motivation and interest.

# CHAPTER V
# CONCLUSION AND RECOMMENDATIONS

## 5.1. Conclusion

The results of the achievement test analysis of the students in the experimental group who took grammar lessons through Kahoot! showed that there was a positive significant difference between the achievement test scores of the students in the experimental group before and after the experiment. As a result, the Kahoot! test results suggest that the grammar course program is effective at increasing students' scores.

This result was found to be in agreement with other studies in the literature. As a result, the Kahoot test results suggest that the grammar course program is effective at increasing students' scores. A study by Zarzycka-Piskorz (2016) on university students is quite remarkable. In this study, students achieved a high success rate of 90% in learning grammar with Kahoot!. Another important study on this subject is the study by Turan and Meral (2017), which has great similarities with my study. This study, like my study, reveals that Kahoot! is significantly effective in learning grammar subjects.

The achievement test results of the students in the control group who took the content-based grammar lessons showed that there was no significant difference between the scores of the students in the control group before and after the experiment. According to the analysis findings, there was no significant difference between the achievement test scores of the students who took the applied content-based grammar lessons, before and after the application.

The findings showed that continuous application of traditional methods may lost its effect because of developing technology and children perception towards lessons. With the integration of technology, traditional methods and using content-based techniques may slow the learning down. In my study, it was seen that the students in the experimental group who took grammar lessons through Kahoot! had higher achievement test scores than the students in the control group who took grammar lessons with content-based language education.

When learning environments are enriched with different methods that attract students' attention instead of traditional methods, it has been observed that students' academic success increases visibly. This situation is in agreement with the literature. In a study conducted by Baş (2011), it was determined that students' learning with computer-based learning materials is much higher than students' learning with traditional methods. As a result, it can be said that taking grammar lessons through Kahoot! has an effect on achievement test scores.

Another important result of the study is the comparison of the pre-experiment scores and the post-application scores of the students in the experimental group who took grammar lessons through Kahoot! and the students who received content-based language education. When this comparison was made, students in the control group were significantly more successful at the beginning. As a result of the application, this significant difference was closed and it was seen that the students belonging to the experimental group who took grammar lessons through Kahoot! were significantly more successful. This is an important study because it shows how successful language education can be when gamification is combined with traditional approaches.

The following important results in learning English grammar through Kahoot! were obtained as a result of content analysis of the responses collected from 10 volunteer students with a semi-structured form created by taking expert opinion.

1. **"**What do you think about the game Kahoot! as an in-class activity that you have participated in?"  to this question students mostly answered that; they have learned the subjects very well that they could not learn before, which is extremely useful in learning English.

2. "How did you feel while you were playing Kahoot!?" to this question students mostly answered that; they had so much fun that they could not track the time while they were in the lesson, also their perspective on English has changed. They had a lot of fun while using the app Kahoot!.

3. Should the game Kahoot! be used for English lessons? Why? to this question students mostly answered that; Kahoot! is a tool that should be applied not only in English lessons, but also in all lessons and thanks to this application the information they have learned is more permanent.

4. What do you think about learning English grammar via Kahoot!? to this question students mostly answered that; they have enjoyed participating in class and they were excited to talk about the subject, but they felt a little insecure because they have problems in learning grammar. Also, they have difficulties due to some structures in English that are not in Turkish.

5. "Has Kahoot! changed your opinions towards learning grammar?" to this question students mostly answered that; Kahoot! makes learning grammar easier and fun because Kahoot! is a fun way to practice what you have learned.

The application is extremely useful in learning English grammar and it provides the opportunity for learning the subjects that were difficult to learn before.

The lessons are no longer boring, the students stated that their perspectives on English have changed and they said that they had a lot of fun while using the Kahoot! application.

They stated that the Kahoot! application is a tool that should be applied not only in English lessons, but also in all lessons, and they stated that the information they learned through this application is more permanent.

The students said that they enjoyed participating in the lesson very much thanks to the application, and that they did not experience any negative emotions with this application, although they had an excited nature.

The students stated that Kahoot! application facilitates grammar learning because Kahoot! is a fun way to practice what they have learned.

