THE EFFECT OF GAME-BASED ACTIVITIES ON EFL VOCABULARY LEARNING

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JÜRİ VE ENSTİTÜ ONAYI

ABSTRACT

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[redacted]

Department of Foreign Language Education, Programme in English Language Teaching Anadolu University, Graduate School of Educational Sciences, June 2022

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Numerous studies have been conducted demonstrating the value of game-based vocabulary learning; however, a majority of them have examined digital games. This study endeavors to investigate the effects of three non-digital vocabulary card games on EFL students' vocabulary learning and explore students' and teachers' perspectives of these games at the English preparation school program of a Turkish public university. In order to see the effects of the game-based learning activities on the vocabulary learning of Turkish prep school students, a quasi-experimental mixed-methods research design was implemented. First, a pilot study was carried out during the 2018-2019 spring semester with students at the intermediate proficiency level. In the following semester, the research design was applied to intermediate students pursuing language-related majors. There was an experimental (n = 53) and a control group (n = 55) where the experimental group played three English games adapted by the researcher during their main course lessons. Data was collected via participant pre- and post-tests, a participant questionnaire, and interviews with the instructors who administered the games. There was a significant difference in the scores for the experimental (M=3.96, SD=4.719) and the control (M=.58, SD=2.671) groups; t (106)=4.603, p=.000. The experimental treatment resulted in a higher increase of vocabulary size. The results of the study showed that this game-play has a positive effect on vocabulary acquisition with students in the target demographic, and both instructors and students had a largely positive perspective of these games.

Keywords: EPI, Game-based learning, Gamification, LANG

ÖZET
OYUN TEMELLİ ÖĞRENİMİN SÖZLÜK EDİNME ÜZERİNE ETKİSİ

[redacted]

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Oyun tabanlı sözcük öğreniminin önemini gösteren çok çeşitli çalışma yapılmış olmakla birlikte bunların çoğu dijital oyunlardan oluşmaktadır. Bu araştırma, üç farklı dijital olmayan kelime kartı oyununun, Türkiye'deki bir devlet üniversitesinin yabancı dil hazırlık okulunda İngilizceyi yabancı dil olarak öğrenen öğrencilerin sözcük öğrenimi üzerindeki etkisini araştırmayı ve öğrencilerin ve öğretmenlerin bunların kullanıma ilişkin görüşlerini incelemeyi amaçlar. Oyun tabanlı öğrenme aktivitelerinin Türk yabancı dil hazırlık sınıfı öğrencilerinin kelime öğrenimi üzerindeki etkilerini görmek amacıyla yarı deneysel karma araştırma deseni kullanılmıştır. Öncelikle, oyun tabanlı öğrenmenin orta seviye İngilizce öğrencileri üzerindeki etkisini görmek için 2018-2019 bahar döneminde bir pilot çalışma gerçekleştirilmiştir. Bir sonraki yarıyılda, araştırma tasarımı, dil ile ilgili ana dalları takip eden orta seviyedeki öğrencilere uygulanmıştır. Çalışmada, araştırmacı tarafından geliştirilen üç farklı oyunu oynayan deney grubu (n = 53) ve kontrol (n = 55) grubu bulunmaktadır. Veriler, katılımcıların ön ve son testleri, katılımcı anketi ve oyunları yöneten öğretmenlerle yapılan görüşmeler yoluyla toplanmıştır. Deney grubu (Ort = 3.96, SS = 4.719) ile kontrol grubunun (Ort = .58, SS = 2.671) puanları arasında istatistiksel olarak anlamlı bir fark bulunmuştur; t (106) = 4.603, p = .000. Deneysel uygulama sözcük dağarcığında daha yüksek bir artışla sonuçlanmıştır. Çalışmanın sonuçları, oyun oynamanın hedef demografideki öğrencilerle kelime kazanımı üzerinde olumlu bir etkiye sahip olduğunu ve hem eğitmenlerin hem de öğrencilerin bu oyunlara büyük ölçüde olumlu bir bakış açısına sahip olduğunu göstermektedir.

Anahtar Sözcükler: EPI, LANG, oyunlaştırma, oyun tabanlı öğrenme

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STATEMENT OF COMPLIANCE WITH ETHICAL PRINCIPLES AND RULES

I hereby truthfully declare that this thesis is an original work prepared by me; that I have behaved in accordance with the scientific ethical principles and rules throughout the stages of preparation, data collection, analysis and presentation of my work; that I have cited the sources of all the data and information that could be obtained within the scope of this study, and included these sources in the references section: and that this study has been scanned for plagiarism with the "scientific plagiarism detection program" used by Anadolu University, and that "it does not have any plagiarism" whatsoever. I also declare that, if a case contrary to my declaration is detected in my work at any time, I hereby express my consent to all the ethical and legal consequences that are involved.

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CHAPTER 1

1. INTRODUCTION

While learning incidentally through immersion may be the superior method for language learning, not every learning has access to the level of immersion that would be necessary for them to learn in this way (Krashen, 1981). For this reason the language classroom becomes a necessary tool for students to gain access to comprehensible input. It can therefore be said that "language teaching is most efficient for students who have no other source of comprehensi- ble input, that is, foreign language students who have no chance to interact with speakers of the target language" (1981, p. 75).

Vocabulary learning is an integral part of foreign language education (Alquhtani, 2015). Lack of sufficient vocabulary knowledge can create a difficult obstacle to learning. Therefore vocabulary competency is a vital step to reaching communicative competence (2015). High-frequency vocabulary learning needs to be prioritized by both teachers and learners (Nation, 2001). While learning low-frequency words is also important, different strategies can be used to deal with this obstacle more effectively. Nation (2001) suggests several strategies such as teaching students to guess from context clues, using word parts, using vocabulary cards and dictionaries. Rather than spending a lot of class time just to memorize low-frequency words, it is more meaningful to focus on training students in strategies such as these. In order for this to happen, language teachers need to familiar with strategies and methodologies so that they can be ready to put theory into practice (Nassaji, 2000). As previously mentioned by Nation (2001), one important strategy that students need to learn is how to infer meaning from context (Nassaji, 2006). However, before language learners are able to easily infer from context, it is necessary for them to have a basic level of vocabulary as a foundation. To get to a place of incidental learning Huckin and Coady (1999) state that a solid vocabulary based is needed first.

Games hold the potential for providing an engaging and competitive format for this necessary vocabulary acquisition. Regarding educational games, this research is concerned primarly with two key terms, game-based learning and gamification. These two concepts are two sides of the same coin. Game-based learning uses games to enhance learning whereas gamification takes learning and adapts it with game-like elements. (Al-Azawi et al., 2016).

While gamification, "as a term originated in the digital media industry" is most closely associated with digital games (Deterding et al. 2011a, p. 9), in need not be limited

to only that context (Plass et al., 2015). That being said, much of the available research on game-based learning and gamification has been conducted on digital games. For example, in their handbook of game-based learning, Plass et al. (2020, p. iv) limit their definition of game-based learning to "academic learning from playing computer games". Yet research shows that there are also many benefits to non-digital games. For instance, they escape obstacles that come from poor internet service (Franciosi et al., 2016). Furthermore some students have a preference for simpler flashcard style games over digital systems (Zimmerman & McMeekin, 2020). Flashcards also fit well with Nation's (2001) recommendations on learning strategies.

This research looks at three games which have been developed, and their effect on vocabulary acquisition. For the purpose of this study, "games" are defined as fun and competitive activities. Three educational vocabulary games were developed for this study. The purpose of this study is to determine the effect of these three vocabulary games on students' vocabulary acquisition, and learn students' and instructors' perceptions of these games. The development and analysis of these games may also provide students with a fun and beneficial method for vocabulary learning in the future.

1.1. The Rationale of the Study

There are many reasons why it is important to do research on the topic of game-based learning and vocabulary acquisition. Vocabulary acquisition and learning strategies are crucial for L2 learning (Baharudin & Ismail, 2014). It is important for EFL instructors to facilitate vocabulary acquisition of their students by providing them with effective learning practices (Boyd et al., 2012). Games have both extrinsic and intrinsic benefits (Group Dynamics, 2017), and can aid students in the learning process (Fang-Chen & Chang, 2016). Instructors need to learn to incorporate EFL games into their language teaching (Chik, 2013), and learn specifically how their own students respond to these EFL games. The reason for this is because students' perceptions and preferences can differ based on different qualities, such as culture (Hammer & Davidson, 2017), and gender (Sundqvist & Sylvén, 2012).

Research by Buckley et al. (2017, p. 9) "suggests that gamified learning interventions suit some students and their learning styles better than others." Therefore it is not enough just to develop quality games. It is imperative to work to determine which

games are most suitable for which students. By doing so students can be set up for success and learn in a strategic way.

1.2. Statement of the Problem

There is still a great need for more research on the connection between education and entertainment, in terms of both the positives and the negatives (Goktuna Yaylacı and Yaylacı, 2016). Dicheva et al. (2015, p. 83) states that there is still a scarcity of empirical studies on the incorporation of "game elements in learning environments." However, they also add that there is a general consensus that "gamification has the potential to improve learning if it is well designed and used correctly." For this reason, they assert that more research is needed.

Especially in higher education, studies on gamification are rare. Buckley et al. (2017) stated that, while there is a lot of potential for gamification at this level, there is a need for more investigation. While a large percentage of the game research done recently concerns digital games, these can be overly reliant on stable internet connections which may not always be available. Franciosi et al. (2016) found that unstable bandwidth and internet connections were a great source of frustration for participants. Non-digital games, such as those in this study, are immune to such problems. Furthermore, Zimmerman and McMeekin (2020) stated that some students prefer simpler learning systems such as flash cards to more complex games systems. This gives merit to this researcher's investigation of games that are built simply on flashcard style game cards.

1.3. Aims of the Study

The focus of this research is to determine the effect of the three target games on students' vocabulary acquisition. The term acquisition is used here as the students are acquiring the vocabulary while using the words in context through independent group play, rather than learning from a textbook or from their teachers. While this learning may not be 100% incidental, Huckin and Coady (1999) state that it is not possible for acquisition to be 100% incidental, but depending on the task different levels of exposure, strategies, and interactivity are needed. To this end, three games were applied in student classrooms. Pre- and post-tests were also applied at the beginning and end of the experiment, in order to determine the participating students' retention of the acquired vocabulary. This study also seeks to determine the perspectives of both students and

instructors regarding these games. Therefore, student questionnaires and instructor interviews were also carried out in order to explore their impressions of the games and to receive feedback.

Even though a lot of research has shown the benefit of educational games (Shah & Foster, 2014), that does not automatically translate to them being utilized. However strategic game development can result in a valuable too with a positive effect on learners, including their vocabulary learning, motivation, and enjoyment among many other benefits (Alevi 2020; Gamlo, 2019; Wei et al., 2018). It is hoped that by developing effective vocabulary games, this study may provide students with a simple yet enjoyable method of vocabulary acquisition. By eliciting both student and instructor feedback, the final goal of this study is to finetune these vocabulary games in such a way that allows them to be effortlessly and strategically integratable in EFL classrooms.

1.4. Background of the Study and Research Questions

In the currect study three vocabulary games were developed by the researcher by adapting existing games (Apples to Apples, Blurt, and Bowls), and creating vocabulary cards with target words from the students' curriculum. These games are explained further in the methodology section. In order to examine the effects of these games the following research questions were chosen.

1. What is the effect of game-based activities on the learning of target vocabulary?

2. What are students' perceptions of the target vocabulary games used in the classroom?

3. What are instructors' perceptions of the target vocabulary games used in the classroom?

1.5 Significance of the study

This research design is significant in that it not only fills a gap in the literature, but also develops a valuable tool for students and teachers in the language learning classroom. While there is a lot of research available on games, almost all of this research has been done on digital games. What is not digital is nearly always specialized for younger learners. Therefore, there is a need for more research that explores the benefits of non-digital games on adult learners.

The second reason this study is significant is it adapts popular games to be used as an effective tool in the language classroom. By creating materials that can be directly accessed, it gives instructors a way to easily acquire materials that might not always be available. One of the challenges unique to non-digital games is that unlike digital games which can typical be downloaded immediately from the internet, anywhere in the would, non-digital games are much more difficult to access. Therefore the production of these game materials meet an existing need.

1.6 Limitations

One limitation of this study was the nature of the English prep school program that the participants were enrolled in. Because the classes were mixed up every quarter, the experiment had to be completed by the end of the quarter, or else the participants would be re-distributed. Further studies on more long-term effects of these games could be useful, if this experiment could be applied on the same participants for a full semester, or even a year.

Another limitation of this study was the personal motivation and the consistency of the participants. As much as it was in the control of this study, an attempt was made to ensure that the students participated fully, yet it proved impossible to ensure that students were always trying their hardest. Furthermore, some students were unable to complete all components of this study, and were consequently omitted from the statistical data analysis. As students have a right to a certain number of absences and exercised that right in the process of the study, this was another aspect that could not be controlled.

The number of vocabulary word cards was another limitation. Because the game Apples to Apples required a large number of cards, when the total number of cards in the deck were reduced after the pilot, they could only be reduced to a certain point. However, that limited the amount of repetition that would occur during the other two games, and since the cards were randomly selected, students may have seen some of the same words many many times, while have some words that they were not exposed to at all.

The difficulty of the target words is another limitation. Because words that students in the pilot had previous exposure to were eliminated from the target word list, the remaining words were often obscure. The tests were even more difficult because the scope of this study was to check active retention where the students had to answer the meaning of each word without any options to choose from.

Another limitation is that while the aim was to have the students communicate entirely in English during the course of these games, they would sometimes revert to L1. As they were engaged in small group self-led play, that was not something that could be completely controlled. In order to make sure that the majority of the target words were being learned for the first time, vocabulary that was much more advanced than the students' level, and that the students had a low chance of previous exposure to, was selected. However, this led to the inevitability of participants finding some words difficult and obscure. While it may have been beneficial to receive feedback from more instructors, because there were a limited number of classrooms in the highest language level, it could not be achieved. Further research could shed more light on instructors' perceptions of these games.

CHAPTER 2

2. LITERATURE REVIEW

The theoretical background of this study is primarily concerned with two core concepts. The first is vocabulary acquisition. This section will explore the meaning of vocabulary acquisition and the steps and strategies that promote it. The second is game-based learning. This section will look at the way game-based learning is defined, how it has been used and benefits of learning through games.

2.1. Theoretical Background

This chapter of the study examines and reviews the theoretical background and literature relating to Vocabulary learning and acquisition, gamification, game-based learning, and edutainment.

2.1.1. Vocabulary Acquisition

Acquisition is defined by Cho and Krashen in this way: “Acquisition technically means the subconscious absorption of language from comprehensible messages” (1994, p. 664). This implies that for a language to be learned through acquisition it must occur incidentally, rather than through rote methods such as memorization. Krashen’s (1981, p. 73) Input Hypothesis states that:

1. We acquire (not learn) language by understanding input that contains structures that ate just beyond our current level of competence (i + 1).
2. Speech is not taught directly, but "emerges" on its own. Early speech is typically not gammatically accurate.
3. If input is understood, and there Is enough of it, i + 1 is automatically provided. We do not have to deliberately program grammatical structures into the input.

Krashen (1981) develops this concept further with his Effective Filter Hypothesis. This hypothesis examines the role of variables such as personality and motivation on second language acquisition. Self-confidence, motivation, and anxiety can all have major effects on language acquisition. Krashen (1981, p. 74) claims that “People acquire second languages when they obtain comprehensible input and when their effective filters are low enough to allow the input in.” This means that the sole causative variable for second language acquisition is comprehensive input. However teaching can aid in this process by providing comprehensive input. While immersion may be a more effective method for

language learning, not all students have access to it. Therefore, for many students language teaching is vital to their learning.

It is important to note that incidental acquisition cannot be 100% incidental, as it is necessary for learners to pay some level of attention to individual words (Huckin and Coady, 1999). That level of attention required depends on various factors, including task demands. While it is known that incidental learning takes place over time, there is no agreement on how much exposure is needed for successful acquisition. It is noted though, that for acquisition to be successful, good strategies are needed. Some of these can occur naturally, but others do need to be taught. Input modification can be helpful, especially so when learner interactivity is involved. One challenge to be aware of is that the guesswork required for incidental learning can lead to problems such as imprecision and misrecognition. For these problems to be overcome, Huckin and Coady (1999) state that it is important for learners to have a solid vocabulary base, 5,000-10,000 word families for university students, as well as some level of instruction.

In the English language, there are fewer than 58,000 base words available for creating vocabulary tests. Most of these are not known by native English speakers. Average educated native English speakers likely have vocabulary sizes of about 17,000 base words which have been acquired at a rate of 2-3 words a day. Therefore, it is feasible for non-native speakers to use different strategies to acquire vocabulary at a faster rate than native speakers (Goulden et al., 1990). While studies that examine native speakers' large vocabulary may seem to imply that second language learners need to have a great number of words learned in the target language, that may not be a necessary goal in the short-term. While studies examining the vocabulary growth of native speakers focus on the growth by number, not all vocabulary words are of equal value (Schmitt, 2002). To that end the current study limited the target words to vocabulary found in the students curriculum.

Vocabulary teaching requires careful teaching (Nation, 1994). Through careful planning, opportunities and the quality of learning can be greatly improved. Nagy (1988) put forth three properties of vocabulary instruction: integration, repetition and meaningful use. Effective vocabulary instruction integrates words with other knowledge. This emphasis comes from schema theory which Nagy categorized in 2 main points. Firstly "that knowledge is structured – it consists not of lists of independent facts, but of sets of

relationships," and secondly "that we understand new information by relating it to what we already know." (p. 10)

The second property is repetition. This is based on the bottleneck hypothesis (Perfetti & Lesgold, 1979). Tools such as rapid access to word meanings and prior conceptual structures can help relieve the cognitive load on learners. It is not enough for students to memorize the meaning of a word. They need repetition and sufficient practice as well (Nagy, 1988). Similarly, according to Smith (2008), "giving frequent opportunities for hearing, speaking, and writing in the typical context of the day is more beneficial to students than lists of vocabulary words to be tested on" (p. 1).

