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THE EFFECTS OF USING VIDEO GAMES AS A TOOL ON ENGLISH VOCABULARY ACQUISITION IN A UNIVERSITY CONTEXT

THESIS BY
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MASTER OF ARTS

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APPROVAL

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To my dear mother and family…

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ABSTRACT

THE EFFECTS OF USING VIDEO GAMES AS A TOOL ON ENGLISH VOCABULARY ACQUISITION IN A UNIVERSITY CONTEXT

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This study was carried out in order to examine the expected changes in English vocabulary and the perceptions of university students who are gamers at the same time. A specific video game genre which was new to the participants of this study was used in this study: RPG. To answer the research questions, a vocabulary test was designed to employ in this study. In addition to this, Wilcoxon Signed Rank Test by Frank Wilcoxon and semi-structured interviews were used. The vocabulary test was created using a vocabulary pool of 860 words and expressions that repeats in the video game that was used as a tool in this study and was created according to the 5 principles in the work of Brown and Abeywickrama. 10 Semi-structured interview questions were created and used to collect data about the participants' perceptions of the process and the game they played for 8 weeks. Wilcoxon Signed Rank Test was applied to the pre-test and post-test results of the participants in order to see if there was a significant difference between the experimental group and the control group.

Key Words: Computer assisted language education, computer games, vocabulary learning, role playing games, computer assisted language learning (CALL)

ÖZ

BİLGİSAYAR OYUNLARININ ÜNİVERSİTE BAĞLAMINDA BİR ARAÇ OLARAK KULLANIMININ İNGİLİZCE KELİME KAZANIMINA ETKİLERİ

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Bu çalışma, Üniversite ortamında halihazırda İngilizce öğrenmekte olan ve bilgisayar oyunları oynamak alışkanlığına sahip öğrencilerin bir rol oynama oyun türü ile tanıştırılıp bu oyunu oynamaları sonucunda İngilizce kelime dağarcıklarında gerçekleşmesi beklenen değişiklikleri ve katılımcıların kendilerine yeni olan bu oyun türü hakkındaki algılarını incelemek amacıyla gerçekleştirilmiştir. Araştırma sorularına cevap bulmak amacıyla, araştırmacı tarafından bu çalışmaya özel olarak geliştirilen kelime bilgisi testi, yarı yapılandırılmış röportajlar ve Frank Wilcoxon tarafından geliştirilen Wilcoxon Signed Rank test kullanılmıştır. Kelime bilgisi testi, bu çalışmada araç olarak kullanılan bilgisayar oyunu içinde kullanılan 860 adet kelime ve ifadeden oluşan listeden seçilip Brown ve Abeywickrama'nın eserinde geçen 5 prensibe göre oluşturulmuştur. 10 adet yarı yapılandırılmış görüşme soruları katılımcıların 8 haftalık süreç ve oynadıkları oyun hakkındaki algıları hakkında veri toplamak amacıyla oluşturulmuş ve kullanılmıştır. Wilcoxon Signed Rank Test ise deney grubu ve kontrol grubu arasında anlamlı bir fark olup olmadığını görmek amacıyla katılımcıların ön test ve son test sonuçlarına uygulanmıştır.

Anahtar Kelimeler: Bilgisayar destekli dil eğitimi, bilgisayar oyunları, kelime öğrenme, rol oynama oyunları, bilgisayar destekli dil öğrenimi (CALL)

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ABBREVIATIONS

RPG   : Role-Playing Game

COTS   : Commercial Off-the-shelf video games

EFL   : English as a Foreign Language

CALL   : Computer Assisted Language Learning

PLATO   : Programmed Logic for Automatic Teaching Operations

VR   : Virtual Reality

NPC   : Non-Player Character

VE   : Virtual Environment

3D   : Three-Dimensional

MUVE   : Multiple-User Virtual Environment

MMORPG   : Massive Multiplayer Online Role-Playing Game

ELORPG   : English Learning Online Role-Playing Game

FLCAS   : Foreign Language Classroom Anxiety Scale

DGBL   : Digital Game-Based Learning

ESL   : English as Second Language

CEFR   : Common European Framework of Reference

COCA   : Corpus of Contemporary American English

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CHAPTER I

1. INTRODUCTION

1.1. Background to the Study

Today it is agreed upon that video games hold a significant potential when used as educational tools by learners and educators. There is also a great interest in video games among people of all ages and backgrounds. Therefore, it is not surprising that educators at all levels and trainers in public and private, military, aviation and medical sectors are considering using video games to deliver instruction (Tobias & Fletcher, 2011). Considering the second-language acquisition process, video games can be an effective support tool (Rankin, Gold & Gooch, 2006; Gee, 2016; Barr, 2017) in the era where smart devices and computers play an indisputable role in our daily routine. Video games can also provide affordances for players that Stephen D. Krashen put forward in 1982 *comprehensible input hypothesis*. For these reasons, in this study, the involvement of video games as assets to the language learning process is going to be looked at in the aspect of vocabulary learning.