## 5.2. Recommendations

It is considered that the study is important in terms of revealing how learning methods other than traditional learning methods contribute to students' learning. Depending on this importance;

1. It is considered that studying the research with larger samples and at different schools would be beneficial.

2. It is considered beneficial to conduct the study comparatively in terms of public and private schools.

3. The study shows that new methods based on technology along with traditional methods significantly support student learning. For this reason, taking this situation into account in our schools, programs containing applications of new methods should be made and existing programs should be enriched in this direction.

4. Applications like Kahoot!, which students find extremely entertaining and increase their learning motivation, should be used in other lessons and their activities should be examined similarly to this study.

5. Almost all of Kahoot! and similar applications are developed outside of foreign origin. Applications that are appropriate for our own learning and student culture should be created by using our country's knowledge.

# REFERENCES

Alexander, C. J., Crescini, W. M., Juskewitch, J. E., Lachman, N., & Pawlina, W. (2009). Assessing the integration of audience response system technology in teaching of anatomical sciences. *Anatomical Sciences Education*, *2*(4), 160-166. https://doi.org/10.1002/ase.99

Aljaloud, A., Gromik, N., Billingsley, W., & Kwan, P. (2015). Research trends in student response systems: A literature review. *International Journal of Learning Technology*, *10*(4), 313. https://doi.org/10.1504/ijlt.2015.074073

Al-Mashaqbeh, I., Al Shurman, M. (2015). The adoption of tablet and e-textbooks: first grade core curriculum and school administration attitude. *Journal of Education and Practice*, 6(21), 188-194.

Banguoğlu, T. (1986). *Türkçenin grameri*. Türk Tarih Kurumu Basın Evi.

Baş, G. (2011). Effects of computer assisted language learning in english classes on students' achievement levels And Attitudes Towards The Lesson. *E - uluslararası eğitim araştırmaları dergisi*, 2(1), 44-65.

Beatty, I. (2004). Transforming student learning with classroom communication systems. *Educause Center for Applied Research Research Bulletin,* 2004(3), 1-13.

Bicen, H., & Kocakoyun, S. (2018). Perceptions of students for Gamification approach: Kahoot as a case study. *International Journal of Emerging Technologies in Learning (iJET)*, *13*(02), 72. https://doi.org/10.3991/ijet.v13i02.7467

Brewer, R., Anthony, L., Brown, Q., Irwin, G., Nias, J., & Tate, B. (2013). Using gamification to motivate children to complete empirical studies in lab environments. *Proceedings of the 12th International Conference on Interaction Design and Children*. https://doi.org/10.1145/2485760.2485816

Burns, A. (2009). Grammar and communicative language teaching: Why, when and how to teach it? *In CamTESOL Conference on English Language Teaching*. 5(1), 9-15.

Burston, J. (2015). Twenty years of MALL project implementation: A meta-analysis of learning outcomes. *ReCALL*, *27*(1), 4-20. https://doi.org/10.1017/s0958344014000159

Büyüköztürk, Ş. (2011). Deneysel desenler: öntest-sontest kontrol grubu, desen ve veri analizi. *Pegem Akademi*.

Erdogdu, F., Cakiroglu, U., & Gokoglu, S. (2018). Clickers in EFL classrooms: Evidence from two different uses. *Contemporary Educational Technology*, *9*(2), 171-185. https://doi.org/10.30935/cet.414820

Caldwell, J. E. (2007). Clickers in the large classroom: Current research and best-practice tips. *CBE—Life Sciences Education*, *6*(1), 9-20. https://doi.org/10.1187/cbe.06-12-0205

Çelik,S. (2015). *Investigating The Effect Of Student Response System Supported Think-pair-share Pedagogy On Preparatory School EFL Students' Vocabulary Achievement* [Unpublished master's thesis]. Ortadoğu Teknik Üniversitesi Sosyal Bilimleri Enstitüsü.