The third property is meaningful use (Nagy, 1988). "Effective vocabulary instruction helps the learner to use the instructed words meaningfully." (p. 24) Active involvement has a great positive impact on vocabulary learning. "Depth of processing" is also key. "The more deeply some information is processed, the more likely it is to be remembered" (p. 24). When students are required to process a word meaningfully and are engaged in higher level processing skills, specifically productive skills, this form of learning will be much more effective than learning that does not engage in deep processing.

> In order to understand academic words, pure memorization is insufficient.
>
> Rather, it is repeated exposure to these words and opportunities to practice using them in authentic contexts that allow students to own these words and use them with facility in the contexts in which they both garner and support meaning of technical or theoretical ideas (Nagy et al., 2012, p. 96).

Regarding context, Franciosi (2017) suggested that visuals and other non-linguistic sensory information may support vocabulary learning if used appropriately and in moderation. Franciosi also stated that when words are connected to a problem-solving scenario, learners recall them more readily.

According to Baharudin and Ismail (2014), vocabulary acquisition is crucial for second language learning. The facilitation of vocabulary learning is vital. According to the researcher, strategies are always being used when one learns vocabulary. This research study examines students' levels of vocabulary learning strategies along with their Arabic vocabulary level and the relationship between their strategy used and vocabulary size. The questionnaire was developed by the researchers by taking pre-existing questionnaires and translating them. Eight extra items were added to the questionnaire. The questionnaire was put through the validity and reliability process and piloted. A test

of Arabic Vocabulary was applied to test participants' vocabulary level. Seven hundred forty-two pre-university students participated in this study. Results showed that there was an overall moderate level of vocabulary strategy use among the participants. Additionally, results showed that there is a strong correlation between vocabulary size test results and vocabulary strategy use. The researchers concluded that implicit teaching of vocabulary learning strategies is not enough. These strategies must also be explicitly taught.

Nassaji (2003) puts forth 5 important knowledge sources and strategies for for making lexical inference. This is an important skill for language learners as they interact with and try to learn new vocabulary. The first is grammatical knowledge. By using knowledge of word forms, learners can infer meaning about unknown words. The second is morphological knowledge which allows learners to use aspects of words such as suffixes to infer meaning. The third is world knowledge which involves using knowledge of a topic or content to read beyond what a text directly says. The forth is L1 knowledge. Cognates and other other similarities between the mother tongue and the target language can aid in inferences. Finally there is discourse knowledge. Using relationships between ideas in a texts can be a useful strategy in inferring the meaning of unknown words.

A research study by Coxhead and Nation (2015) laid a framework for what vocabulary size is. There are many factors that affect vocabulary size. The participants of the study were 243 teenaged students from eight schools in New Zealand. Data was collected via two versions of the Vocabulary Size Test. This test included 100 items created from the British National Corpus. Results showed a general vocabulary increase that correlated with age. Data suggested that age is a better indicator of vocabulary size than school year. Due to inhomogeneity of variances between the groups, the results were analyzed via a robust ANOVA. In cases where there were more than two groups, Games-Howell Post-Hoc tests were also performed. Regarding gender, the results found no gender differences in vocabulary size. While there was not a clear and uniform increase in vocabulary based on participants' grades in school, the results did however show an increase in vocabulary size based on age.

Gu and Johnson (1996) warned that while memorizing strategies can and typically are used for vocabulary learning, memorization divorced from context is useless. For vocabulary learning to be of any value not only is there a necessary threshold of L2 skills, but the vocabulary should also be “integrated into discourse.” Nation (1994) also echoed

this need for learners to have a decent level of control of high frequency vocabulary in order to begin learning lower frequency words.

Thornbury (2002), put forth a number of implications for vocabulary learners. Firstly, it is important for learners to be actively involved in their learning. Furthermore, they need repeated exposure to words in order to learn them. Word associations are important for learners. Additionally, these words can be reinforced if they are used in a way that is meaningful to them personally. It is also necessary for learners to gradually become less dependent on L1 to L2 translation when learning new words.

One method which can be used to learn vocabulary is game-based learning. Game-based learning has been shown to be an effective method in manpy areas of education which includes vocabulary learning (Wei et al., 2018; Gamlo 2019). Not only does it help students to learn more, but it also improves the learning experience (Gamlo, 2019; Alevi 2020). For these reasons game-based learning has both realized value and further potential in the area of vocabulary learning.

2.1.1.1. Empirical Studies on Vocabulary Learning and Acquisition

In order to evaluate the efficacy of vocabulary learning strategies, it is necessary to be able to measure students' vocabulary effectively. A study by Zhang (2013) examined the "I don't know" option in the Vocabulary Size Test. The participants included 150 first year students at a Chinese University. Data was collected through three versions of the Vocabulary Size Test (VST). Version 1 was the original version of the VST, Version 2 added a fifth option of "I don't know", and Version 3 added the "I don't know option" along with a penalty for wrong answers. A reading comprehension task and meaning recall task were also administered. Students were randomly assigned to three groups of 50 students, each taking a different version of the VST. All groups took the test on the computer, and the test was scored automatically. Following the test, all participants finished the reading comprehension task and the recall task. Results indicated that learners have a high chance of getting the right answer on multiple choice questions, even when the answer is only partly known. The researchers also found that the "I don't know option" affects guessing behaviors. Having this option was found to discourage partial knowledge guesses. In group three, which was penalized for incorrect answers, the smallest occurrence of random guesses was found. An additional benefit of the "I don't know option" was that it reduced the amount of time needed to conduct the test.

In another study that examined vocabulary learning via different vocabulary testing methods (Lu, 2013), 122 students from two classes in a Taiwanese high school were assigned to four different conditions: writing a summary, completing triple blank-filling exercises (where participants were given three sets of nine separate sentences in which they had to fill in the blanks), completing one blank-filling exercise, and filling out the blanks in the summary. Students were given a reading passage, a vocabulary glossary, and a worksheet for their respective conditions. The researcher screened out untaught words from the reading and confirmed that they were unknown via a pre-test. The glossary included the English meaning, Chinese translation, part of speech, and two example sentences. The first phase in the intervention was the pre-test. It was followed by reading the instructions and treatment. Finally, there was a post-test and questionnaire. While results showed that all four tasks had positive effects on vocabulary learning, the triple blank-filling task yielded the best results. However, this treatment did not always outperform the other tasks in the delayed post-tests. Based on this research, it is recommended that teachers offer sufficient exercises for learners and design a memory schedule to prevent forgetting. This is relevant to the current study, which implements repeated game treatments to allow for repeated exposure to target words.

Giving further insight on game-based vocabulary learning in their study on multimedia game and vocabulary learning, Ghanbaran and Ketabi (2014) examined various aspects of vocabulary acquisition. These included incidental learning versus intentional learning, significance of vocabulary, different aspects of vocabulary knowledge, studies on vocabulary acquisition, and multimedia games and vocabulary development. Games are a key way to learn new vocabulary. One of the reasons that games are beneficial for vocabulary learning is that they are low pressure. According to the article, current studies on this issue are limited, but future research looks promising. The current study endeavors to add further insight on this topic.

Digital learning, including game-based learning apps, is constantly developing. As technology progresses, computer-assisted language learning is being replaced by the now more common mobile-assisted language learning (MALL). Niño (2015) examined students' usage of MALL and their perceptions of its usefulness and potential classroom integration along with future implications. In order to collect data, a survey for students studying language at the University of Manchester was conducted. There were 252 respondents. In answer to the first question, an almost equal number of participants

indicated that they used mobile apps to support language learning often, sometimes, and never. In answer to the second question, the majority of the participants have used mobile apps. Regarding language learning, the highest number of positive responses indicated that participants used their phones to look up words, phrases and idiomatic expressions and to translate words/phrases that they do not understand or are learning. Participants found mobile apps most useful for increasing vocabulary. Participants indicated dictionaries and concordances as useful for independent language learning, along with translation apps, language practice apps, and Flashcard applications such as Quizlet. Various other apps were also noted. While this research is limited by only using one form of data collection, it is valuable in that it has a huge sample size. Another strength of this research is its examination of pedagogical implications. Also, there is a lot of value in this research since this is a relatively new research topic, and there is a noticeable lack of studies on this topic.

In another research regarding digital learning, in his analysis of four articles on digital games, Mayer (2015) concluded that it is necessary for research on digital games to go beyond untested claims, descriptions, and broad perspectives. It is necessary to link research evidence to practice and theory. Thus, researchers must move beyond the abstract, and move towards the tangible results. It is important to ask the right questions in order to learn what value is being gained from the application of the game, what the cognitive consequences are, and finally, to look at whether students learn better through games than they would through another medium. To this end, it is necessary to gain a deeper understanding of games and how they fit into the educational context.

2.1.2. Game-based Learning versus Gamification

Game-based learning "is not just creating games for students to play, it is designing learning activities that can incrementally introduce concepts, and guide users towards an end goal." (Pho & Dinscore, 2015 p. 1). Game-based learning is motivational and engages students in learning. "Games are effective tools when devised to explain vocabularies and they make it easier to remember their meanings." (Bakhsh, 2016, p. 1). They are key method for learning new vocabulary (Ghanbaran & Ketabi, 2014). Vocabulary games have many benefits including low pressure (2014), fun, motivation, (Gozcu & Caganaga, 2016), and vocabulary acquisition (Hursen & Salaz, 2016).

Jan and Gaydos (2016, p. 7), categorized four types of games under the heading of game-based learning. These are motivation games, drill and practice games, content mastery games, and 21st Century Competency Games. Motivation games are games closely associated with fun, which "engage students in the behavior of learning desirable content or information." These games motivate students to learn through competition. Drill and practice games are games that may be more of gamified assessment. They often engage students through repeated practice and may be digital or otherwise. Content mastery games are those that include aspects such as simulations, representations, and gaming for the purpose of mastering higher level skills and ideas. Finally, 21st century competency games incorporate skills such as collaboration and creative problem solving. These are based on scientific research and frameworks. While being this advanced may be a benefit, the level of intricacy may also make it more challenging for instructors to utilize these types of games in the classroom.

Buckley et al. (2017) gave six guidelines for designing and implementing games in the classroom. Firstly, it is important to consider class size. Secondly, the stakes involved must be considered, for example, how heavy the students' current workload already is. Thirdly, one must consider whether this gamification is part of a specialist program or a general degree, because introductory learning environments may be more suitable for gamification. Fourthly, different learner types need to be taken into consideration. Because classroom games may be more suitable for certain types of learners, it is important to make sure you have a broad range of educational approaches. Fifthly, it is important to consider rewards, because learner motivation tends to decrease when reward visibility decreases. Finally, the educator must keep in mind exactly which learning outcomes they want students to achieve.

Another term adjacent to game-based learning is gamification. While these terms have similarities they are not identical. In comparison to game-based learning, gamification refers more closely to "design elements" (Deterding et al., 2011a). Game-based learning can be seen as an inverse of gamification where "Gamification is the idea of adding game elements of a non-game situation." and game-based learning is the "Use of games to enhance the learning experience." (Al-Azawi et al., 2016). To paraphrase, gamification takes something that is not a game, for example something educational and adds to it to make it more game-like. Just the opposite, game-based learning takes a game and adapts and/or utilizes it to make it educational.

Gamification is “the use of game design elements in non-game contexts.” (Deterding et al., 2011a, p. 9). The term gamification has largely been used for digital games, and the vast amount of research that has been conducted on gamification thus far is related to these types of games. However, this term can be used to encompass other types of games as well. Deterding et al. (2011b, p. 13) also summarized gamification as

> the use (rather than the extension) of design (rather than game-based technology or other game related practices) elements (rather than full-fledged games) characteristic for games (rather than play or playfulness) in non-game contexts (regardless of specific usage intentions, contexts, or media of implementation).

While the definitions surrounding games can be ambiguous, Deterding et al. (2011a, p. 12) recommended limiting the term gamification “to the description of elements that are characteristic to games.” Gamification has a more narrow meaning than just games, in the sense that when games are used for purposes beyond mere entertainment, it then becomes gamification.

Zichermann and Cunningham (2016) defined gamification as “the process of using game-thinking and game mechanics to engage audiences and solve problems.” They claimed that gamification can be used for any problem “that can be solved through influencing motivation and behavior.” (p. ix). The basics of gamification include game mechanics and their implementation, along with player motivation.

Gamification is closely linked with edutainment (Sanchez, 2019). Edutainment refers to educational software or games (Zichermann & Cunningham, 2016). In order for edutainment to be effective, it is important for the element of fun to be prioritized. According to Zichermann and Cunningham, “Everything has the potential to be fun.” (p. 2). Learning can still occur even when fun is prioritized over pedagogy. Games such as Civilization may not have been designed to be educational; however, the incorporation of history allows player learning as a by-product of fun. On the other hand, there are strong implications that when fun is put second, games do not work nearly as effectively for learning. Buckingham (2007) described edutainment as “a hybrid mix of education and entertainment that relies heavily on visual material, on narrative or game-like formats, and on more informal, less didactic styles of address.”(p. 35). Through edutainment, students can engage in learning in a relaxed manner and learn more than their peers without even realizing that they are engaging in an educational activity.

While there are some differences in these terms, they share far more similarities than differences. Game-based learning, gamification, and edutainment all work to teach

in an enjoyable manner. They can all involved elements of competition, social interaction and fun. Finally they can all provide benefits for students and allow students to learn in an engaging manner.

2.1.2.1. Benefits of Games

"Games can be used in the language classroom to develop a variety of skills" (Reese & Wells, 2007). Wei et al. (2018) conducted a study which found that games can benefit students by reducing stress and improving vocabulary learning. In Gamlo (2019), students who played the target games reported that it had a positive effect on their motivation to learn English. Alevi (2020) conducted a game study on 4th grade students. The study found that students perceived a positive effect on their language skills, vocabulary development and fun as benefits of the game. Gamlo (2019) reported that students who played the target game believed that it had a positive effect on their motivation to learn English.

A study on "how gamified practices in online settings can support adolescents' acquisition and application of vocabulary," (Abrams & Walsh, 2014, p. 49) stated that "many students enjoyed learning vocabulary through a gamified approach because the [game] was fun" (2014, p. 56). Further benefits of the game were opportunities for students to become more motivated and self-directed learners, as well as fostering independent learning.

Johnson (2007) investigated the effects of six German grammar and vocabulary games. The study found that students found it easy to understand the rules, that the games were fun and that they were useful for developing grammar and vocabulary. Furthermore, the instructor also observed that the students seemed to enjoy the games and learn well from them. This included students with ADHD and other learning disabilities, whose needs it can often be challenging to meet. Because of the variety of activities included in these games, most students can find something that relates to their own strengths, leading to more motivation and confidence.

2.1.2.2. Studies on Games

In the following sections research that has been done on games will be examined in detail. This includes both International and Turkish studies as well as examining both digital and non-digital games.

2.1.2.2.1. International Studies

Digital Studies

In a study on English games in a grade school context, Lan (2013) examined a vocabulary strategy sharing tool called MyWordTool. This tool allows learners to learn vocabulary by choosing a word, and then selecting the strategy they will utilize to learn the word. For example, strategies such as contextualization, listening to pronunciation, looking at a sample sentence, etc. were used. Students were then able to upload and share their strategies. This study included 61 6th-graders from three different elementary school classes in Taipei, Taiwan. Each class was randomly assigned to one of three groups: learning under traditional instruction, learning with MyWordTool with co-sharing, or the same without co-sharing. A quasi-experimental design was used. The learning took place outside of regular EFL classes. Instruments for collecting data included a vocabulary performance test and learning materials: Essential words for Taiwanese elementary EFL students and 12 vocabulary learning strategies. The experiment took place during October 2011. A vocabulary performance pre-test was conducted, followed by training in MyWordTool. After that, participants created vocabulary learning plans for 320 target words. The two groups using MyWordTool did their planning via this interface. The other group made their plans in a notebook. In answer to question one, results showed that "MyWordTool can benefit L2 learners' L2 word learning, especially when they performed the sharing of VLSs with other online learners."(p. 8). In answer to question two, results showed that "Co-sharing benefits L2 learners' strategy construction in strategy categories rather than frequency record."(p. 9). In answer to question three, results indicated that the more vocabulary learning strategies categories used, the greater the benefits students can get from the L2 learning process. This quasi-experimental study is relevant to the current study, in that it shows that using engaging vocabulary learning strategies can be a beneficial alternative to rote memorization.

In another study on digital games, Shah and Foster (2014) gave insight regarding the currently limited usage of games in academic contexts and the potential for future expansion in this area. According to this case study, even though there is more and more research showing that games have a beneficial effect on students' academic outcomes, and teachers show increased willingness to use games, these games are not yet commonly seen in many academic domains. The researchers inferred that research studies need to consider components such as teacher intervention, classroom environments and the alignment of games. This study investigated which conditions are necessary for the successful implementation of game-based learning. It is necessary for instructors to be able to see the connection between the game, curricular goal achievement, and how the game fits into the school context. When school administrations gain an appreciation for game-based learning, this will then open the door for them to facilitate games in their learning environment. This research shows that it is not just important to show that game-based learning can have positive outcomes. It takes more than this. Teachers and school leaders must be persuaded to implement game-based learning in their schools. This research article is a great tool in facilitating that.

Another study on digital games, Wu, Chen and Huang (2014) examined the concept of using digital board games in EFL classrooms for the purpose of genuine education. In their research, they found that both the organization and structure of board games are conducive to classroom instruction. The fact that they are smaller in scale to many online simulation games, along with their face-to-face nature, allows the implementation of games in the classroom.

This research detailed the development of a digital board game, examining concerns such as providing authentic context, assessment, and activities, access to modeling, coaching, scaffolding, and promotion of reflection and articulation. This study sought to answer whether there was a difference in learners learning performance and motivation in the digital and non-digital instruction groups.

An experimental design was utilized in a senior high school in Taiwan. Ninety-six high school seniors participated. The researchers used a pre-test and IPT to measure learning performance. Two graders were used to grade the results in order to reduce bias. The Intrinsic Motivation Inventory was also applied. A post-experiment interview was administered as well. Results indicated that the DLP (digital learning playground) group had a higher learning performance than the other groups, while the original board game

group did not show a noticeable amount of learning performance improvement. A one-way ANOVA was conducted to analyze the Intrinsic Motivation Index which yielded results such as showing that pressure/tension is a negative indicator of intrinsic motivation. Additionally, the questionnaire yielded the unexpected results that the board game group had the highest tension during the learning activity. The follow-up interview was conducted with 15 volunteers (five from each group), chosen via a convenience sampling. The interview focused on students' tension. While some conclusions were drawn, the data was not considered representative of the whole group. Regarding tension in the board games group, responses indicated that the stress was related to the unfamiliarity of the board game rules, and the pressure of interacting with the instructor. In conclusion, the DLP group achieved higher communication results compared to the other groups. The researchers claimed that there is a lot of value in digital games as a language teaching tool, and that more research should be done in the future.

