



R.T.

UFUK UNIVERSITY

GRADUATE SCHOOL OF SOCIAL SCIENCES

DEPARTMENT OF FOREIGN LANGUAGE TEACHING

ENGLISH LANGUAGE TEACHING PROGRAMME

**COMPARATIVE IMPACT OF NON-GAME-BASED AND GAME-  
BASED APPROACHES ON ADULT TURKISH EFL LEARNERS'  
LEARNING ENGLISH IDIOMS**

MASTER'S THESIS

CAN AFACAN

SUPERVISOR

ASSIST. PROF. DR. GÜLŞEN DEMİR

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## BİLDİRİM

Hazırladığım tezin tamamen kendi çalışmam olduğunu ve her alıntıya kaynak gösterdiğimi taahhüt eder, tezimin kâğıt ve elektronik kopyalarının Ufuk Üniversitesi Sosyal Bilimler Enstitüsü arşivlerinde aşağıda belirttiğim koşullarda saklanmasına izin verdiğimi onaylarım:

- Tezimin tamamı her yerden erişime açılabilir.

Can AFACAN

26.06.2025

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## ÖZ

AFACAN, Can. Oyun Tabanlı Olmayan ve Oyun Tabanlı Yaklaşımların Yetişkin Türk İngilizce Yabancı Dil Öğrencilerinin İngilizce Deyimleri Öğrenmeleri Üzerindeki Karşılaştırmalı Etkisi, Yüksek Lisans Tezi, Ankara, 2025.

İngilizce öğretiminde oyun temelli öğrenmeye artan ilgiye rağmen, deyimlerin öğretiminde oyun temelli ve oyun temelli olmayan öğrenmenin etkisini karşılaştıran sınırlı sayıda çalışma vardır. Bu çalışmanın amacı, Türk yetişkin İngilizce öğrencilerine İngilizce deyimlerin öğretilmesinde oyun temelli ve oyun temelli olmayan yaklaşımların etkinliğini ölçmektir. Araştırmacı tarafından çoktan seçmeli bir deyim bilgi testi geliştirilmiş ve kullanılmıştır. Benzer CEFR seviyelerine sahip katılımcılara bir ön test, müdahale olarak deyim dersleri, bir son test ve bir gecikmeli son test uygulanmıştır. Bir grup deyimleri oyun oynayarak pratik ederken, diğer grup pratik için çalışma kâğıtlarını kullanmıştır. Bağımsız örneklem t testleri ve eşleştirilmiş örneklem t testleri uygulanmıştır. Her iki grup da sontest puanlarında belirgin gelişim göstermiştir. Grupların gelişimleri arasında istatistiksel olarak anlamlı bir fark tespit edilmemiştir. Gecikmeli son testte, oyun temelli grubun kalıcılık kaybı istatistiksel olarak anlamlı iken, oyun temelli olmayan grup deyim bilgisini istatistiksel olarak anlamlı bir kayıp olmadan korumuştur. Bulgular, her iki yöntemin de anında öğrenme kazanımlarında etkili olduğunu, ancak oyun temelli olmayan derslerin bilginin kalıcılığı açısından daha etkili olduğunu göstermiştir. Daha büyük örneklem ve daha uzun ders süresi ile daha fazla araştırma yapılması önerilmektedir.

**Anahtar Sözcükler:** Öğrenme Yöntemleri, Oyun Tabanlı Öğrenme, İngilizce Deyimler, Yetişkin Öğrenciler, Kalıcılık.

## ABSTRACT

AFACAN, Can. Comparative Impact of Non-Game-Based and Game-Based Approaches on Adult Turkish EFL Learners' Learning English Idioms, Master's Thesis, Ankara, 2025.

In spite of the growing interest in game-based learning in English teaching, there is a limited number of studies comparing the impact of game-based and non-game-based learning in teaching idioms. This study aimed to measure the effectiveness of game-based and non-game-based approaches in teaching English idioms to Turkish adult learners of English. A multiple-choice idiom knowledge test was developed and utilized by the researcher. A pretest, idiom lessons as intervention, a posttest and a delayed posttest was applied to participants with similar CEFR levels. While one group practiced the idioms by playing games, other group utilized worksheets for practice. Independent samples t tests and paired samples t tests were applied. Both groups showed significant improvement in posttest scores. No statistically significant difference was detected between groups' improvements. In delayed posttest, game-based group's retention loss was statistically significant while non-game-based group retained idiom knowledge with no statistically significant loss. The findings showed that both methods are efficient in immediate learning gains while non-game-based lessons are more effective in terms of retaining information. Further research with larger sample size and longer treatment period is advised.

**Keywords:** Learning Methods, Game-based Learning, English idioms, Adult Learners, Retention.

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## LIST OF ABBREVIATIONS

<b>3DCIG</b>	: 3D Contextual Interactive Games
<b>ASD</b>	: Autism Spectrum Disorder
<b>CEFR</b>	: Common European Framework of Reference for Languages
<b>CILS</b>	: Chinese Idiom Learning System
<b>CLT</b>	: Cognitive Load Theory
<b>EFL</b>	: English as a Foreign Language
<b>EFSET</b>	: Education First Standard English Test
<b>ELT</b>	: English Language Teaching
<b>GBL</b>	: Game-Based Learning
<b>K-12</b>	: Kindergarten through 12th Grade
<b>L1</b>	: First Language
<b>L2</b>	: Second Language
<b>PPT</b>	: PowerPoint Presentation
<b>RQ</b>	: Research Question
<b>SD</b>	: Standard Deviation
<b>SPSS</b>	: Statistical Package for the Social Sciences
<b>TCFL</b>	: Teaching Chinese as a Foreign Language
<b>TEI</b>	: Test of English Idioms
<b>VR</b>	: Virtual Reality

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# INTRODUCTION

## Background

### Learning Languages as a Global Requirement

Language is a form of communication that has had a significant impact on how the world works today (Asningtias, 2017). Human beings are to use language to accomplish a wide range of tasks. Even though there are many technological instruments to be used for translation, they still can't fully replace being able to speak a foreign language in a proficient manner. So, in today's globalized world, it is of utmost importance to be proficient in foreign languages for various purposes such as establishing international communication and expanding academic research opportunities by utilizing sources created in different languages. Therefore, language learning can be considered as a global need in order to be able to catch countless opportunities and widen one's horizon to be a global citizen.

### Teaching Methods: Traditional vs. Interactive Approaches

Teaching methods to be utilized depends on numerous criteria such as instructional goals. Richards and Rodgers (2001) state that as the type of proficiency that students require has changed over time, so too have the methods used to teach languages, for example, the focus of language study has shifted from reading comprehension to oral proficiency. Even though language teaching has evolved by experiencing several stages throughout the history and reached the post method era, various methods and approaches are employed today by language teachers depending on the context, learning environment, students' needs and proficiency levels or teachers' favored teaching styles. This situation keeps the debate on whether to use traditional or interactive approaches while teaching foreign languages alive.

### Use of Games While Teaching

Even though traditional methods are still being used by some, it is an undeniable fact that many teachers in language classrooms make use of interactive ways such as games to practice different aspects of languages. The ideal way to gain involvement is through a natural, innate interest in the system's domain content, but sadly, not all students have the same interests. Although the content itself is a significant factor in determining interest,

it's possible that how the content is framed—for example, by including it in a game—is even more significant. As a result, a game by itself can act as an agent to boost motivation and hold students' attention (Jackson & McNamara, 2013). In language teaching, students are able to benefit from the use of game learning methods in order to improve their knowledge of different types of languages (Guo et al., 2023). Accordingly, it can be stated that games are an inseparable component of learning environments in foreign language education. It is also possible to incorporate idiomatic expressions into games to help students learn them more quickly and to make them more engaging (Dastjerdi & A'lipour, 2010).

### Challenges in Teaching Idioms

Languages include both figurative and literal features to be used by the speakers. One of the most unique features of languages is idiomatic expressions which are sometimes challenging to be learnt by language learners of various ages, proficiency levels and nationalities. Given how frequently and widely they are employed in both formal and informal contexts, as well as in speaking and writing in the English language, idioms are regarded as a crucial component of communication (Bastug & Salihagic, 2014). While using a foreign language in action, knowing idioms is crucial to convey the intended message to ensure proper communication. Moreover, it is also of utmost importance to comprehend idioms to fully understand texts and speech in the target language. Even though many vocabulary items and grammatical structures can be easily taught by language teachers, idioms have a more complex nature as they don't always have clear translations, and idiomatic expressions' meanings in a language might not be understood by foreigners. Thus, the obstacle in the path to learn idiomatic expressions in foreign languages is the fact that they might not have direct translations and equivalences in the learners' mother tongue. The prominence of idiomatic expressions creates the need of exploring the approaches and methods which would best meet the needs of language teachers while teaching idioms in foreign languages. Fotovatnia and Khaki (2012) state that one of the most challenging topics for L2 teachers and students to work on is teaching and learning idioms. As a result, L2 academics and educators are constantly looking for useful and efficient methods to teach idioms.

### Research Gap / Statement of the Problem

Various studies have shown that use of games in teaching foreign languages brings numerous benefits such as increased motivation, better engagement and high chance to achieve instructional objectives. When looked in depth, there are a few studies regarding the impact of games in learning idioms. For example, Ahmed et al. (2022) investigated effects of a game called “Idiomatico” to teach idioms of English to EFL learners in Iran. According to the results of study conducted by Ahmed et al. (2022), on the idiom posttest, the gamification-taught group outperformed the control group, suggesting that gamification was successful in enhancing idiom learning for English as a Foreign Language learners. However, in this study, there is only one game to be used in the lessons which might not appeal students from all types of learning styles and areas of interest. Moreover, it wouldn’t be possible to make sure that both groups received equal amount of instruction in this kind of a research study design.

As another example, Tang and Taguchi (2021) conducted a study on the effect of game-based instruction on learning formulaic expressions in Chinese. They developed game called “Questaurant” and an online lesson to compare and contrast the results of two samples. Tang and Taguchi (2021) found that there is not a significant difference in terms of learning outcomes of game-based teaching group and online lesson group, both groups learned at an equal level. Yet, this study is also inefficient in terms of equalizing learning environments and the amount of input to be received by the participants. Moreover, playing the game cannot be considered as a controlled learning environment unlike an online lesson, which also creates a gap in the literature in terms of getting accurate results to determine efficiency of using games and non-game-based lesson structures. Furthermore, this study only measures the impact of a specific game in learning formulaic expressions in Chinese, which represents a gap in the literature to be filled by investigating the impact in teaching English idioms.

Thus, it can be concluded that there is little to no research focusing on comparing the impacts of game-based lessons and traditional techniques such as using worksheets and simple exercises for repetition under controlled conditions. Moreover, existing studies pose deficiencies such as not providing different groups of participants equal learning environments in terms of the quality and quantity of input. As a result, abovementioned issues represent a gap in the literature about the impact of game-based and non-game-based approaches in teaching idioms.

### Aim of the Study

This study aims to investigate the comparative impact of game-based and non-game-based course designs in teaching English idioms. By employing a quasi-experimental pretest-posttest design, this study compares two groups of adult Turkish English as a foreign language learners to measure the impact of two different kinds of intervention. In order to make sure that both groups received equal amount of input, lecture designs of the first lessons of every week in which target idioms are taught were determined in the same shape. Following the same amount and type of instruction received by both groups, while game-based group practiced the target idioms by playing various games in the online classes, non-game-based group made use of worksheets with the purpose of practicing idioms. Even though it is thought by majority that games are suitable for children and teenagers, this study aims to measure the impact of game-based instruction in comparison with non-game-based instructional design on adult learners of English.

### Research Questions

To achieve the aim of this study which is to measure the comparative impact of game-based and non-game-based instruction on adult Turkish EFL learners, the following are the research questions of this study:

RQ1: How do game-based and non-game-based instruction impact students' English idiom knowledge?

RQ2: Do students receiving game-based instruction and those receiving non-game-based instruction have significantly different idiom learning outcomes?

RQ3: Does one learning method lead to more variation in students' post-test performance?

RQ4: Is there a significant difference between game-based and non-game-based lessons impact on students' long-term retention of English idioms?

### Significance of the Study

This study is crucial to fill the gap in the literature in terms of numerous aspects. Firstly, even though there are several studies about game-based instruction and using games in teaching languages, sample groups of most studies are comprised of young learners. In

this study, it is aimed to discover the effect of using games and non-game-based teaching methods on adult learners. Moreover, unlike many studies, this study puts the research subjects in an online environment where it is more suitable to integrate various games into learning environment and makes use of various games with different characteristics to blend the benefits of various types of games. What is more, in the literature, most studies aim to measure the impact of specific games and use game-based / gamified instructional designs only. Yet, in this study, both game-based and non-game-based methods are implemented, and their effects are measured under controlled and equal circumstances in terms of instruction time, instructor, teaching elements and the amount of input to be given to the research subjects.

### Assumptions

This study assumes that all participants will attend the lessons throughout the intervention. It also presumes that the post-test will successfully measure the level of idiom retention after the lessons are finished.

### Limitations

The fact that there are 24 participants in total might be a contributor to the decrease of generalizability of the research findings as the study includes a relatively small sample size. However, this factor does not influence the effectiveness of measuring the comparative impact of two different teaching methods. Moreover, this study does not measure the participants' motivation and engagement levels which would give a clearer view of overall impact of distinctive teaching methods used in this study. Yet, Edina et al. (2021) state that in their study, most adult learners sought out practical learning opportunities that would help them in their careers and personal lives, but they also wanted to explore new topics and broaden their knowledge. Thus, adult learners' being pragmatic and looking for practical opportunities also prevents this limitation from interfering with the effectiveness of this study in terms of achieving the goal to investigate the impact of different lesson designs.

### Definitions of Key Terms

EFL (English as a Foreign Language): Teaching English to those for whom it is not their first language. (HarperCollins Publishers, n.d.)

**Game-based learning:** Game-based learning uses an actual game to impart knowledge and skills. It features a stand-alone unit with a distinct beginning, gameplay, and conclusion state. A "win state" is available to learners who are actively participating in the game. Additionally, games provide a variety of educational content in a range of contexts (Kapp, 2014).

**Idiom:** A set of words in a specific order with a meaning distinct from the meanings of the individual words (Cambridge University Press, n.d.).

**Pre-test/Post-test design:** A research design where participants are given the same assessment measures before and after receiving a treatment or being exposed to a condition. This is done to see if there are any changes that could be linked to the condition or treatment (American Psychological Association, n.d.).

**Retention:** Persistence of learned behavior or experience, as demonstrated by the capacity to remember, identify, replicate, or relearn it during a time when it is not being used or practiced (American Psychological Association, n.d.).

# CHAPTER 1

## LITERATURE REVIEW

### 1.1. Overview of the Chapter

The purpose of this chapter is to review the relevant literature on game-based teaching and provide a relevant theoretical framework as well as mentioning empirical studies. The main focus of this chapter is to review empirical studies on use of game-based instruction methods with a focus on its impact on learning idioms in English language learning process.

The chapter includes a general overview of relevant literature about teaching vocabulary, and it is followed by teaching idiomatic expressions. Then, it is narrowed to use of game-based instruction while teaching. Eventually, the chapter specifically focuses on use of game-based instruction methods in teaching vocabulary and idiomatic expressions.

This chapter also includes fundamental theoretical framework to provide meaningful context for the research study. It explores key theories to help frame the approach of this study. Several foundational theories are covered which are Constructivist Learning Theory and Cognitive Load Theory.

The chapter explores empirical studies starting with teaching vocabulary in language teaching, which is more general, narrowing down to use of game-based teaching methods in teaching idiomatic expressions, which is more specific. A review of empirical studies with a particular emphasis on findings relating to use of game-based instruction in teaching idioms as well as comparing and contrasting with traditional, non-game-based, approaches.

In conclusion, the chapter will start from defining broad concepts and goes on narrowing down to more specific terms and particular studies to set the stage for this research. Study. This chapter synthesizes the findings of reviewed studies and provides a solid background for the research as well as defining the gap in the literature which sets the ground for this study and justify the research.