Chaiyo, Y., & Nokham, R. (2017). The effect of Kahoot, Quizizz and Google forms on the student's perception in the classrooms response system. *2017 International Conference on Digital Arts, Media and Technology (ICDAMT)*. https://doi.org/10.1109/icdamt.2017.7904957

Chapelle, C. A. (2001). Computer applications in second language acquisition. https://doi.org/10.1017/cbo9781139524681

Chen, M., Tseng, W., & Hsiao, T. (2016). The effectiveness of digital game-based vocabulary learning: A framework-based view of meta-analysis. *British Journal of Educational Technology*, *49*(1), 69-77. https://doi.org/10.1111/bjet.12526

Chotimah, I. C., & Rafi, M. F. (2018). The effectiveness of using kahoot as a media in teaching reading. *Jurnal ELink*, *5*(1), 19. https://doi.org/10.30736/e-link.v5i1.44

Chun, D. M., & Plass, J. L. (2000). Networked multimedia environments for second language acquisition. *Network-based Language Teaching*, 151-170. https://doi.org/10.1017/cbo9781139524735.009

Coca, D. M., Slisko, J. (2013). Software Socrative and smartphones as tools for implementation of basic processes of active physics learning in classroom: An initial feasibility study with prospective teachers. *European Journal of Physics Education*, 4(2), 17–24.

Creswell, J. W., Plano Clark, V. L. (2018). Designing and Conducting Mixed Methods Research (3.). *Sage Publications.*

Dalil. (2013). *The importance of grammar in second language teaching* [Unpublished master's thesis]. Université Hassan II de Casablanca.

Davies, G. (2003). Computer assisted language learning- where are we now and where are we going? *TELL & CALL*, 4, 10-12.

Davies, T., & Williamson, R. (1998). The ghost in the machine: Are 'Teacherless' CALL programs really possible? *The Canadian Modern Language Review*, *55*(1), 7-18. https://doi.org/10.3138/cmlr.55.1.7

Dellos, R. (2015). *Kahoot! A digital game resource for learning. International Journal of Instructional Technology and Distance Learning*, 12(4), 49–52.

Demirel, Ö. (2014). Yabancı Dil Öğretimi Dil Pasaportu Dil Biyografisi Dil Dosyası. https://doi.org/10.14527/9789756802090

De-Marcos, L., Domínguez, A., Saenz-de-Navarrete, J., & Pagés, C. (2017). An empirical study comparing gamification and social networking on E-lEarning. *Computers & Education*, *75*, 82-91. https://doi.org/10.1016/j.compedu.2014.01.012

De-Marcos, L., García-López, E., García-Cabot, A., Medina-Merodio, J., Domínguez, A., Martínez-Herráiz, J., & Diez-Folledo, T. (2016). Social network analysis of a gamified E-lEarning course: Small-world phenomenon and network metrics as predictors of academic performance. *Computers in Human Behavior*, *60*, 312-321. https://doi.org/10.1016/j.chb.2016.02.052

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness. *Proceedings of the 15th International Academic MindTrek Conference on Envisioning Future Media Environments - MindTrek '11*. https://doi.org/10.1145/2181037.2181040

Dicheva, D., Dichev, C., Agre, G., Angelova, G. (2015). Gamification in education: A systematic mapping study. *Educational Technology & Society*, 18(3), 75-88.

Dlaska, A. (2002). Sites of construction: Language learning, multimedia, and the international engineer. *Computers & Education*, *39*(2), 129-143. https://doi.org/10.1016/s0360-1315(02)00031-3

Duman, Asiye. (1998). Neden Türkçe Eğitimi?, *Türk Dili*, 557, 413-415.

Ellis, R. (1994). A theory of instructed second language acquisition. *Implicit and explicit learning of languages. Academic Press*.

Figueroa Flores, Jorge. (2015). Using Gamification to Enhance Second Language Learning. *Digital Education Review*. 27. 32-54.

Fogg, B. (2009). A behavior model for persuasive design. *Proceedings of the 4th International Conference on Persuasive Technology - Persuasive '09*. https://doi.org/10.1145/1541948.1541999

Gamper, J., & Knapp, J. (2002). A review of intelligent CALL systems. *Computer Assisted Language Learning*, *15*(4), 329-342. https://doi.org/10.1076/call.15.4.329.8270

Gee, J. P. (2003). What video games have to teach us about learning and literacy. *Computers in Entertainment*, *1*(1), 20-20. https://doi.org/10.1145/950566.950595

Gibson, D., Ostashewski, N., Flintoff, K., Grant, S., & Knight, E. (2013). Digital badges in education. *Education and Information Technologies*, *20*(2), 403-410. https://doi.org/10.1007/s10639-013-9291-7

Glover, I., (2013, June). Play as you learn: Gamification as a technique for motivating learners, *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications.*

Godwin- Jones, R. (2015). Emerging technologies the evolving roles of language teachers: trained coders, local researchers, global citizens. *Language, Learning and Technology*, 19(1), 10-22.