This research design had a lot of strengths: the mixed methods design, the high number of participants, and multiple raters. The interviews yielded more insight in the results of the questionnaire and pre-test. There were also a few weaknesses. The results of the interviews were not organized clearly. Coding them and giving an overview, rather than just a few scattered samples, could have made the results clearer. The literature section of this research was the most valuable part regarding the current research. While there is a dearth of research on non-electronic type games, this literature review gives information on gamification regarding Monopoly, Scrabble, Carcassonne, Apples-to-Apples, and more. Even though these games are technically digitized, they have all found their original form as non-digital games.

In another experimental vocabulary study, Bouzid et al. (2016) conducted a pilot study to examine deaf learners' interest in using an educational game for learning vocabulary and SignWriting notations. The sample consisted of nine deaf learners aged 9-16. The research was conducted in Tunisia through three sessions held on separate days. The experimental procedure was divided into a training session, game-play, and data collection and analysis. Data was collected via a questionnaire. There were four main parts examining usefulness, ease of use, ease of learning, and satisfaction. Results showed that participants, in general, responded positively. The weakest point was satisfaction, wherein 77% responded positively and 22% responded negatively. The researchers concluded that the game is easy, entertaining, pleasant, well-liked and accepted, more

satisfying and pleasurable than traditional lessons, offers an innovative approach to learning sign language notations, and is useful for teaching vocabulary. A positive aspect of this research is that it is filling a gap and providing a service for children that have had much less access to these sorts of tools. While this study examined a different language, it is still very relevant to the current research in that it examined the effect of vocabulary games on students, which is a main component of the current research.

Looking at digital gaming and vocabulary retention specifically, Salavati and Salehi (2016) investigated the use of instructional video games on EFL Learners' Vocabulary Retention. This study included pre-intermediate Iranian learners at an institute in Iran. A placement test was used to ensure homogeneity of the participants. Fifteen participants were excluded from the study, either due to extremely high or extremely low scores. Participants were then put into a control group and an experimental group. A pre-test of 32 words was administered at the beginning of the study to ensure the participants were not familiar with the target words. Results of the post-test showed that there was not a noticeable difference between the results of the two groups. However, when a delayed post-test was run, results showed that the experimental group had a significantly higher mean score.

Another study by Fang-Chen and Chang (2016) looked at a role-playing game framework and examined whether students using this framework learned more words along with looking at their level of participation. Participants were 80 students from two classes in a Taiwanese high school. Learners were assigned to an online Facebook game known as ChefVille. Data was collected using a vocabulary-acquisition assessment and a participation scale questionnaire. Findings indicated that the role-playing framework facilitated students' vocabulary acquisition. Furthermore, this acquisition was also linked to students' daily life experiences. One of the strengths of this article is that it has a lot of implications and suggestions for future research. It is relevant to the current research in that it looks specifically at vocabulary acquisition via a gaming condition. Additionally, like this study, the current study will utilize a vocabulary assessment test and questionnaire. Due to these similarities, this article is relevant for the literature review.

Another study on vocabulary learning was conducted by Huang et al. (2016). This study uses an experimental design to examine the effects of a mobile vocabulary learning tool on students' learning motivation and performance. The study took place in a Taiwanese elementary school. Participants were 80 fourth graders. They were divided

into a control group and an experimental group. A pre-test and post-test were used to measure students' vocabulary through multiple-choice English to Chinese Translation questions and questions regarding example sentences. A motivation questionnaire was also administered to analyze learners' motivation. Results of the pre-test showed very similar average scores between the control and experimental groups. However the experimental group had significantly higher post-test results. This supports the theory that mobile learning vocabulary tools can be useful in vocabulary acquisition. Through a pre- and post-test, it was ascertained that the experimental group's vocabulary improved more than the control group had. This supports the idea that mobile learning apps can be a useful method for vocabulary learning.

Also regarding digital games in education, Franciosi (2017) researched the effect of computer game-based learning on foreign language vocabulary transferability. In this research, two similar studies were conducted in the same context during subsequent semesters. The first study was quasi-experimental, and compared quantitative use of targeted vocabulary in a writing task. In group 1, learners learned with a drill app, then used words in a game-based lesson. In group 2, learners only used the drill app. A convenience sample was used to select participants. Four classrooms participated, and they were taught by Franciosi. There was one experimental group and three control groups. The game in this study involves planning and implementing a virtual city's energy portfolio. This topic was chosen due to students' interest. A debriefing session was held after the game application. The drill type task was done through Quizlet matching English words with L1. Data was also collected via a pre-test and post-test, and two writing prompts. Results showed the experimental group was able to use many more target words in their writing. The second study was a cross-sectional analysis of student work. It compared the amount of game-based instruction to spontaneous usage of target vocabulary in a writing task. This study used the same writing task and game simulation as the first study. Results in this study showed that mastery of vocabulary in the Quizlet app had no apparent influence on the usage of target vocabulary. The researcher concluded that instruction via simulation games can support vocabulary transfer for second language learners.

Giving further insight on game-based learning in a language learning context, Klimova and Kacet (2017) carried out a review study on research that has been conducted on the topic of foreign language learning and games. The study systematically reviewed

research identified by the following keywords: “foreign language learning AND computer games, foreign language learning AND videogames, foreign language learning AND gaming.” Forty-four articles were selected for full-text analysis, of those, 31 research studies were compared in the discussion section in regard to their findings. The main benefits of computer games for foreign language learning found were: “exposure to the target language; increased engagement; improvement of language skills, structures and vocabulary in particular; computer-aided language learning technologies will continue to be developed and may enhance learners' involvement in communication.”(p. 24). At the same time, Klimova and Kacet (2017) put forward many limitations:

> high interactivity may hinder the vocabulary acquisition and learning; low efficacy of studies; a lack of studies on this topic; not all games are useful for language learning; a lack of knowledge about computer games among language teachers and institutions hinders their proper use (2017, p. 25).

Klimova and Kacet (2017) concluded by saying that considering both the benefits and the limitations of language learning through gaming, as well as the research that has been conducted thus far, there is a need “for more longitudinal randomized control studies with larger subject samples.”(p. 24).

In another research on language learning, Hsiao et al. (2017) conducted a study on vocabulary learning through virtual reality. This study examined learners’ language learning strategies and their influence on vocabulary acquisition in a virtual reality setting. The participants were 14 young adult university students from Pennsylvania State University. The language background questionnaire was used to determine their language backgrounds and levels. Results showed that all of the learners were native English speakers, and had no experience learning Mandarin. The three virtual contexts used in this study were a kitchen, a zoo, and a supermarket. A total of 90 words were learned in these three contexts. All of the target words were two syllables long. Digital learning data was recorded as the participants participated in the virtual reality process. These logs were transformed into readable data by the authors. Following the learning and testing sessions, participants’ learning strategies were explored through a mandatory interview which contained 12 questions based on 12 learning strategies. The researchers concluded that high-achieving group members were more able to enact more strategic learning, whereas the results of the low-achieving students showed that they were more likely to just click on different words based on what was in closest proximity. In general, the following strategies were found: “nearest strategy”, “focus strategy”, and “cluster strategy” (divided

by: appearance, pronunciation, and function). The information here can be used in designing future virtual reality game activities.

One of the weaknesses of this study is that it only examined a limited number of students. While this was mentioned in the limitations, it is difficult to make generalizations of different types of learners with such a small sample. While this study gives a lot of interesting information on learning strategies, the study could have become much more informative by adding a control group to better ascertain whether this treatment itself is effective in teaching vocabulary when compared with other vocabulary teaching methods. This research is relevant to the current study in that it demonstrates vocabulary acquisition in a game-like context.

Another form of game-based learning is through video games. A study by Ebrahimzadeh (2017) used an experimental design to measure the effect of Warcraft III: The Frozen Throne on vocabulary acquisition. Over 200 high school boys participated in this study. A mixed methods approach was used for this study. Target vocabulary words were taken from the video game. For this research study, the video game treatment that was used was Warcraft III: The Frozen Throne. In the reading treatment, five reading passages were developed to teach the list of selected vocabulary items. Students in this treatment received worksheets with pre-reading activities, exercises, a reading passage, writing, and a puzzle. Data was collected through a vocabulary pre-test and an immediate post-test. Results of the pre- and post-tests showed that even though learning vocabulary through DVG (digital video games) might take more time, it allows for better acquisition. However, there is more that can be done to make DVGs a more productive method of vocabulary learning. This study both demonstrates the benefits of game-based learning as well as the need for more research and development in this area.

Through a Chinese study on gaming, Zhonggen (2018) aimed to find the level of "influence of interactivity-prone and less interactivity-prone serious gaming on the effectiveness of English vocabulary learning, together with gender differences in serious game-aided English vocabulary learning." Two experiments were conducted. In the first, 107 participants from non-English majors were selected. They were divided into three groups: "the interactivity-prone serious game, less interactivity-prone serious game and traditional treatments."(p. 217). In the second experiment, the participants were younger learners, aged nine to twelve, and were divided into the same three groups. Data was collected through pre- and post-tests and interviews. The results of the first experiment

indicated that serious games have a genuine effect on English vocabulary learning. Participants remembered the fewest English words from learning through a traditional approach. Further analysis revealed that "Males significantly outperformed females in serious game-aided English vocabulary learning." (p. 217). Zhonggen concluded that in order to resolve this deficit, special attention should be paid to female learners when it comes to serious gaming. The interviews revealed that students found vocabulary learning through serious gaming to be effective.

In another research on gaming, Yang et al. (2020) conducted a quasi-experimental study at a high school in northern Taiwan in order to develop a game-based learning system to provide students with better learning tasks. The participants were students from two high school classes, but they received the same computer training, and had been taught by the same English teacher. Data was collected via pre- and post-test, and a Likert scale which measured intrinsic and extrinsic motivation. Secondly, an English anxiety measure Likert scale was applied. Finally, a Likert scale cognitive load measure was also applied. Following the collection of the pre-test data, the experiment was carried out during a three week course. The experiment took 90 minutes where each group used a different gaming approach. The first group used the approach which had been developed for the study, referred to as "the cognitive complexity-based situational English vocabulary gaming approach," (p. 2), and the other used a more traditional method, referred to as "the conventional situational English vocabulary gaming approach." (p. 10). Following the research, post-tests were conducted and showed that "cognitive complexity-based situational English vocabulary gaming approach" had a stronger impact on low-achieving students than it did on high-achieving students. In the two experimental groups, there was not a significant difference in the results of the high achievers. However, regarding low achievers, there was a significant difference in which the cognitive group approach scored higher. Regarding the results from the Likert scale measures, no significant difference was found in learning motivation. Regarding anxiety, those who learned with "the cognitive complexity-based situational English vocabulary gaming approach" had higher levels of anxiety. Finally, no significant difference was found in regards to cognitive load.

Non-Digital Studies

A study by Reese and Wells (2007) was carried out at the University of Texas. The participants were international university students who played a conversation card game in class over the course of several weeks. Students reported the game to be enjoyable and exciting. Additional findings showed that the game had a positive effect on students willingness to communicate and made speaking easier.

An experimental study by Alemi (2010) was conducted in order to assess the usage of several vocabulary games. Sixty Iranian junior high students took place in the study. Students were divided into a control group where students received no treatment and an experimental group where students were exposed to five non-digital games (twenty questions, charades, definition games, passwords, and crossword puzzles). The findings showed that these games were effective in teaching vocabulary.

In a classroom observation study, Wright (2012) looked at the extent of oral vocabulary instruction in a kindergarten setting in the U.S.A. along with the alignment between the pedagogy and research. An evaluation of equity of oral vocabulary instruction given by the participating teachers was also made in terms of both quantity and quality.

In order to answer these questions, ten observers visited the classrooms of 55 kindergarten teachers. These observers recorded teacher talk and took notes on laptops. Vocabulary episodes, which included rephrasing and the giving of definitions, were recorded, transcribed, coded, and analyzed with ANOVA. Results showed that teachers discussed vocabulary words about eight times a day on average. The number varied a lot from subject to subject. Teachers rarely repeated discussion of the same word in a day. These vocabulary episodes were very short, about two and a half utterances. While most words explained were common, this varied depending on the economical level of the school.

Strengths of this research include the large sample size. Fifty-five classrooms provide a lot of data to examine. Additionally, the narrow context is both a strength and a limitation; a strength because it is very homogenous, but a limitation because it is not very generalizable. The research gives a picture of what vocabulary instruction looks like in this context, and emphasizes the importance of teachers facilitating vocabulary learning in effective ways. Although this research examined a different context and different aspects of vocabulary instruction, it relates to the current study in that it emphasizes the

responsibility of the teacher in helping students learn new vocabulary, as well as the need to find effective ways of doing so. To this end, the current research works to provide new game-based learning opportunities as a method of vocabulary learning for students.

Sundqvist & Sylvén (2012), in their investigation of young Swedish learners contact with English outside of the classroom, asserted that because extra-mural English correlates positively with proficiency, it is necessary for more research to be done regarding this topic. By collecting questionnaires and language diaries from 112 4th grade Swedish students, researchers found that learners who frequently played games correlated positively with finding English interesting. Additionally, those who played games frequently did not rate themselves as being bad at English. Male students had a much higher level of preference towards games than did female students. The results of this study matched previous research that had been conducted on older students. The current study, likewise examines student perceptions of games via questionnaires and can give more insight on students' perceptions of games in a different context.

In another vocabulary study conducted on adolescents, Abrams and Walsh (2014) carried out interactions with 11th grade students and young adults in New York City. They looked at the role gamification played in the vocabulary development of adolescents and their attitudes toward vocabulary learning. Participants took part in five SAT vocabulary tutoring sessions. Data was collected via audio taping, think-alouds, observations of on-line vocabulary searches, individual and group interviews, word knowledge pre- and post-tests, surveys, field notes, reflections, participants' self reports and game statistics. Most participants were motivated by competition and reward. However, there were some less impacted, citing difficulty in the level of target words. It did, however, serve to force participants to use problem solving, which allowed them a degree of control in their learning. Finally, the post-test showed an increase of an entire letter grade, indicating that games can serve as an effective, complementary tool for vocabulary teaching.

In another study in a secondary school context, Falk-Ross and Evans (2014) conducted a year-long professional development research study on word games. Participants included five 7th-grade classrooms. Students had mixed English proficiency. The study focused on the teachers' integration of new strategies learned through professional development. A mixed methods design was chosen. The standardized test results were the quantitative data for the study. Coding was used to analyze researchers'

observations, a structured survey, focus group discussions, and teachers' anecdotal notes. Results showed that through professional development, the teachers' perceptions and practices changed. Also, there were quantitative changes in students' reading comprehension, following institutional changes relating to vocabulary development. Regarding vocabulary, the researchers concluded that teachers need instruction in strategies for vocabulary development. These strategies impact students' learning. While there were other aspects of the study discussed, it is vocabulary that the current study is most focused on. This study demonstrates the importance and effect of vocabulary development strategies.

Similarly, another research on game-based vocabulary learning by Mehregan (2014) carried out an experimental study in order to learn the effect of language games on Iranian learners' vocabulary achievement. Forty elementary level, 10-15 year-old, male and female Iranian students participated. The reading portion of the Key English Test was administered for homogenization purposes. Then a teacher-made vocabulary test was designed and checked for reliability. Four games were adopted from the students' course book. In the experimental group, over the course of 20 sessions, one game was practiced at the end of each session. Thus the four games, Hangman, Flash Card Memory, Bingo, and Odd Man Out, were practiced five times each. The control group received no task-based instruction. The teacher explained new words and grammatical points to the students. The findings of the study showed that the game-based experimental group outperformed the control group in vocabulary achievement. Additionally, the results showed no significant difference in vocabulary achievement between genders. While these participants were from a different demographic than the participants of the current study, this study is relevant in that it examined non-digital games like the current study, whereas a large majority of the research being done on game-based learning focuses on digital games.

In another study on game-based vocabulary learning, Hursen and Salaz (2016) conducted an experimental study on the effects of authentic childhood games on teaching English. It also looked at teachers' perspectives on authentic childhood games. An experimental design was conducted on 43 kindergarten students who were divided into a control group and an experimental group. The experimental group learned vocabulary through games. The experiment took place over the course of six weeks. An achievement test was conducted to measure the success of the experiment. Results showed that though

learners from the two groups had the same results in the pre-test, in the post-test the experimental group had a much higher mean score. This shows that game-based teaching can have a more beneficial effect on vocabulary acquisition than traditional methods. This research is relevant to the current study because it examined similar questions regarding the efficacy of game-based vocabulary learning as well as instructors' perspectives on the target games.

In another study on learning through games, Buckley et al. (2017) conducted research to explore students' perceptions of gamification. His study focused on a specific gamified learning intervention. Data was collected via focus groups. Two focus groups were held, lasting 90 minutes each, and were recorded. There was a total of 22 participants in these focus groups. The topics of conversation included general views of learning, perceptions of the prediction market used in the game and learning through a gamified platform. The themes that emerged from the think-aloud were, "learning outcomes, motivation, perceived stakes, group dynamics and gender, and challenges." This study found that undergraduate students were much more impacted by the gamified intervention than postgraduate students. So, whereas undergraduate students were engaged and motivated by the competition and reward, the postgraduates found the gamified activity to be frustrating, and did not achieve the same level of learning. This negative response may be tied to their context, as they had a heavy workload and therefore, it was frustrating to spend any time in game play.