Along with computers, video games have changed and improved significantly over the course of time. Today, they are offering learners and teachers great benefits like overwhelmingly realistic virtual worlds that in some cases can be called as simulations of real life (Sevin & DeCamp, 2016). Mayer (2016) states that they are an important and promising environment for learning because video games use conversational language, put words in spoken form, add prompts to explain, add advice or explanations, and add relevant pregame activities. Role playing and adventure video games are just a few to name some of the video game genres that provide learners with immersive contexts (Rankin & Shute, 2010). They, by nature, offer environments where players experience virtual worlds in the eyes of the characters they take up in the game. Players, therefore, see and experience the virtual world and communicate with other characters in this virtual environment through their game character by accepting the character's values, strengths and weaknesses. Gee (2005) prefers calling this notion as "projective stance". This provides an extensive learning opportunity for language learners in such video games since there is much more comprehensive language input than anywhere that any language learner can physically travel to in real world. In

addition to that, learners can experience new things by spending less effort, money and time than real life situations just by experiencing the projective stance. Thus, video games increase players' cognitive abilities that apply to learning in the real world (Peterson, 2010; Zheng, Bischoff & Gilliland, 2015). According to Gee (2006), good video games are extensions of life in a strict sense. Gee (2005) also explains that video games are valuable for second language learning because they offer the meanings of the words throuh images, actions and context. Unlike arcade games such as Super Mario Series, or Angry Birds, which do not offer any virtual environment directly related to any language, role playing and adventure video games immerse players into virtual worlds. Players have to see and experience the virtual world as their character does. Players employ the skill set and abilities of their virtual characters that they take up on in those virtual worlds. These genres of video games create immersive contexts in which language must be put to use (Cornillie, Jacques, De Wannemacker, Paulussen & Desmet, 2010; Pasfield-Neofitou, 2014.) Gee (2005) explains that video games are valuable for second language learning because they offer the meanings of the words by images, actions and context. One of the main premises for using video games to educate has been to harness a game player's motivation (de Haan, 2005). This way, besides having fun and excitement, players are offered a chance to learn by actually experiencing (Gee, 2007).

1.2. Statement of the Problem

Wilkins (1972) indicates that while very little message can be conveyed without grammar, without vocabulary nothing can be delivered in a conversation. However, vocabulary learning in a typical classroom context can be problematic due to several drawbacks. Some of them can be pointed out as: fixed environment, students' lack of motivation, limited language use due to textbooks' selected subjects, syllabus and time limitations (Squire, 2005). Also, it is worth pointing out that limited meaning of any given word can be conveyed due to lack of time or necessary context. In addition, even though any given word's most common meaning could be learned in a classroom context, words have additional meanings. They can be stretched and twisted to fit different contexts and different uses (Harmer, 2001) which makes it difficult for a learner to grasp any given word in an extensive way in the classroom environment. Not to mention syllabus limitations that prevent teachers from exploring other meanings of

words in a classroom setting, forcing them to usually stick to only the most widely used meanings of words.

Another problem with the classroom environment is that in many cases, the education can be teacher centered where a teacher can be found responsible for delivering instruction to multiple students at the same time. When this is the case, it will consequently lead to disengagement among students as they may feel they are ahead of the learning curve or some may feel that they are left behind (Harbord, Dempster & Jayemanne, 2021) which is bad for learners' motivation. Learner autonomy is required in order to tackle the shortcomings of formal education and achieve language proficiency (Little, 1991). However, learner autonomy is not an easy feat in every environment. Musa, Lie and Azman (2012) explained some of the reasons why students cannot achieve the learner autonomy that is required for language learning. They explain the main reason for this phenomenon as learners not seeing the immediate need to use the language and lack of support to use English in the home environment and the community.

Not relying on learner autonomy, some teachers around the world resort to using literature as in-class or out-of-class activities by assigning them literary works to finish and process (Paran, 2008). Even though using literature as an aid in a classroom is still quite common and convenient to teach vocabulary and has proven to be successful in many cases (Whiteson, 1996), it is inadequate in giving the correct spoken forms of words. The reason for that is learners will have to learn how to pronounce new words using dictionaries or additional devices such as smartphones or computers. This means the instructor of the course has to instruct more on how to decode phonetic alphabet, dictionary, how they differ from accent to accent etc. This may be fine for the instructor but can be demotivating for learners because of its cumbersome nature. Teaching phrasal verbs, collocations, idioms, proverbs, discourse or register is another challenge in the traditional classroom environment because of the shortcomings given above. Many of the attempts to fill the gap of the classroom environment in the form of methods and techniques have a downside compared to learning through natural exposure of language, including the use of literary works in the classroom (Kumaravadivelu, 2006).

We can learn our mother tongue by being exposed to the language in a natural way where meaningful communication takes place as Krashen hypothesizes (1982),

which means we are hardwired for learning languages (Feldman, 2008). It is natural for humans to learn languages in natural ways. Language education in a classroom environment on the other hand, is not a natural process (Melber & Abraham, 1999). This makes it vital to make room for informal learning in learners' routines where learners can progress at their own pace, own terms and take part in meaningful communication. Formal education has many advantages for both educators and students such as shortening the necessary time to acquire skills, applying systematic approaches and teaching to a group of learners instead of teaching one by one. On the other hand, informal learning by experiencing has several complementary benefits such as longevity, practicality and adaptability of knowledge (Eyler, 2009). For this reason, it is a common practice that teachers all around the world try to make their students combine formal and informal learning using various methods such as assigning them tasks in the form of homework, projects, presentations, reading of story books later to be discussed in the classroom or taking students to school trips (Marzano & Pickering, 2007). However, research shows that there is substantial amount of data backing the point of view of assigning tasks to students such as homework either does not have any effect or hinder academic achievement (Cooper, Lindsay, Nye, & Greathouse, 1998; Cooper, Robinson, & Patall, (2006); Eren & Henderson, 2008; Doctoroff & Arnold, 2017; Magalhães, Ferreira, Cunha, & Rosário, 2020). With regard to the related data, the question of 'what other viable out-of-class activities can learners be led to?' arises.