McGraw, I., Gruenstein, A., & Sutherland, A. (2009). A self-labeling speech corpus: Collecting spoken words with an online educational game. *Interspeech 2009*. https://doi.org/10.21437/interspeech.2009-561

Gündüz, N. (2005). Computer assisted language learning. Journal of Language and Linguistic Studie*s*, 1(2), 193-214.

Halkier, B. (2011). Methodological practicalities in analytical generalization. *Qualitative Inquiry*, *17*(9), 787-797. https://doi.org/10.1177/1077800411423194

Harmer, J. (2015). The Practice of English Language Teaching (5th ed.). *Essex, England: Pearson Education.*

Harmer, J. (2022). *Teaching and learning grammar*. SERBIULA, sistema Librum 2.0.

Hockly, N., G. Dudeney. (2014). Going Mobile: Teaching and Learning with Handheld Devices. *Delta Publishing, London*.

Icard, S. B. (2014). Educational technology best practices. *International Journal of Instructional Technology and Distance Learning*, 11(3), 37–41.

Johns, K. (2015). Engaging and assessing students with technology: A review of Kahoot. *The Delta Kappa Gamma Bulletin*, 81(4), 89–91.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, *1*(2), 112-133. https://doi.org/10.1177/1558689806298224

Jones, S., Henderson, D., & Sealover, P. (2009). "Clickers" in the classroom. *Teaching and Learning in Nursing*, 4(1), 2-5. https://doi.org/10.1016/j.teln.2008.06.001

Malamed, C. (2012). Book review: 'The Gamification of learning and instruction: game-based methods and strategies for training and education' by Karl Kapp. *eLearn*, *2012*(5). https://doi.org/10.1145/2207270.2211316

Malamed, C. (2012). Book review: 'The Gamification of learning and instruction: game-based methods and strategies for training and education' by Karl Kapp. *eLearn*, *2012*(5). https://doi.org/10.1145/2207270.2211316

Kapuler,D. (2015). Top 100 sites and apps of 2014. *Tech & Learning. Technology & Learning*, 35(6), 14–16.

Kaur, P., Naderajan, R. (2019). Kahoot! in the English language classroom. *South East Asia Journal of Contemporary Business, Economics and Law*, 20(6), 49-54.

Klimova, B., & Kacetl, J. (2018). Computer game-based foreign language learning: Its benefits and limitations. *Communications in Computer and Information Science*, 26-34. https://doi.org/10.1007/978-981-13-0008-0_3

Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language
   learning: From content delivery to supported collaboration and
   interaction. *ReCALL*, *20*(3), 271-289. https://doi.org/10.1017/s0958344008000335

Lee, J. J., Hammer, J. (2011). Gamification in education: what, how, why bother? *Academic
   Exchange Quarterly*, 15(2), 1-5.

Lepper, M. R., Greene, D., & Nisbett, R. E. (1973). Undermining children's intrinsic
   interest with extrinsic reward: A test of the "overjustification" hypothesis. *Journal of
   Personality and Social Psychology*, *28*(1), 129-
   137. https://doi.org/10.1037/h0035519

Licorish, S. A., Owen, H. E., Daniel, B., & George, J. L. (2018). Students' perception of
   Kahoot!'s influence on teaching and learning. *Research and Practice in Technology
   Enhanced Learning*, *13*(1). https://doi.org/10.1186/s41039-018-0078-8

Lin, D. A., Manickam, G., Singh, M. K. (2018). Kahoot! It: Gamification in Higher
   Education. *Pertanika Journal of Social Sciences and Humanities*, 26(1), 565-582.