2.1.2.2.2. Empirical Studies in Turkish Context

Gulfidan and Cagiltay (2006) surveyed 116 students from Turkish Universities in order to learn their perceptions of the use of computer games with educational features. Data was collected through a questionnaire and an interview. All of the participants were administered the questionnaire, which was adapted by one of the researchers based on inspiration from MIT's Games-to-Teach project. The questionnaire used a Likert scale type format. The follow-up interviews were held with 16 participants, after having been piloted. Data was collected over a three day period. Questionnaires were short, and only took about ten minutes to fill out on average. Instruction and purpose were conveyed verbally to the participants before they began the questionnaire process, and a researcher was present to answer questions. Qualitative data were analyzed through the content analysis method; data were coded, themes were found, and then data were organized and

defined according to the codes and themes. Following this, interpretations were made. For descriptive data, frequencies and percentages were calculated in SPSS. The results showed that the majority of the participants agreed that playing computer games is suitable for every age, and that it helps develop useful knowledge and skills. However, the majority also felt that playing computer games requires too much engagement time. Likewise, while almost half of the participants said that playing computer games is a waste of time, about a third also indicated that playing computer games is an important leisure time activity. The majority of the participants disagreed with the statement that playing computer games is only suitable for children. The researchers conclude that extensive research should be done to determine the best methods for successfully using games within the current education system. The current study seeks to research this issue further. While Gulfidan and Cagiltay (2006) studied the effect of computer games, the current study examines vocabulary card games and how they can be successfully used in a university setting.

One of the strengths of the study is that the questionnaire and interview instruments were reviewed and revised by experts. The interviews were also piloted. The coding is also done logically in order to reveal themes. One weakness of this design is that it looked at students' opinions rather than those of current teachers. While the students selected were expected to go on to teach, this still does not give them the experience to answer these questions in an informed way. However, this design is relevant to the current research, which will examine the opinions of both students and instructors in a similar context (a Turkish University).

Another game study conducted at a Turkish University (Silsüper, 2017) sought to determine the effect that language games had on students' vocabulary learning. In the experiment students were taught vocabulary through a bingo word game. The experimental group had higher scores on the vocabulary post-test, demonstrating that playing the target game had a positive effect on students' language learning. This shows that games can be an effective tool in the teaching classroom.

Another study that looks at students' perceptions of games was conducted by Doğan et al. (2018) and examined 4th grade Turkish and Czech students' perceptions of a game concept. Students were instructed to draw a picture of what games mean for them. Findings showed that 4th grade Turkish students perceived games primarily as physical activity, relating to playgrounds and toys, with digital games being the least touched-on

category. Czech students, on the other hand, showed their perceptions to be related to tabletop games, followed by digital games in second place. Playing with toys and physical activity games were further down the list. The researchers concluded that the participants view games as what they describe as "real games" more often than they do digital games. In general, this research showed that there is a wide range of what can be considered a game and the definition of "games" can vary from person to person and culture to culture. While this study does give insight into children's perspective on games, because of this variance on game perceptions, more research can be beneficial for providing insight on other types of games and other demographics, such as university level students in the case of the current study.

One such study on university level students was conducted by Yürük (2020) at a Turkish University. They carried out a research study in order to determine "which sounds are problematic for second year students of the department of English Translation and Interpretation" (p. 143) and whether "using Kahoot as a pronunciation development activity in instructional process has a significant effect on pronunciation development." (p. 143). The participants were second year students studying in the translation department of a Turkish university. An experiment was conducted where the experimental group were given Kahoot activities to practice problematic sounds, whereas the control group was given basic pronunciation activities from the book. Data was collected via a pre- and post-test. Results showed that by using the Kahoot platform, the experimental group participants were able to develop their pronunciation skills more than those in the control group. Please see appendix 1 for tabular data on the findings of the reviewed sources.

2.2. Conclusion

In conclusion, based on the literature it is clear that more research is needed in the area of game-based learning. Specifically in the area of university level, non-digital games, there is a dearth of research. To this end, the current study has developed three non-digital vocabulary games, and applied them in a mixed-methods study.

CHAPTER 3

3. METHODOLOGY

3.1. Introduction

The methodology section of this research includes an overview of the research design, a description of the materials used, an overview of the games and their rules, a summary of the pilot study, a description of the adaptations made to the games following the pilot study, and an overview of the current study. Based on the literature it has been determined that game-based learning is a viable method for education in general and can be valuable for vocabulary acquisition specifically. However, most research available has been conducted on digital games. Three vocabulary games were developed for this study. Experiments were carried out and quantitative and qualitative data were collected in order to answer the three research questions: What is the effect of the three target vocabulary games on students' vocabulary acquisition? What are students' perceptions of the three target vocabulary games? And What are instructors' perceptions of the three target vocabulary games?

3.2. Research Design

This study was conducted in quasi-experimental mixed research design incorporating both qualitative and quantitative research methods. According to Creswell and Plano Clark (2007, p. 5):

> Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems that either approach alone.

The mixed research design was used in this study to provide triangulation of data in order to provide corroborated and validated findings (Creswell & Plano Clark, 2011).

The quantitative data of the study was collected via vocabulary pre and post-tests. The reason why these quantitative data were included in the study was to measure the effect of the games on students' knowledge of the target vocabulary words.

The qualitative data of the study was collected through questionnaires and interviews. These qualitative data collection tools were a student questionnaire and a semi-structured instructor interview (appendices E and G respectively).

In the quasi-experiments, vocabulary games were applied to the experiment group six times over the course of three weeks. Each game period took place over one class hour in the students own class and was applied by their main course teacher.

Participants were informed that participation was voluntary and would have no bearing on their grades, that their information would remain anonymous, and that they could contact the researcher by email to learn the results of the study. Signed consent was received from all participants (copies of the consent forms can be found in Appendix 3). Consent to conduct this research was received from the ethics committee of the university where the study was conducted. The necessary forms for the Anadolu University ethical committee were filled out, submitted, and approved. The signed approval form from Anadolu University can be found in Appendix J.

Main course instructors were approached, as they have more contact hours with the students. In this program, the main course was a 12 hour per week part of the curriculum taught by a single instructor in each class. These lessons included vocabulary and grammar, but also included other skills. Before playing the games, all participants took the pre-test. The games were played by the experimental group six times in total. Games were played in this order: first Apples to Apples, then Bowls, and finally Blurt. This order of game play was repeated for a total of six game treatments. Participants who missed any of the six treatments were later given the opportunity to do a make-up play where they played the games they had missed in class. The post-test and questionnaire were given successively in class. Participants were told that they could fill out the questionnaires in either Turkish or English. Students who missed that day were given an opportunity to make it up shortly thereafter. Following the end of the treatment, instructors met with the researcher for face-to-face semi-structured interviews. The interview questions and transcripts are included in Appendices G and H respectively.

3.3 Participants

Participants were English prep school students at a public university in Turkey. They all had English classes five days a week, for three to six hours each day. There was a mix of male and female students. Students were approximately intermediate level (B1), based on entrance exams and the curriculum of the Prep school. Data related to gender and age was not taken into collected as it was outside the scope of the research. Information specific to the differences between the participants in the pilot and the follow-

up study will be given in the respective sections below. As the research was carried out in the classroom, a convenience sample was used. An equal number of classrooms were selected for the control and experimental groups. Experimental groups were chosen based on the availability and willingness of their instructors to carry out the research during their lesson time. Classes were considered to be homogenous as the prep school management mixed students into new classes based on homogeny every quarter.

3.4. Data Collection Instruments

Materials included three vocabulary games, a pre-test, post-test, and student questionnaires. The pre-test was administered in class before the first treatment. Materials were created by the researcher following the guidance of their thesis advisor. The tests were adapted from the Wesche and Paribakht Vocabulary Knowledge Scale (Paribakht and Wesche 1993), which had been used by the researcher in their seminar with their thesis advisor the previous semester. They were checked by an expert who had a doctorate in teaching English, along with years of experience teaching the target group and approved by the thesis advisor. The questionnaire, pre-test/post-test, and interview questions are included in Appendices E, F, and G respectively.

3.4.1. The Tests

When creating the pre-test word list, upon the recommendation of the researcher's thesis advisor, words that were likely to be familiar to participants were eliminated from the study. This was done for the purpose of ensuring that the participants were learning the target words for the first time, so that prior knowledge would not contaminate the data. A pretest with eighty words was created. After analyzing the results of the pre-test used in the pilot, the words that none of the participants knew were added to the post-test. In order to have a full amount of forty target words, a few words answered by only one or two participants were also added. These words were placed in a test adapted from the Wesche and Paribakht Vocabulary Knowledge Scale (Paribakht and Wesche 1993). The test was translated into Turkish with the help of an expert (an instructor at the target school who was a native Turkish speaker with a PhD in English Teaching) and approved by the thesis advisor. These tests can also be found in the appendices.

The textbooks the words were taken from include English File and Qskills. These were the curriculum used in the prep school program that year. The words were taken from the levels the EPI students in the pilot group had not yet studied. However, through the feedback in the interviews and questionnaires, these words were determined to be too challenging for the language level of the participants. This is in line with Gu and Johnson (1996) who warn that there is a certain threshold of L2 skills that are necessary for vocabulary learning and Nation (1994) who states that learners need a certain mastery of high-frequency vocabulary words, before they become ready to learn low-frequency words. Therefore, in accordance with the recommendation of participating instructors, the target group was changed to the LANG level (intermediate level language majors) for part 2, i.e. the current study.

3.4.2. The Questionnaire

A questionnaire was developed by the researcher with the help of an expert (an English teacher with more than 10 years of experience and a PhD who was working in management at the target school) and was approved by the thesis advisor. The questionnaire was written in Turkish in order to avoid potential L2 complications for the participants. The questionnaire included a number of closed-ended questions as well as opened-ended questions where participants were asked to explain their reasoning. These questions can be seen below in table 3.1, and the questionnaire can be found in appendix 6.

Table 3.1. *Student Questionnaire Questions*

Did you have fun playing these games?
Which was your favorite game?
Do you want to continue playing these games?
Are these games beneficial? (If yes, how did you benefit from the experience? If no, what is the reason for your negative perspective?)
What difficulties did you encounter?
Do you have any recommendations? If so, please explain.

Table 3.1. *(Continued) Student Questionnaire Questions*

Were the game rules clear? If not, do you have any recommendations to fix these problems?
Would you like to have these games included in the curriculum? Please explain your answer.
Is there anything else you would like to add about the vocabulary games you played in class?

3.4.3. The Games

Photo 3.1 *Groups of students playing apples to apples*

These three games, Apples to Apples, Bowls, and Blurt, were chosen with particular attention to their overall adaptability and compatibility with one another. In selection, only vocabulary games were considered. Word games are already a popular category of game in recreational settings; however, they may not be readily available everywhere. The first game, Apples to Apples, was chosen because it is a popular party game (Giles et al. 2019) as well as being an award winner. Another benefit of Apples to Apples is that it develops word associations which Thornbury (2002) states are important, "the more the better."

Other well-known games were also considered. Among these were Taboo, Charades, and Password. There is however another game, Bowls, which combines these three games into one, through a three-round system. This repetition is valuable as "learners need multiple exposures to words…" (2002). Therefore, this game was chosen

for its variety along with the fact that it could be played with the same cards as Apples to Apples. Games which held high degrees of redundancy due to large similarities with the already chosen games were eliminated. For this reason Taboo, Charades, Password, and other similar games were not included.

Finally, a third game that would work with the same cards without overlapping was selected. This game was Blurt. Blurt utilizes English children's dictionary definitions, which aids in the goal of "weaning" the learners off of rote L1 to L2 memorization (2002). In this way one game could in effect be used to play three separate games. Essentially, being good for learning vocabulary, their variety, and the feasibility of using the same cards for all the games were all taken into consideration as well as further benefits such as word associations, repetition, and reduced L1 reliance (2002).

For the word cards adjectives and nouns were chosen because these are the word forms used in the Apples to Apples game. Definitions were added, as these are necessary for Blurt, and worked in lieu of the trivia normally found on Apples to Apples cards. These definitions were taken from learnersdictionary.com and kids.wordsmyth.net. Among the various available definitions, the most appropriate definition was chosen based on part of speech, clarity, and concision. In the pilot, large sets of the cards were made which could be divided among the students.

Cards were printed on heavy colored paper, and cut uniformly. They were put neatly in matching boxes and delivered to the instructors, along with bowls and spoons. These minimalistic supplies were everything needed to facilitate these three games. A notice explaining the instructions provided to the instructors can be found in Appendix 2.

A printable resource for the game cards can be found in Appendix 5 (along with the game play rules in Appendix 4). These can be printed and cut up, in order to have the games immediately available to anyone who wants to utilize them. It is recommended that they be printed on colored card stock as they were in this study. There are also blank cards available if instructors or students would like to add more words to the set, or if any of the cards get damaged.

For game play instructors were shown how to put four desks together with six to eight chairs situated around the tables. Each instructor was given three sets of the games, and students were divided into three groups to play (participants were grouped randomly, and these groups were not required to remain fixed throughout the study). Since each group had their own set of instructions they first read them as a group and then the

instructor was available to give guidance as needed. In this way students were able to play games in small groups with some level of independence.

3.4.3.1. Summary of the Game Rules

The three games included in this study were Apples to Apples, Bowls, and Blurt. A summary of each game is given below. Furthermore, itemized versions of the game rules, in both Turkish and English can be found in appendix 4.

3.4.3.1.1. Apples to Apples

Apples and Apples is played with two decks of cards. One deck is nouns and the other is adjectives (it was for this reason that only nouns and adjectives were selected for the vocabulary cards). These two decks of cards are printed on different colors of paper. Each participant is given eight noun cards which they are allowed to look at, but must keep hidden from other participants. Each participant gets a turn at being the judge beginning with the students who has the closest birthday and then continuing clockwise. The judge reads the card aloud, says go, and then puts their hand out palm up. The rest of the players place the noun card they think matches the adjective best into the judge's hand. Players can place up to two cards, but once the seven cards have been placed no more can be added. The judge then reads all the cards and definitions aloud and places them face-up on the table for all to see. They then choose the winner based on their own preference. Whoever places that card is the winner of that round. Everyone replaces the noun cards they played from the draw piles so that everyone once again has a total of eight noun cards in their hand. The person to the left of the judge then becomes the new judge and game play continues in a clockwise direction. At the end of 30 minutes, whoever has won the most rounds is the winner of the game.

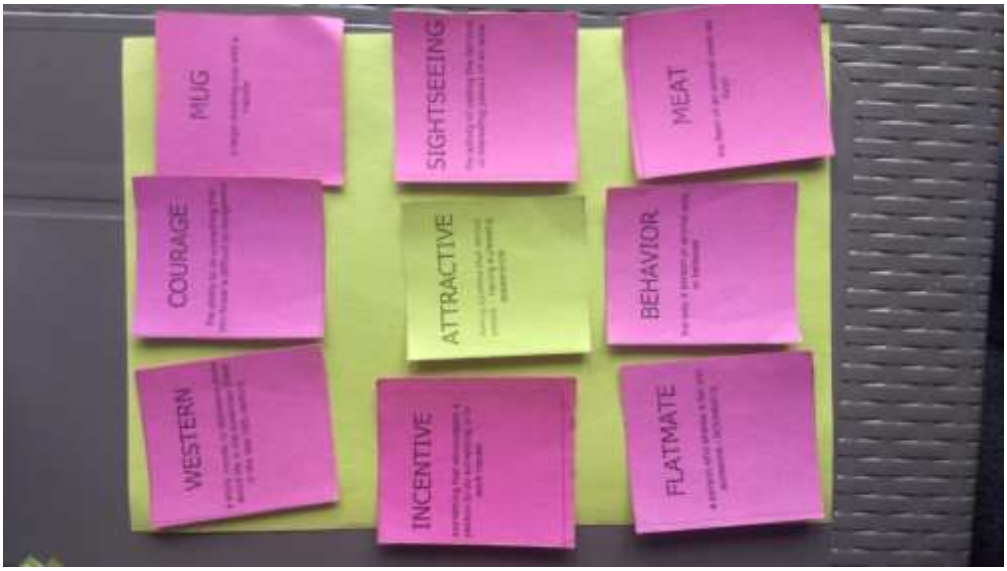

Photo 3.2. *A Finished Round of Apples to Apples*

3.4.3.1.2. Bowls

For the game of Bowls, 20-25 cards are chosen randomly and put into a bowl. Both adjective and noun cards should be mixed together. Players are divided into two teams. The game is played in three rounds. For the first round teams take turns having one player stand up with the bowl in front of them and this player selects a word randomly from the bowl. They try to make their team guess the word by giving verbal clues. It is important to note that saying any form of the word on the card or using a language other than English while giving clues are both forbidden. If they do so, they must put the word back and take a new one. Players are also allowed to skip a word that is too difficult. If their team correctly guesses a word, they can put the card aside and continue with a new card. Their turn ends when the timer runs out. The second team then has their turn. Teams should keep track of their points by keeping the answered vocabulary cards together. The first round ends when there are no more cards left in the bowl. Round one points are then tabulated and the same cards are returned to the bowl. The second round proceeds in much the same way, except that instead of giving verbal descriptions of the words, the players instead act out the words with gestures. For the third round the players are only allowed to give one-word clues. They can say any other word after giving that clue but can only repeat the same word again. If they say more than one word, they must pass on that card and take a new one. While this would normally be very difficult, because it is the third round in which they are seeing the same words, the repetition makes it feasible for their teammates to guess. When every word from the third round has been correctly guessed,

the total points are tabulated, and the team with the most is declared the winner. (Note: for a longer or shorter game, the number of cards can be increased or decreased).