Play should not be overlooked in respect of language teaching and learning as it takes up an important role in many species' lives including our own. For many reasons that are about to be put forward, play in the form of digital games can be directed as a trusty aid in the endeavor of language learning (Squire, 2003). However, the main issue of selecting good video games to aid language learning, off-the-shelf video game genres vary wildly. In addition, among these video game genres, few are actually serious that can engage their players at a level of cognitive and critical thinking facilities. Gee (2009, p. 67) describes serious games as "involve learning the sorts of domains, skills, or content that we associate with school, work, health, citizenship, knowledge construction, or community building, and not limited to pure popular forms of entertainment". There is an unstoppable trend of game-play going on in every walk of life at each age group and gender (Entertainment Software Association (ESA, 2020). This shows that gaming is not an activity that fits into the routines of only a small

percentage of the human population. Thus, the profile of a person who plays video games as a routine should not be considered a stereotype (Barnett & Coulson, 2010) and those individuals should be directed by language teaching professionals in the most beneficial way where they turn this recreational habit into educational fun to make the best use of this already-existing habit. The main problem with applying video games as language learning tools, however, is that learners are usually lack of facilities to assess a video game as a learning tool and select accordingly. Other than that, with so many genres of video games, how are educators of language supposed to determine the so called good games that are good for learning and fit for the needs of the learner profile in question? Players' main goal is usually entertainment and there are so many off-the-shelf video games and mobile games that offer just that (ESA, 2020). Most of the commercial off-the-shelf (COTS) video games do that without actually aiming to be beneficial to any kind of language learning endeavor which makes selecting beneficial and serious games difficult. Thus, several criteria must be applied while selecting video games as a language learning tool (Kronenberg, 2012) which can be done by educators. Another problem related to the field is that researchers of the field of education of language usually look at the COTS online and multiplayer video games. The reason for that is; they sustain and scaffold social learning. The potential of single-player Role-Playing Games (RPGs) is so often overlooked and there is not enough research on the subject.

Another reason why video games are not employed as a common practice is that educators do not have enough knowledge about video games or consider video games as a viable learning tool altogether. Because of the lack of knowledge about the concept or the misconception that all video games are similar to the ones that are more effectively advertised but violent video games on the market which promote bad behavior, bad language or not having enough quality content that can facilitate learning, they are neglected by educators (Gentile & Gentile, 2008; Kenny & McDaniel, 2011) which is quite understandable. The aforementioned well-advertised games can be included but not limited to: Grand Theft Auto series, Player Unknown's Battlegrounds, Counter Strike: Global Offense.

When it comes to using video games as a learning tool, the usually anticipated video game type is online multiplayer games that are played simultaneously among other players either cooperatively or competitively. Because of the design of these video

games, they are perceived as good tools to drive players to communicate with other players and this leads to learning. The potential of single-player role-playing video games is often overlooked by professionals. For this and other aforementioned reasons in this study, the learning effects of the chosen single-player role-playing game will be looked at as a learning aid for EFL students.

1.3. Purpose of the Study

As a general language learning framework for the present study, an ecological perspective on affordances in language learning was chosen. This means that learning is an interaction between an active learner and the language environment, where the learner perceives and uses learning opportunities based on the learner's personal needs and abilities (van Lier, 2000). In an era when multiplayer online games are the main attraction for researchers, this study tries to show the value that solo playing has in respect of language skills development and perspectives of players of the single-player Role-Playing Game (RPG) genre. The aim of this study is to find out the positive and negative outcomes on language skills development of regular solo game-play of the single player video game *The Elder Scrolls IV: Oblivion,* vocabulary learning in particular.

The present study also aimed to provide findings, suggestions and implications for use of video games in language learning, more specifically for single-player role-playing video games and language learning, by putting an effort to undertake the gaps in the literature such as the insufficiency of studies that analyze the effectiveness of single player role playing video games in terms of vocabulary learning in target language and other skills development, such as listening and speaking. There is an insufficiency of research in terms of frequency that analyze the effectiveness of single-player role-playing video games on language learning and target language skills development.

1.4. Research Questions

In this paper, the following questions will be considered:

1- Does employing a well-designed commercial off-the-shelf (COTS) single-player Role-Playing Game (RPG) as an out-of-class learning activity lead to a significant language improvement in terms of vocabulary for EFL students at tertiary level education?

2- What learning strategies do learners use during game-play sessions?

3- What are the perceptions of learners towards using video games for improvement in language skills at the beginning, during and at the end of this research?