Long, M. H. (1983). Linguistic and conversational adjustments to non-native
   speakers. *Studies in Second Language Acquisition*, *5*(2), 177-
   193. https://doi.org/10.1017/s0272263100004848

Madan, C. R. (2013). Toward a common theory for learning from reward, affect, and
   motivation: The SIMON framework. *Frontiers in Systems
   Neuroscience*, *7*. https://doi.org/10.3389/fnsys.2013.00059

Malone, T. W. (1981). Toward a theory of intrinsically motivating instruction*. *Cognitive
   Science*, *5*(4), 333-369. https://doi.org/10.1207/s15516709cog0504_2

Marczewski, A. C., (2015). In Even Ninja Monkeys Like to Play: Gamification, Game
   Thinking and Motivational Design*, First Edition*, *Createspace Independent
   Publishing Platform.*

McLaughlin, T., & Yan, Z. (2017). Diverse delivery methods and strong psychological benefits: A review of online formative assessment. *Journal of Computer Assisted Learning*, *33*(6), 562-574. https://doi.org/10.1111/jcal.12200

Medina, E.G.L., Hurtado,C.P.R. (2017). Kahoot! A digital tool for learning vocabulary in a language classroom. *Revista Publicando*, 4(12), 441–449.

Mock, K. (2004). Teaching with Tablet PC's. *Journal of Computing Sciences in Colleges*, 20, 17-27

Moras, S. (2001). Computer-assisted language learning (CALL) and the Internet. *Retrieved from* http://www3.telus.net/linguisticsissues/CALL.html

Moredich, C., & Moore, E. (2007). Engaging students through the use of classroom response systems. *Nurse Educator*, *32*(3), 113-116. https://doi.org/10.1097/01.nne.0000270225.76661.74

Nutta, J. (1998). Is computer-based grammar instruction as effective as teacher- Directed grammar instruction for teaching L2 structures? *CALICO Journal*, *16*(1), 49-62. https://doi.org/10.1558/cj.v16i1.49-62

Pede, J (2017). The effects of the online game Kahoot on science vocabulary acquisition (unpublished master thesis). *Rowan University, New Jersey, NJ*.

Prensky, M. (2001). Digital natives, digital immigrants Part 2: Do they really think differently? *On the Horizon*, *9*(6), 1-6. https://doi.org/10.1108/10748120110424843

Richards, J. C., Rodgers, T. S. (2014). Approaches and methods in language teaching. *Cambridge university press*.

Ryan, R. M., Deci, E. L., (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being, *American Psychologist*, 55(1), 68-78.

Sailer, M., Hense, J., Mandl, H., Klevers, M. (2013). Psychological perspectives on motivation through gamification. *Interaction Design and Architecture Journal*, 19, 28–37.

Sarkar, N., Ford, W., Manzo, C. (2017). Engaging digital natives through social learning. *Systemics, Cybernetics and Informatics*, 15(2), 1–4.

Schell, J., Lukoff, B., Mazur, E. (2013). *Catalyzing learner engagement using cutting-edge classroom response systems in higher education*. Cutting-edge Technologies in Higher Education, 6, 233-261.

Sheen, R. (2006). Comments on R. Ellis's "Current issues in the teaching of grammar: An SLA perspective" A reader responds. *TESOL Quarterly*, *40*(4), 828. https://doi.org/10.2307/40264312

Sheldon, L. (2012). The multiplayer classroom: Designing coursework as a game. *Boston, MA: Course Technology.*

Shyamlee, S. D., Phil, M. (2012). Use of technology in English language teaching and learning: An analysis. *Paper presented at the International Conference on Language, Medias and Culture*. IPEDR vol.33. IACSIT Press, Singapore.

Simoes, J. (2015). Using Gamification to Improve Participation in Social Learning Environments. 10, 13-14.

Simoes, J., Redondo, R., Vilas, A., Aguiar, A. (2013). Using Gamification to Improve Participation in a Social Learning Environment. *Personal Learning Environments (PLE) 2013 Conference. Berlin: Beuth University of Applied Sciences.*

Sitzmann, Traci. (2011). A meta-analytic examination of the instructional effectiveness of computer-based simulation games. *Personnel Psychology*. 64. 489-528. doi: 6570.2011.01190

Starren, M., Nixon, C., & Tomlinson, M. (2018). *Power Up 6.* Cambridge University Press.

Tabar, H., Khodareza, M. (2012). The effect of using multimedia on vocabulary learning of pre-intermediate and intermediate Iranian EFL learners. *Journal of Basic and Applied Scientific Research*, 2(12), 79-91.

Tkaczyk P. (2012) Gamification. How to apply game mechanisms in marketing activities, *Helion Publishing House, Gliwice*.