## **1.2. Theoretical Framework**

### **1.2.1. Constructivism**

Throughout the history, many theories have been developed in order to explain the nature and mechanics of learning to explain how learning takes place. Among many theories in the literature, constructivist theories are some of the most widely accepted theories in education to define how learning occurs. A philosophical and psychological viewpoint known as constructivism holds that people create or shape a large portion of what they learn and comprehend (Bruning et al., 2004). According to Schunk (2012), integrating curricula and having teachers use resources in a way that encourages student participation are key components of constructivism.

Jean Piaget is well-known for his theory of cognitive constructivism which points out that learners acquire knowledge through interaction with their environment and adapt the new information. In his theory, Piaget divided cognitive development process into four stages according to age groups which are sensorimotor stage, preoperational stage, concrete operational stage and formal operational stage, and each stage has their own characteristics. The most fundamental aspects of his theory are assimilation, accommodation and equilibration. Piaget believed that for learning to be effective, assimilation and accommodation were crucial, and while accommodation involves adapting concepts to fit new experiences, assimilation involves adapting new experiences to fit preexisting concepts (Rabindran & Madanagopal, 2020). As cited in Rabindran and Madanagopal (2020), the force that pushes development forward is equilibrium. Although it is not constant, cognitive development is making rapid strides. Equilibrium is reached when a learner's schemas can handle the majority of new information.

According to Piaget's classification, adult learners are considered to be on formal operational stage where they are capable of grasping abstract concepts, such as idiomatic expressions, and think critically as well as having problem solving ability, which is the fundamental requirement of playing games. Moreover, active learning which is emphasized in Piaget's work aligns with the nature of game-based instruction effectiveness research as game integration enables learners to actively participate in the learning process compared to non-game-based approaches in language teaching.

Lev Vygotsky, who was a Russian social constructivist psychologist, emphasized social aspect of learning with his social development theory, unlike Piaget's focus on cognitive development. According to Vygotsky (1978), social interaction is essential to all human learning. Vygotsky argued that a child's interactions with other minds have a significant impact on their development starting at around age two (Crain, 1992). According to Vygotsky, good learning begins on the inter-mental plane and is mediated by people who are more developed than the learner, allowing the learner to experience the material vicariously (Taber, 2020). As game-based learning environments are naturally social and encourages people to learn from others who are more knowledgeable such as teachers and other peers, this perspective of Vygotsky aligns well with this research study design as learning is considered as a social process in the learning environment this study provides, just like Vygotsky proposes.

According to Vygotsky (1978), Zone of Proximal Development is the region on which learning activities should concentrate. It lies between what a learner can accomplish on their own and what they can accomplish with professional assistance. The concept is that people learn best when they collaborate with others, and that learners absorb and assimilate new ideas, psychological techniques, and skills through joint endeavors with more experienced individuals (Shabani et al., 2010). Hence, Zone of Proximal Development can be defined as the difference between the potential developmental level, which is indicated by the ability to solve problems with the help of more proficient adults or peers, and the actual developmental level, which is indicated by the ability to solve problems independently (Wibowo et al., 2024). The existence of Zone of Proximal Development is ensured in this study as the idiomatic expressions might be challenging for the learners at first and it is not always possible for them to grasp the meaning of idioms completely. However, as they play the games, through teacher directions and peer interactions, learners reach comprehensive understanding of the target idioms. Moreover, idioms are figurative expressions which naturally might not be understood at first by the learners and require abstract thinking to learn, which shows Zone of Proximal Development's being critical in idiom learning.

According to Vygotsky's perspective, games play a pivotal role in learning process. Vygotsky (1978) asserts that because it gives players the chance to create meaning and expand their horizons beyond the known and real to the possible and imagined, play is regarded as a key activity for learners' development. His ideas strongly

match with the nature of game-based learning research as this study gives participants of one group chance to learn idioms by playing games during lessons and use the idiomatic expressions in social context which also fosters their ability to think beyond the literal meaning as well as widening their perspectives by offering them chance to see various uses of idiomatic expressions with their figurative meanings.

While constructivism is considered to be merely related with young learners and to be used in their education, it is highly applicable to adult education due to the fact that learners' acquire and building information based on their prior experience. The main reason why constructivism is seen as linked with K-12 education is that it emphasizes learning by discovery and through social interactions with more knowledgeable individuals such as teachers at schools. However, in a learning environment, adults also benefit from the fundamental aspects supported by constructivist point of view. Moreover, Zone of Proximal Development, which is explained above, is not limited to the age group of learners and can be ensured by using suitable instruction methods to improve learners' abstract thinking ability to better understand idiomatic expressions. On the other hand, real life scenarios in which adults are usually involved such as collaborative workplace discussions and problem-solving activities such as case studies also set a great example to constructivist learning principles' existence in adult learning in the natural cycle of life. Additionally, learner autonomy which is highlighted by constructivist ideas is a fundamental part which is effective in adult education as adult learners are naturally more comfortable as independent learners compared to young learners. All in all, since the beginning of adult education as a profession, researchers and practitioners have focused on the fundamental question of how adults learn (Merriam, 2001). Due to its pivotal role in learning, prominent aspects of constructivism can also be implemented while educating adult learners.

### **1.2.2. Cognitive Load Theory**

The instructional design framework, coined by Australian educational psychologist John Sweller, known as "Cognitive Load Theory (CLT)" is centered on the way the human brain stores, processes, and retrieves information. Based on the psychology of learning, CLT gives teachers insightful information that helps them maximize their teaching methods by taking the brain's cognitive capacity into account (Benjamin&Main, 2022).

With this theory, Sweller asserts that there are three different types of cognitive load which are intrinsic, extraneous and germane cognitive load. According Sweller et al. (2011), Intrinsic cognitive load is the term used to describe the working memory load that is caused by the intrinsic nature of the information. Regardless of the teaching methods employed, it is mandated by the fundamental framework of the knowledge that the student must acquire in order to meet learning objectives. The way the information is presented or the activities that students must participate in impose an additional type of cognitive load known as extraneous cognitive load, which necessitates working memory resources rather than the inherent structure of information (Sweller et al., 2011). Paas et al. (2003) argues that since most instructional procedures were created without taking into account or understanding the structure of information or cognitive architecture, many traditional instructional procedures impose unnecessary cognitive load. Germane cognitive load is the outcome of the advantageous cognitive processes that "good" instructional designs foster, like abstraction and elaboration (Gerjets & Scheiter, 2003).

Orru and Longo (2019) states that the primary objective of the field of instructional design should be to improve germane load and decrease extraneous load through automation and schema construction. Sweller et al. (2011) argue that while schema automation enables those interacting elements to be disregarded when using a schema, schema construction entails learning how multiple elements interact, and after a schema is created, it becomes a single element that can be used to create higher-order schemas and does not require a significant amount of working memory.

Another important term in Cognitive Load theory is Element Interactivity. According to Paas et al. (2003), since the demands placed on working memory capacity by element interactivity are inherent to the content being learned, element interactivity is the primary cause of the first type of cognitive load, known as intrinsic cognitive load. The degree of element interaction and, consequently, intrinsic cognitive load varies amongst materials, and instructional manipulations cannot change them. For instance, teaching individual vocabulary items give learners a situation with low element interactivity as there are not multiple aspects to be linked in learners' mind to reach full understanding of words. However, teaching an idiomatic expression which is more complex due to its figurative nature requires higher element interactivity because different elements to be understood are interdependent in this case.

Cognitive Load Theory is highly relevant to the nature of this research study due to various reasons. First of all, owing to the complex and figurative structure of idiomatic expressions, they bring increased level of intrinsic load which is not possible for the instructional designer to manipulate according to the theory. This study is designed in a way to compare and contrast learner groups based on the instructional designs they are exposed to, in which one group practices idioms by using traditional worksheets while the learners of other group play numerous games to practice target idiomatic expressions. As target idioms do not change, it can be concluded that intrinsic load is not subject to manipulation. However, extraneous cognitive load which is defined as the unnecessary workload because of poorly design instructional plans and materials, can be manipulated by the instructional designer and the instructors. Therefore, it can be inferred that even though the complexity of idiomatic expressions cannot be altered, the impact of extraneous cognitive load can be manipulated by using game-based instructional designs. In this study, as worksheets provide a more structured approach compared to game included learning environments, games used in this study have the potential to decrease the extraneous cognitive load of the learners in game-based group by giving them the opportunity to practice without seeing all idiomatic expressions at once on a worksheet, which can potentially increase their extraneous cognitive load according to this theory. Moreover, germane cognitive load, which stands for the mental effort dedicated for learning, can also be at higher levels in game-based instruction group, compared to the group in lessons of which worksheets are utilized, as games such as Drawing & Guessing and taboo used in the game-based group of this research study design promotes actively thinking and deeper understanding of idiomatic expressions. On the other hand, because of their complexity and figurativeness, idiomatic expressions pose a challenging situation in terms of element interactivity as there are many things to consider while trying to figure idioms out by learners throughout the learning process. Yet, game-based instruction has the potential to help manage this complexity through hands on learning and interactive nature of game-included lessons compared to non-game-based worksheet practices. Moreover, it can also motivate students to deal with intrinsic cognitive load of idiomatic expressions by offering a more engaging environment and a more enjoyable experience by helping learners create more meaningful connections between idioms are their use.

Even though there is a general assumption that cognitive load theory is mainly about educating young learners, it is still relevant when it comes to adult education due to numerous reasons. Cognitive load theory is of utmost importance, especially for novice

adult learners as learning is an even more challenging experience for them to cope with because of the intrinsic cognitive load which stands for the lesson topics' complexity. On the other hand, with abstract and complicated nature of the business world, adults naturally have to deal with more complex problems compared to young learners, which shows the presence of high element interactivity. Moreover, real life struggles of adults everyday lives such as professional development courses and online lessons also pose difficulties because of extrinsic load they include due to poorly designed materials. This can also represent the significance of understanding cognitive load theory to meet the learning needs of adults in every aspect of education. Scaffolding is another important aspect which decreases cognitive load. According to Salavastru (2018), in actuality, having guidance is preferable to adults being drawn to free exploration and learning by discovery because it relieves them of needless effort and unstructured searches that overload their working memory. Thus, it can be concluded that understanding the mechanics of different types of cognitive load can enhance learning experience of adult learners.

In conclusion, grasping the role of three different types of cognitive load in learning provides insight to explain the impact of different instructional designs to process idiomatic expressions which have more complex nature compared to other elements of languages. Utilizing game-integrated lesson plans can possibly decrease extraneous cognitive load while causing germane cognitive load to soar compared to worksheet-based practice. The theory aligns with the goals of this study as this research design aims to see the comparative impact of game-based and non-game-based lessons on learning idiomatic expressions.

### **1.2.3. Game-Based Learning**

#### **1.2.3.1. Definition of Game-Based Learning**

Even though many educators stick to the traditional methods of teaching English, there is no doubt that using games in teaching is getting more popular day by day. From schools to private institutions, educators try to motivate students by integrating games in their lesson plans. Thus, it can be inferred that Game-Based Learning has a considerable impact on language education so as to increase students' motivation and to maximize learning outcomes.

According to Qian and Clark (2016), the use of games to improve the learning process is known as game-based learning, Game-based learning (GBL) refers to an atmosphere in which game play and content improve the acquisition of knowledge and skills and where games include challenges and problem-solving areas that give learners a feeling of accomplishment. According to Dahalan et al. (2023), With the aim of improving the learning process, game-based learning (GBL) combines digital gaming, course curricula, and educational learning theories.

### **1.2.3.2. Game-Based Learning, Gamification and Serious Games**

Even though they are commonly mistaken and used interchangeably, game-based learning is not the same as gamification. Gamification is the process of engaging users and resolving issues in non-gaming contexts by utilizing game elements and design techniques (Seaborn & Fels, 2014). In other words, while gamification means simply adding game elements to the learning process with various purposes, game-based learning sees learning as a whole and situates games as a means to promote motivation, engagement and maximize learning goals. Another term to be considered in the scope of game-based learning is serious games. Michael and Chen (2005) state that full-fledged games with a primary function other than simple entertainment, like training, education, or behavior modification, are called serious games. Though including entertaining elements, the main aim of serious games is to educate individuals depending on the instructional goals of the relevant serious game utilized in education. In other words, this type of games is created with the aim of educating people. The fact that it doesn't primarily aim amusement shows the distinction between commercial games and serious games. While game-based learning often utilizes serious games, not all serious game varieties can be considered as game-based instruction as the definition of game-based learning is a more complex and detailed concept with instructional goals, materials and interactive game playing activities.

### **1.2.3.3. Theoretical Foundations of Game-Based Learning**

Game-Based Learning is not merely comprised of trend uses of games in teaching, but it integrates ideas from constructivism, behaviorism and cognitivism, which ensures a solid foundation to be considered while looking at game-based learning in depth. Plass et al. (2015) states that while creating learning games, game designers

incorporate constructivist, behaviorist, and cognitivist elements, and frequently different combinations of these, into their designs.

Game-based learning aligns with constructivism in various manners. Firstly, game-based learning provides students with chance to learn by doing which supports learner autonomy. Moreover, it sets the stage for social interactions which enables peer learning and learning from more knowledgeable persons such as teachers in the classroom which clearly highlights the existence of scaffolding and zone of proximal development in game-based learning, as learners acquire knowledge through interaction with their environment and adapt the new information according to constructivist views. Dahalan et al. (2023) states that the goal of game-based learning is to promote the development of critical thinking abilities and self-learning through enjoyable learning through doing and playing with specially created, structured game learning materials.

Game based learning and Cognitive Load theory are also in alignment due to various reasons. To begin with, well-designed games can reduce extraneous load and help germane load to soar. Paas et al. (2003) states that an efficient design for instruction should minimize extraneous processing while promoting germane processing, and learning activities that directly aid in the formation of schemas generate germane cognitive load. It can be inferred that game-based learning is useful to support schema building in learners when used properly, which is the main means of learning to occur according to Cognitive load theory. Because game-based learning makes learning process less confusing while giving students chance to deal with language features to be learnt in meaningful context.

#### **1.2.3.4. Game-Based Learning in EFL Context**

As game-based learning gained its popularity in the recent years, it is widely used by educators and instructional designers in EFL context. Due to its various benefits to learning English, game-based designs are becoming more popular day by day. Firstly, studies show that game-based learning is likely to be used for the purpose of increasing learners' motivation and engagement. Hung et al. (2018) states that one of the most important ways of motivating EFL learners to learn is through game-based learning. In another study conducted by Reinders and Wattana (2014), it is reported that in the game-based setting, students stated they were more inclined to take chances and use the language. Furthermore, Qian and Clark (2016) allege that games can boost motivation

and engagement, foster social interactions, offer opportunities for situated learning, and give players the chance to acquire important 21st century skills. In conclusion, there is no doubt that game-based learning makes learning process easier by making students more motivated, increasing engagement and fostering social interactions in EFL context.

#### **1.2.3.5. Game-Based Learning and Vocabulary**

Vocabulary can be considered one of the most crucial aspects while learning a new language as it is the core to convey messages, establish meaningful sentences and understand the input in the target language. Sweller et al. (2012) says that in many fields, learning new words is a common requirement. Game-based learning is well-suited to learning vocabulary due to its nature of making learning more enjoyable and engaging while providing memory-friendly linguistic input. Schunk (2012) states that deeper comprehension is encouraged by vocabulary training that incorporates active word engagement. Even though other teaching methods can also offer repetition, use in context and constructive feedback, game-based learning enables students to actively participate in learning process rather than receiving pure lecture from teachers, which has the potential to promote learning and increase engagement with the learning process. Moreover, as game-based learning offers multimedia input with the integration of visuals, audio and physical activity depending on the type of game utilized, it helps students to integrate their knowledge with various contexts in real life scenarios.

When looked from the constructivist perspective, game-based learning helps construct knowledge as it enables social interactions, peer learning and real-life experience. Instead of memorizing vocabulary items, students better retain vocabulary knowledge when they discover and use them in game context. As stated by Dahalan et al. (2023), game-based learning is based on the idea that learning can be enjoyable through doing or playing, and that students can develop their critical thinking and self-learning skills by using specially created, structured game learning materials.

According to the frame of Cognitive Load Theory, game-based learning is useful for teaching vocabulary items. Kalyuga (2011) argues that because word-meaning associations are arbitrary, learning vocabulary may present a high intrinsic cognitive load, particularly for inexperienced learners. Thus, as it is impossible to change the intrinsic cognitive load as it is in the nature of information, game-based learning can dramatically increase vocabulary learning outcomes by decreasing extraneous cognitive load and

hence ensuring increased germane load in language learning. Chen and Chung (2007) state that by presenting information in a more integrated and engaging manner, multimedia annotations and game-based components can help minimize extraneous cognitive load during vocabulary learning.