CHAPTER II

2. LITERATURE REVIEW

2.1. Computer Assisted Language Learning

Computers have been an asset for humans for decades. The first computer that can be considered to be a direct ancestor to the computers that we use today was called the ABC i.e. the Atanasoff-Berry Computer. It was invented by physics professor John Vincent Atanasoff and his graduate student Clifford Berry in 1944 at Iowa State College in the US (Jacobson, 2020). It could accomplish tasks such as solving problems up to 29 variables. Today, however, computers have been used in many fields and purposes such as military (Twitchell, Wiers, Adkins, Burgoon, & Nunamaker, 2005), accounting, banking, automation, communication, education and many more to make life easier for humans. Although Computer-assisted Language Learning which is often referred to as CALL, was introduced in the 1960s, it has started gaining ground in the 1980s (Tafazoli & Golshan, 2014). The PLATO project, which was initiated at the University of Illinois in 1960, and functioned for four decades, is a significant landmark in the early development of CALL (Marty, 1981). PLATO project terminals could offer learners various subject materials one of which is language through touch screens and speakers in an interactive way (Hart, 2013). Next, in the late 1970s, the introduction of the personal computer (PC) made computing available to a wider user population that resulted in a boom in the development of CALL programs and a flurry of publications (Davies, 2016). In her extensive work, Garrett (1991) argues that computer-assisted language learning aided in the inquiry of the theoretical perspectives that were needed to help make sense of the intensively interactive and linguistically rich environments afforded by technology.

Early CALL favored an approach that drew heavily on practices associated with programmed instruction (Davies, 2006). However, CALL is not only employed for instruction based learning. It has also been increasingly benefited from the theoretical framework of learner autonomy (Schwienhorst, 2002). Stracke (2009) points out that a higher level of learner autonomy can be achieved using CALL. Complementarity, variety of media, class community, flexibility as regards time and space, choice, change of roles, high-quality technology-enhanced materials, technical support, and, most importantly, time for students and teacher to adapt to and develop in the BLL

environment that is the method that specifically designed for classroom environment to use CALL. Computer-assisted language learning could also provide more visually stimulating course material, attempt to address a wider variety of learning styles, incorporate authentic materials found on the World Wide Web, promote on-line communication in the target language, encourage cultural comparisons and provide students with more opportunities to achieve success in foreign language reading, writing, listening, and speaking as well as second-culture competency (Ghasemi et al, 2011). Developments in web-based instructions can produce authentic learning environments utilizing a task based approach in which learners have been given a much more productive rather than passive role in the learning process (Garrett, 1991; Reinders, 2017). All the features of computer-assisted language learning combined with computers' affordability, as they still do today, language teaching professionals watched these developments as they occur with concern fearing that they themselves will not be needed in the near future thanks to those machines that are specialized in giving humans language courses (Watson, 2010).

An important point of interest in computer assisted language learning has been the communicative affordances that can be provided through computer-assisted language learning. Recent developments in computing technologies especially in artificial intelligence, have made interactions between humans and electronic devices more natural than they used to be. Humans can now speak to their computers or smart phones almost the same as they do with other human beings. This development implies that learners of a language can practice and hone their speaking skills by talking to their electronic devices. In the newly blooming era of multimedia playing mobile phones, the possibilities of mobile-assisted language learning were explored as mobile devices promised new affordances for learners of language because of their portability, affordability and flexibility (Huang et al., 2012). According to Vogel, Greenwood-Ericksen, Cannon-Bowers and Bowers' (2006) meta analysis paper, researchers seem to have reached a consensus on virtual learning environments' positive effect on learning such as lowering affective filter and contributing to learners' motivation. They analyzed 32 studies and found that across all variables (e.g., age and gender) and situations, (e.g., types of activities and the level of visual realism in the computer programs), the use of interactive simulations and games provided higher-level cognitive outcomes and more positive orientations toward learning than did traditional teaching methods.

Recent developments in the computing field imply that electronic devices such as virtual reality platforms offer new opportunities for learners. Thanks to virtual reality technology, now learners of language are offered more immersive environments than ever. The introduction of virtual reality concepts into CALL programs can support learners in becoming more autonomous language users who can select and organize their own learning resources (Schwienhorst, 2002). Using virtual reality, learners can experience a different environment than their actual one without actually leaving their comfort zones. Kaplan-Rakowski and Wojdynski (2018) define this notion as "telepresence" (2018) which is more effortless than actually traveling somewhere. In their pilot study they concluded that the majority of the 22 participants found the virtual reality learning environment more engaging and they showed a positive disposition to virtual learning environments after the study. Although VR is fairly a new development at the time of writing this thesis, Lin and Lan (2015) propose that the lack of pedagogical material that is synthesizing CALL and virtual reality environment, research conclusions on the matter indicate that appropriateness, application, and practices of VR and its influence on language education are urgently needed.

2.2. Digital Game Based Learning in Education

In this research, the term video games will refer to the ones that are played on a laptop, desktop or a fixed gaming platform such as PlayStation 4, PlayStation 5 etc. Android, iOS or other mobile platform games will not be counted as video games but mobile games. Because they are deemed to lack the language input compared to their desktop and laptop counterparts, they are not included in this study. As pointed out by Wagner (2004, p. 615), "the real potential for a social approach to language learning lies outside the classroom". Today, many candidate professionals of different areas are trained by making use of the affordances that are offered by computers and simulations and other virtual learning environments in a safe, viable way away from anxiety and fear of failure (Prensky, 2005, Toh & Kirschner, 2020). Medical school students operating on a patient, pilot trainees flying an airplane on a flight simulator are some cases of how well integrated these digital frameworks can be with education programs (Vlachopoulos, 2017).