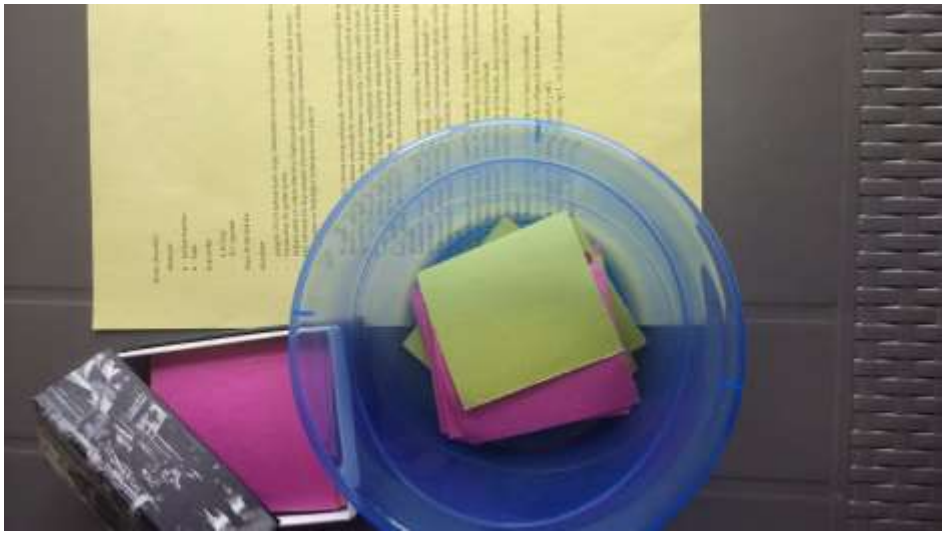

Photo 3.3 *Materials for Bowls*

3.4.3.1.3. Blurt

For this game adjective and nouns cards should all be mixed together. Players sit in a circle around a table and a spoon is placed equidistant from everyone. Players then take turns selecting a card from the deck and reading the definition aloud. In order to guess the vocabulary word written on the card, players must first be the fastest to grab the spoon from the center of the table. Upon grabbing the spoon, the player will then blurt out the word. If they are correct, they are given the card and the job of the reader continues clockwise. If they are wrong, the spoon is returned to the center of the table and play continues with the same word. There is no limit to guesses and players can ask to hear the definition again. However, if everyone gives up the card is discarded and play continues clockwise. At the end of 30 minutes, the player who has the most cards from guessing the words correctly is the winner.

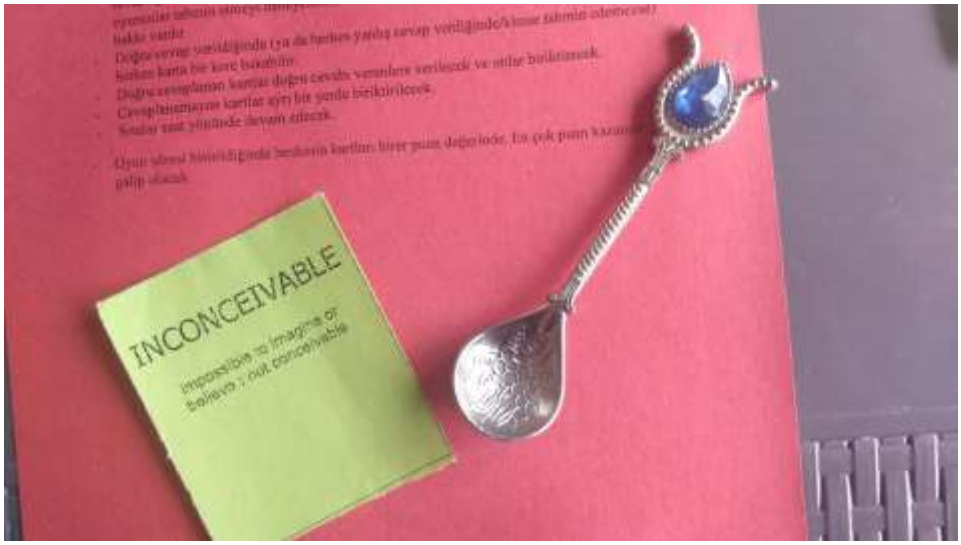

Photo 3.4 *Materials for Blurt*

3.5. The Pilot Study

A pilot of this research was conducted in the English prep school program at Dumlupınar University, a state university in Kütahya, Turkey. The participants were students who were in the EPI (Elementary, Pre-intermediate, Intermediate) level group, a designation used by the prep school to refer to the group of students who began the year at the elementary level and were required to complete the intermediate level material by the end of the year. They were considered to be approximately B1 during the semester that the research took place. The research took place over the course of six weeks, and included a pre-test, a post-test, and a student questionnaire. There was a control group and an experimental group.

EPI students were the lowest level students in the prep school program. They were selected for the pilot of this research, as they comprised the largest sample size available. Main course teachers were asked to administer the treatment, as they had the most hours (and therefore the most flexible schedules) with the students. For the pre and post tests of the control group classes, they were administered by one of their teachers during class based on availability and willingness of the instructors.

There was a total of eight classrooms that participated in the study, four control and four experimental. A total of 124 students participated in the post test. While at the beginning of the semester the classes were arranged to be uniform in terms of students who attended regularly, by the end of the semester a number of students had quit attending

the courses. This is one of the limitations of the pilot which could not be controlled. This resulted in the experimental group having 68 participants while the control group had 56.

The experimental group participated in three English games twice each, for a total of six treatments. These games, which will be elaborated on further in later sections, were adapted by the researcher from pre-existing English games. The cards from these games were made using word lists from the students' curriculum that were in levels beyond the ones they were currently studying. A pre-test was created using 80 target words. Students selected whether they knew the word or not, and were required to write the meaning of the word if they selected yes. This pre-test was conducted in order to eliminate words that students already knew. From the results of the pre-test, the 40 least known words were selected as target words. These words were included in the game cards along with approximately 200 other word cards. The words came from English File and Qskills textbooks (Brooks, M, 2015; Craven, M., & Sherman, K. D., 2015; Daise, D., & Norloff, C., 2015; Freire, R., & Jones, T., 2015; Latham-Koenig, C., & Oxenden, C., 2014; Latham-Koenig, C., Oxenden, C., Lambert, J., & Duckworth, M., 2019; Lynn, S., 2015; McVeigh, J., & Bixby, J., 2015; Ward, C. S., & Gramer, M. F., 2015), with definitions from online learners' and children's dictionaries, which were added to the cards. When more than one definition was available, the first listed was chosen, except for a few exceptions where another definition was deemed more appropriate. For the purpose of this study, only nouns and adjectives were selected.

The games took place weekly, with teachers administering the games during class time. Each class period was approximately 50 minutes long. The game directions were provided in Turkish, and extra support was given to the teachers as requested. Multiple rule sheets were made available so that the students could reference them as they played. There was also a follow-up interview with class instructors following the end of the experiment.

3.5.1. Results of the Pilot Study

The result of the pilot (see table 3.2.) showed that there was no significant difference in the scores for the experimental (M=.99, SD=2.189) and the control (M=1.36, SD=2.153) groups; t(122)=-.948, p=.345.

Both groups had an average score of about one correct answer, with the experimental group being just under and the control group being a bit over. This

correlated with the feedback given by both the students and the instructors who participated in the experiment. Both indicated that the level of the words in the game was too difficult.

Table 3.2. *Mean Scores of the Pilot Study Vocabulary Post-test*

	N	Mean	SD	SE Mean	*t*	*df*	*p*
Experimental	68	.99	2.189	.265	-.948	122	.345
Control	56	1.36	2.153	.288			

In the interviews it was recommended that these games could be more effective with students at a higher level. It was also recommended that the number of vocabulary cards in the game be reduced in order to allow for more chances of repetition. Therefore, it was decided that the game should be adapted according to the feedback received, and then applied to students with a higher mastery of English.

The interviews were coded by two raters (throughout the study all coding was done by these same two raters). The interviews were coded separately and then compared. A 100% consensus was reached through discussion. The themes which emerged in the interviews were: positive: motivation, attendance, enjoyment, vocabulary learning/recall, willingness to communicate (WTC), participation; negative: confusing, too many cards, L1 usage, word level, time limitation; student attitudes: cheating, absenteeism, unmotivated students; wanting to integrate games. These themes were used for coding the interviews in the current study and can be seen in the table in the results section.

The main themes which emerged in the pilot questionnaires were types of games, purpose/benefits, problems, and style of the game. A full list with the subcategories is included in appendix 10.

3.6. Game Play Adaptations

Following the pilot, the games were adapted in three key ways: rule changes, word reduction, and the production of extra decks of cards. Firstly, in accordance with feedback from the student questionnaires and instructor interviews, rules were adapted and clarified in order to improve the games. These rule changes primarily affected the game of bowls, and involved allowing unlimited passes for unknown words in the game as well as

reducing the recommended number of words played with from 40 to 20. Secondly, as the pilot study found that the number of words did not allow for repetition and review, the number of words was reduced approximately by half. This was done by marking the 40 target words found in the pretest and deleting 50% of the words on each page of the printable game cards. This was done completely randomly. Extra sets of the game cards were made, different colors were used to keep them from getting mixed up. Finally, after the card number was reduced, three sets were made for each classroom. In both cases, students were then able to play in smaller groups.

3.7. The Study

In order to see the effects of the game-based learning activities on the vocabulary learning of Turkish prep school students, a quasi-experimental mixed-methods research study was implemented in the fall semester of the 2019-2020 academic year. These students were language majors who were beginning the semester at a pre-intermediate level. The name of this level in the prep school program was *LANG*, which is short for language majors. Based on the feedback given in the pilot, it was recommended that the game would be better suited to students with higher English proficiency. This is also in line with the literature which shows that students need a certain level of vocabulary in onder to learn low-frequency words. (Gu and Johnson, 1996; Nation, 1994). For that reason, the research was applied with students of the LANG level. The LANG level consisted of students majoring in language, primarily English Literature, who were at the pre-intermediate level at the time of the research. The control and experimental groups were chosen equally from the normal and secondary education classes, in order to be homogenous. Normal education students were students who had their classes during traditional school hours, beginning at 9 a.m. and finishing around 4 p.m. Second education students were students whose classes typically began at 1 p.m. and finished around 7 p.m. In general normal education students outperformed second education students, and therefore this was taken into consideration when dividing the classes into control and experimental groups. Additionally, students who were repeating the year were excluded from the study.

3.7.1. Participants

The participants of the current study were six classrooms (three control and three experimental) of LANG level (LANG level: students from English Literature and Translation majors, with higher exam score requirements than the rest of the prep school students; these students began the program from an intermediate level) students at the English prep school of Dumlupınar University in Kütahya, Turkey. Since this research took place in the first semester, in contrast to the pilot study which took place towards the end of the second semester, the LANG level students were technically also at the intermediate level in the prep school program at that point in the academic year. However, they were the highest level of students in the prep school program, and as they had been accepted into language departments at the university (English Literature and the Translation Department) with higher requirements of proficiency, they were considered to be a higher achieving students by the prep school program, and had more advanced requirements and expectations than the EPI students had had at the end of the previous semester.

A convenience sample was used for this study. A total of 133 students participated in this study. As mentioned before, these students were all either English Literature or Translation majors and students were all required to take the prep school classes, as English was mandatory for their majors and they had failed to meet the English proficiency exam requirements. Students were typically 18-20 years old, nearly all were Turkish and there was a mix of genders. The tests of students who were repeating the year, students who did not complete all of the necessary components and students who did not participate in all of the game treatments were excluded from the statistical data analysis. This resulted in 108 final participants, 53 of which were in the experimental group and 55 of which were in the control group. Gender demographics were not recorded as they were outside of the scope of the study. Two instructors who conducted the games in their classrooms also participated in semi-structured interviews.

3.7.2. Implementation of Game-based Activities

Three target vocabulary games were determined and applied with the experimental group. In the implementation, the instructions for the game were written in Turkish by the researcher and edited by a native speaker. These can be found in Appendix 4. It was decided that the students' native language should be used for the game instructions, in

order to ensure clarity and to foster autonomous game-play, rather than reliance on the classroom instructor. Main course instructors were approached, as they have more contact hours with the students. A chat group was opened to provide support to the instructors throughout the study. Extra assistance was provided to the classroom instructors according to their preferences, both through explaining games in class, and through giving game play tutorials beforehand.

While EPI level (intermediate level, non-language majors, comprised mostly of engineering and math teaching majors who would be taught 30% in English in their majors) had been chosen in the pilot, as there were more classrooms and students in that level, LANG was then used in the follow up study, as difficulty of the game level was one of the negatives mentioned in the qualitative data. Before playing the games, all participants took the pre-test. In contrast to the pre-test from the pilot, the pre-test for the current study was the same test as the post-test. Since the participants of the current study were a higher level than those in the pilot the same test was administered to ensure that previous vocabulary knowledge did not skew the findings, and only differences in the pre and post-test results were measured. Students who missed the initial pre-test time were encouraged to take it that same week, and were not put in the treatment until they had completed it. The games were played twice per week. Both the control and experimental groups consisted of two normal education groups and one night class group. The school management mixes the classes at the beginning of each quarter, to make them homogenous in terms of exam scores and other factors. Therefore, having the games take place at this rate was necessary in order to finish before classes were scrambled.

Games were played in this order: first Apples to Apples, then Bowls, and lastly Blurt. Apples to Apples was chosen to be the first game, as it cycles through the highest number of cards, allowing students to be exposed to a lot of vocabulary. Additionally, students were allowed, and at times required, to read the vocabulary definitions throughout the game. This meant that they were able to play easily, even if they did not know the words. Bowls was chosen to be second, as it gives opportunities for unknown words to be learned while playing and includes a high level of repetition. Blurt was put last, as active production of the target word is necessary for gaining points. This order of game play was repeated for a total of six game treatments.

Students who missed any of the six treatments were given the opportunity to do a make-up session where they played the games they had missed in class during a later

lesson period. These opportunities were given by their class teachers and by the researcher. This included a make-up day, where students who were absent played whichever game they had missed. Students who had not missed any were given an alternative activity to do during that time. Participants from other classes were also invited to join together in one class to play the games they had not completed, if more game play was required. The extra game play was facilitated by the researcher.

The post-test and questionnaire were given successively in class. Participants were told that they could fill out the questionnaires in Turkish or English. Students who missed that day were given an opportunity to make it up shortly thereafter.

Following the end of the treatment, instructors met with the researcher for face-to-face semi-structured interviews. The interview questions and transcripts are included in Appendices G and H respectively.

3.7.3. Data Analysis

In order to answer the three research questions, pre and post vocabulary tests, questionnaires, and interviews were carried out.

Table 3.3. *Overview of the Research Questions and Procedures*

Research Question	Method	Instruments	Location	Participants	Time of Data Collection
What is the effect of the three target vocabulary games on students' vocabulary acquisition?	Experiment	Pre-test and post-test	In the classroom	All student participants	2019-2020 Fall Semester, second quarter
What are students' perceptions of the three target vocabulary games?	Survey	Questionnaire	In the classroom	Experimental group student participants	2019-2020 Fall semester, final week
What are instructors' perceptions of the three target vocabulary games?	Survey	Interview	At the office	Instructor participants	January 2020, following the end of the 2019-2020 Fall semester

3.7.3.1. The Vocabulary Test

In the analysis of the vocabulary test, the words were checked by the researcher and another grader, both of whom were native speaking English instructors at the target University and fluent in Turkish. Where there was any uncertainty or disagreement on whether a word should be accepted as correct or not, those words were checked by a 3rd individual who was a native Turkish-speaking English teacher. The data of both the pre-tests and post-tests were entered into SPSS 22, statistical analysis was calculated to determine the effect of game-based activities on the participants and means were compared using an independent samples t-test.

3.7.3.2. Student Questionnaires

The data collected from the student questionnaires were analyzed using qualitative data analysis. The questionnaires were coded by both raters through content analysis, using the themes which emerged in the pilot as a guide. The two raters met together to compare and reach a consensus. The total number of codes were calculated and the initial differences were subtracted to calculate the reliability. There was an initial result of 82% reliability, and a consensus was reached through discussion.

3.7.3.3. The Interviews

The details can be seen in table 4.2 in the following chapter, and are explained further in the following subsections. The interviews were transcribed, and then coded, by a native English speaker with a C1 certificate in Turkish, and a native Turkish speaking instructor from the same school with an English Teaching PhD. These interviews were coded through content analysis according to the themes which had emerged in the pilot interviews. These themes are included in the result section, and the directions for coding can be found in appendix 10. The items were coded individually, there was an inter-rater reliability rate of 81% and a 100% consensus was reached between the two coders through discussion.

CHAPTER 4

4. RESULTS AND DISCUSSION

4.1. Results

In this section the results of the participants' pre and post vocabulary tests are given. The results for the questionnaire which was administered to the experimental group are also given, as both frequencies for the qualitative data and excerpts from the students written explanations as qualitative data. Finally the data from the instructor interviews are given as both frequencies and excerpts as well.

4.1.1. The Vocabulary Tests

Each participant's vocabulary score was calculated by deducting their vocabulary pre-test score from the post-test. Correct answers were given one point each while both blank answers and incorrect answers were marked as zero. The differences in means of the experimental and control groups were then analyzed, using an independent samples t-test. The results are shown in the table below.

Table 4.1. *Vocabulary Test Results*

	N	Mean	SD	SE Mean	*t*	*df*	*p*
Experimental	53	3.96	4.719	.648	4.603	106	.000
Control	55	.58	2.671	.360			

There was a significant difference in the scores for the experimental (M=3.96, SD=4.719) and the control (M=.58, SD=2.671) groups; t(106)=4.603, p=.000. The experimental treatment resulted in a higher increase of vocabulary size.

When examining the pre-test individually, results showed that prior to the experiment there was not a significant difference between the levels of the control and experimental groups (see table 4.2). However, when examining the post-test scores on their own the level was significant.

Table 4.2 *Group Means of the Pre and Post-test*

	N	Pre-test Mean	Post-test Mean
Experimental	53	6.64	10.60
Control	55	5.02	5.60

4.1.2. Student Questionnaire Results

A total of twenty-two themes emerges in the student questionnaires. They are listed in the table below.

Table 4.3. *Results by Theme from Student Questionnaires*

Benefits	Problems	Style of the Game	Recommendations
Learning	Not helpful	Took too much time	More daily words
Revision	No retention	Not enough cards	More words
Retention	Student problems (didn't use English, different, difficult, cheating)	Too many words	Fix the fact that the same words repeat
Fun	Difficult	The range of word difficulty is too broad	Make it more interactive
Student engagement	More practice/repetition needed		Visuals
Motivation	Not useful		Prize or tournament
No stress	Boring		
Achievement			
Effects against boredom			

To summarize the findings above, the students found many benefits while participating in these games. These benefits include learning, revision, retention, fun, and motivation among others. There were also some difficulties which emerged. An overview of these can be seen in table 4.3.

Regarding learning, Student 1 responded saying, “I learned many more words.” Furthermore, in answer to whether they would like these games added to the curriculum, they answered affirmatively, saying “Because the words are learned better.” Student 4 stated, “I can explain the definitions of some words in a more relaxed manner.”

An additional benefit mentioned by students was revision. Student 30 said, “Because I saw them constantly, I learned new words.” Further feedback was given by Student 34 who said, “I found the opportunity to learn a number of words I did not know, and through repetition I understood that they stayed in my memory better.”