All in all, through the aforementioned benefits in alignment with constructivism and cognitive load theory, game-based learning is suitable for vocabulary learning when applied appropriately with well-designed game integrations to the lesson plans while learning languages as it facilitates learning in terms of decreasing extraneous cognitive load, maximizing germane load, providing room for scaffolding and giving students chance to learn by doing in the learning environment thanks to its unique features.

#### **1.2.3.6. Game-Based Learning and Affective Factors**

Even though the present research study aims to explore the learning outcomes and compare the impacts of presents and absence of game-based learning in teaching idioms, it is worth mentioning the affective factors as an integral part of theoretical justification to base the present study on. Firstly, game-based learning is known to promote motivation in learners while learning languages due to its enjoyable nature. According to Schunk (2012), perceiving learning tasks as engaging and believing that their efforts will result in success motivates students to learn more. Game-based learning can also encourage students to establish social interactions. According to Qian and Clark (2016), Games can boost motivation and engagement, foster social interactions, offer opportunities for situated learning, and give players the chance to acquire important 21st century skills. Moreover, Plass et al. (2015) states that because it encourages repeated use, contextualized usage, and learner engagement, game-based learning has been shown to be especially successful in vocabulary acquisition.

Even though this study is not focused on exploring the affective factors and conducted with the aim of making comparison between game-based learning and non-game-based lesson structure in terms of learning outcomes, including affective factors and their contribution to learning worths mentioning. It clearly demonstrates the potential of game-based learning to foster learning English idioms with the help of affective factors such as increased motivation, engagement and room for social interaction.

In conclusion, based on these theoretical backgrounds and aforementioned benefits of game-based learning in teaching, game-based learning fits well with the scope of the present research, the primary goal of which is to see the comparative impact of game-based and non-game-based learning in learning English idioms.

#### **1.2.3.7. Game-Based Learning and Knowledge Retention**

In the modern world, it is a rising trend that game-based learning is being utilized so as to maximize the level of retention as an outcome of education in various disciplines. Being not only limited to language education, game-based learning is becoming popular due to various positive impacts. For instance, Thesen et al. (2023) state that medical educators can help students become more motivated, engaged, and retain information by integrating games into their lesson plans. Moreover, according to McLaren et al. (2016), students found that using games in the classroom was much more enjoyable and resulted in significantly better learning gains on both an immediate and delayed posttest. D'Arcy (2025) states that immersion and active engagement are two benefits of game-based learning that improve memory retention. In conclusion, these findings and ideas from the existing literature shows that it is a reasonable idea to include a delayed posttest to measure the comparative impact of instructional methods in terms of English idiom knowledge retention. The delayed posttest in this research design aims to reveal any difference and provide valuable insights to further research to be conducted to thoroughly understand the nature of game-based learning and its possible extra contributions to learning and instructional design of language lessons.

### **1.3. Empirical Studies**

#### **1.3.1. Empirical Studies on Game-Based Learning in Vocabulary Learning**

Unlike other studies exploring the effect of game-based learning in vocabulary learning outcomes, H. H. Chen and Hsu (2019) conducted a study to measure the impact of a specific serious game on vocabulary and content learning by integrating content of history. *Slave Trade*, a serious game, was used in this study to investigate whether vocabulary and historical knowledge can be learned simultaneously (H. H. Chen & Hsu, 2019). The study is theoretically based upon digital game-based language learning with an emphasis on serious games. With a pretest-posttest design, the study included 60 university students from Taiwan. According to H. H. Chen and Hsu (2019), The results

of this study demonstrated that the serious game had a beneficial effect on history learning, as determined by a paired sample t-test. Integration of content-based learning and serious games makes this study strong in the field as it presents multifaceted outcomes, while lack of a control group decreases the validity of the results acquired in this study. The study contributes to the field as it shows the viability of improving both content knowledge and vocabulary knowledge simultaneously.

Behbahani (2020)'s study investigates the impact of game-based tasks on vocabulary knowledge. Theoretically based on Nation (2001)'s word knowledge framework, Behbahani (2020) created a quasi-experimental research design which compared two groups of Persian learners of English from private English schools in Iran. The students are between 11 and 13 years old and have lower-intermediate level English according to the results of Oxford placement test. In this study, the control group used a non-game-based vocabulary activity while the experimental group played a game called Haunted Hotel, which resulted in greater vocabulary improvement in the experimental group. According to Behbahani (2020), the members of the experimental group performed better on every achievement test, which shows that the digital game-based vocabulary learning task has helped students acquire word knowledge framework components more effectively than the non-game-based design did. The study included a delayed post-test and integrated a commercial game to the game-based design, which can be evaluated as the strong aspects. However, as Behbahani (2020) states, only concrete nouns prevented the digital game-based vocabulary learning task from having an impact on other elements like grammar, register, etc. In other words, this study design strictly limits the learning outcomes to concrete nouns and decreases the possibility of additional benefit.

In the study conducted by Jabali and Walker (2021), the effect of a digital game called Flipquiz on students' English vocabulary learning was explored, along with their motivation and engagement. The study is based on gamification framework and highlights the importance of using game elements in learning environments. With an experimental pretest-posttest design, 51 students from Saudi Arabia who are middle schoolers were examined. Even though learners participated in the experimental group reported higher motivation and engagement, no statistically significant difference was observed in learning outcomes between two groups in this study. As Jabali and Walker (2021) stated, the length of time of the study was its primary limitation as might be

challenging to compute any results with statistical significance in two weeks. Moreover, as the game used in this design requires active participation verbally, the researcher states that it is possible that the results might be influenced by students' hesitation to speak, which can be considered as another limitation to this study. Moreover, the study contributes to the field in terms of showing that using game-based lesson plans increase learners' motivation and engagement based on the surveys conducted, as Jabali and Walker (2021) states the results showed that students in the experimental group had a great learning experience using FlipQuiz, as evidenced by their 100% survey responses.

Zhang et al. (2022) conducted a study to examine if students' language and ability of intercultural communication are promoted with the use of 3D contextual interactive games (3DCIG) compared to use of text-based assignments. They included two groups of students from different nationalities. According to Zhang et al. (2022), 3DCIGs were found to have a higher potential to activate intercultural collaboration than text-based assignments. Pupils who completed 3DCIGs by co-playing expressed greater satisfaction and perceived usefulness in group tasks. They expressed gratitude for the games' facilitation of teamwork, communication, and cross-cultural exchange. Zhang et al. (2022) highlights that students had a platform to practice and learn English language skills in a contextualized, immersive setting thanks to 3DCIGs. They had conversations about Irish culture, pronunciation of English words, and vocabulary. Students also mentioned how much they enjoyed playing cooperative games to practice their language skills and learn about other cultures. Moreover, Zhang et al. (2022) states that when 3DCIGs were used instead of text-based assignments, students had longer and more varied conversations. Students' language and cultural learning experiences were enhanced by their discussions on a range of subjects associated with Irish culture and university information. Zhang et al. (2022) states that further research is required to examine different contexts, games, and technologies (like virtual reality and augmented reality) in order to improve the features and long-term viability of these games in language education, given that this study showed how effective 3DCIGs are at fostering intercultural collaboration and language learning.

Taguchi (2023) conveyed a study in which they examined whether participants could learn a speech act through a digital game design in which perlocutionary effect is given as feedback. Taguchi (2023) states that gains in test scores from the pretest to the immediate posttest show that the game significantly improved participants' capacities to

identify and formulate appropriate requests. However, Taguchi (2023) noted that students couldn't keep the knowledge they learned as it is shown in the results of delayed posttest. Taguchi (2023) also says that learners' understanding of request-making had strengthened to the point where they could apply it in production through input-based in-game practice. Taguchi (2023) states that further research should include participants from diverse backgrounds such as different native languages, educational levels, and ages. Taguchi (2023) also adds that another group, which will receive different types of feedback, to compare findings should be included for further research. According to Taguchi (2023), research studies in the future should also collect and analyze qualitative data to explore to what extent participants are aware of the messages conveyed by feedback and how much they can use this cue to get the meaning of linguistic forms. Taguchi (2023) also highlights that Future research should give more attention to the brief and minor effect of instruction discovered in this study, future studies ought to look into how to make a game that has lasting effects. Finally, Taguchi (2023) says future research could incorporate additional gaming features in order to explore the potential of game-based instruction.

Fauziyah et al. (2024)'s study aimed to measure the impact of non-digital board game of vocabulary on improving vocabulary knowledge. The study defends the idea that setting an environment where the anxiety level of learners is low and giving them chance to interact and repeat vocabulary items can improve vocabulary learning. The study was conducted with a sample group of high school students playing a board game of vocabulary which is not digital. According to Fauziyah et al. (2024), following the use of the board game activity, students' vocabulary scores significantly increased. This study can be considered valuable as it shows that even simpler games which are non-digital can contribute to vocabulary learning process which reinforces the present study aiming to measure game-based instruction's effectiveness in comparison with non-game-based teaching plans. However, lack of a control group in the research design is the limitation of this study as it hinders generalizability of findings on learning outcomes.

Jia et al. (2024) explored the impact of game-based learning in terms of EFL students' receptive and productive vocabulary knowledge in their study. While teaching target vocabulary items by means of a PowerPoint presentation to the control group, Jia et al. (2024) implemented a game-based learning design by using games in Quizlet app. Even though both groups showed improvement, according to the posttest results, experimental group with game-based instruction had greater gains compared to non-

game-based control group in this study. According to Jia et al. (2024), the fact that a small number of target words were chosen and that specific variations among learners were not statistically compared in the current study are considered as limitations. This study provides additional contribution to the field as it shows that game-based learning is also effective in the long run as the treatment lasts for 16 weeks in this study. Jia et al (2024) alleges that this study offers proof that long-term digital game-based vocabulary learning in the classroom may be advantageous for language learners.

Alfares (2025) conducted a study with the objective of measuring the efficiency of using the platform named ‘‘Wordwall’’ which is a digital game-based learning platform in vocabulary learning outcomes. According to Alfares (2025), Gamification can improve learning experiences by fostering an engaging environment. Employing a quasi-experimental design with an experimental group and a control group, the study included 60 students from Saudi Arabia who are secondary school students between ages 16 and 17. Upon the treatment which took 8 weeks, the results showed that both groups demonstrated improvement in vocabulary learning. However, experimental group showed greater improvement in terms of vocabulary learning outcomes. Alfares (2025) states that Wordwall's effectiveness as a learning tool was demonstrated by the experimental group's significant positive results. In contrast to various strong characteristics of the study which are clear comparison of pre-test and post- test results and presence of a control group to make the finding more meaningful, the study poses some limitations. Alfares (2025) states that an important problem with the study is that only female teachers and students took part, even though including male and female students in the same sample group could have different results.

The goal of writing this chapter was to explore empirical studies which shows the effectiveness of using game-based learning in building vocabulary knowledge. Reviewed studied utilized various tools including digital games, serious games and non-digital games in the scope of game-based learning which provide further insights to the present study design. While only the study conducted by Jabali and Walker (2021) reported no significant evidence of improvement compared to the control group which received non-game-based treatment, Chen et al. (2019), Fauziyah et al. (2024), Jia et al. (2024) and Alfares (2025) reported significant improvement due to game-based learning according to the post-test scores. In all studies, even though Jabali and Walker (2021) didn't report improved learning of vocabulary, learners were reported to have higher

motivation and demonstrate increased engagement which is attributed to game-based learning. However, it can be inferred that higher motivation and engagement does not always mean higher learning outcomes as it can be observed in Jabali and Walker (2021).

Even though these studies provide valuable insights to the field, there are various shortcomings to be addressed. Firstly, proficiency levels weren't ensured to be similar in some studies. For instance, Fauziyah et al. (2024) included 10<sup>th</sup> grade high school students in the study even though it is clear that the proficiency levels differ among the students in the same grade level due to numerous factors. On the other hand, even though reporting the proficiency level of the participants as elementary, Chen and Hsu (2019) didn't implement any kind of measuring test to ensure equality. Moreover, Jabali and Walker (2021) also assumed the students in the same grade to be in similar proficiency levels, which might distort the reliability of the results. Conducting the study with a sample group without ensuring equality in terms of language proficiency might lower the strength of the findings. A CEFR aligned rubric or a standardized test should have been used to have more accurate results.

### **1.3.2. Empirical Studies on Game-Based Learning in Idiom Learning**

Nowadays, there is a growing interest in using games while teaching idiomatic expressions due to numerous benefits games provide in learning environments. As idioms are naturally difficult due to their figurative and complex nature, it is often challenging to grasp the meaning of them especially for learners of English who are not very proficient. There are very few studies focusing on the use of game-based learning in teaching idioms, despite game-based learning's being popular in the contemporary teaching fields. Even though these research studies which contributes to the relevant field, they pose several limitations. In this section, a few studies on using games in teaching idioms are thoroughly reviewed by the researcher.

Ahmed et al. (2022) investigated effects of a game called "Idiomatico" to teach idioms of English to 50 Male upper intermediate EFL learners in Iran. According to the results of study conducted by Ahmed et al. (2022), on the idiom posttest, the gamification-taught group outperformed the control group, suggesting that gamification was successful in enhancing idiom learning for English as a Foreign Language learners. Additionally, the attitude questionnaire showed that Iranian EFL students were in favor of using gamification to teach them English idioms. Their positive attitudes were attributed to

things like enjoyment, fun, a decrease in anxiety, involvement, and quick feedback. In this study, there are several implications for future research. Firstly, Ahmed et al. (2022) suggests that the impacts of gamification on crucial language skills which are writing, speaking, listening, and reading should be investigated. Moreover, they believe that the effect of gamification on developing knowledge of idioms should also be studied in rural areas. Ahmed et al. (2022) offers that future research can be conducted by examining participants from both genders in order to maximize the validity of the results to be achieved. Using one game and not providing learners with different learning environments can be considered as a weakness in this study design. Yet, this study shows relevance to the present research using an experimental design and provides valuable findings in terms of game-based teaching's efficiency in teaching idioms.

Another study by Hu et al. (2014) investigated the effect of a VR game on teaching Chinese idioms to 20 learners of Chinese as a foreign language. According to Hu et al. (2014), Virtual reality (VR) games that are specifically made for teaching Chinese as a foreign language (TCFL) have the power to greatly improve students' comprehension of Chinese idioms. When compared to conventional instructional methods, learners who played the VR Chinese Idioms educational game showed improved comprehension and engagement. Besides not giving explicit advice for future research, Hu et al. (2014) states that some improvements should be performed such as making game time longer as it takes minimum 10 minutes for participants to adapt. They also suggest that entertainment features of the game should be increased and balanced with educational function to interest the learners. According to Hu et al. (2014), further research should be conducted to better the VR Chinese idioms games for teaching Chinese as a foreign language. While adding valuable insights to feasibility of using VR applications in teaching idioms, this study imposes several limitations due to its design. Firstly, using only one type of game might not be able to show games' impact on idiom comprehension due to not having broader and various contexts. Furthermore, no comparison presents in this study in terms of measuring the comparative impact with traditional approaches or other game-based applications in education. However, it contributes to this research study by showing the improved comprehension and engagement of using games in learning environments.

Ku et al. (2014)'s study looked into how fifth-grade students' learning achievement when studying Chinese idioms is enhanced by the combination of a tangible

user interface device and a game-based learning strategy. This study was conducted with 56 fifth grade students from Taiwan. Ku et al. (2014) states that, when compared to conventional learning approaches, the contextualized idiom learning system-integrated method greatly improved idiom learning for fifth-grade students. In comparison to the control group, the experimental group which received the game-based treatment exhibited noticeably higher post-test scores. As Ku et al. (2014)'s study looked into how fifth-grade students' learning achievement when studying Chinese idioms is increased by the combining a tangible user interface device and a game-based learning strategy, Ku et al. (2014) suggests that further studies may examine the suitability and efficiency of CILS and related approaches in various academic domains and grade levels such as elementary, middle and high school. According to Ku et al. (2014), further research may also concentrate on helping educators become more proficient at using CILS and incorporating technology-based teaching resources like Sifteo Cubes into their lesson plans successfully. Moreover, they advise that the effectiveness should also be investigated in different cultural and linguistic contexts. As the game-based experimental group demonstrated higher level of idiom learning in this study, it shows the significance of using games while teaching idioms, contributing to the design of the present research. However, there are some limitations of this research. Firstly, no information was delivered about the treatment design to which control group is exposed. Moreover, the research only states that the participants are fifth graders which doesn't necessarily shows their proficiency levels are similar.