Turan, Z., Meral, E. (2018). Game-Based Versus to Non-Game-Based: The Impact of Student Response Systems on Students'Achievements, Engagements and Test Anxieties. *Informatics in Education*, 17(1), 105-116.

Uzunboylu, H., Ozcinar, Z. (2009). Research and trends in computer-assisted language learning during 1990–2008: Results of a citation analysis. *Eğitim Araştırmaları-Eurasian Journal of Educational Research*, 8(34), 133-150.

Villagrasa, S., Duran, J. (2013). Gamification for Learning 3D Computer Graphics Arts. *In: First International Conference on Technological Ecosystem for Enhancing Multiculturality*, 429–433

Wang, A. (2015). The wear out effect of a game-based student response system. *Computers & Education*, 82, 217–227.

Warschauer, M. (1996). Computer-assisted language learning: An introduction. Multimedia language teaching. *Tokyo, Logos International*.

Warschauer, M., Healey, D. (1998). Computers and language learning: An overview. *Language teaching* 31, 57–71.

Wichadee, S., Pattanapichet, F. (2018). Enhancement of performance and motivation through application of digital games in an English language class. *Teaching English with Technology*, 18(1), 77–92.

Xiaoqiong, Betsy., Xianxing, Jiang. (2011). Kachru's Three Concentric Circles and English Teaching Fallacies in EFL and ESL Contexts. *Changing English*. 18, 219-228.

Ybarra, R., Green T. (2003). Using technology to help ESL/EFL students develop language skills. *The Internet TESL Journal*, 9 (3).

Yip, F. W., Kwan, A. C. (2006*).* Online vocabulary games as a tool for teaching and learning English vocabulary. *Educational media international*, 43(3), 233-249.

York, J., Poole, F., deHaan, J. (2005). Playing a new game—An argument for a teacher-focused field around games and play in language education. *Foreign Language Annals*.

Zarzycka-Piskorz, E. (2016). Kahoot it or not? Can games be motivating in learning grammar? Teaching English with Technology, 16(3), 17-36.

Zichermann, G., Cunningham, C., (2011). Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps, *O'Reilly Media, California*.

## Appendix 1.1

## Pre – Test Questions

1. He _____ three gold medals so far.
   a) has win
   b) won
   c) has won
   d) did win

2. The game _____ yet.
   a) Didn't finish
   b) Wasn't finish
   c) Haven't finished
   d) Hasn't finished

3. _____ your brother go swimming last week?
   a) Are
   b) Is
   c) Did
   d) Does

4. I _____ a new computer last week, but it _____ so I took it back to the shop.
   a) Buy / hasn't worked
   b) Bought / haven't worked
   c) Buys / worked
   d) Bought / didn't work

5. She _____ unemployed since she _____ school.
   a) Has been / left
   b) Was not / have left
   c) Be / was
   d) Was / has left

6. I have known her since we _____ at school together.
   a) were
   b) have been
   c) are
   d) was

7. _____ you ever _____ archery?
   a) Have / tried

b) Did / tried
c) Have / trying
d) Were / tried

8. There _____ a newspaper on the table in the kitchen but I _____ read it.
   a) were / wasn't
   b) did / didn't
   c) was / didn't
   d) was / wasn't

9. I _____ shopping two days ago.
   a) go
   b) went
   c) has gone
   d) was go

10. It _____ ages since we _____ from Dave
    a) Have / hear
    b) Have been / heard
    c) Has been / heard
    d) Was / were

11. I _____ volleyball since I _____ a teenager.
    a) did play / was
    b) have play / were
    c) haven't played / was
    d) was / was