In terms of retention, Student 6 commented that, “Thanks to the game, the words that I did not know became permanent in my mind.” Student 15 said, “This is a good method for memorizing words.” Additionally Student 21 stated, “Through game play, since the same words were repeated a few times, I remembered most of the words.”

Several participants mentioned the fun of playing these games. Student 59 said they would like to have these games added to the curriculum saying, “They should be added to the curriculum because, in this way, the lessons can become more fun.” Another student, Student 60, felt the same way, saying “It is tiring when we are constantly working on lessons. By playing games, we can pass the time in a more fun way.” One other student who wanted these games to be put into the curriculum, Student 63, gave their reason in this way, “I want this, because learning through fun is really easy for us students.”

In terms of student motivation, Student 53 stated that they would like to have these kinds of games included in the curriculum, stating their reason in this way, “Because I am struggling to play these types of games with my own friend group, but in the lesson, I observed that they are more willing, because we meet on common ground.” Another participant, Student 52, who wanted these games included in the curriculum said this, “Because it is incentive to learn new words and we can improve our English.”

Alevi (2020) found similar results in his vocabulary game study conducted on 4th graders. These students in his study stated that their game had a positive effect on their language skills and vocabulary development, as well as being fun. Wei et al. (2018) also

found benefits of educational games correlated with the findings of this research. This study found that games can reduce students' stress and improve vocabulary learning. A study by Johnson (2007) also had students who indicated that they found the target games fun, and useful, for learning vocabulary. Gamlo (2019) reported that students who played the target game believed that it had a positive effect on their motivation to learn English.

In answer to the closed-ended questions of the questionnaire, the results are depicted in the charts below.

Table 4.4. *Results to question, "Which was your favorite game?"*

Which was your favorite game?	Apples to Apples	Bowls	Blurt
	21	31	13

In answer to "Which was your favorite game?" of the three games, Bowls was the most popular, with nearly half of the participants choosing it as their favorite. Approximately one-third of the participants chose Apples to Apples as their favorite, while one-fifth chose Blurt, making it the least popular of the games in this study. Further research could be done on Bowls specifically, to determine its individual effect on students' learning and enjoyment.

One aspect of Bowls to be noted is that this game has the highest amount of repetition built-in. During the game there are three rounds. The first round of the game utilizes verbal descriptions, the second charades, and the third one-word clues. Therefore, each word gets repeated multiple times throughout one game, allowing more opportunity for practice and retention. Further study could be conducted on the benefits of this game specifically.

In the teacher interviews, Instructor A also mentioned Bowls specifically saying: "Uh, this game, in terms of revising, and revisiting the words again and again, and I also heard students, and I also myself believe in this way, that it was positively useful in terms of retention." So there was consistancy in student and instructor perceptions of this game.

Table 4.5. *Student Responses to the Questionnaire*

Question	Yes	No	No Answer
Did you have fun playing these games?	63	2	0
Do you want to continue playing these games?	58	7	0
Are these games beneficial?	59	6	0
Do you have any recommendations?	12	52	1
Were the game rules clear?	57	6	2
Would you like to have these games included in the curriculum?	52	12	1

In answer to the next question, "Did you have fun playing these games?" nearly all of the student participants indicated that they enjoyed the games. This is in line with studies such as Johnson (2007) which report enjoyment as a result of educational game play, and also matches with the teacher perceptions conveyed in section 4.2.2. Instructor B also noted that the students enjoyed the games, specifically mentioning the game blurt. They stated, "they really liked it because it was physical. And uh, so they, they were arguing a lot (laughs) in that game. Um, so I observe that they enjoyed this more than the others, uh, so maybe, maybe more physical."

Additional Instructor A said, "I think they had fun… And uh, some joy maybe while playing the games."

Regarding the question "Do you want to continue playing these games?" of the student participants, 89.23% responded favorably towards the idea of playing the target games more. In like manner, Instructor B stated that they would like to continue incorporating these games in their lessons. In fact they had already begun using the games with another class that was not taking part in this study. In their words,

> I could say that I even uh, tried some of the games in my other lessons. Uh, and you know, um made the students prepare, uh, the words… from their books… like that, with the cards. Uh so I am going to use it in the future. So it's, it's also beneficial for me.

This also highlights how integratable and user friendly these games are. By following the example of Instructor B, these games can easily be used as a zero-prep activity.

In answer to the fourth question, “Are these games beneficial?”, 90.77% of participants indicated that they found them to be beneficial.

When asked if they had any recommendations regarding the game, 18.46% of the students responded yes. The recommendations included ideas such as adding visuals to the cards, creating a tournament, using more daily words, making the games more interactive, and adding more words and making it so that words do not repeat. These recommendations can be useful for further development of these games, for example adding additional levels for students with other levels of English.

When asked “Were the game rules clear?” 87.69% of participants indicated that they found the rules to be clear. This is probably due to the fact that the rules were provided in the students L1, which allowed for them to more easily read the rules themselves. However, it is still prudent for the classroom instructor to be available to answer questions when students are playing the first time, as some students may find it necessary.

Additionally, 80% of participants responded that they would like to have these games included in the curriculum. This correlates with results from the instructor interviews where the theme incorporating games more emerged. Instructor B, who adapted one of the games with another class, stated.

> I even uh, tried some of the games in my other lessons. Uh, and you know, um made the students prepare, uh, the words, from their books, like that, with the cards. Uh so I am going to use it in the future. So it's, it’s also beneficial for me.

This also demonstrates the ease and feasibility with which these sorts of games can be adapted into the classroom. However, there is the limitation of time, which many students mentioned, that needs to be taken into consideration. Better than just incorporating these games into short class periods, having game-based learning formally added to school curriculum could help to overcome this difficulty.

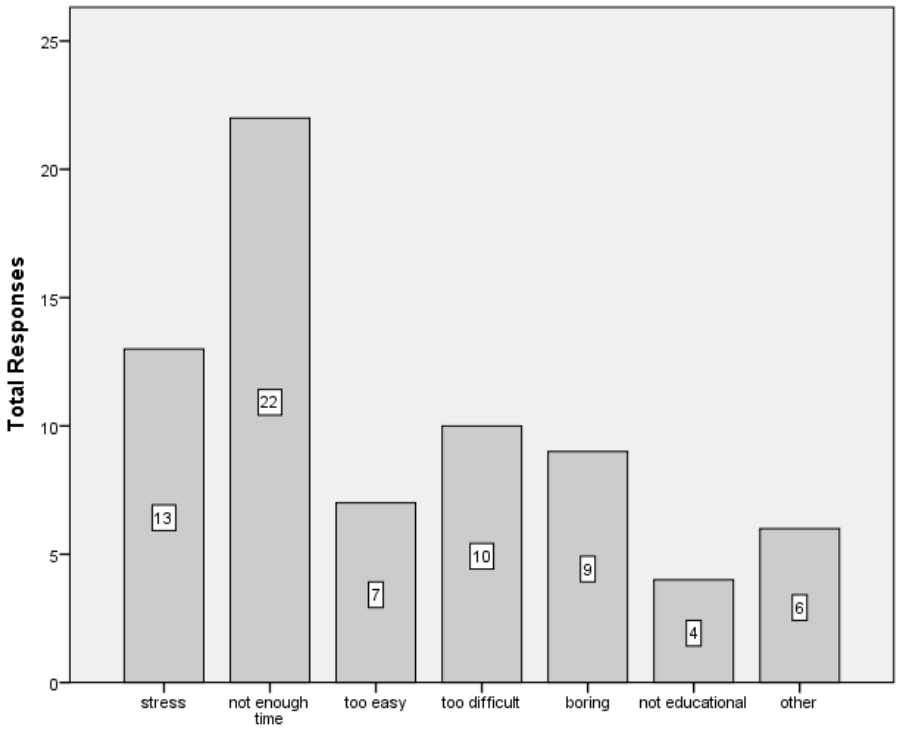

Figure 4.1. *What difficulties did you encounter?*

Finally, in answer to the questions "Which difficulties did you encounter?", the most common response was in regard to there not being enough time to complete the games . Viewing them as not educational was the least common response, while the games being boring, stressful, and issues with the difficulty being too low or too high came in the middle. There were also six responses written in as "other." Two students mentioned the same words repeating too much. While this was intentional for the purpose of providing learners with repeated exposure to aid them in vocabulary acquisition, it was perceived as a negative aspect by these students. The other write-ins stated that the game took too much time, players weren't using English, players cheated, and they didn't know the words (though they did learn them through playing, which was the purpose of the game).

Many of these same difficulties were observed by the instructors. For example Instructor A reported that some of the words seemed too rare. This was a limitation of this study, because in the pilot words that students had little or no previous exposure to were chosen. Further research could be done to determine whether having a higher percentage of commonly used words would add to students' learning potential. Additionally Instructor B noted that while they were very eager at the beginning, "in the

last two of them, they were really bored, they didn't want to play it." This could be due to the fact that the games took place over a short period of time. More research could be done to ascertain whether spaces out the game play over a longer period of time would prevent burn out.

4.1.3. Teacher Interviews

Eleven themes emerged in the instructor interviews.

Table 4.6. *Teacher Interview Themes*

Theme	Frequency of Responses
Positive: Motivation	1
Positive: Enjoyment	2
Positive: Vocabulary learning/recalling	2
Positive: WTC	2
Positive: (Equal) participation	2
Negative: L1 Usage	1
Negative: Word Level	1
Student attitudes: Cheating	1
Student attitudes: Absenteeism	1
Student attitudes: Unmotivated Students	2
Wanting to integrate games	1

The teachers' interviews were coded separately, according to the codes that emerged in the pilot. There was an inter-rater reliability rate of 81% and a 100% consensus was reached. The rate was calculated by tabulating the total number of codes and subtracting the codes which were different from that total. Consensus was reached through discussion.

The first set of themes which emerged were related to the positive aspects of the games. The first of these was enjoyment. This correlates with the students' feedback as well, where 97% of students reported having fun while playing the games.

The second theme was vocabulary learning and recall. Instructor B said,

> I saw a few of them use it in the lesson later, so uh it was really nice to see it. Um, and uh, when, when, they did the, when they replayed the games, they remembered all of them, uh, from previous games. So, it was really nice. Like, they were uh telling them, telling each other that, you know that word, you know, you remember? So yeah, they remember it really well.

Regarding the next theme, Willingness to Communicate, Instructor B also noted that students were communicating a lot during game play, and confirmed that they were communicating in English. The final positive theme was equal participation. According to the instructors, students were all able to participate. Instructor A stated, "...because we had some turn-taking strategies, of course, I think they participated equally."

Regarding the negative aspects of the game-play, L1 usage and the word level were mentioned. Regarding the former, Instructor A said, "...maybe the fact that they tend to speak Turkish at times is a negative thing." In terms of the latter, this matches the students' perceptions, where ten of the participants selected difficulty as a problem they encountered during game play.

4.2. Discussion

4.2.1. The effect of the three target vocabulary games on students' vocabulary acquisition

The t-test analysis of the students' pre and post-tests revealed that the experimental group showed a significantly higher level of improvement when compared to the control group. The results of the pre and post-test data are consistent with the findings of Alevli (2020), who found that the vocabulary game in his own study could be used in language lessons for enriched learning. This also resembles the results of Franciosi et. al (2016) who found positive results on the effects of games on vocabulary retention and Fang-Chen & Chang (2016) who reported that their students' vocabulary learning was facilitated by a digital game. Johnson (2007) also found similar results, stating that the students found the German games useful for learning both vocabulary and grammar.

These results also indicate that changing the game participants to the higher-achieving participants of the LANG level and reducing the number of word cards had a positive effect on students' retention. This is in line with Nation (1994) who stated that a sufficient mastery of high-frequency words is necessary before taking on low-frequency words.

Based on the quantitative results, the target vocabulary games have a positive effect on vocabulary acquisition, when the learners already have a sufficient vocabulary level.

4.2.2. Students Perceptions

The results of the student participants questionnaires revealed that they had a largely positive perception of the game-based vocabulary learning in the experiment. The majority of student participants responded favorably towards the idea of playing the target games more. In line with these students' desire to continue with game play, Gamlo (2019) recommends bringing game play into the classroom, thus making learning more interesting and productive.

The majority of student participants also indicated that they found the games to be beneficial. This is in line with the results of many other game studies including Gamlo (2019). One benefit mentioned a lot was that learning through the target games was fun. This is in line with Johnson (2007) who found that the students reported the games as being fun and observed that the students enjoyed the games as well as learning from them. This was also observed by Instructor A who reported that the students had fun and enjoyed the games.

A similar benefit mentioned was low stress. This is in line with (Ghanbaran & Ketabi, 2014) who report vocabulary games as having the benefit of low pressure. Motivation also emerged as a theme in the student questionnaires. This aligned with Zichermann and Cunningham (2016) and Gozcu and Caganaga (2016) who found motivation to be a benefit of game-based learning.

Along with the positive themes that emerged, the negatives must also be examined. Some of these negatives include stress, insufficient time, difficulty level, and boredom. Following the pilot, adaptations were made to the games in an attempt to counteract the time difficulty and word levels. As many of the participants indicated that they would like to have these games incorporated into the curriculum, further study could be done to see if having time allocated in the schedule would solve this problem. In answer to the

problem of difficulty, this had improved with the change of level of the students, but eliminating both the easiest and the most difficult words and standardizing the word difficulty may also improve these games. Further research could be conducted on this topic. In terms of stress Wu, Chen and Huang (2014) also report students finding game-play stressful, and say that it may be due to unfamiliarity with the rules. It is possible that repeated play would eliminate this problem. However these could also be issues that vary from student to student. On the topics of stress vs. no stress and fun vs. boredom we see different students reporting polar responses. This shouldn't be surprising as each student is an individual. For this reason teachers need to incorporate game-based learning into their own classrooms in order to determine how their own students respond to different games (Chik, 2013). Students' preferences can depend on many things, from culture (Hammer & Davidson, 2017), to gender (Sundqvist & Sylvén, 2012). That's why it is so valuable to have a variety of different types of games available for every type of teacher, student, and classroom.

4.2.3. Instructor Perceptions

The instructor interviews revealed the following themes: motivation, enjoyment, vocabulary learning/recall, WTC, participation, L1 usage, the word level, cheating, absenteeism, unmotivated students, and wanting to integrate the games. While the two instucters were largely positive about the games, and Instructor B had even reported that they had already started using the game in another classroom outside of the study, there were some difficulties mentioned as well. Because the game play was student led and not directly controlled by the teacher, both consistent L1 usage and cheating were issues. While intrinsic benefits are important in game-based learning, extrinsic prizes can also reinforce a sense of achievement (Group Dynamics, 2017). As both the student participants and the instructors mentioned the word level as a negative aspect of the game, it would be valuable to develop the games further by standardizing the difficulty levels of the target words. Unfortunately due to the expert recommendation to only use target words that none of the participants in the pilot knew, and the random vocabulary knowledge of so many individuals, the resulting target words were quite obscure. However, in the current study that need was overcome by comparing the differences in the pre and post-test scores, therefore in future study obscure words could be eliminated

(it should be noted that while the words were rather obscure, they were all found in the students textbooks, so they did have a reasonable level of frequency to be included).

CHAPTER 5

5. CONCLUSION

In conclusion, this study began with the development of three vocabulary games which were designed using vocabulary from the curriculum used by the target school. These games were used over the course of the final quarter of a year-long English prep program. As the results did not show a significant effect on the vocabulary acquisition of the participants, the first experiment was treated as a pilot, and a subsequent research study was conducted. The main study was conducted with six classrooms of English prep students who were going to study English Language majors (Literature or Translation). This study was conducted with the same treatments as the pilot, but due to the nature of the prep school, was completed over the course of three weeks. The findings showed that the games had a positive effect on vocabulary acquisition and that both instructors and participants had a positive perception in regards to them.

Regarding teachers' perceptions of these games, the participating teachers reported that they observed positive effects on students' motivation, enjoyment and vocabulary acquisition, willingness to communicate and participation. They also noted difficulties regarding the students' L1 usage, struggles with the word levels, and students' attitudes during the games. A desire to integrate these games into the classroom was also noted. As these findings align with the literature, it can therefore be concluded that integration of these games into EFL classrooms can have a beneficial effect on learning.

In the questionnaires, the student participants indicated that they benefited from these games in many ways. These include learning, revision, retention, fun, engagement, motivation, reduced stress, achievement, and effects against boredom. They also mentioned some problems including difficulty of words, and the need for more practice and repetition, along with some recommendations for improving the games. More research could be conducted on this game in order to improve and develop it further. Specifically exploring how the games can be more appropriate for students with different needs and levels. A game that works well with one type of student may not work well with a student in a different context. Therefore, it is important to tailor games to the learners who will participate in them (Yang et al., 2020).

The results of the post-test reveal that the experimental group showed greater improvement than that of the control group. It showed that this game was effective on the LANG level students, in contrast to the lower level EPI students of the pilot study. For

game-based learning to be successful, it is important to take contextual factors into consideration. These include aspects such as class size, educational level, perceived stakes, as well as other variables (Buckley et al., 2017). More work could be done to adapt this game specifically for lower level students as well, which could be an opportunity for further study.

In conclusion, this study found that both teachers and students have a largely positive perspective of these vocabulary games, and are interested in utilizing them further. The tests revealed that these games have a beneficial effect on students' vocabulary acquisition. Which is in line with the findings of previous research which show that gamification has a positive effect on vocabulary learning (Abrams & Walsh, 2014; Ebrahimzadeh, 2017; Fang-Chen & Chang, 2016; Hursen & Salaz, 2016; Mehregan, 2014; Niño, 2015).

5.1. Suggestions for Further Studies

Further research could also be done on the incorporation of this game as a regular part of a prep school curriculum. Student participants' main response to problems with the game was the lack of time. If these games were part of their syllabus, they could have their own time scheduled, and students responded that they would like these games to be included in their program. Additionally, in the interviews, instructors indicated that they would like these games included in their teaching. Furthermore, due to time constraints, this research was not able to explore more long-term retention, so including these vocabulary games into a year-long program could open doors for further valuable study.

Researching the other two games independently with fewer vocabulary cards could show more benefits for learners. Also, further study could be done with more level appropriate target words while testing passive retention. Further research could explore the development of these games with beginner or elementary level vocabulary to learn whether lower-level learners could see the same benefits when playing with level appropriate target words. Further research could be done to investigate whether prizes could motivate students to follow the rules and speak English consistantly.