Research study conducted by Müller et al. (2017) examines the impact of games in learning English idioms. By using the game called "Idiomatico", they examined 2 groups of English learners from Japan and Iran in different contexts. 14 male students who attended an English class in a private language school and 17 male, 5 female undergraduate students from computer assisted language learning classes at a university in Japan participated in this study. Müller et al. (2017) found that both groups improved their knowledge of English idioms in similar quantities with Iranians' having more motivation and optimistic outlook towards the game. However, Müller et al. (2017) states that Iranian group's having a more positive attitude towards the game didn't mean difference in terms of their performances, which didn't give a meaningful difference that motivation created. However, in terms of learning outcomes, the study done by Müller et al. (2017) shows that games still work with a slightly less success rate for those who are not motivated for learning idioms by using games. According to Müller et al. (2017)'s

study result, a huge number of participants didn't need to check anything from external sources, those who did mainly used dictionaries. Müller et al. (2017) states that future research studies can include more participants in order to maximize the reliability of findings. Additionally, a longer period of time might affect the results of this study according to the author. Moreover, Müller et al. (2017) reports that one of the sample groups interacted more with each other, while the other group played the game in an isolated way. It can be inferred that social and environmental contexts in such a study might impact the outcomes. This study contributes to the field of game-based learning as it shows that using games in teaching idiomatic expressions is effective even with participants from various backgrounds, which also highlights cross-cultural differences in learning environments as the motivation levels of groups differ in this experiment. However, study uses only one game which potentially impact generalizability of using games in teaching idioms. The study contributes to this research as it also employs pretest-posttest design which helps structure the research in a way to maximize accurate results.

Shoukry et al. (2015) presents a mobile learning game called "Blitzmerker" designed for children to learn idioms. The paper shows the evaluation conducted by a sample group of male children with ASD. According to Shoukry et al. (2015), participants interacted and engaged with the game at high levels. They also motivated each other by talking about the game's narratives and sharing their accomplishments in the game. Moreover, Shoukry et al. (2015) states that children's having former experience of game playing made it easier for them to get used to the game and play it. Shoukry et al. (2015) also found that all children were able to learn at least one to two idioms with some of them having learned more than seven idioms by playing this game, which translates to effectiveness of the game in terms of teaching idiomatic expressions. Shoukry et al (2015) states that future investigations may concentrate on integrating a wider range of feedback and interactive components to enhance player engagement and enjoyment. Shoukry et al (2015) also suggests that social skills can be enhanced in autistic children through the use of games such like Blitzmerker. Even though it shows the effectiveness of using games in teaching idioms, weak parts exist in this study in terms of contribution to this research study. Small scale and lack of control group presents as limitations. Nevertheless, Shoukry et al. (2015) provides valuable insights in terms of the motivating factor of using games while teaching idiomatic expressions.

Tang and Taguchi (2021) conducted a study on the effect of game-based instruction on learning formulaic expressions, of which idiom is a feature, in Chinese. They developed game called “Questaurant” and an online lesson to compare and contrast the results of two samples. Tang and Taguchi (2021) found that there is not a significant difference in terms of learning outcomes of game-based teaching group and online lesson group, both groups learned at an equal level. However, according to Tang and Taguchi (2021), the participants in game-based design group were more motivated compared to the lesson group. They state that despite their expectations, the game they created didn’t create a considerable difference in terms of learning outcomes while learning formulaic expressions, only with difference in motivation levels. Tang and Taguchi (2021) also state that the additional components of the game “Questaurant” such as feedback and interactive environment didn’t make a huge impact in terms of learning outcomes, as both groups’ contents were the same in the study. Tang and Taguchi (2021) advise that future studies should examine the effects of games on a wider range of participant groups, including younger students in middle school settings as this study used a smaller size of sample. Secondly, Tang and Taguchi (2021) state that the formulaic expressions are given as the only correct answer in the game; however, in daily life, there are more than one correct answer. So, in order to measure their pragmatic abilities better, future research should include alternative expressions to promote flexible use of language. Moreover, as the game was played by the participants in a laboratory setting, environmental effects weren’t prominent in this study. Tang and Taguchi (2021) suggest that further research should be conducted in a more ecological condition. Finally, because of technical limitations, their game only included written input rather than providing students with things to listen and chance to speak. Tang and Taguchi (2021) states that future studies should try to fully utilize various game features in order to further investigate the potential benefits of game-based language learning. While contributing to the field by showing the impact of using games in teaching, this study was conducted under laboratory circumstances which may not translate to similar impact in an authentic learning environment, and this situation can be considered as the most crucial limitation in this study. Moreover, the duration of treatment and lack of peer interaction pose potential problems in clearly measuring the impact, which are other limitations. However, the study revealed that game-based design did not make a difference in terms of learning outcomes but only about the motivation levels of students, which is worth considering in the present

research. Though being minor, the difference between group populations, 25 and 24 learners, can also be considered as a downside of this study.

Yampinij et al. (2010) conducted a one group pretest – posttest design study to measure the effectiveness of computer multi-media game-based instruction in teaching English idioms. The study included 30 students from grade 7-9 which is defined as 2<sup>nd</sup> educational range in education system of Thailand. Yampinij et al. (2010) states that students showed significant improvement in idiom and vocabulary knowledge in English according to their posttest scores. The study also shows that students satisfaction level after game-based instruction are found to be very high. When it comes to future implications, Yampinij et al. (2010) alleges that future study needs to be conducted to measure other variables such as retention level of English idioms after game-based instruction. They also state that English idioms should be taught through computer multimedia games that can be accessed online via an internet network, allowing students to learn at any time and from any location. Even though it provides the field with valuable insights due to findings about using game-based instruction in teaching idiomatic expressions, there are several limitations to this study. First of all, lack of a control group makes it unclear to see whether similar learning outcomes might be observed in the same learner group without using game-based instruction design. Additionally, the study gives limited information about how learning happened and the materials used in the experiment which poses potential problems in terms of understanding the experiment conditions.

Study conducted by Jackson et al. (2017) aims to measure participants' English pragmatics skills by analyzing their game-based performance by using the game 'Awkward Annie' which targets to assess players' pragmatic skills in English by wanting them to choose the most awkward condition deliberately. 328 English speaking adults participated in the study. Jackson et al. (2017) states that the pragmatic ability of players and their game performance are significantly positively correlated according to the results. Players whose game playing performance was well were better in terms of understanding the objectives of the game which is choosing the most awkward condition. Jackson et al. (2017) states that in the future, comparative studies can be conducted to investigate effectiveness of game-based assessment of pragmatic skills. Moreover, Jackson et al. (2017) advises future researchers to examine how participants' choices of appropriate and inappropriate responses effect their engaging the pragmatic abilities. As

the participants of the study were employed through Amazon Mechanical Turk, there is little to no control over the environment during gameplay, which can result in inconsistencies in performance due to environmental differences such as noise and distractions. Moreover, the study was conducted by using a sample group from a specific locality which can also hinder generalizability of the findings in terms of efficiency of using games.

In conclusion, even though there is a growing interest in using game-based instructional design in teaching idiomatic expressions, it is obvious that further research is required as present studies have several limitations. Firstly, there is a lack of proper control groups which decreases the reliability of findings in efficiency of game-based instruction. While Yampinij et al. (2010) didn't include a control group to compare and contrast the findings of game-based instruction experiment group, Ku et al. (2014) failed to report the detailed instructional nature of the control group they formed even though having one in their research design. Furthermore, studies have some limitations in terms of their sample groups. For instance, Yampinij et al. (2010) and Ku et al. (2014) focused on small groups from the same institutions/schools which might also hinder generalizability of the findings of using game-based instruction in teaching idioms, failing in creating homogeneous sample groups. In another study by Jackson et al. (2017) with a larger group of participants, the learners are only from a local group of people who are L1 speakers of English, which limits the findings' pertinency to L2 learners of English. In view of these limitations of the existing studies, the present study has the potential to make great contribution to the field. With a well-controlled research design including two groups to compare in terms of learning outcomes, the present study shows clear evidence of treatment given to both groups, unlike Ku et al. (2014). The present research also has a balanced sample group with similar proficiency levels in English but from different places with varying backgrounds to give a more transparent insight while measuring the impact of instructional methods. Providing participants with authentic learning environments, the present study also decreases potential inconsistencies which might emerge as a result of environmental differences like in the research conducted by Tang and Taguchi (2021).

## CHAPTER 2

### METHODOLOGY

#### 2.1. Study Design

This study employs a quasi-experimental pretest-posttest-delayed posttest design in which there are two groups which are game-based and non-game-based groups. These groups were formed of English language learners with similar proficiency levels. Both groups received the same instruction of English idioms with identical instructional materials, from the same instructor and in equal time of instruction. As they were exposed to identical lectures to learn English idioms, the difference between those groups is the way of practicing those idioms after learning them. Each group had 2 lessons a week dedicated to 10 idiomatic expressions about that week's theme. In the first lessons of every week, participants received lecture so as to learn target idiomatic expressions of the week, and the second lessons of every week were dedicated for practicing the idioms learned. Even though instructional designs of these groups are different, the researcher, who is the lecturer at the same time, ensured that the amount of time allocated to practice is identical.

#### 2.2. Context

The study was conducted in an online environment via Zoom which is a video conferencing tool. It involved two groups of Turkish adult learners, for whom English is a foreign language, with no former experience of structured English idiom education. The study was conducted over a period of 5 weeks, 10 lessons in total, implementing game-based and non-game-based lesson plans to address the research questions determined for this research study.

#### 2.3. Participants

24 Turkish adults who are EFL learners in total were included to the experiment, who were divided into two groups of 12 for creating game-based and non-game-based classrooms. To ensure all participants have the same level of English proficiency, EF SET English test which is a was applied. The EF Standard English Test (EF SET) is a free online English test and is designed to the same high technical standards as other

standardized tests in the same discipline, such as TOEFL or IELTS (EF Education First, 2014, p. 4). According to the results of this test, 24 participants who has B1/B2 CEFR English proficiency levels were picked to form the participant group.

#### **2.4. Researcher Position**

Being the only researcher in this study design, the researcher himself conducted the study by being the instructor of both groups and the lesson planner simultaneously. So as to mitigate the risk of biases to be involved, the researcher employed a structured approach where target idioms and time of instruction were guaranteed to be equal for both groups in this experimental design. Moreover, the researcher ensured transparency by conducting pretest, posttest and delayed posttest measurements under equal circumstances with standardized conditions by implementing them simultaneously for every participant within the same time limit.

#### **2.5. Data Collection Tools / Instruments**

##### **2.5.1. Selecting Idioms**

So as to select the idioms to be included for this experiment, the researcher utilized the book ‘‘English Idioms in Use Intermediate’’, which is a book designed to teach idiomatic expressions grouped depending on different themes, by Cambridge. Initially, 5 main themes were determined which are problems, danger, social status, human relationships and money. The reason why this book was chosen to be used as the main source of idiomatic expressions is that participants in the sample group have CEFR B1-B2 level of English proficiency, which is parallel with the difficulty of items covered in the book. 50 idioms, 10 idioms for each theme, were picked to be covered and also tested in ‘‘Test of English Idioms’’ created by the researcher.

##### **2.5.2. Test of English Idioms (TEI)**

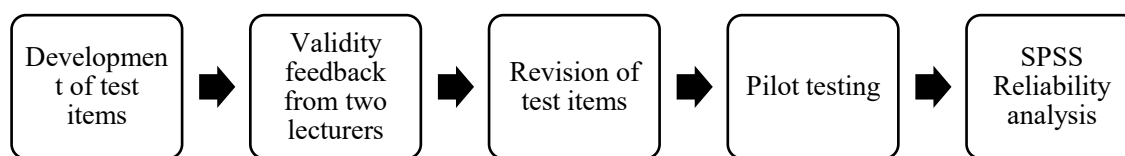
As the idioms to be taught and tested are unique to this study design, the researcher wasn’t able to find any existing test of English idioms appropriate to be utilized for this study. As a consequence of a thorough search with the intention of finding a feasible test, several tests found weren’t either valid or reliable to be used in this research. Thus, Test of English Idioms (TEI) was designed by the researcher.

In order to create this test, version 4.0 of ChatGPT, which is a generative artificial intelligence tool, was trained and utilized. The researcher trained the chatbot for the purpose of creating desired test items. The researcher provided the chatbot with information and multiple-choice question examples which enabled the chatbot to learn the correct way of creating multiple choice questions in terms of validity and reliability. By doing so, the researcher ensured that the role of generative artificial intelligence is to generate the questions and options without making critical decisions about the principles of testing. Each item was thoroughly examined by the researcher, and relevant modifications were performed accordingly to maximize the quality of test items, and to ensure that each item test the English idiom it is supposed to test accurately. Thus, it can be concluded that the role of ChatGPT in the creation process of TEI is to provide possible statements and options for the test items depending on the testing and evaluation principles and idiomatic expression items provided by the researcher.

TEI contains 50 multiple-choice questions, each of which has only one correct answer. Each question was designed to measure the participants' knowledge of one idiom out of fifty idioms from the predetermined list of idioms mentioned earlier.

This test is formed of 3 sections which are named as sentence completion, contextual understanding, and scenario-based questions. In the first section named Sentence Completion which includes 20 questions, test takers are supposed to choose the option which includes the correct idiom to complete the given sentence according to its context. In Contextual Understanding section, there are 20 questions which suppose test takers to choose the best alternative that captures the meaning of the idiom written in bold in the given sentences. In Scenario-Based Questions section, participants are supposed to give answers to 10 questions for which they are required to choose the idiom that best fits in the scenario given.

Following the designing phase, the test was sent to two lecturers who are members of English Language teaching department at Ufuk University, offering courses on testing and material development in ELT. Detailed evaluation of the test was performed by these professionals to ensure construct validity, face validity, content validity and criterion validity. According to the feedbacks given by the lecturers, test items were modified accordingly by the researcher to maximize the overall quality of the test along with aforementioned types of validity. The creation process of the test was demonstrated in Figure 1 below.



**Figure 1.** Creation Process of Test of English Idioms

In order to measure reliability of the test created, a pilot study was conducted with a sample of 10 participants in an online environment. Participants of the pilot study had similar proficiency levels with the participants, which is CEFR B1 / B2, of the study to be conducted. Each test taker was given 70 minutes to complete the test. Reliability was evaluated by using Cronbach's Alpha, which gave a value of  $\alpha = .90$ , as shown in Table 1. 27<sup>th</sup> version of SPSS was utilized to perform reliability analysis. This demonstrates excellent reliability which indicates that test items reliably measure idiom knowledge in English.

**Table 1.**  
**Reliability Analysis of Test of English Idioms**

Scale Name	Number of Items	Cronbach's $\alpha$
Test of English Idioms	50	.90

### 2.5.3. Lesson Materials

In the lessons of non-game-based group, after teaching the idioms by using worksheets which include practice materials such as matching, gap filling, multiple choice questions and true false questions were utilized. For every idiom set, one worksheet which was designed to include the target idioms weekly was used in the lessons of this group. However, in the second group which is determined to have game-based lessons, idiomatic expressions are practiced by playing games which are Kahoot, Hangman, Taboo, Drawing & Guessing and Yes-No Questions game.

The Norwegian online learning platform Kahoot! features learning games, or "kahoots," that are multiple-choice tests created by the users that can be accessed through the Kahoot! app or a web browser. (G. Lipp, 2017) This educational platform allows users to create their own custom gamified quizzes and administer them on many participants. Game features such as scoreboards, badges, game rules and time limits make learning

more fun and the content appears to be more engaging. Utilizing different kinds of questions, quizzes called kahoots require students to answer the questions as soon as possible and accurately to get the highest number of points. At the end of every quiz, the participant who gets the most point wins the game.