With research questions and subject matter of this study in mind, there has been a multitude of research regarding the benefits of video games in the language teaching field. The purposes of the research on the field of video games vary in the matter of their benefits such as improved language competence, learners' motivation, learner autonomy, incidental learning, willingness to communicate and lowering affective filter. It is a general consensus that online video games with multiple players offer an entertaining, competitive, co-operating and coexisting environment at the same time for players. These factors drive players to spend more time and keep playing. During game-play, they have to interact with the virtual world that they are in and with other players as well, especially with their allies, teammates, squad or neighbors (Rankin, Gold & Gooch., 2006; Vogel et al., 2006; Ranalli, 2008; Warburton, 2009; Chik, 2012; Wigham & Chanier, 2013; Løkke, 2016). In online virtual worlds or as some call maps, there are usually many players from different countries. In order to play a game with other players, one must do it via digital environment providers called servers. Servers run and maintain these environments continuously. In other words, they host a virtual world. These servers then, are connected by players so that all the players who are connected come together or against virtually in the same world or game level. Unless otherwise is expressed by server administrators, the language to communicate is English which is very often. (Adris & Yamat, 2015). The necessity to interact with other players in order to achieve objectives in a virtual world drives learners to use English as a means of communication. This practice then, turns into fun, competition and learning come along through game-play (Chik, 2012).

There are also several studies that look into the case of offline game-play and improvement of language skills. The game genres that attract the researchers the most are adventure and role-playing games (Gee, 2007). They are significant in language studies for the reasons such as:

1- These games are designed in such a way that meaningful interaction takes place in a wider context unlike the ones that occur during online gameplay e.g. daily language covering many elements of real life. Some of these games also aim to make their players question some of the constructs of real life (Apperley, 2006)

2- They deal with language more than online games be it in spoken or written form in order to convey a story that involves the player (Champion, 2009).

3- They work out the sociolinguistic fields such as code, register and social dialects in order to convey the player some background information about non-player characters implicitly. This helps learners to be more engaged in the story of the game in question (Jones, 2008).

In this literature review the terms such as NPC, virtual world, mission, avatar, projective stance, telepresence and game genres related to this study will be examined in subcategories under this title before delving into more details about learning language items and skills through digital game-play.

2.2.1. What is a Virtual World?

The literature about the definition of a virtual world, although similar, varies in some ways. Various other terms are also used in order to either bridge a gap of two or more concepts or address a virtual world variation such as the terms like virtual environment (VE), Multiple User Virtual Environment (MUVE) or 3D immersive virtual environment (Girvan, 2018).

Several attempts have been made to define what a virtual world is. The earliest known definition of virtual worlds come from Richard Bartle, who is known for being the originator of text-based virtual worlds and a researcher of massively multiplayer online games. Bartle (2003, p. 1) argues: "a world is an environment that its inhabitants regard as being self-contained. It does not have to mean an entire planet: It's used in the same sense as "the Roman world" or "the world of high finance". This definition points out the concept of "world" but lacks the feature that makes a world "virtual". Raph Koster (2004), a seasoned developer of virtual worlds in the 1990s, presents that "a virtual world is a spatially based depiction of a persistent virtual environment, which can be experienced by numerous participants at once, who are represented within the space by avatars". Edward Castronova (2003), a virtual worlds researcher, defines a "virtual world" as designed places inside computers that are devised to accommodate large numbers of people. Using the aforementioned definitions of virtual worlds, Mark W. Bell (2008, p. 2), a renowned researcher on virtual worlds from Indiana University then created a combined definition as: "A synchronous, persistent network of people, represented as avatars, facilitated by networked computers.". His definition covers a significant area of virtual worlds. According to this definition, the video games such as MarioKart is not defined as a virtual world for it lacks the features of persistency,

network of people and networked by computers. Thus, according to another point in his definition, it can be concluded that no single-player video game can be labeled as a virtual world.

Crawford (2015), then Vella and Giappone (2018) described a single-player game's world as a virtual world because some single-player RPGs show all the characteristics of the definition above except for a shared network of participants. Single player role-playing games or adventure games fill the gap of real multiple participants with NPCs (Non-player characters) who act like deuteragonists or tertiaries with a script in a play. Their reactions are scripted according to the protagonist by either helping or hindering the progress of the story. Thus, in respect of the virtual world, the single player games in question will be referred to as virtual worlds as well in this study.

2.2.2. What is an Avatar?

Although the word itself dates back to the 18th century, its meaning was limited to a somewhat religious context. It was used to define a deity's descent to earth and represent itself as a human being. Today, however, the term is widely used to define a representation of a user's image of choice in a virtual world (Castronova, 2003).

Learning in a social environment can be stressful due to many factors such as anxiety, fear of failure (Demir & Zaimoğlu, 2021) and shyness (Henderson et al., 2014). Research shows that using virtual environments to learn or practice language helps ease learners' anxiety and shyness because learners have a choice to use an avatar and act more freely, lowering the affective filter. (Kiesler et al., 1984; Matheson & Zanna, 1988; Sproull & Kiesler, 1991; Bradley & Lomicka, 2000; Rankin et al, 2008).

In the respect of online game play, avatars are chosen by players at the beginning of the game. Those avatars then represent players in the online virtual environment. In some ways, they function like a persona since players do not have to behave like they would in the real world (Henderson, Gilbert & Zimbardo, 2014).