12. I haven't finished my project _____.
    a) yet
    b) never
    c) ever
    d) already

13. I _____ my keys last week.
    a) Have lost
    b) Lost
    c) Was lost
    d) Were lost

14. He can't come with us because he _____ his leg.
    a) did break
    b) roken

c) has broken

d) has break

**15.** A friend of mine _____ the lottery three years ago.

    a) did won

    b) was win

    c) win

    d) won

**16.** She _____ for two months.

    a) have lived

    b) has lived

    c) lived

    d) live

**17.** I _____ to Europe once. It _____ in 1995

    a) have been / was

    b) has been / were

    c) was / was

    d) been / was

**18.** They _____ a few minutes ago.

    a) have left

    b) has just left

    c) leave

    d) left

**19.** He _____ a lot of problems recently.

    a) had

    b) has had

    c) has

    d) have

**20.** I have cleaned the kitchen, but I _____ the living room yet.

    a) haven't clean

    b) haven't cleaned

    c) have cleaned

    d) hasn't cleaned

## Appendix 1.2

## Post – Test Questions

1. What time did you _____ lunch?
   a) haved
   b) had
   c) have
   d) having

2. I _____ to the mall after school.
   a) Goes
   b) Went
   c) Gone
   d) Goed

3. Tom _____ worked here for long.
   a) have not
   b) has not
   c) not
   d) did not

4. _____ you _____ your essay yet?
   a) Were / write
   b) Did / wrote
   c) Have / written
   d) Has / wrote

5. _____ you ever _____ anyone?
   a) Have / messaged
   b) Did / messaged
   c) Were / messaged
   d) Are / message

6. I _____ early because I was cold.
   a) leaved
   b) left
   c) was leave
   d) leaves

7. She _____ two eggs on the table carelessly. One of them _____ from the table and it was broken.
   a) put / fell
   b) was put / was fell

**c)** putted / fell

**d)** didn't put / did fell


**8.** How much money _____ you _____ since last year?

   **a)** are / saving

   **b)** were / save

   **c)** did / save

   **d)** have / saved


**9.** My father _____ the same car for ten years.

   **a)** Have driven

   **b)** Drove

   **c)** Has driven

   **d)** Was drive


**10. A:** Who _____ Mona Lisa?

   **B:** Leonardo da Vinci _____ it.

   **a)** paints / paint

   **b)** paint / has painted

   **c)** paints / have painted

   **d)** painted / painted


**11.** I _____ in Italy for five years. I _____ work as soon as I arrived.

   **a)** Work / began

   **b)** Has worked / began

   **c)** Have worked / began

   **d)** Worked / began


**12.** When Jack was at school, he _____ to play the saxophone. He _____ it ever since.

   **a)** have learn / has played

   **b)** learnt / has played

   **c)** has learnt / played

   **d)** learned / played


**13.** Peter _____ to Paris last year. That means that he _____ to Paris three times.

   **a)** went / was

   **b)** has gone / was

   **c)** gone / were

   **d)** went / has been

**14.** There _____ a big football match in this stadium last night. I _____ it on TV.
- **a)** are / see
- **b)** be / saw
- **c)** was / saw
- **d)** were / was see

**15.** I _____ football with my friends in the park yesterday. I _____ a lot of goals.
- **a)** play / score
- **b)** played / scored
- **c)** playing / scored
- **d)** playing / scoring

**16.** I would love to visit Prague sometime. Unfortunately, I _____ there.
- **a)** Have never been
- **b)** Was never
- **c)** Never been
- **d)** Has been never

**17.** My father _____ five kilometres in the park last week.
- **a)** run
- **b)** was run
- **c)** runned
- **d)** ran

**18.** Some farmers in Turkey _____ old farming methods for over a thousand years.
- **a)** Have using
- **b)** Has used
- **c)** Had used
- **d)** Have used

**19.** I _____ in Ankara since I _____ born.
- **a)** has live / was
- **b)** have lived / was
- **c)** lived / was
- **d)** have lived / have been

**20.** The police _____ the thief yet.
- **a)** Caught
- **b)** Weren't caught
- **c)** hasn't caught
- **d)** have catch

# Appendix 1.3

Okulumuz ortaokul İngilizce öğretmeniyim. Başkent Üniversitesi, Eğitim Bilimleri Enstitüsü, Yabancı Diller Eğitimi Anabilim Dalı, İngiliz Dili Öğretimi Tezli Yüksek Lisans Programı öğrencisiyim. Tez konum; **"Kahoot!'un 6. Sınıf Öğrencilerinin İngilizce Gramer Başarısı Üzerine Etkisi"** dir. Çalışacağım bu tez konusunda, kurumumuzda bulunan 6. Sınıf öğrencileri üzerinde yapacağım çalışmalarıma izin verilmesini saygılarımla arz ederim.

Gözde KOÇ
Ortaokul İngilizce Öğretmeni
12/02/2021

**UYGUNDUR**

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