One game that can encourage foreign language learning, particularly when teaching vocabulary, is Hangman in which players have to guess the letters in order to uncover a word or phrase, and the character on the display will "hang" after a predetermined number of incorrect letter guesses (Rizka et al., 2024). While playing this game, participants guess the letters one by one, and the participant who guesses the idiomatic expression before others receive points.

In the well-known and commonly used drawing-based guessing game, which the researcher calls Drawing & Guessing game, participants are given a vocabulary item and supposed to create original drawings in order to help other players guess the vocabulary item, idiom in this case. In this research study, Zoom Whiteboard was used to play this game. During the lessons, every participant is supposed to draw about the idiom privately sent as a message by the instructor. In this game, the participant who guesses the most idioms based on the drawings wins the game.

In taboo, the player's goal is to have other players guess the word on their card without using the word or any of the five other words that are listed on the card (Sari & Agung, 2023). Custom English idioms taboo cards created by the researcher are used to play this game during the course. At the end of the game, the participant who guesses the highest number of idiomatic expressions wins the game.

In Yes-No Questions game, in order to find out the secret word, teammates alternately pose questions. Players are not allowed to respond with "yes" or "no" or any similar phrase. The object of the game is to help other players guess the word accurately by coming up with creative and descriptive words (British Council, n.d.). As this game is based on speech, there is no material or platform required to play. In the end, the player who guesses the highest quantity of idiomatic expressions by asking accurate questions wins the game.

Aforesaid games were adapted and utilized for the second lesson of every week in the game-based group.

#### 2.5.4. Lesson Plans

The instructional intervention, English idioms course, was given to participants for 5 weeks, with 2 lessons a week for 50 minutes each. The first lessons of every week were mutual in order to make sure that the amount of instruction received by the teacher is equal for both groups. Second lesson of every week differed between groups, game-based group practicing the target idioms by playing predetermined games and non-game-based group practicing the idioms by means of a worksheet. The course for both groups was taught by the same teacher in order to remain consistent. 50 target idioms in total were chosen based on 5 different themes determined. For each week, one theme and 10 idioms for each theme were covered in the lessons.

**Table 2.**  
**Weekly Target Idioms Based on Themes**

Week	Theme	Target Idioms
1	Having Problems	Come up against a brick wall, put one's foot in it, in dire straits, dug oneself into a hole, spread oneself too thin, left holding the baby, over a barrel, clutching at straws, drawn a blank, face the music.
2	Danger	Have a narrow escape, by the skin of one's teeth, too close for comfort, cut things fine, set alarm bells ringing, take one's life in one's hands, hanging by a thread, on a knife-edge, one's life is in someone's hands, to be safe and sound.
3	Social Status	Toffee-nosed, giving oneself airs and graces, a pillar of society, a rough diamond, down-and-outs, to be a high-flyer, new blood, up-and-coming, anybody who is anybody, the odd one out.
4	Human Relationships	Be in someone's good books, get on like a house on fire, make it up to someone, take a shine to someone, have a soft spot for someone, be at loggerheads, be at cross-purposes, two-time someone, keep someone at bay, keep oneself to oneself.
5	Money	Be on the breadline, live in the lap of luxury, well-heeled, spend money like water, tighten one's belt, make a killing, be a money spinner, pay through the nose, a small fortune, a rip-off.

**Source.** Idioms adapted from McCarthy, M., & O'Dell, F. (2004). *English idioms in use: Intermediate* (2nd ed.). Cambridge University Press.

**Table 3.**  
**Weekly Instructional Focus and Practice Activities**

Week	Focus Topic	First Lesson (Mutual)	Second Lesson (Game-based)	Second Lesson (Non-game-based)
1	Having Problems	Introduction of 10 theme-based idioms via PPT slides with explanations and examples in context.	Kahoot and Taboo game (describing target idioms without using prohibited words called taboo)	Worksheet practice including definition matching, true-false, multiple-choice questions and gap filling activities
2	Danger	Introduction of 10 theme-based idioms via PPT slides with explanations and examples in context.	Kahoot and Drawing & Guessing	Worksheet practice including definition matching, true-false, multiple-choice questions and gap filling activities
3	Social Status	Introduction of 10 theme-based idioms via PPT slides with explanations and examples in context.	Kahoot and Digital Hangman game (guessing idioms based on letter cues)	Worksheet practice including definition matching, true-false, multiple-choice questions and gap filling activities
4	Human Relationships	Introduction of 10 theme-based idioms via PPT slides with explanations and examples in context.	Kahoot and Yes-No question game (asking questions and answering yes-no only to guess idioms)	Worksheet practice including definition matching, true-false, multiple-choice questions and gap filling activities
5	Money	Introduction of 10 theme-based idioms via PPT slides with explanations and examples in context.	Kahoot and Drawing & Guessing	Worksheet practice including definition matching, true-false, multiple-choice questions and gap filling activities

*Note:* Each lesson lasted 50 minutes.

## **2.6. Procedure**

The experiment for this research study is designed as online group lessons in which idioms are taught. The experiment was conducted over the course of 5 weeks, in which 2 lessons of 50 minutes each week were held for each group of learners. At the beginning of the experiment, abovementioned Test of English Idioms specifically designed for this study was applied to the participants as the pretest to assess their initial knowledge of target idioms. Right after the treatment period, the same test was again applied as the posttest to see the improvement and compare and contrast the results of two different groups of learners. Then, 12 weeks later from the post test, delayed posttest was applied to investigate the level of long-term retention of English idioms and the difference between groups' retention levels.

## **2.7. Validity and Reliability**

In order to ensure the validity and reliability of this study, numerous methods were utilized.

Internal validity of this research was ensured by implementing a pre-test post-test design which allows the researcher to attribute any difference in idiom learning outcomes to the teaching method employed rather than external impacts. Additionally, to ensure that the participants of both groups have similar pre-test scores, an independent samples t-test was conducted which showed no significant difference among the pre-test scores of participants before the treatment phase. This test was conducted by using SPSS version 27 to maintain objective approach.

So as to ensure validity of Test of English idioms designed by the researcher, the test was sent to two faculty members working in the English language teaching department at Ufuk University to verify construct validity, face validity, content validity and criterion validity.

When it comes to reliability, Cronbach's Alpha was used following a pilot test conducted, and the result was  $\alpha = .90$ . Reliability analysis was conducted using SPSS version 27. This exhibits outstanding validity, proving that test items accurately gauge English idiom knowledge.

## **2.8. Data Analysis**

An independent samples t-test was used to examine the pre-test differences between the two groups, and the results indicated no significant differences. Following that, to answer the first research questions, a paired samples t-test was implemented in order to measure within group differences for each group separately. This paired samples t-test was conducted to check whether there is a significant change in idiom knowledge within the groups after the treatment. Then, to make a comparison between two groups' post test scores, an independent samples t-test was implemented, which was conducted to see whether there is significant difference between two groups after the intervention. Afterwards, a paired samples t-test was implemented to see the level of retention between the posttest and delayed posttest scores to analyze the impact of two different intervention types on participants' idiom knowledge.

## CHAPTER 3

### FINDINGS

This section presents the results of analyses conducted to address the research questions of the study which examines the comparative impact of game based and non-game-based instruction on learning English idioms.

#### 3.1. Pretest Score Differences Between Groups

An independent t-test was conducted in order to compare pre-test scores of both groups for ensuring both groups are comparable. Group 1 stands for game-based instruction group, and Group 2 stands for non-game-based instruction group on the tables.

**Table 4.**  
**Descriptive Statistics for Pre-Test Scores**

Group	N	Mean	SD
1 (game-based group)	12	57.16	10.39
2 (non-game-based group)	12	57.33	13.91

**Table 5.**  
**Independent Samples T-Test Results for Pre-Test Scores**

Assumption	F	p	t	df	p	Mean Diff.	95% CI (LL, UL)
Equal variances assumed	1.28	.270	0.33	22	.974	-0.17	[-10.56, 10.23]

An independent-samples t-test was conducted to compare the pre-test scores for game-based instruction group and non-game-based instruction group. There were no significant differences ( $t(22) = 0.33, p = 0.974$ ) in scores for game-based instruction group ( $M = 57.16, SD = 10.39$ ) and non-game-based instruction group ( $M = 57.33, SD = 13.91$ ). The magnitude of the differences in the means (mean difference = 0.16, 95% CI: -10.56 to 10.23) was small.

**Table 6.**  
**Independent Samples Effect Sizes for Pretest Scores**

Effect Size (Cohen's d)	95% Confidence Interval
-0.01	[-0.81, 0.79]

With a  $d = -0.01$ , 95% CI [-0.81, 0.79] effect size for the pre-test comparison, there was little difference between the two groups' initial vocabulary knowledge.

### 3.2. Paired Samples T-Test for Game-Based and Non-Game-Based Instruction Groups' Pretest and Posttest Performance

In order to answer the first research question: "How do game-based and non-game-based instruction impact students' English idiom knowledge?" paired samples t-tests were conducted for both groups so as to evaluate the impact of the game-based and non-game-based instructions on students. Pair 1 stands for the pretest and post-test scores of game-based instruction group while pair 2 stands for the pretest and post-test scores of non-game-based instruction group.

**Table 7.**  
**Descriptive Statistics for Pre-Test and Post-Test Scores**

Group	Time	N	Mean	SD
Pair 1 (Game-Based)	Pre-Test	12	57.16	10.39
	Post-Test	12	83.00	14.45
Pair 2 (Non-Game-Based)	Pre-Test	12	57.33	13.91
	Post-Test	12	81.66	20.24

**Table 8.**  
**Paired Samples T-Test Results for Pre-Test and Post-Test Scores**

Group	t	df	p	Mean Difference	SE	95% CI (LL, UL)
Pair 1(Game-Based)	-5.63	11	< .001	25.83	4.58	[-35.91, - 15.74]
Pair 2 (Non-Game-Based)	-7.37	11	< .001	24.33	3.30	[-31.59, - 17.06]

For pair one which stands for game-based instruction group, the results showed a significant increase in the marks of the students in the pre-test (M = 57.16, SD = 10.39) to post-test (M = 83.00, SD = 14.45),  $t(11) = -5.63$ ,  $p < .001$  (two-tailed). The mean increase in the test scores was 25.83 with a 95% confidence interval ranging from -35.91 to -15.74.

For pair two which stands for non-game-based instruction group, the results showed a significant increase in the marks of the students in the pre-test (M = 57.33, SD = 13.91) to post-test (M = 81.66, SD = 20.24),  $t(11) = -7.37$ ,  $p < .001$  (two-tailed). The mean increase in the test scores was 24.33 with a 95% confidence interval ranging from -31.59 to -17.06.

**Table 9.**  
**Paired Samples Effect Sizes**

Group	Cohen's d	95% Confidence Interval
Game-Based	-1.63	[-2.49, -0.74]
Non-Game-Based	-2.13	[-3.16, -1.07]

The game-based group's pre-test to post-test change had a large effect size ( $d = -1.63$ , 95% CI [-2.49, -0.74]), suggesting a significant increase in vocabulary scores. The effect size was even higher in the non-game-based group ( $d = -2.13$ , 95% CI [-3.16, -1.07]), indicating a significant improvement from the pre-test to the post-test.

### 3.3. Post-Test Differences Between Groups

In order to answer the second research question: ‘‘Do students receiving game-based instruction and those receiving non-game-based instruction have significantly different idiom learning outcomes?’’ an independent samples t-test was conducted in order to compare post test scores of both groups. Group 1 stands for game-based instruction group, and Group 2 stands for non-game-based instruction group on the tables.

**Table 10.**  
**Descriptive Statistics for Posttest Scores**

Group	N	Mean	SD
1 (game-based group)	12	83	4,17
2 (non-game-based group)	12	81,66	5,84

An independent-samples t-test was conducted to compare the post-test scores for game-based instruction group and non-game-based instruction group. There were no significant differences ( $t(22) = 0.18, p = .854$ ) in scores for game-based instruction group ( $M = 83.00, SD = 14.45$ ) and non-game-based instruction group ( $M = 81.66, SD = 20.24$ ). The magnitude of the differences in the means (mean difference = 1.33, 95% CI: -13.56 to 16.23) was small.

**Table 11.**  
**Independent Samples T-Test Results for Posttest Scores**

Assumption	t	df	p	Mean Difference	Std. Error Difference
Equal variances assumed	0.19	22	.854	1.33	7.18

So as to answer the third research question: ‘‘Does one learning method lead to more variation in students’ post-test performance?’’ the variances of posttest scores of learners in game-based and non-game-based groups were compared. Levene’s test indicated that the assumption of homogeneity of variances was not violated,  $F(1, 22) = 0.06, p = .810$ .

**Table 12.**  
**Independent Samples Effect Sizes for Posttest Scores**

<b>Effect Size (Cohen's d)</b>	<b>95% Confidence Interval</b>
0.08	[-0.73, 0.88]

The post-test comparison between groups showed a negligible effect size ( $d = 0.08$ , 95% CI [-0.73, 0.88]), which represents that there was little difference in idiom knowledge after the lessons.

### 3.4. Delayed Posttest Differences Between Groups

**Table 13.**  
**Descriptive Statistics for Delayed Posttest Scores**

<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>
1 (game-based group)	12	68	18,44
2 (non-game-based group)	12	79	20,58

**Table 14.**  
**Independent Samples T-Test Results for Delayed Posttest Scores**

<b>Assumption</b>	<b>t</b>	<b>df</b>	<b>p</b>	<b>Mean Difference</b>	<b>Std. Error Difference</b>	<b>95% CI for Mean Difference</b>
Equal variances assumed	-1.38	22	.182	-11.00	7.97	[-27.54, 5.54]

To answer the fourth research question: ‘‘Is there a significant difference between game-based and non-game-based lessons impact on students’ long-term retention of English idioms?’’ an independent samples t-test was conducted to compare the delayed post-test scores of the game-based and non-game-based groups. The assumption of equal variances was met, according to Levene's test, with  $F(1, 22) = 0.18$  and  $p = .676$ . With  $t(22) = -1.38$ ,  $p = .182$ , two-tailed, the difference in mean scores between the game-based group ( $M = 68.00$ ,  $SD = 18.44$ ) and the non-game-based group ( $M = 79.00$ ,  $SD = 20.58$ ) was not statistically significant. The 95% confidence interval for the difference was between -27.54 and 5.54, and the mean difference was -11.00 ( $SE = 7.97$ ).

**Table 15.**  
**Independent Samples Effect Sizes for Delayed Posttest Scores**

Effect Size (Cohen's d)	95% Confidence Interval
-0.56	[-1.37, 0.26]

For the delayed post-test comparison, there was a moderate difference between the two groups' idiom retention scores ( $d = -0.56$ , 95% CI [-1.37, 0.26] effect size).

### 3.5. Paired Samples T-Test for Game-Based Groups' Posttest and Delayed Posttest Performance

**Table 16.**  
**Descriptive Statistics for Posttest and Delayed Posttest Scores of Game-based Group**

Time Point	N	Mean	SD
Post-Test	12	83.00	14.45
Delayed Post-Test	12	68.00	18.44

**Table 17.**  
**Paired Samples T-Test Results for Posttest and Delayed Posttest Scores of Game-Based Group**

Pair	t	df	p	Mean Difference	SE	95% CI (LL, UL)
Post-Test vs. Delayed Post-Test (Game-based)	2.43	11	.034	15.00	6.19	[1.38, 28.61]

Students' scores on the post-test ( $M = 83.00$ ,  $SD = 14.45$ ) and the delayed post-test ( $M = 68.00$ ,  $SD = 18.44$ ) differed significantly, according to the results ( $t(11) = 2.425$ ,  $p = 0.034$ , two-tailed). With a 95% confidence interval spanning from 1.38 to 28.61, the average test score difference was 15.00. This suggests that there is a statistically significant difference between the post-test and delayed post-test scores.

**Table 18.**  
**Paired Samples Effect Sizes for Posttest and Delayed Posttest Scores of Game-Based Group**

Effect Size (Cohen's d)	95% Confidence Interval
0.70	[0.05, 1.32]

The effect size, measured by Cohen's d, was moderate ( $d = 0.700$ ), with a 95% confidence interval for d ranging from 0.052 to 1.323.