2.2.3. Projective Stance

Video games are, in some sense, extensions of real life. However, while playing a video game, you always act as somebody rather than yourself, you have an avatar or a character depending on what type of video game you are playing. This character is a virtual character who has virtual tasks to be finished in various ways with a specific

virtual skill set. A player has to take control of the said character as herself/himself to do these tasks. Accepting the role of this virtual character and sharing experiences in a virtual world is defined as "projective stance" by esteemed researcher James Paul Gee (2005) in his work along with reasons why playing video games is fun and educational at the same time. Projective stance is a notion that a person assumes the identity of a virtual character. While assuming that identity, the player accepts everything related to that virtual character including the character's neighborhood, belongings, past, present, future, friends and also enemies (Gee, 2005).

2.2.4. Non-Player Character (NPC)

Non-player characters are seen in many genres of video games. They help develop the story in a game. They are automated characters that are controlled by a server or computer to interact with players. Since their role is complementary in video games, they are important to develop and further the story of a video game that they exist in.

Some NPCs who are expendable might be killed off while others are assets to the game because the player gets missions from these non-expendable NPCs to advance in the game. Because of this fact, non-expendable NPCs cannot be harmed by the player or any other element (other NPCs, natural disasters or dragons) because they are scripted in a way that the player gets missions from them to further the story of the game.

2.2.5. The Ecological Perspective

Pioneered by J.J. Gibson, the ecological psychology has echoed in the field of language teaching very often. Van Lier (2004, p. 24) describes language as a concept that almost defies being described in a simple manner. The author uses the word ecology where the language environment contains many elements such as context, register, discourse, dialect, culture and many more elements that are at play at the same time. They are interconnected and in interaction as well. Most importantly, it takes interaction to materialize and it evolves according to the trajectory of that interaction using all the elements it consists of. Thus, none of the properties and elements of language can be isolated from it if the purpose of any research is language related. Thus, the ecological perspective is employed to research and discuss on language by

ecological linguists. Comparing it to the generic word ecology serves the researchers well in respect of how both the environments are actually the same where many forces are at play at the same time but still there is a natural order and a meaningful balance throughout. Ecological perspective replaces those views with a conception of the learning environment as a complex adaptive system, of the mind as the totality of relationships between a developing person and the surrounding world, and of learning as the result of meaningful activity in an accessible environment (Duff & Van Lier, 1997).

2.2.5.1. Good Games and Good Learning

The popular argument about how video games can be used as learning environments was investigated in the comprehensive work of Linderoth (2012). He researched whether good games always mean good learning or not. He investigated some game designs and found that many types of games are designed in a way that progression is a built-in feature in games making them susceptible to workarounds by language learners in which they may progress in the game even though they do not completely understand or do not understand the language in the game at all. According to Gee (2007), this can be achieved by learners because they become video-game competent after several sessions of game-play. Because video games are designed in similar ways in their basics, the learners can overcome difficult situations by applying the common knowledge about video games, bypassing the necessity to perceive and skip to action, ignoring all or most of the affordances that the game provides. Linderoth goes on to define which type of learner has the most probability to make the best use of affodances provided by the game as: "An expert gamer is, according to this ecological approach, someone with the capability of perceiving more affordances in a gaming situation than more casual gamers or non-gamers." (Linderoth, 2012). The game design and its susceptiveness of its affordances to be bypassed by learners proves to be problematic for the research that aims to find out video games' effects on learners. Thus, many researchers focus on developing educational video games finely tuned to fit the needs for language learners that has such a design that does not allow such workarounds.

2.2.6. Educational Digital Games

It has been widely discussed and accepted that using video games to aid the learning process has significant potential on learners because of their anxiety and affective filter lowering, entertaining, collaborative, social learning encouraging and motivation increasing features. (Peterson, 2010; Suh, Kim & Kim, 2010; Barnett & Coulson, 2010; Rama, Black, Van Es, & Warschauer, 2012; Zheng & Newgarden, 2012; Hou, 2012; Cabraja, 2016; Karagiorgas & Niemann, 2017; Peterson et at., 2021). However, there are also studies investigating the negative effects of video games as well (Anderson & Dill, 2000; Anand, 2007; Weaver, Kim, Metzer, & Szendrey, 2013). As a matter of fact that, there are so many video game designs and genres, it makes it difficult for researchers to determine whether video games are good or bad for learning and academic success. Thus, research focuses on what aspects of video games can be beneficial to learners.

For this aforementioned reason, research focuses on developing educational games designed specifically to fit the current curriculum to be used in-class or as an out-of-class assignment in all educational levels from K-12 to universities, even in-company training programs. (Lee, Luchini, Michael, Norris, & Soloway, 2004; Squire, 2005; Squire & Steinkuehler, 2014; Evans, Norton, Chang, Deater-Deckard & Balci, 2015; Del Blanco, Marchiori, Torrente Martínez-Ortiz & Fernández-Manjón, 2013; Padilla-Zea, Gutiérrez, López-Arcos, Abad-Arranz & Paderewski, 2014; Yang & Quadir, 2018)

Yang and Quadir (2018) developed a massive multi-player online role-playing game (MMORPG) for second language learning called English learning online role-playing game (ELORPG). The game itself includes many features of popular MMORPGs including questing and trading. They adopted this game to investigate the implications of a specifically designed game of language learning. They worked with 55 6th graders from an elementary school in Taiwan. They used a specifically designed 25-item multiple choice achievement test as a means of pre-test and post-test for the study. The Foreign Language Classroom Anxiety Scale (FLCAS), which was developed by Elaine K. Horwitz, Michael B. Horwitz and Joann Cope in 1986, was adopted in their study in order to evaluate the anxiety levels of participants. They also conducted interviews with selected participants. They analyzed the data collected from pre-test, post-test and FLCAS and found that the participants who are familiar with MMORPGs scored better than the ones who are not familiar. The results also indicated that the

group of low-performers showed a higher anxiety level than the group of high-performers in the study. The findings of their study have implications for course instructors and system developers. For example, course instructors should be given the opportunity to receive appropriate training in the design and development of digital game-based learning (DGBL) courses to align with the needs of the academic curricula, and they should not underestimate the educational value of digital games.