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APPENDICES

APPENDIX-1. Findings of Reviewed Sources

Author(s)	Origin	Purpose	Target Population	Findings	Major themes
Abrams and Walsh (2014)	United States	to examine the role of gamification in vocabulary development and learners attitudes towards vocabulary learning	11th grade students	The game had a positive effect on students' motivation and vocabulary learning.	Vocabulary Learning, gamification
Alemi (2010)	Iran	to evaluate the usage of various word games	Junior high students	The implementation of the word games had a positive effect on vocabulary learning.	Educational games, Word games,
Bouzid et al. (2016)	Tunisia	to examine deaf learners' interest in learning vocabulary through a educational game	Nine deaf learners, aged 9 - 16	Results showed that participants responded positively to the game. Furthermore the game was found to be easy, well-liked, and useful.	Learning Vocabulary and Sign Writing Notations
Buckley et al. (2017)	Ireland	to explore students' perceptions of gamification	Under- and post-graduate students	Undergraduate students were more engaged in the gamified activity than the post-graduate students, so while there was a positive effect on the former, the latter group did not see the same effect.	Gamified Learning Intervention
Doğan et al. (2018)	Turkey	to examine students perceptions of a game concept	4th Grade Turkish & Czech students	Turkish and Czech students' perceptions of games differed. Turkish students primarily perceived	Perceptions of a Game Concept

				games as those which involved physical activity, while Czech students' primary association was tabletop games..	
Ebrahimzadeh (2017)	Iran	to determine the effect of vocabulary acquisition through a video game	High school students	Learning through digital video games allows for better vocabulary acquisition in comparison to traditional methods.	Vocabulary learning, digital video games
Falk-Ross and Evans (2014)	U.S.A.	to develop a language approach to aid in developing the literacy of marginalized students	7th grade students	The approach had a positive effect on students' development and showed that there is a need for language modeling to meet the specific literacy needs of the students.	Vocabulary Develop- ment
Fang-Chen and Chang (2016)	Taiwan	to determine whether students learned more vocabulary through a role-play game than traditional methods.	High school students	The role-playing game facilitated vocabulary acquisition.	Vocabulary Acquisition
Franciosi (2017)	Japan	to examine the effect of game-based learning on foreign language vocabulary transferability.	University Students	Computer game-based language education can have a positive effect on transferability of learned vocabulary.	Foreign Language Vocabulary Transfer- ability, Computer game-based learning
Ghanbaran & Ketabi (2014)	Iran	to examine the literature on vocabulary learning and the effect of multimedia games	N/A	Current research on the topic of the effects of multimedia games on second language learning is restricted, but future	Vocabulary Acquisition, Multimedia games

		on vocabulary learning		research on this topic is promising.	
Gulfidan & Cagiltay (2006)	Turkey	to learn the perceptions university students have of the use of computer games with educational feature	University students	Students had mixed perceptions of educational video games including: they are suitable for all ages, help develop knowledge and skills, are an important leisure activity, are a waste of time and only suitable for children. More research is needed on this topic.	Educational Computer Games
Hsiao et al. (2017)	United States	to examine learner's language learning strategies and their influence on vocabulary acquisition via virtual reality.	University students	High-achieving students were able to use more learning strategies than low achieving ones.	Vocabulary Learning
Huang et al. (2016).	Taiwan	to examine the effects of a mobile vocabulary learning tool on students' learning motivation and performance	4th grade students	The experimental group demonstrated a higher improvement in vocabulary, showing that these types of vocabulary tools can be useful for learning.	Vocabulary Learning Motivation
Hursen and Salaz (2016)	Cyprus	to determine the effect of authentic childhood games on teaching English	Kinder-garten students	Game-based teaching had a more beneficial effect on vocabulary learning than traditional methods.	Game-based learning, childhood games, vocabulary learning
Klimova and Kacet (2017)	Czech Rebublic	To review research that has been conducted on foreign	N/A	There are both benefits and limitations to learning through games. There is a need for more	Foreign Language Learning and Games

		language learning and games		research on this topic.	
Lan (2013)	Taiwan	to examine a vocabulary strategy sharing tool	6th Grade students	The vocabulary strategy sharing tool had a more positive impact on vocabulary learning than rote memorization.	Vocabulary Acquisition
Lu (2013)	Taiwan	to examine vocabulary learning through various testing methods	High school students	All four tasks had positive effects on vocabulary learning. However more research is needed. It's recommended that teachers offer sufficient exercises and tools for learners.	Vocabulary Testing Methods
Mayer (2015)	U.S.A.	to analyze articles on digital games	N/A	There is a lack of research on the topic of digital games.	Digital Game Learning
Mehregan (2014)	Iran	to learn the effect of language games on Iranian learners' vocabulary achievement	10-15 year old students	Students who learned with games outperformed the control group. There was no difference between genders.	Games and Vocabulary Acquisition, non-digital games
Niño (2015)	England	To examine students usage and perceptions of mobile-assisted language learning	University students	Participants indicated using apps to support language learning to look up definitions and to translate words. They found apps most useful for increasing vocabulary.	Mobile-assisted language learning

Reese and Wells (2007)	U.S.A	to assess a conversation card game	International university students	The game had a positive effect on students' language development.	Conversation card game
Shah and Foster (2014)	U.S.A.	to determine which conditions are necessary for the successful implementation of game-based learning	5th and 6th grade students	The teacher was able to implement the system successfully and students improved significantly.	Limited Use of Games in Academics
Salavati and Salehi (2016)	Iran	to examine the use of instructional video games on EFL learners' vocabulary retention	Pre-Intermediate Learners	While immediate results were the same, students who learned through video games outperformed the control group on the delayed post-test.	Instruction-al Video Games For EFL Learners' Vocabulary Retention.
Silsüpür (2017)	Turkey	to determine the effect of language games on vocabulary learning.	University students	Games are an effective method for language learning.	Vocabulary Games, Vocabulary Learning
Sundqvist & Sylvén (2012)	Sweden	to investigate young Swedish students' out-of-school contact with English.	4th grade students	Learners who played games were more likely to find English interesting and less likely to rate themselves as being bad at English.	English Proficiency
Wright (2012)	U.S.A.	to examine kindergarten students oral vocabulary instruction	Kinder-garten students	Teachers discussed vocabulary words eight times a day on average. It is necessary for more ways to be found for teaching vocabulary.	Vocabulary Instruction
Wu, Chen and Huang (2014)	Taiwan	to examine the usage of digital board games for	High school seniors	Students who used the digital learning platform had higher communication	Digital Games in EFL Classrooms

		the purpose of genuine education		results when compared to other groups.	
Yang et al. (2020)	Taiwan	to develop a game-based vocabulary system to provide students with suitable tasks	High school students	The study found that higher and lower achieving students were affected in different ways by the various vocabulary learning systems.	Vocabulary Gaming
Yürük (2020)	Turkey	to determine which sounds were difficult for students to pronounce and whether using Kahoot could have a positive impact on pronunciation development	University students	Kahoot was more effective for pronunciation development than the control method.	Pronunciation in Mobile Apps
Zhang (2013)	China	To evaluate the efficacy of vocabulary learning strategies	First year university students	Guessing behaviors can be affected by factors such as multiple choice options, vocabulary frequency level, and partial knowledge.	Vocabulary knowledge, guessing behaviors
Zhonggen (2018)	China	to find the influence of different levels of interactivity in gaming on English vocabulary learning	University students and 9-12 year old students	Serious games have a genuine effect on English vocabulary learning.	Vocabulary Learning

APPENDIX-2. Notice to Instructors

Thank you so much for participating in this game-based vocabulary-learning research study. This study will take place over the course of the 4th academic quarter. The first week of class you will explain the study, ask students to sign the participation consent form, and administer a vocabulary pretest. Starting week one, you will have students play one of three vocabulary games, for one class hour according to the following schedule:

Week 1 -Apples to Apples

Week 1-Bowls

Week 2-Blurt

Week 2- Apples to Apples

Week 3-Bowls

Week 3-Blurt

On the 4th week of the study, you will administer the post-test and student questionnaires. You will also be interviewed by me following the end of the study. I will also give you the rules for the games. I would love to discuss the games with you after you've read the directions, in case you have any questions. In order to play the games, divide the students into groups of about 8 (Apples to Apples and Blurt should be played with 4-8 players; for Bowls 6-12 is better). Place groups of 4 desks together to make game tables, and have students sit around them. Give each group their own set of the game (I have provided you with three complete sets. If a group runs out of cards to draw from, they can shuffle the discarded cards and return them to the draw pile. This problem won't occur with Bowls, but may happen with the other two games, especially Apples to Apples). Give each group a copy of the game rules. They should be able to understand the rules without extra explanation, but feel free to explain if they ask questions. If students ask to use a dictionary during the game, they can be allowed to do so in this way: they cannot use a dictionary during the game play. But if all players/both teams agree, they can take short breaks during the game to look up words.

The post-test and questionnaires will be delivered to you to be administered the final week of classes. I will arrange a time to meet with you for an interview following that.

Thank you so much for participating. I truly appreciate all your time and effort concerning this study.

Sincerely,

[redacted]

APPENDIX-3. Consent Forms

ÖĞRENCİ ARAŞTIRMA GÖNÜLLÜ KATILIM FORMU

Bu çalışma, The Development and Implementation of Vocabulary Games in the EFL classroom **Yabanci Dil Olarak İngilizce Öğretiminde Sözcük Öğrenme Oyunlarının Geliştirilmesi ve Uygulanması** başlıklı bir araştırma çalışması olup öğrencilerin kelime bilgisinin uzun süreli hafızada saklanması amacını taşımaktadır. Çalışma, [redacted] tarafından yürütülmekte ve sonuçları ile öğrencilerin sözcük öğrenimine ve dil öğrenme süreçlerine ışık tutulacaktır. Bu araştırma kelime testleri, uygulama ve anket içermektedir.

- Bu çalışmaya katılımınız gönüllülük esasına dayanmaktadır.

- Çalışmanın amacı doğrultusunda, testler, anketler ve görüşmeler yapılarak sizden veriler toplanacaktır.

- İsminizi yazmak ya da kimliğinizi açığa çıkaracak bir bilgi vermek zorunda değilsiniz/araştırmada katılımcıların isimleri gizli tutulacaktır.

- Araştırma kapsamında toplanan veriler, sadece bilimsel amaçlar doğrultusunda kullanılacak, araştırmanın amacı dışında ya da bir başka araştırmada kullanılmayacak ve gerekmesi halinde, sizin (yazılı) izniniz olmadan başkalarıyla paylaşılmayacaktır.

- İstemeniz halinde sizden toplanan verileri inceleme hakkınız bulunmaktadır.

- Sizden toplanan veriler bilgisayar depolama ve klasik dosyalama yöntemi ile korunacak ve araştırma bitiminde arşivlenecek veya imha edilecektir.

- Veri toplama sürecinde/süreçlerinde size rahatsızlık verebilecek herhangi bir soru/talep olmayacaktır. Yine de katılımınız sırasında herhangi bir sebepten rahatsızlık hissederseniz çalışmadan istediğiniz zamanda ayrılabileceksiniz. Çalışmadan ayrılmanız durumunda sizden toplanan veriler çalışmadan çıkarılacak ve imha edilecektir.

Gönüllü katılım formunu okumak ve değerlendirmek üzere ayırdığınız zaman için teşekkür ederim. Çalışma hakkındaki sorularınızı Dumlupınar Üniversitesi Yabancı Diller Yüksekokuluna [redacted] ‘e yöneltebilirsiniz.

[redacted]

Bu çalışmaya tamamen kendi rızamla, istediğim takdirde çalışmadan ayrılabileceğimi bilerek verdiğim bilgilerin bilimsel amaçlarla kullanılmasını kabul ediyorum.
(Lütfen bu formu doldurup imzaladıktan sonra veri toplayan kişiye veriniz.)

Katılımcı Ad ve Soyadı:
İmza:
Tarih:

OKUTMAN ARAŞTIRMA GÖNÜLLÜ KATILIM FORMU

Bu çalışma, The Development and Implementation of Vocabulary Games in the EFL classroom Yabanci Dil Olarak İngilizce Öğretiminde Sözcük Öğrenme Oyunlarının Geliştirilmesi ve Uygulanması başlıklı bir araştırma çalışması olup öğrencilerin kelime bilgisinin uzun süreli hafızada saklanması amacını taşımaktadır. Çalışma, [redacted] tarafından yürütülmekte ve araştırma sonuçları ile öğrencilerin sözcük öğrenimine ve dil öğrenme süreçlerine ışık tutulacaktır. Bu araştırma öğrenciler için kelime testleri, uygulama, anket ve öğrenciler için görüşmeler içermektedir.

- Bu çalışmaya katılımınız gönüllülük esasına dayanmaktadır.

- Çalışmanın amacı doğrultusunda, testler, anketler ve görüşmeler yapılarak sizden veriler toplanacaktır.

- İsminizi yazmak ya da kimliğinizi açığa çıkaracak bir bilgi vermek zorunda değilsiniz/araştırmada katılımcıların isimleri gizli tutulacaktır.

- Araştırma kapsamında toplanan veriler, sadece bilimsel amaçlar doğrultusunda kullanılacak, araştırmanın amacı dışında ya da bir başka araştırmada kullanılmayacak ve gerekmesi halinde, sizin (yazılı) izniniz olmadan başkalarıyla paylaşılmayacaktır.

- İstemeniz halinde sizden toplanan verileri inceleme hakkınız bulunmaktadır.

- Sizden toplanan veriler bilgisayar depolama ve klasik dosyalama yöntemi ile korunacak ve araştırma bitiminde arşivlenecek veya imha edilecektir.

- Veri toplama sürecinde/süreçlerinde size rahatsızlık verebilecek herhangi bir soru/talep olmayacaktır. Yine de katılımınız sırasında herhangi bir sebepten rahatsızlık hissederseniz çalışmadan istediğiniz zamanda ayrılabileceksiniz. Çalışmadan ayrılmanız durumunda sizden toplanan veriler çalışmadan çıkarılacak ve imha edilecektir.

Gönüllü katılım formunu okumak ve değerlendirmek üzere ayırdığınız zaman için teşekkür ederim. Çalışma hakkındaki sorularınızı Dumlupınar Üniversitesi Yabancı Diller Yüksekokuluna [redacted]G'e yöneltebilirsiniz.

[redacted]

Bu çalışmaya tamamen kendi rızamla, istediğim takdirde çalışmadan ayrılabileceğimi bilerek verdiğim bilgilerin bilimsel amaçlarla kullanılmasını kabul ediyorum.
(Lütfen bu formu doldurup imzaladıktan sonra veri toplayan kişiye veriniz.)

Katılımcı Ad ve Soyadı:
İmza:
Tarih:

APPENDIX-4. Game Rules

Blurt

Materyaller

- Kelime kartları
- Kaşık

Katılımcılar

- B1 seviye
- 4-8 kişi
- 10+ yaşında

Süre 30-60 dakika

Kurulum

- Oyuncu sayısı 8 kişiden fazlaysa oyuncular ayrı gruplara bölünebilir
- Oyuncular bir masanın çevresinde oturacak. Masanın ortasına bir kaşık koyulacak. Herkes kaşıktan aynı uzaklıkta oturmuş olmalı.
- Belli bir oynama süresi seçilecek (30 daka en uygun) ve zamanlayıcı başlatılacak

Oynama şekli

- Doğum günü en yakın olan kişi (geçmiş yada gelecek fark etmez) ilk kartı seçecek. Kartta yazan kelimenin tanımını okuyacak.
- Diğerleri kelime tahmin etmeye çalışacaklar. Kelime tahmin edilebilmesi için önce kaşık ortadan alması gerek. Birden fazla kişi kelime bilirse kaşığı yakalayan kişi cevaplayabilecek. O kişi yanlış cevap verirse kaşığın yine ortaya koyulması gerek. Diğer oyuncular tahmin etmeyi deneyebilir, ama her oyuncunun bir kart için bir tek tahmin hakkı vardır.
- Doğru cevap verildiğinde (ya da herkes yanlış cevap verdiğinde/kimse tahmin edemezse) herkes karta bir kere bakabilir.
- Doğru cevaplanan kartlar doğru cevabı verenlere verilecek ve onlar biriktirecek.
- Cevaplanamayan kartlar ayrı bir yerde biriktirilecek.
- Sıralar saat yönünde devam edecek.
- Oyun süresi bitirildiğinde herkesin kartları birer puan değerinde. En çok puan kazanan galip olacak.

Apples to Apples

Materyal

Sıfat kartları
- İsim kartları

Katılımcılar

- B1 seviye
- 4-8 kişi
- 10+ yaşında

Süre 30-60 dakika

Kurulum

- Katılacaklar 8 kişiden fazlaysa katılımlar ayrı gruplara bölünebilir
- Katılımlar bir masının çevresinde oturacak. masının ortasında kaşık koyulacak. Herkes kaşıktan aynı uzaklıkta oturmuş olmalı.
- Belli bir oynama süresi seçilecek (30 daka en uygun) ve **timer** başlatılacak
- Herkese 8 kırmızı kart verilecek. Başlamadan önce herkes karta bakmalı. Karttaki yazıldığı kelime anlatım ve örneklere bakıp kelimelerin anlama algılamasını sağlar.

Oynama şekli

- Doğum günü en yakın olan kişi (geçmiş yada gelecek fark etmez) ilk yargıç olacak. O yeşil kart seçecek. Karttaki yazan kelime ile kelimenin anlamdaşlarını okuyacak.
- Sonra yargıç elini avuç içi yukarıda olacak şekilde masının ortasına koyacak ve "go" (başla) diyecek.
- "Go" denildiğinde diğerleri o sıfata en uygun kırmızı isim kartını bulmaya çalışacak.
- Herkes maximum 2 kart oynayacak ama maximum 7 kart oynanabilir (7-8 kişi katılırsa 9 kart oynanabilir).
- Kartlar oynandıktan sonra maximum kart sayısından fazlasının oynanmadığını yargıç kontrol edecek. Fazla olan varsa son oynanan kartları koyanları geri verilecek.
- Yargıcı elindeki kartları karıştırıp, önüne açıp, sesli okayacak.
- Kendine göre yeşil sıfat kartına en uygun kırmızı isim kartını seçecek. Seçmeden önce diğer hangi kartı oynadığını söylemesi yasak. Kartı seçilen kişi yeşil kartı alacak.
- Kullanılan kırmızı kartları kullanılmış kartlar destesine koyulacak. Sonra herkes eksilen kırmızı kartının yerine eşit sayıda kırmızı kartı, yeni kart destesinden alacak.
- Yargıçlık sırası saat yönünde devam edecek.
- Zaman bitirildiğinde en çok yeşil karta sahip olan galip olur.