### 3.6. Paired Samples T-Test for Non-Game-Based Instruction Groups' Posttest and Delayed Posttest Performance

**Table 19.**  
**Descriptive Statistics for Posttest and Delayed Posttest Scores of Non-Game-Based Group**

Time Point	N	Mean	SD
Post-Test	12	81.66	20.24
Delayed Post-Test	12	79.00	20.58

**Table 20.**  
**Paired Samples T-Test Results for Posttest and Delayed Posttest Scores of Non-Game-Based Group**

Pair	t	df	p	Mean Difference	SE	95% CI (LL, UL)
Post-Test vs. Delayed Post-Test	0.94	11	.367	2.66	2.83	[-3.56, 8.89]

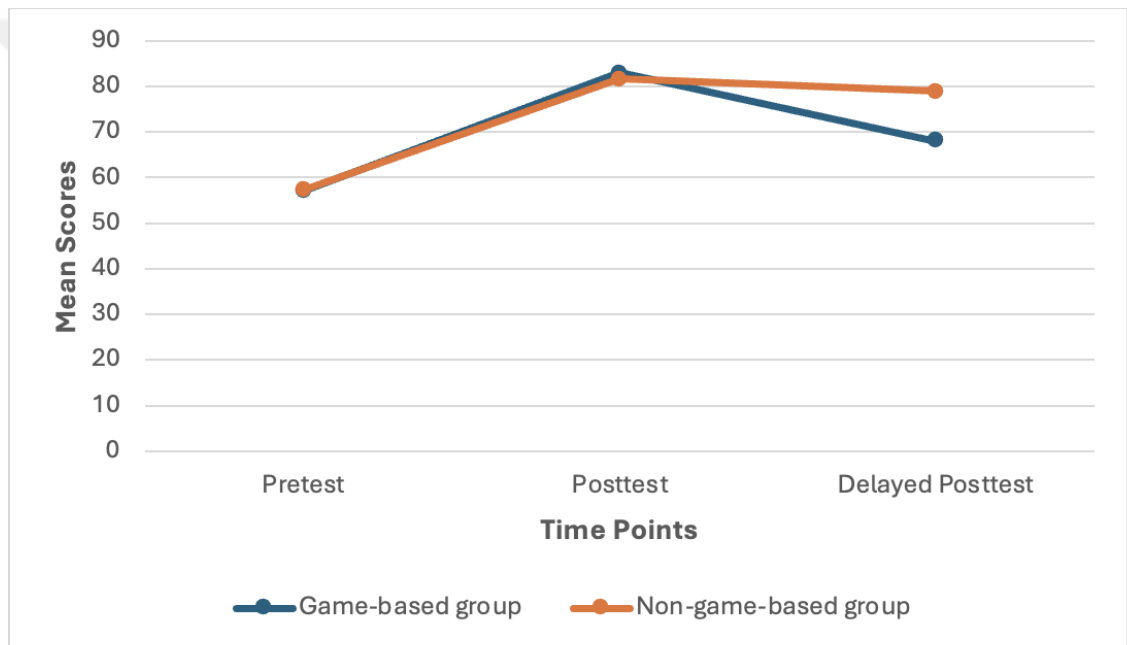
The post-test ( $M = 81.66$ ,  $SD = 20.24$ ) and delayed post-test ( $M = 79.00$ ,  $SD = 20.58$ ) scores in the non-game-based group were compared using a paired samples t-test. The findings showed that there was no statistically significant difference between the post-test and delayed post-test scores ( $t(11) = 0.942$ ,  $p = 0.367$ ). The 95% CI ranged from -3.56 to 8.89, and the mean difference was 2.66.

**Table 21.**  
**Paired Samples Effect Sizes for Posttest and Delayed Posttest Scores of Non-Game-Based Group**

Pair	Cohen's d	95% Confidence Interval
Post-Test vs. Delayed Post-Test	0.27	[-0.31, 0.84]

According to Cohen's d, the effect size was small ( $d = 0.272$ ), with a 95% CI for d falling between -0.311 and 0.843.

### 3.7. Changes in Idiom Knowledge Over Time



**Figure 2.** Changes in Idiom Test Performance Across Groups Over Time

As it is shown in Figure 2, starting from the same point in pretest, both game-based and non-game-based group demonstrated an upwards trend in posttest scores. However, even though both groups had similar pretest and posttest scores, it can be observed that the amount of decline in scores greatly differ. While there is no significant decrease in the delayed posttest performance of non-game-based group, posttest scores game-based group dwindled outstandingly.

## **CHAPTER 4**

### **DISCUSSION**

#### **4.1. Introduction to the Discussion**

The present study investigated the comparative impact of game-based and non-game-based learning methods in learning English idiomatic expressions. Data was collected by employing a design including a pretest, a posttest and a delayed posttest to compare and contrast the learning gains and retention levels of two different groups receiving different treatments.

#### **4.2. Interpretation of Findings**

##### **4.2.1. Participants' Idiom Knowledge in Pretest**

The participants subject to this study were chosen based on their scores in formerly mentioned EFSET, a globally well-respected English language proficiency exam. Following the selection of participants, pretest scores of Test of English Idioms also showed that there is no statistically significant difference among the students in terms of their idiom knowledge. As mentioned earlier, for the sake of creating this test, the researcher picked the idioms from English Idioms in Use Intermediate level book. However, participants who have B1-B2 level of English proficiency picked for this study demonstrated low performance due to inadequate idiom knowledge. According to the Common European Framework of Reference for Languages (Council of Europe, 2001), language users in this level might have some trouble understanding low-frequency idioms. Even though idiomatic expressions are not necessarily a part of English lessons directed by the curriculums followed in Türkiye, these results highlight the need to integrate English idioms in order to close the distance between levels of English speakers in Türkiye and the assumptions and criteria provided by CEFR.

##### **4.2.2. Immediate Learning Gains**

Following the treatment which was implemented to both group for five weeks, pretest was conducted to explore the differences in learning outcomes of game-based and non-game-based learning groups. According to the results of posttest, both groups showed significant improvement in English idiom knowledge following the intervention

period, which showed that game-based and non-game-based methods made comparable contributions to the participants' English idiom knowledge. The findings of the present research align with the previous studies in terms of the findings. Alfares (2025) found in their study that both the group which used digital games to learn vocabulary items and the group which learned without games showed significant improvement.

Even though game-based group's posttest results showed a slightly higher mean score compared to the non-game-based group's score, statistical analysis showed no significant difference between results of two groups. The results are similar with previous studies which aimed to investigate comparative impacts of using game-based and traditional methods in vocabulary teaching. In the study conducted by Jabali and Walker (2021), no statistically significant difference was found in terms of vocabulary learning gains between game-based learning group and the group which used traditional non-game-based methods such as flashcards. Moreover, according to Sadan et al. (2024), the results of the study that looked into how vocabulary worksheets and digital vocabulary games affected learning outcomes demonstrated that there was not a significant distinction in the learning gains between the two techniques and that both successfully increased vocabulary knowledge. In another study conducted by Sadan et al. (2024), despite their emotional benefits, games did not demonstrate superior learning outcomes. However, the results contradict with Alfares (2025)'s findings in terms of comparative impact of using games and non-game-based instruction methods. Alfares (2025) states that the control group, which used conventional teaching techniques, the experimental group, which made use of the game, showed a more noticeable improvement.

There are various potential reasons why there is no difference in terms of posttest scores between groups. First of all, as idioms are naturally intriguing for language learners due to their figurative nature, participants of both groups might have been motivated along the intervention period which might decrease the difference of ways of practicing idioms. Moreover, as all the participants of this study are Turkish, learning language through worksheet-based course designs are more common for them, which may have decreased the possibility of games making difference in terms of learning outcomes. Furthermore, as language learners in the modern world generally have experience with game-based learning applications and gamified platforms, lack of novelty effect may also have decreased the novelty impact of game-based practices in learning English idioms.

### 4.2.3. Comparison of Variability in Learning English Idioms

Non-game-based group showed greater variability in learning outcomes compared to game-based group in posttest scores. Moderate difference was observed in students posttest scores which represents variability, meaning the degree of difference among individual learners of the groups in terms of learning outcomes. In other words, some learners may have benefited from the instruction more than others in a group which translates to uneven distribution of effectiveness, which can be interpreted as game-based learning offering more consistent learning compared to non-game-based learning methods. There are several probable reasons why inconsistencies may have happened in learning English idioms. Higher levels of intrinsic motivation, increased productivity, increased autonomy, improved achievement, and a stronger sense of self-competence are all likely outcomes of adapting instruction to appeal to students' interests (Cox, 2008). Game-based instruction naturally increases learners' motivation by integrating enjoyable content into learning environment and sense of self confidence through instant positive feedback giving game features such as scoreboards and gaining points. However, non-game-based practicing by utilizing worksheets is likely to allow for more variation in how well students achieve as it is less immersive compared to games.

Even though difference in standard deviations of mean scores in students posttest scores was found between the standard deviation figures of groups, Levene's test showed no statistically significant difference in this situation, which means that this difference is not statistically supported. This situation evokes the opinion that this difference is arbitrary. However, due to the limitations of this research design, 12 people participated in the research study for each group. The researcher assumes that this statistical insignificance is due to small sample size in this study design. Even modest spread differences may not be statistically significant in small samples because variance estimates are especially sensitive to sample size (Tabachnick & Fidell, 2013). Due to the fact that this kind of variance differences have the potential to present in a more obvious manner in case of greater sample sizes, it is implied by the researcher that this variability difference should be tested in larger groups of students.

In conclusion, the difference in variability of two different learning methods might be due to games' being more immersive and engaging while non-game-based designs potentially effect some students' motivation and self-confidence. According to the statistical analysis, the difference in variability is found as a tentative pattern.

However, the researcher suggests that this difference explored worths investigating in future studies as the impact of it might not be seen in short intervention periods and with a small sample size.

#### **4.2.4. Comparison of Idiom Knowledge Retention Through Delayed Posttest Scores**

Although both groups showed significant improvement from pretest to posttest in English idiom knowledge, delayed posttest scores showed that difference occurred in retention levels in the long term. There is no statistically significant difference between posttest and delayed posttest scores of non-game-based group, which shows the decline is negligible. However, the researcher explored via statistical analysis that the participants in the game-based group experienced a significant decrease in terms of English idiom knowledge in the delayed posttest 12 weeks later than the immediate posttest. It can be understood that non-game-based instruction led to a more stable processing and higher level of retention while game-based practice of English idioms didn't provide participants with the ability of long-term retention of idioms.

The findings about retention aligns with the study which compares traditional and game-based methods in teaching conducted by Rondon et al. (2013). It is stated that traditional methods are found to be more successful in helping students retain information over time compared to game-based learning. Additionally, finding is significant for the literature as the long-term consequences of education are more significant than the short-term ones (Rondon et al, 2013).

However, there are several studies which explored opposite results in terms of long-term knowledge retention. First of all, the findings of the present study contradict with the study conducted by Salehi (2016) to measure the impact of instructional video games on English vocabulary retention, including a control group which received non-game-based instruction. Salehi (2016) states that the findings demonstrated a significant difference in the participants' scores on the delayed posttest, indicating that using video games had a positive and significant impact on long-term vocabulary retention, meaning that members of the experimental group who used video games had better retention in learning vocabulary items. Secondly, Franciosi et al (2016) conducted a study which compares the presence and absence of a game in teaching vocabulary to EFL students to investigate long term retention. Franciosi et al (2016) found that on a delayed post-test

given eleven weeks after treatment, the treatment group performed better than the control group, demonstrating that gaming does improve long-term vocabulary retention.

There are several possible reasons why there is a significant decrease in idiom retention in the group which received game-based instruction and stable retention levels are ensured in non-game-based group. First of all, worksheet-based practice might have provided learners with a better opportunity of deeper processing of idiomatic expressions which possibly enhances semantic encoding. Even though game-based group performed better in immediate posttest, due to not having game features and dealing with the idioms themselves only, written exercises probably had a more significant impact in terms of retaining English idioms. In other words, games might have resulted in idioms' staying in surface level as even only guessing the meaning is often enough to proceed in games played.

Secondly, this situation might be related with Cognitive Load Theory. Even though games are naturally better ways of learning as they provide less extraneous cognitive load by presenting idioms one by one, some students lacking multitasking ability or not having digital literacy might have some difficulties in terms of processing the meaning of idiomatic expressions during games. While using games decrease extraneous cognitive load for many learners, it might have been more challenging due to the internal structure of game-based learning which requires active participation, self-confidence and moderate social abilities to maximize the impact of games in learning environment. However, non-game-based practices, which is practicing with worksheets in this study, do not require extra skills in order to internalize the targeted features in a lesson by simply requiring students to find the correct answers in a more passive manner compared to playing games to practice.

What's more, even though constructivist learning theories suggest that active and social learning in a meaningful context strengthens learning, which also favors game-based learning, the findings of the present study showed that constructivist tasks such as playing games might not guarantee higher level of retention in the long run.

Moreover, participants who practiced by using worksheets might have revised the idiomatic expressions covered in a more organized manner compared to game-based group's members. Although the amount of instruction they received was identical as they received mutual lessons for the introduction of idioms, taking notes on worksheets and a

slower-paced practice session relating to the nature of worksheets might have increased long term retention levels.

Another possible reason is the fact that the amount of time spent on a task is more condensed even though lesson durations are identical for both groups. In other words, effective focus time might have varied due to using worksheets in non-game-based group as gameplay has several naturally included features such as explaining the game, giving instructions, setting the rules for students and managing turns. This is because not all students are accustomed to play the games included in lesson plans and it takes time, even though it is often short time, to understand the mechanics of a game. However, in non-game-based lessons, worksheets, to which Turkish students are more accustomed to, were utilized in order to practice the target idioms of each week. Thus, non-game-based practice plan might have induced long term retention due to more written exposure to idiomatic expressions.

In conclusion, even though improvement was observed in posttest scores for both groups, game-based group is found to have forgotten English idioms more compared to non-game-based group based on their delayed posttest scores. While the amount of forgetting wasn't statistically significant in non-game-based group, game-based group lost a considerable amount of knowledge 12 weeks after finishing idiom lessons. There might be several reasons why this difference happened which are the possibility of deeper processing in worksheet-based practice, possible extraneous cognitive load for some participants due to the existence of games in learning which require social interaction and self-confidence, more room for revision with worksheets after the lessons for participants and more focus time in non-game-based learning compared to playing games.

## CHAPTER 5

### CONCLUSION

#### 5.1. Summary of the Study

The purpose of this study was to measure the comparative impact of game-based and non-game-based approaches in teaching English idioms to Turkish adult learners of English. 24 participants in total were recruited with B1-B2 CEFR levels of English proficiency and formed two groups of 12 learners. 50 intermediate level English idioms in total with 5 different themes were determined by the researcher. As there was no suitable test to be implemented in the literature, the researcher developed Test of English Idioms for the sake of this study, which aims to measure the students' English idiom knowledge. Reliability of test items were measured via SPSS while construct validity, face validity, content validity and criterion validity were measured with expert opinions of two lecturers from Ufuk University (See Figure 1). Both groups attended 2 lessons in a week for 5 weeks in total. Two groups received mutual instruction for introducing the idioms of each week. While non-game-based group practiced the idioms in the second lesson of every week via worksheets, game-based group played games which are Kahoot, Taboo, yes-no question game and Drawing&Guessing game to practice targeted idioms. The study employed a pretest-posttest design along with a delayed posttest. Starting with an equal level of idiom knowledge in pretest, both groups demonstrated significant improvement in the posttest after the treatment period. Even though game-based group performed slightly better than non-game-based group, the difference was found to be statistically insignificant. However, variability in non-game-based group was more than that of game-based group. Delayed posttest scores showed that game-based group's performance decreased significantly compared to posttest scores which shows that the participants who played games forgot a significant amount of idiom knowledge they acquired during the intervention. On the other hand, non-game-based group retained most of the idiom knowledge they acquired according to the delayed posttest scores. This situation shows that non-game-based learning of English idioms results in stronger retention in the long run compared to game-based learning.