2.2.7. Multiplayer Online Video Games

Multiplayer video games are, in short, video games that can be played by more than one participant in the same digital environment at the same time. They can be played using a single device i.e., two players at the same machine, local area network (LAN), or over the internet through vast distances. Online multiplayer video games attract much of the research on the field of education especially on language education (Thorne, 2008; Peterson, 2010; Jabbari & Eslami, 2019). The reasons for this phenomenon, as stated above, can be listed as:

1- Meaningful communication takes place among players (Ranalli, 2008).
2- Those virtual worlds offer authentic material and various other affordances to learners (Steinkuehler, 2007; Zheng & Newgarden, 2012).
3- They employ social learning in a digital context (Ghasemi et al, 2011).
4- They drive the necessity to communicate in order to achieve goals in the virtual environment (Barnett & Coulson, 2010).
5- Native speakers of English usually tolerate linguistic errors through text messages which is advantageous to language learners' in-game communicative competence (Rama et al, 2010)

Some of the literature on the matter of online multiplayer video games on education research is as follows:

Rankin, Gold and Gooch used a specific MMORPG named Ever Quest II and found that the video game in question supplied all of the four participants with vocabulary knowledge along with observable conversation skills in eight weeks since the video game requires team play where players must achieve objectives in a team manner, thus they have to speak with their teammates in English. In addition to this, the

game itself offers a rich environment in respect of language that the participants make use of. They also try to describe future implications of developing video games directly dedicated to teaching English (Rankin, Gold & Gooch, 2006). In another paper, Barnett and Coulson (2010) in their extensive literature review in 2010 paper argue that knowledge acquired through online gaming can be transferred to real-life situations. It also contributes to problem-solving and critical thinking skills. Online gaming can also encourage learning because they offer an engaging atmosphere. In addition to these, in his quantitative research, Cabraja (2016) worked with online multiplayer video games that have competitive and teamwork nature with mostly Swedish speaking 25 students consisting of both gamer and non-gamer ESL students and he found that gamers scored higher than non-gamers in the vocabulary test employed. Ahmad (2016) confirms that incidental vocabulary learning although complex but more suitable and natural in language acquisition takes place than intentional vocabulary learning does in his quantitative study with 100 Saudi Arabian ESL participants.

There are also reports of negative effects of multiplayer online games resulting in uncontrollable language input such as vulgar language (Chik, 2012) Players often insult each other with not very well thought structures of language which may be materialized in more formal and real settings later thanks to learners' not paying enough attention to the register, which is most of the time, non-existent in the setting in question.

2.2.8. Massively Multiplayer Online Role-Playing Games (MMORPGs)

It is the genre that has attracted most of the attention of educator-researchers as a learning tool in the last two decades. The main characteristic of this video game type is that thousands of players can share the same virtual world among many others. These virtual worlds are persistent that resides in one of the game servers as mentioned before. While playing the game, the players can also text chat or voice chat. Because of the latter feature and their popularity, educator-researchers consider this genre the worthiest of attention (Rankin, Gold & Gooch, 2006; De Freitas & Griffiths, 2007; Suh, Kim & Kim, 2010; Paraskeva, Mysirlaki & Papagianni, 2010, Hou, 2012; Malliarakis et al., 2016; Karagiorgas & Niemann, 2017).

Players in a persistent virtual world of an MMORPG game take control of their avatars or virtual characters to complete tasks, collect items, make game money, build alliances or teams, wage wars and further develop their avatar's skills by doing these. They are usually free-to-play, but developers promote buying virtual items like a glowing sword with real money. These items usually do not have any effect on the game-play as win or lose outcomes but rather cosmetic (Hou, 2012) such as fancy avatar outfits that can be seen by all other players. They involve various problem-solving quests, realistic scenarios, role-playing, and teamwork mechanisms that stimulate gamers' internal motivation (Dickey, 2007). Peterson (2010, p. 435) describes in his meta-analysis, MMORPGs' benefits by: "MMORPG has the potential to create valuable opportunities to engage in language learning outside the confines of conventional classroom environments." In a later paper about sociocultural analysis where an MMORPG called *Wonderland* was used as a treatment, Peterson (2012) discusses that, in-game relationships of participants played an important role in sociocultural facets of language such as participants' language awareness in general, reciprocity, greetings, requests and provision of assistance and language appropriateness. It is worth noting that online game-play treatment in his study did not only contribute to vocabulary but improved more subtle aspects of language such as discourse as well. Zheng, Newgarden and Young (2012) also reported a rich complexity of communicative activities afforded by different types of activities in MMORPGs such as landscapes, and places, such as gameplay knowledge distributing, reporting on actions and responding with language or action during travel, and there is a concentration of communicative activities for "Coordinating, expressing need, distributing gameplay knowledge, understanding others' perspective, reporting on actions, seeking help, and responding with language and/or action"

De Freitas and Griffiths (2007, p. 3) on serious gaming argue that:

> MMORPGs are being piloted in a range of learning and training areas. Clearly, further research is needed to explore the psychosocial benefits of using games to support collaborative learning, but also to build up an evidence base that can be used by researchers from a range of different disciplines. In order for serious gaming to benefit the wider learning communities, it will be an important next

step to establish whether effective learning outcomes are supported by the use of serious games. Should this be established, then learning design will need to encompass experience design approaches, where 'simulated' shared experiences become the basis for learning objectives and outcomes, and this may well have profound implications for learning design.