Bowls (Kaseler)

Materyal

- kelime kartları
- kase

Katılımlar

- 4-30 kişi
- 10+ yaşında

Süre 30-60 dakika

Kurulum

- rastgele 20-25 kelime kartı seçip, bakmadan kaseye koyun (daha çok kart, daha uzun süre demek)
- Oyuncuları iki gruba ayırın
- doğum günü en yakın olan kişi başlayacak (geçmiş yada gelecek fark etmez)
- Her takımda bir kişi zamanı yönetecek. Telefondan zamanlayıcı açacak ve öbür takımın vaktinin başladığını ve bitirdiğini belirtip kontrol edecek

Oynama şekli

- İlk anlatacak kişi kase yanına durup anlatacak. Herkesin onu görebileceği bir yerde olmazsı lazım. En uygun şekil odanın ortasında bir masının üstüne kase koyulup yanında durulabilir.
- Zamanlayıcı başladığında her kişinin anlatma sırasında 1 dakika vakti olacak. 3 kere pas hakkı veriliyor. Anlatıcının takımı doğru cevap verdiğinde kelime kartlarını takım toplayacak. Anlatırken sadece İngilizce dili kullanarak kelimeler anlatılabilir. Anlatılan kelime ve aynı kökten gelen kelimelerin söylenmesi yasak. Bu kural bozulursa kart yine kaseye atılacak. Anlatıcı iki kere kural bozarsa o kart (ve anlatıcının sırasında kazanılmış bütün kartlar) karşı takıma verilecek.
- Sadece anlatıcının takım arkadaşları cevap verebilirler, fakat herkesin dikkatlice dinlemesi önlemlidir. Sonra aynı kelimeleri anlatmak yada cevaplamak ihtimali var.
- Anlatıcının 1 dakkika süresi bittiğinde doğru cevaplanan kartlar takım tarafından biriktirilecek. Cevaplanamamış kartlar yine kaseye koyulacak, ve anlatıcı karşı takımdan gelecek anlatıcı kişiyi şeçecek.
- Karşı takımın anlatıcısı aynı şekilde oynayacak. Sırasını bitirdiğinde yine karşı takımdan birisi seçilecek, tüm oyuncular bir kere oynamadan aynı kişi ikinci kere oynayamaz.
- Kasedeki bütün kartları bittiğinde puanlar sayılıp yazılacak.
- İkinci tur bütün kartlardaki kelimeler tekrar anlatılacak, ama katılımcılar konuşmadan (sessiz sinema şekilde) kelimeleri işaret dili ile anlatmaya çalışacaklar (dudak hareketleriyle anlatmak kesinlikle yasaktır).
- Bu tur bitirildiğinde kartları sayılıp, yazılıp yine kaseye koyulacak
- Üçüncü tur ve son tur. İlk ve ikinci tur kurallarıyla aynı ama sadece tek kelime kullanılarak kelimeler anlatılacak (hareket yok).
- Üçüncü tur bitirildiğinde son puanlar sayılıp 1. ve 2. turun puanlarıyla beraber toplanarak hesaplanıp galip belirtilecek.

Game Rules- English Version

Blurt

Materials

- Word cards
- A spoon

Participants

- B1 Level
- Four to eight people
- Ages 10+

The game lasts 30-60 minutes

Set up

- If there are more than eight players, separate into two groups.
- Players are seated around a table. Put the spoon in the middle of the table. Everyone should be equidistant from the spoon.
- Choose a set amount of time (30 minutes is best) and start the time.

Game Play

- The person whose birthday is closest (past or upcoming doesn't matter) chooses the first card. They read the definition written on the card.
- The other players try to guess the word. Before guessing, a player must take the spoon from the middle of the table. If more than one person knows the answer, the person who takes the spoon first can answer first. If they are wrong, return the spoon to the middle of the table. The other players can try to guess, but each player can only guess one time per card.
- When the correct word is guessed (or after every player has guessed wrong/no one had a guess) everyone can look at the card one time.
- Cards that are guessed correctly are given to the person who guessed the answer, and stay with that person.
- Cards that were not guessed correctly are put into a separate pile.
- Continue until the time has finished.
- When the game time has ended, each card a player is holding is worth one point. The person with the most points wins.

Apples to Apples

Materials

- Adjective cards
- Noun cards

Participants

- B1 Level
- Four to eight people
- Ages 10+

The game lasts 30-60 minutes

Set up

- If there are more than eight participants, they should separate into two groups.
- Players should sit around a table
- Set a certain amount of time (30 minutes is best) and start the timer.
- Give each player eight red cards. Before the game starts everyone should look at their cards. Written on the cards are definitions and examples to aid understanding.

Game Play

- The person whose birthday is closest (past or upcoming doesn't matter) is the first judge. They choose a green card. They read the word written on the card as well as its synonyms.
- Then the judge puts their hand, palm up, in the middle of the table and says "Go".
- When the judge says "Go," the other players should find their most appropriate red noun card for that green card.
- Each person can play a maximum of two cards per round, however, only a maximum of seven cards total can be played (nine if the number of players is seven or eight).
- Once the cards have been played, the judge should check to make sure the maximum number has not been exceeded. If there are more than seven cards, the last card(s) played should be returned to whomever played them.
- The judge should mix up the cards, then look at them and read them aloud.
- The judge then chooses the card that they think matches the green adjective card best. Before the judge makes their choice, it is forbidden for the other players to say which card they played. The person who played the winning card receives the green card.
- Played red cards should be put into the draw pile. Later, everyone should pull a red card from the draw pile to replace the card they played.
- Choose a new judge by moving clockwise around the circle.
- When time finishes, the player with the most green cards wins.

Bowls

Materials

- Word cards
- Bowl

Participants

- Four to thirty people
- Ages 10+

The game lasts 30-60 minutes

Set up

- Choose 20-25 cards at random, and place them in the bowl without looking at them (the more cards used, the longer the game will last)
- Separate the players into two teams
- The person whose birthday is closest (past or upcoming doesn't matter) goes first.
- Each team should assign one person to keep time. This person should open the timer on their phone and check the start and end times for the opposite team.

Game Play

- The first player should stand near the bowl. Everyone should be able to see them. The bowl should be placed on a table in the middle of the room.
- Each person will be given one minute to explain words. Each person can "pass" three times. The team of the player explaining will be given one point for each card correctly guessed. Cards that are guessed correctly by the explainer's team should be put into a pile. The explainer must speak only in English. It is forbidden to use the word on the card or words from the same root while explaining. If the person breaks the rules two times, that card (and all cards won that round) will be given to the opposing team.
- Only players on the same team as the explainer may guess the card, but everyone should pay attention to the word cards used. It is possible that the same card will come up again.
- After the explainer's one minute has run out, the cards correctly answered should be collected by their team. Cards that could not be guessed correctly should be returned to the bowl. That explainer will choose the next explainer from the opposing team.
- The opposing team plays according to the same rules outlined above. When time finishes, continue switching teams. Before each team member has gone once, no one can go twice.
- When all the cards have been guessed, count up the points for each team.
- The second round will use the same cards, but this time players will have to explain the cards through charades (without speaking) (It is absolutely forbidden to use lip-reading in the charades round)
- Once the cards have all been used again, count the points and add them to the totals from round one. Then return the cards to the bowl.

- The third round is the final round. The rules for procedure are the same as the first two rounds, however the explainer may only say one word as a clue. (Not the word on the card) (Gestures are forbidden)
- When the third round is finished, add the points and declare the winner

APPENDIX-5. Game Cards

Adjective Card Sample

ANGRY filled with anger **:** having a strong feeling of being upset or annoyed	ATTRACTIVE having qualities that attract people : having a pleasing appearance	AVERAGE a usual amount or kind; something that is not outside the ordinary
BEAUTIFUL having beauty: very attractive	BIG large	BORING dull and uninteresting **:** causing boredom

Noun Card Sample

ADDITIVES substances added to another substance in small amounts to change or improve it.	ADOLESCENCE the period in a person's life between childhood and adulthood	AIRPORT a place where aircraft land and take off and where there are buildings for passengers to wait in and for aircraft to be sheltered
APPEARANCE the way that someone or something looks	ARM the part of the human body between the shoulder and the wrist	BACTERIA a group of very small living things that often cause disease

APPENDIX-6. Student Questionnaire

A Bölümü

Lütfen Aşağıdaki Anket Sorularını Cevaplandırınız.

1. Bu oyunları oynarken eğlendiniz mi?
    a. evet
    b. hayır
2. En sevdiğiniz oyun hangisidir?
    a. Apples to Apples
    b. Bowls
    c. Blurt
3. Bu oyunları oynamaya devam etmek ister misiniz?
    a. evet
    b. hayır
4. Bu oyunlar faydalı mıydı?
    a. evet
    b. hayır
5. Eğer cevabınız evetse, bu deneyimden nasıl faydalandınız?

6. Eğer cevabınız hayırsa, neden bu oyunlar hakkında olumsuz görüşleriniz var?

7. Hangi zorluklarla karşılaştınız?
    a. stress
    b. yetersiz zaman
    c. fazla kolay
    d. fazla zor
    e. sıkıcı
    f. eğitici değil
    g. diğer: _____

B Bölümü

1. Bu oyunların daha eğlenceli ve daha öğretici olabilmesi için, değişiklik önerir misiniz? Evetse açıklayınız lütfen.
    a. evet
    b. hayır

2. Oyunların kuralları açık ve anlaşılır mıydı? Hayırsa, bu aksaklıkların giderilmesi için önerleriniz var mı?
    a. evet
    b. hayır

3. Bu oyunların ders programlarımıza dahil edilmesini ister misiniz? Cevabınızın sebebini açıklayınız lütfen.
    a. evet
    b. hayır

4. Sınıfta oynadığınız sözcük oyunları hakkında başka eklemek istidiğiniz şey var mı?

APPENDIX-7. Post-test

Ad/Soyad: _____ Sınıf: _____

Aşağıdaki tabloyu uygun şekilde doldurunuz. (Kelimeyi tam olarak hatırlayamazsanız lütfen ilk sütunu seçerek işaretleyiniz.)

	Bu kelimeyi daha önce gördüm ama anlamını bilmiyorum.	Bu kelimenin ait olduğu grubu yazınız (sıfat-isim)	Bu kelimeyi daha önce gördüm ve anlamı:	Bu kelimeyi daha önce gördüm ve bir cümle içinde kullanabilirim. (Bir cümle yazınız.)
1. resentment				
2. deprived				
3. inconceivable				
4. burnout				
5. vulnerable				
6. resolve				
7. incentive				
8. controversial				
9. inevitable				
10. perk				
11. ditch				
12. reluctant				
13. clutter				
14. incorrigible				
15. savvy				
16. adolescence				
17. scrapbook				

18. crocheting				
19. specimen				
20. prodigy				
21. inspiration				
22. deviant				
23. additives				
24. pacemaker				
25. rhetorical				
26. popsicle				
27. tantrum				
28. tuition				
29. gratitude				
30. notorious				
31. reconciliation				
32. ointment				
33. legible				
34. lofty				
35. palpable				
36. priority				
37. constrained				
38. hurdle				
39. contradiction				
40. commuter				

APPENDIX-8. Semi-structured Instructor Interview Questions

Teachers

What is your evaluation of the vocabulary games?

- What was positive?
- What was negative?
- Is there anything you would change about the games?

Can you describe the students' behavior during the vocabulary games?

- To what extent did they participate?
- Did the games affect their willingness to communicate?
- Did the games affect their motivation?
- Were they all able to participate the whole time?

APPENDIX-9. Instructor Interview Transcript Sample

Instructor A Interview Part 1

Researcher: Thank you so much for doing this research with me again.

Instructor A: You are more than welcome.

Researcher: So, the first question, as before, what is your evaluation of the vocabulary games?

Instructor A: Mhmm. So first of all, uh, because this is for your thesis, I myself have wondered, why these three games-

Researcher: Mhmm.

Instructor A: - but not any other games? I know, of course, I am sure there must be or there is some theoretical background and I just wanted to know, or wondered, uh, why these three games?

Researcher: Mhmm. The main reason for these three games is that they were able to be adapted in such a way that the same cards would be able to be utilized with the rules of three different games, so that it could be a three-in-one.

Instructor A: Mhmm.

Researcher: But also because they build on different levels, starting from more where you're acquiring and have a chance to learn the words. Where at the um, later games, you're trying to produce them without any sort of um, prompt, uh, like knowing the word from before chance. But, yeah, the main reason I chose these three games is these are three popular games that I have done with students before-

Instructor A: Mhmm.

Researcher: -that are also able to be adapted into one set of cards.

Instructor A: I see. I, actually, it, it’s me who is asking the questions.

Researcher: Yeah.

Instructor A: Sorry. So uh, first of all, when we did this in the previous quarter, I complained about the situation that not every student had the opportunity to see or study-

Researcher: Uh huh.

Instructor A: -each and every word.

APPENDIX-10. Coding Instructions

Please code the answers to the open-ended questions A: 5 & 6; B 1, 2, 3 & 4.

The main themes we found in the pilot questionnaires were:

Types of Games

Purpose/Benefits

- Filler
- Teaching/Revising (Grammar or Vocabulary)
- Student engagement
- Effects against boredom
- They love competition
- Fun
- Student motivation
- Achievement
- No stress
- WTC

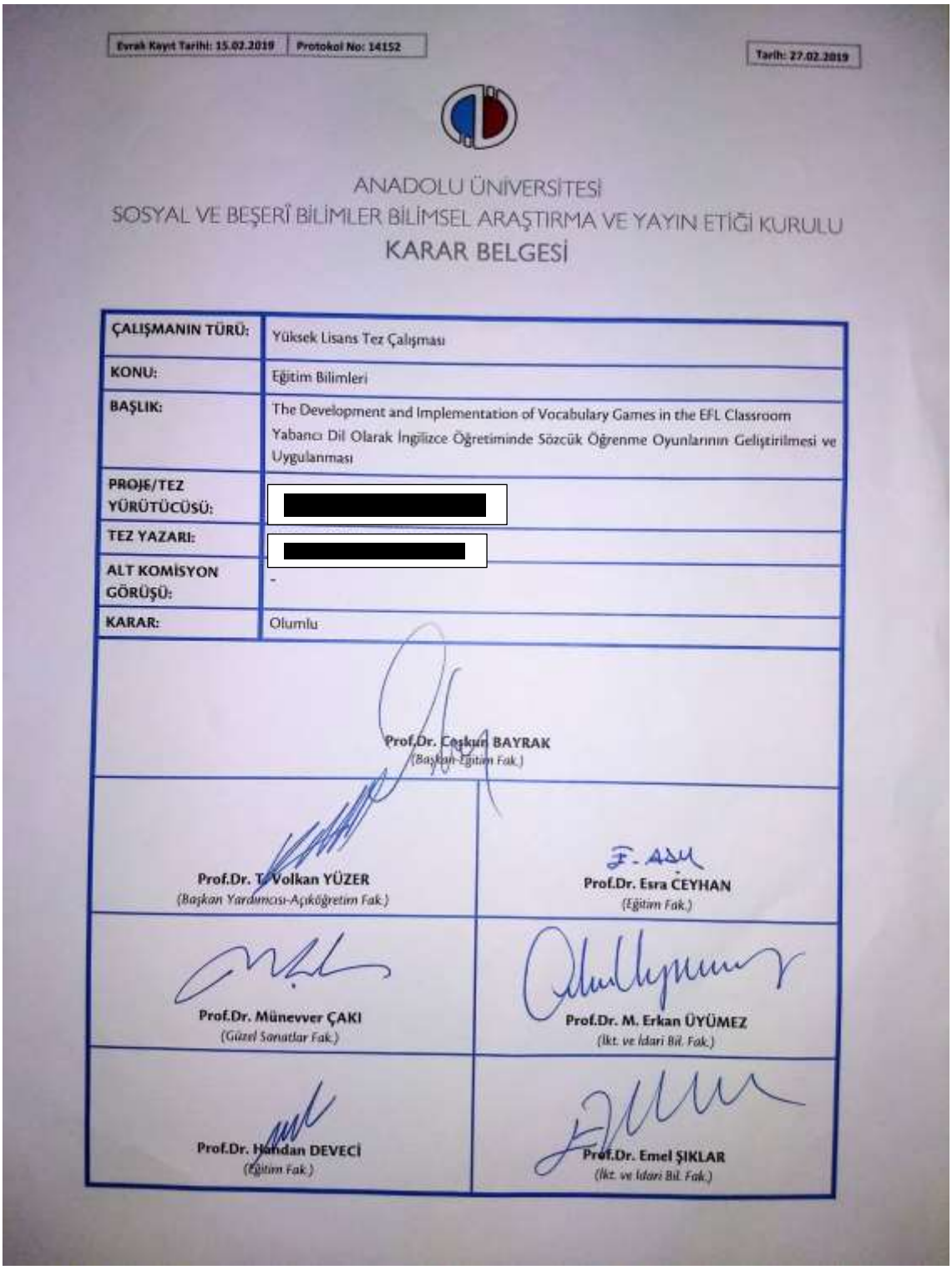
Problems

- Technical Problems
- Student Problems
- Difficulty
- No retention
- Not useful
- Not fun
- More repetition/practice needed
- Too many words

Style of the Game

If a theme emerges that does not fit with any of the pre-existing categories, please use your best discretion to create a new theme, and we can confer together afterwards.

APPENDIX-11. Ethics Committee Approval



Evrak Kayıt Tarihi: 15.02.2019 | Protokol No: 14152

Tarih: 27.02.2019

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SOSYAL VE BEŞERİ BİLİMLER BİLİMSEL ARAŞTIRMA VE YAYIN ETİĞİ KURULU
KARAR BELGESİ

ÇALIŞMANIN TÜRÜ:	Yüksek Lisans Tez Çalışması
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