## 5.2. Theoretical Implications

Cognitive Load Theory (Sweller, 2003) suggests that intrinsic cognitive load depends on the natural and unchangeable difficulty of the information to be learned. As this study aims to measure idiom knowledge, intrinsic cognitive load which participants deal with is already high due to complexity and figurativeness of idioms. In the immediate posttest after the intervention, though statistically insignificant, game-based group performed slightly better than non-game-based group. However, long term retention level was found to be more stable in the delayed posttest scores of the non-game-based group. Even though game-based learning can decrease extraneous cognitive load which stands for unnecessary cognitive load due to external factors such as poorly designed materials, game-based tasks might have increased the extraneous cognitive load for some participants as all participants are adults and may not be accustomed to playing games while learning. Additional visuals, game rules, time constraints and rules of interaction may have resulted in higher extraneous load for several participants in the game-based group. This situation probably interfered with the participants' ability to deeply process the meanings of targeted idioms during lessons. On the other hand, participants of non-game-based group dealt with worksheet-based exercises only which didn't include any kind of visuals, rules or social interaction. For some individuals, this learning environment might be more suitable for deeply processing and internalizing the meanings of target idioms, resulting in better retention in the long term.

This suggests that while teaching complex linguistic features such as idioms, non-game-based applications such as worksheet-based revision might be more useful to ensure long term retention in adult learners. In this case, using games and conventional methods in harmony might also maximize learning gains to ensure better remembering. Using non-game-based tasks which require less mental effort for practicing complex language units such as idioms resulted in better long-term retention, even though being slightly inferior to game-based learning in terms of immediate learning gains. In authentic learning environments, to maximize learning outcomes, game-based learning tasks and more structural and to the point approaches such as using worksheets should be used together.

Constructivist learning theories assert that learning happens best through interaction and collaboration in a meaningful context. Collaboration is the most effective way for people to learn, and through cooperative efforts, students can absorb and

assimilate new concepts, psychological strategies, and abilities (Shabani et al., 2010). According to Vygotsky (1978), knowledge is first created in a social context before being absorbed by individuals. According to Vygotsky, learning occurs more often in social and cultural contexts than it does inside an individual (Schreiber & Valle, 2013). This also aligns with the principles of game-based learning as games provide learners with the chance to socially interact with peers and utilize their problem-solving abilities to accomplish game-based tasks which results in learning. Thus, game-based group which practiced idioms with such tasks should have supported more permanent learning of idiomatic expressions. However, in posttest, no statistically significant difference was found in terms of learning gains between groups even though game-based groups' mean score was slightly higher. Additionally, delayed posttest reported higher retention in non-game-based group's scores. This translates to the fact that interaction and cooperation alone might not guarantee learning. Moreover, individual differences might also have impacted the effectiveness of game-based learning as some learners might be more comfortable with practicing by using worksheets without any social interaction and collaboration. Additionally, focusing too much on game mechanics and not prioritizing collaboration and social interaction may have decreased efficiency of game-based practice.

On the other hand, even though games provide room for scaffolding more than conventional techniques, during non-game-integrated lessons, learners' making use of scaffolding is more frequent compared to playing games. Because it relieves them of unnecessary effort and unstructured searches that overload their working memory, having guidance is preferable to adults rather than dealing with the problems faced alone (Salavastu, 2018). While playing games, it is not always comfortable for learners to apply to teacher's support immediately because of the mechanics of gameplay. They might be stressed to interrupt the game, thus not asking what they missed during practices is more expected. So, less self-confident learners might have felt more comfortable while practicing with worksheets as it is completely normal for everyone to ask questions to teachers whose role is scaffolding learners.

Game based learning creates a more interactive and entertaining learning environment for people. It can be observed in the posttest scores that game-based learning made a slightly higher contribution to learning English idioms, though statistically insignificant. However, delayed posttest showed that participants who practiced idioms

via non-game-based lessons which included worksheets retained more idiom knowledge compared to game-based group. This difference might be due to several causes such as initial boost of engagement and novelty impact. While games are great tools to aid learning in many cases, learning complex linguistic features such as idiomatic expressions may require combination of both game-based and non-game-based practices in order to achieve the maximal learning outcome.

### **5.3. Suggestions for Further Research**

This study opened up various areas for researchers to further investigate. As 24 people were recruited as participants because finding adult learners of English with similar CEFR proficiency levels outside institutional environments is challenging especially in experimental studies where participation is voluntary, the researcher suggests that future studies could increase the sample size as it limits generalizability and the power of statistical significance. To do this, researchers should collaborate with educational institutions to access to a more standardized participant group, as it was not practical in the present study due to idiom-focused lessons' being extracurricular for formal education institutions. Moreover, to explore these results in a more detailed manner, duration of intervention could be set longer, which was 5 weeks in the present study, as it might help explore the impact of game-based learning in depth compared to shorter intervention periods and possible effect of boredom in non-game-based instruction. Furthermore, as this study only prioritized learning outcomes due to aligning research objectives, it would be reasonable for further studies to investigate motivation and engagement to possibly find meaningful connections. In order to ensure deeper insight in terms of how learning occurs while teaching idioms when game-based and non-game-based approaches are adopted, future studies can include types of idioms while classifying the idiomatic expressions to be taught rather than theme-based grouping. In addition to this, frequency of idiomatic expressions can also be taken into consideration to delve deeper into learners' idiom knowledge and understand whether it aligns with assumptions of CEFR based on participants' proficiency levels.

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# APPENDICES

## APPENDIX-A. Ethics Committee Approval



T.C.  
UFUK ÜNİVERSİTESİ  
Sosyal ve Beşeri Bilimler Bilimsel Araştırma Etik Kurulu Başkanlığı

Sayı : E-81182178-605-50526  
Konu : Etik Kurul Onayı (Can AFACAN)

24.12.2024

### REKTÖRLÜK MAKAMINA

İlgi : Sosyal Bilimler Enstitüsü Müdürlüğü'nün 13.11.2024 tarihli ve E-96064710-5014.10-49484 sayılı yazısı.

Üniversitemiz Sosyal Bilimler Enstitüsü İngiliz Dili Eğitimi Yüksek Lisans Programı öğrencisi **Can AFACAN**'ın, **Dr. Öğr. Üyesi Gülşen DEMİR**'in tez danışmanlığında devam ettirdiği **“Oyun Tabanlı Olmayan ve Oyun Tabanlı Yaklaşımların Yetişkin Türk İngilizce Yabancı Dil Öğrencilerinin İngilizce Deyimleri Öğrenmeleri Üzerindeki Karşılaştırmalı Etkisi (Comparative impact of non-game-based and game-based approaches on adult Turkish EFL learners' learning English idioms)”** konu başlıklı tez çalışması, Sosyal ve Beşeri Bilimler Bilimsel Araştırma Etik Kurulumuzun 03.12.2024 tarih ve 2024/07 sayılı toplantısında Yükseköğretim Kurumları Bilimsel Araştırma ve Yayın Etiği Yönergesi ve Ufuk Üniversitesi Sosyal ve Beşeri Bilimler Bilimsel Araştırma Etik Kurulu Yönergesi çerçevesinde değerlendirilmiş olup, etik açıdan uygun olduğuna karar verilmiştir.

Bilgilerinizi ve gereğini saygılarımla arz ederim.

Prof. Dr. Mustafa KILIÇ  
Etik Kurul Başkanı

## APPENDIX-B. Test of English Idioms

### Section 1: Sentence Completion

Choose the correct idiom to complete each sentence according to the contexts.

1. After weeks of making progress on the project, we suddenly \_\_\_\_\_ when we couldn't get the final approval from the board, leaving us with no clear path forward.
  - a) put our foot in it
  - b) left holding the baby
  - c) came up against a brick wall
  - d) cut things fine
  
2. Jane \_\_\_\_\_ when she mentioned Sarah's ex-husband at the party, not knowing they had recently divorced, causing an awkward silence.
  - a) became a rough diamond
  - b) drew a blank
  - c) put her foot in it
  - d) spread herself too thin
  
3. The company is \_\_\_\_\_ due to the economic downturn and might have to declare bankruptcy soon, with no immediate solution in sight.
  - a) cutting things fine
  - b) in dire straits
  - c) toffee-nosed
  - d) safe and sound
  
4. After borrowing more money to pay off his debts, he realized he had \_\_\_\_\_, making it difficult to find a way out.
  - a) dug himself into a hole
  - b) faced the music
  - c) tighten his belt
  - d) become the odd one out
  
5. He knew he was \_\_\_\_\_ when he took on multiple freelance projects while also managing a full-time job, leading to burnout.
  - a) two-timing someone
  - b) spreading himself too thin
  - c) in someone's good books
  - d) a money spinner

6. When the project failed, everyone else disappeared, and John was \_\_\_\_\_, having to deal with all the consequences alone.
- a) keeping himself at the bay
  - b) left holding the baby
  - c) at cross-purposes
  - d) over a barrel
7. The delay in the contract left us \_\_\_\_\_, unable to proceed without the necessary documents, and the deadline was approaching fast.
- a) cutting things fine
  - b) over a barrel
  - c) safe and sound
  - d) by the skin of our teeth
8. Realizing they had no other options, they were \_\_\_\_\_, hoping for any solution to avoid bankruptcy, even the most unlikely ones.
- a) clutching at straws
  - b) by the skin of their teeth
  - c) the odd one out
  - d) up-and-coming
9. Despite searching everywhere, they \_\_\_\_\_ when trying to find the missing report, leaving them with no leads.
- a) left holding the baby
  - b) drew a blank
  - c) took a shine to each other
  - d) were on a knife-edge
10. After years of evading the authorities, he finally had to \_\_\_\_\_ when he was caught and brought to justice.
- a) face the music
  - b) put his foot in it
  - c) take his life in his hands
  - d) spread himself too thin
11. We \_\_\_\_\_ during the storm, narrowly avoiding a serious accident and feeling extremely lucky to be unharmed.
- a) had a narrow escape
  - b) set alarm bells ringing
  - c) dug ourselves into a hole
  - d) cut things fine

12. They completed the task \_\_\_\_\_, with barely a second to spare before the deadline, feeling the pressure the entire time.
- a) by the skin of their teeth
  - b) over a barrel
  - c) safe and sound
  - d) in dire straits
13. The negotiations were \_\_\_\_\_, with the possibility of failure making everyone extremely nervous.
- a) clutching at straws
  - b) too close for comfort
  - c) safe and sound
  - d) a pillar of society
14. They finished the preparations \_\_\_\_\_, leaving no room for any delays, which made everyone anxious.
- a) clutching at straws
  - b) cutting things fine
  - c) drawing a blank
  - d) facing the music
15. His sudden departure \_\_\_\_\_, making everyone question the stability of the organization and worry about the future.
- a) set alarm bells ringing
  - b) spread himself too thin
  - c) had a narrow escape
  - d) faced the music
16. Every time he drives recklessly, he \_\_\_\_\_, risking not only his own safety but also that of others.
- a) becomes the odd one out
  - b) clutches at straws
  - c) gives himself airs and graces
  - d) takes his life in his hands
17. Their financial situation was \_\_\_\_\_, with high possibility of losing everything, and they were desperately looking for a solution.
- a) putting its foot in it
  - b) hanging by a thread
  - c) toffee-nosed
  - d) down-and-outs

18. The negotiations were \_\_\_\_\_, where no one knows what is going to happen, making every decision critical.

- a) on a knife-edge
- b) at loggerheads
- c) clutching at straws
- d) facing the music

19. The patients' condition was critical, and \_\_\_\_\_, the doctors had to act quickly to save lives.

- a) their lives were in the doctors' hands
- b) they were keepings themselves at bay
- c) they were a rip-off
- d) they were over a barrel

20. After the surgery, the doctors assured us that the patient was \_\_\_\_\_, and we could finally relax.

- a) safe and sound
- b) by the skin of their teeth
- c) over a barrel
- d) hanging by a thread

**Answer Key:**

- 1. c) came up against a brick wall
- 2. c) put her foot in it
- 3. b) in dire straits
- 4. a) dug himself into a hole
- 5. b) spreading himself too thin
- 6. b) left holding the baby
- 7. b) over a barrel
- 8. a) clutching at straws
- 9. b) drew a blank
- 10. a) face the music
- 11. a) had a narrow escape
- 12. a) by the skin of their teeth
- 13. b) too close for comfort
- 14. b) cutting things fine
- 15. a) set alarm bells ringing
- 16. d) takes his life in his hands
- 17. b) hanging by a thread
- 18. a) on a knife-edge
- 19. a) their life was in the doctor's hands
- 20. a) safe and sound

## Section 2: Contextual Understanding

Choose the best alternative that captures the meaning of the idiom written in bold as it is used in questions 21 to 40.

21. The new neighbor is so **toffee-nosed**, always looking down on everyone else's way of life.

- a) To be humble and down-to-earth
- b) To have a snobbish and superior attitude
- c) To be overly generous to strangers
- d) To be highly educated and intellectual

22. She is always **giving herself airs and graces**, acting as if she is of a higher status than she actually is.

- a) To display signs of anxiety
- b) To act superior and condescending
- c) To be meticulous and detail-oriented
- d) To pretend to be knowledgeable

23. Mr. Johnson is considered a **pillar of society**, respected and admired by everyone in the community for his integrity and contributions.

- a) An eccentric but harmless person
- b) A controversial figure
- c) An important and respected member
- d) A vocal critic of local policies

24. Though he might appear rough around the edges, he's truly a **rough diamond** with a kind heart and good intentions.

- a) A person who is highly educated
- b) Someone who is inexperienced and naive
- c) A valuable person despite a tough exterior
- d) A person who is exceptionally talented but modest

25. The charity event aimed to help **down-and-outs**, providing food and shelter for those in desperate need.

- a) Elderly and retired people
- b) Homeless and destitute individuals
- c) Young and unemployed graduates
- d) Successful entrepreneurs

26. She's known to be a **high-flyer** at her company, consistently exceeding expectations and quickly rising through the ranks.
- a) A person with high ambitions and achievements
  - b) Someone who avoids work
  - c) An employee who often travels
  - d) A person who handles crises well
27. The company decided to hire **new blood** to bring fresh ideas and energy into the team.
- a) Temporary contractors
  - b) Young and innovative individuals
  - c) Consultants from abroad
  - d) Experienced professionals
28. He's an **up-and-coming** actor, predicted to become very successful in the near future.
- a) An actor known for his off-screen behavior
  - b) An actor who has already retired
  - c) A rising star with potential
  - d) An actor known for supporting roles
29. At the exclusive party, **anybody who is anybody** in the fashion industry was in attendance, making it the event of the year.
- a) Unknown people
  - b) Celebrities known for their controversies
  - c) Influential and important people
  - d) Fashion students
30. In a room full of professionals in suits, his casual attire made him **the odd one out**.
- a) A person who leads the discussion
  - b) Someone who is very quiet
  - c) The one who stands out as different
  - d) Someone who fits in perfectly
31. After helping her complete the project on time, she was **in her boss's good books**, receiving praise and recognition.
- a) Given additional responsibilities
  - b) Criticized despite her efforts
  - c) Favored and appreciated by someone
  - d) Overlooked for a promotion
32. They **got on like a house on fire** from the moment they met, chatting and laughing like old friends.
- a) To have a terrible argument
  - b) To become friends quickly
  - c) To find each other annoying
  - d) To ignore each other

33. After forgetting their anniversary, he tried **to make it up to his wife** by planning a special dinner.

- a) To deny any wrongdoing
- b) To avoid the situation altogether
- c) To apologize and compensate
- d) To criticize someone for their actions

34. The new intern **took a shine to her mentor**, often seeking advice and guidance from him.

- a) To feel competitive with someone
- b) To develop a liking for someone
- c) To avoid someone deliberately
- d) To show indifference towards someone

35. Despite his grumpy exterior, she **has a soft spot for her uncle**, always making an effort to visit him.

- a) To feel competitive towards someone
- b) To have a tender affection for someone
- c) To feel obligated to someone
- d) To be wary of someone

36. They **have been at loggerheads** for weeks, unable to agree on the direction of the project.

- a) To work harmoniously
- b) To ignore each other completely
- c) To be unaware of each other's opinions
- d) To be in a heated argument

37. They **were at cross-purposes** during the meeting, each thinking the other was talking about a different issue.

- a) To completely agree
- b) To have conflicting schedules
- c) To misunderstand each other
- d) To reach a consensus

38. She found out he was **two-timing her** when she saw him with another woman at the restaurant.

- a) To help someone without their knowledge
- b) To manipulate someone's feelings
- c) To work with someone secretly
- d) To deceive someone romantically

39. He **kept his emotions at bay**, not letting his fear show during the interview.

- a) To exaggerate one's feelings
- b) To express openly
- c) To suppress or restrain
- d) To ignore completely

40. Although she lives in a bustling city, she prefers **to keep herself to herself** and avoids social gatherings.

- a) To seek attention constantly
- b) To be reserved and private
- c) To host frequent events
- d) To be very social

**Answer Key:**

- 21. b) To have a snobbish and superior attitude
- 22. b) To act superior and condescending
- 23. c) An important and respected member
- 24. c) A valuable person despite a tough exterior
- 25. b) Homeless and destitute individuals
- 26. a) A person with high ambitions and achievements
- 27. b) Young and innovative individuals
- 28. c) A rising star with potential
- 29. c) Influential and important people
- 30. c) The one who stands out as different
- 31. c) Favored and appreciated by someone
- 32. b) To become friends quickly
- 33. c) To apologize and compensate
- 34. b) To develop a liking for someone
- 35. b) To have a tender affection for someone
- 36. d) To be in a heated argument
- 37. c) To misunderstand each other
- 38. d) To deceive someone romantically
- 39. c) To suppress or restrain
- 40. b) To be reserved and private

**Section 3: Scenario-Based Questions**

**Read the scenario and choose the idiom that best fits in questions 41 to 50.**

41. After losing his job, John found himself struggling to afford basic necessities and had to

rely on food banks and charities. Which idiom best describes John's situation?

- a) living in the lap of luxury
- b) being on the breadline
- c) being well-heeled
- d) spending money like water

42. Even though they had to move to a smaller house, their new place had every modern convenience and was decorated with expensive furnishings. Which idiom best describes their living conditions?

- a) living in the lap of luxury
- b) tightening their belts
- c) being on the breadline
- d) spending money like water

43. Susan's family is very wealthy, so she never had to worry about money while growing up.

Which idiom best describes Susan's family?

- a) being on the breadline
- b) tightening their belts
- c) being well-heeled
- d) being a rip-off

44. Despite earning a modest salary, Mary tends to buy expensive clothes and dine at high-

end restaurants frequently. Which idiom best describes Mary's spending habits?

- a) paying through the nose
- b) spending money like water
- c) being a money spinner
- d) tightening her belt

45. Due to the economic recession, the company had to reduce its expenses significantly,

cutting down on bonuses and travel costs. Which idiom best describes the company's actions?

- a) spending money like water
- b) tightening its belt
- c) living in the lap of luxury
- d) being on the breadline

46. He invested in a tech startup at just the right time and made a huge profit when it was

sold. Which idiom best describes his financial gain?

- a) making a killing
- b) being a rip-off
- c) being on the breadline
- d) making a small fortune

47. The new product turned out to be very popular and generated substantial profits for the

company. Which idiom best describes the product?

- a) being a rip-off
- b) being a money spinner
- c) tightening its belt
- d) paying through the nose

48. She was shocked by how much the repairs to her car cost; it was much more than she

expected. Which idiom best describes her situation?

- a) making a killing
- b) living in the lap of luxury
- c) paying through the nose
- d) being well-heeled

49. He saved up for years to afford a down payment on his house, and it still cost him a significant amount of money. Which idiom best describes the amount he paid?  
a) being a rip-off  
b) being a small fortune  
c) being on the breadline  
d) tightening his belt

50. The concert tickets were extremely overpriced, and many fans felt they were not worth the cost. Which idiom best describes the tickets?  
a) being a money spinner  
b) being a small fortune  
c) being a rip-off  
d) making a killing

**Answer Key:**

41. b) being on the breadline  
42. a) living in the lap of luxury  
43. c) being well-heeled  
44. b) spending money like water  
45. b) tightening its belt  
46. a) making a killing  
47. b) being a money spinner  
48. c) paying through the nose  
49. b) being a small fortune  
50. c) being a rip-off

*Note:* The researcher generated preliminary test items with the help of ChatGPT 4.0 (OpenAI, 2024). The final version of test items is created following a thorough revision of the researcher and two experts from Ufuk University English Language Teaching department.

## APPENDIX-C. Games Used in Game-Based Instruction Lessons

Figure B1

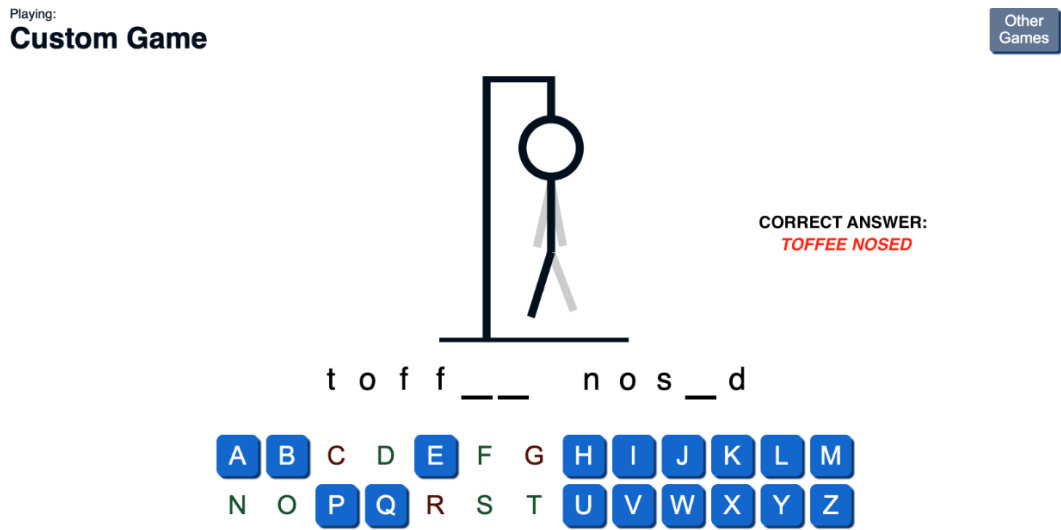


Figure 1: Idiom Hangman Game

*Note:* This Hangman game is created by the researcher by using the online tool available at <https://www.hangmanwords.com/create>

Figure B2

IDIOM	IDIOM	IDIOM
Face the music	Put one's foot in it	Left holding the baby
TABOO WORDS	TABOO WORDS	TABOO WORDS
Consequence	Embarrass	Responsible
Reality	Mistake	Alone
Punishment	Awkward	Blame

Figure 2: Idiom Taboo Game Cards

*Note:* Custom idiom taboo cards are created by the researcher and utilized in lessons for every idiom.

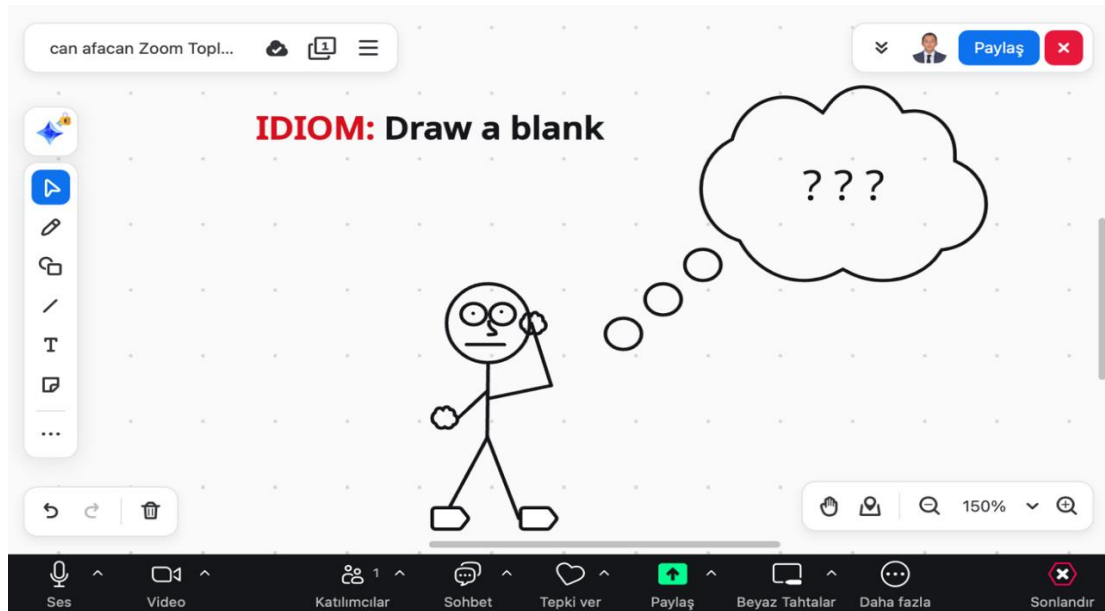
**Figure B3**



**Figure 3: Kahoot Game Used in the Study**

*Note:* This screenshot was taken from the Kahoot created by the researcher for this study (<https://kahoot.com/>).

**Figure B4**



**Figure 4: Drawing & Guessing Game**

*Note:* This image was taken from the game utilized by the researcher via Zoom Whiteboard.

## APPENDIX-D. Non-Game-Based Group Worksheet

### Part 1: Matching Idioms and Definitions

Match every idiomatic expression with the accurate definition given.

1. Come up against a brick wall ( )
2. Put my foot in it ( )
3. In dire straits ( )
4. Dug myself into a hole ( )
5. Spread oneself too thin ( )
6. Left holding the baby ( )
7. Over a barrel ( )
8. Clutching at straws now ( )
9. Draw a blank ( )
10. Face the music ( )

- a) To be obliged to face with a problem alone, particularly when others should have supported.
- b) To embrace the negative consequences for anything you did.
- c) To try to accomplish too much stuff simultaneously, with the consequence that you cannot focus on any of them.
- d) To be unable to get information or a response that you want.
- e) Not to make any progress because there is something that stops you.
- f) To say something accidentally that makes someone feel unhappy or embarrassed.
- g) Trying to find any way for being successful when not anything you do works.
- h) In a negative or challenging condition.
- i) To get yourself into a challenging circumstance that is difficult to run away from.
- j) In a helpless situation in which you don't have any option except for agreeing with another individual's conditions.

### Part 2: Gap Filling

Choose the most suitable idiomatic expression to complete the sentences below.

1. In spite of our trials, we \_\_\_\_\_ while trying to get the approval for our project.
2. I really \_\_\_\_\_ when I talked about her former husband at the party.
3. After their business became unsuccessful, they were \_\_\_\_\_ and didn't know how to catch up with their bills.
4. By promising to help all the people around me, I have \_\_\_\_\_ and now can't meet my own deadlines.
5. When the other members of her team quit, she was \_\_\_\_\_ to complete the project by herself.
6. The owner of the house had us \_\_\_\_\_, as she knows we had no other alternative place to move in.
7. After the loss of our crucial data, we were \_\_\_\_\_, as we tried any possible way to get it back.
8. I put all my effort on recalling the correct answer during the exam; however, I \_\_\_\_\_.
9. Eventually, he had to \_\_\_\_\_ and admit his failure to the manager.

10. By taking on too much work, he \_\_\_\_\_ which resulted in the situation that he can't continue anymore.

### Part 3: Multiple Choice Questions

Choose the best option with the correct idiom to finish the sentences.

1. As we ran into an unexpected issue, it made us feel as if we \_\_\_\_\_.
- a) spread ourselves too thin
  - b) came up against a brick wall
  - c) faced the music
  - d) put our foot in it
2. When all the people stopped chatting and stared at her, she noticed that she had \_\_\_\_\_.
- a) clutched at straws
  - b) dug herself into a hole
  - c) put her foot in it
  - d) drawn a blank
3. Because he lost his job and had a lot of debt, he was \_\_\_\_\_.
- a) in dire straits
  - b) left holding the baby
  - c) over a barrel
  - d) spreading himself too thin
4. By accepting four tasks at the same time, she \_\_\_\_\_.
- a) faced the music
  - b) spread herself too thin
  - c) dug herself into a hole
  - d) drew a blank
5. He was \_\_\_\_\_ with all the responsibilities when his business partner left him.
- a) clutching at straws
  - b) left holding the baby
  - c) over a barrel
  - d) in dire straits

#### **Part 4: True/False Questions**

Indicate whether each statement is true or false.

1. You are in a very comfy and safe condition if you are "in dire straits,".
2. To "put your foot in it" means to accidentally utter a word which embarrasses or upsets another person.
3. When you "draw a blank," you easily remember the piece of information you are looking for.
4. If you "spread yourself too thin," you take on too many tasks and can't handle them all well.
5. Being "over a barrel" means you are very strong in terms of negotiating with the opponent.
6. "Clutching at straws" means trying solutions with low likelihood because you are desperate.
7. To "face the music" means to face with the negative outcomes of what you did.
8. If you are "left holding the baby," you are supposed to find a solution to a problem on your own.
9. "Digging yourself into a hole" means creating a challenging circumstance for yourself.
10. "Coming up against a brick wall" means finding an easy way to move on.

#### **Part 5: Discussion Questions**

Discuss the questions below with your classmates.

1. How do you react when you have a problem at work/school?
2. What are the best ways to approach problems?
3. Is it important to think about potential problems in advance? Why?
4. What was the biggest problem that you faced and managed to solve?
5. Who is the best problem solver you have ever known? Why?

## **ANSWER KEY**

### **Part 1: Matching Idioms and Definitions**

1. e
2. f
3. h
4. i
5. c
6. a
7. j
8. g
9. d
10. b

### **Part 2: Gap Filling**

1. came up against a brick wall
2. put my foot in it
3. in dire straits
4. spread myself too thin
5. left holding the baby
6. over a barrel
7. clutching at straws
8. drew a blank
9. face the music
10. dug himself into a hole

### **Part 3: Multiple Choice Questions**

1. b) came up against a brick wall
2. c) put her foot in it
3. a) in dire straits
4. b) spread herself too thin
5. b) left holding the baby

### **Part 4: True/False Questions**

1. False
2. True
3. False
4. True
5. False
6. True
7. True
8. True
9. True
10. False

## APPENDIX-E. Consent Form

### BİLGİLENDİRİLMİŞ ONAM FORMU (Gönüllü Katılım Formu)

Sayın Katılımcı,

Bu çalışma Can Afacan tarafından, Ufuk Üniversitesi İngiliz Dili Eğitimi bölümü yüksek lisans tezi kapsamında yürütülen bir araştırmadır. Bu çalışmanın amacı; yetişkin Türk öğrencilerin İngilizce deyimleri öğrenim sürecinde oyun temelli ve oyun temelli olmayan yaklaşımlarının karşılaştırmalı etkisini araştırmaktır.

Sizden çalışma süresince kimliğinizi belirleyici bilgi istenmeyecektir. Toplanan veriler sadece araştırmanın amacına uygun olarak bilimsel açıdan kullanılacak ve gizli tutulacaktır. Araştırmada siz katılımcıların fiziksel ve ruh sağlığını olumsuz etkileyecek ve risk içerecek hiçbir kısım bulunmamaktadır. Ancak herhangi bir nedenden dolayı rahatsızlık hissederseniz, araştırmayı istediğiniz anda bırakabilirsiniz.

Bu çalışmaya katılmayı kabul edebilir, reddedebilirsiniz ayrıca araştırmaya ilişkin merak ettiğiniz noktaları dilediğiniz zaman araştırmacıya sorabilirsiniz. Araştırmaya katılmayı kabul ettiğiniz takdirde İngilizce deyim bilginizi ölçen ön teste, 5 hafta boyunca toplam 10 ders saati sürecek çalışmaya, sonrasında uygulanacak son teste katılmanız, bu araştırmanın geçerli olabilmesi için önem taşımaktadır.

Çalışma ile ilgili herhangi bir bilgi almak isterseniz, aşağıdaki elektronik iletişim adresinden ulaşabilirsiniz.

Araştırma Sorumlusu:

Dr. Öğr. Üyesi Gülşen DEMİR

Araştırmacı:

Can AFACAN

Katılımınız ve ayırdığınız vakit için şimdiden teşekkür ederiz.

**Katılımcı Beyanı:**

Araştırma ile ilgili yukarıdaki bilgiler bana aktarıldı. Çalışma hakkında yazılı ve sözlü açıklama aşağıda adı belirtilen araştırmacı/araştırmacılar tarafından yapıldı. Bana yapılan tüm açıklamaları ayrıntılarıyla anlamış bulunmaktayım. Verdiğim bilgilerin bilimsel amaçlı yayınlarda kullanılmasını kabul ediyorum. Bu araştırmada 'katılımcı' olarak yer alma kararını aldım.

İsim Soyisim:

İmza:

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