In their quantitative study, Suh, Kim and Kim (2010) worked with 220 elementary school students who learn English at school. They tried to define the positive outcomes of delivering instruction to 118 treatment group participants through an MMORPG game while having 102 participants as a control group. The treatment group interacted with the game getting instructions from their teachers who also logged in with an avatar, the game and each other using the chat function in the game. The game used a reward system that rewarded the participants with new items to use in the game for every task that was successfully completed. Wilk's Lambda and ANOVA results of pre-test and post-test results showed a significant difference meaning that the treatment group outperformed the traditional classroom group in skills of listening, reading and writing but not for speaking. Hou (2012) investigated the effects of an MMORPG game that was designed to teach English vocabulary and conversational skills to elementary school students in Taiwan. Hou worked with 100 participants with equal male and female count. Among different coded behaviors and situations during the game-play sessions of the participants, battle events in the game turned out to be the one that triggered learning the most although the game is equipped with situated learning scenarios and problem-solving quests as well. The resulting analysis of the study indicates that using educational strategies, the educational MMORPG's design has the potential to positively impact gamers' focused and continued learning.

In their extensive qualitative study, Kongmee, Strachan, Pickard & Montgomery (2011) investigated the MMORPGs' contribution to learners by involving three different MMORGPGs in a sample group from Thai University in Thailand. They used a combination of action research and virtual ethnography in order to collect data. They monitored the participants for eight weeks of game-play sessions. The screen recordings of game-play sessions and observing participants behavior in terms of language skills proved useful in analyzing their findings. They then analyzed the findings. The students who participated in this study found the games entertaining and showed increased

confidence while interacting with native speakers after a period of time of game-play. Participants also stated that the games they played throughout this study encouraged them to interact in English (Kongmee, Strachan, Pickard & Montgomery, 2011). In their quantitative descriptive study, Adris and Yamat (2015) tried to investigate the perceptions of students towards playing an MMORPG game called *Ragnarok Online*. They purposefully selected 121 Malaysian players for the study. They developed a questionnaire specifically for their research. Among the items of the questionnaire, there were 16 likert-scale items that had been designed to interpret players' perceptions towards the usefulness of MMORPG in assisting second language learning. It was found that the participants have an overall positive perception of the usefulness of MMORPG as an interactive environment for second language learning ($\bar{x}$Mean=4.25, S.D.=0.81). From their analysis, it can be seen that on average, the responds were rather balanced, with more participants agreeing than disagreeing towards the idea ($\bar{x}$Mean=3.69, S.D.=1.31). Hence, it can be said that the participants were quite positive towards the idea of integrating MMORPG to supplement the teaching and learning of English.

In their case study, Rama, Black, Van Es and Warschauer (2012) worked with 6 participants, 2 of whom are female, in their study to analyze the effects of an MMORPG called *World of Warcraft (Wow)*. The participants were asked to play the game for 7 weeks. They were instructed to use an addon to record the text messages that they write and receive during the game. They were also encouraged to write a short journal entry after each game session detailing their experience. The participants were also interviewed 3 times during this period. The study focused on one participant due to the previous experience in the same game as a gamer, but not as a learner. The findings were that: It allows for the formation of safe learning and languaging spaces, emphasizes communicative competence, promotes goal-directed, collaborative action between experts and novices. The focal participant Emilio became a primary participant for exchanges as a knowledgeable resource in his group in the game in the target language. The researchers concluded through the analysis of the data that *WoW* is beneficial for a language learner in some aspects because of the key features mentioned above

2.2.9. Adventure Games

Adventure games are, when compared to other genres, one of the least visually appealing, but more content-rich games in the aspects of language and story-telling. Players who just want instant fun by shooting aliens do not prefer them because it takes time for a story to unfold and there is not really a frenzy of shooting in them. Only one developer can create an adventure game with tens of game-play hours for a player provided that the game does not contain any voice files for NPCs that are encountered throughout the story. As the name suggests, they are designed to take the player on an adventure. An adventure that the player has limited choices with limited or single solutions to problems or puzzles that are encountered in the game. The features that make adventure games a good option for learning is that they offer a very rich selection of vocabulary (Chen et al., 2021) throughout the game often with audio and subtitle options. Many adventure games do not require pressing many keyboard buttons to get out of a troublesome situation or beat an enemy because the player just needs to point the mouse and click on an object or a direction to control the protagonist of the story in an adventure game which makes the game more playable and less difficult even for non-gamers and the least experienced gamers. (Hou, 2012). For the reasons mentioned, researchers often propose developing adventure games designed for teaching purposes. (Amory, 2001; Moreno-Ger, Martinez-Ortiz & Fernández-Manjón, 2005; Dickey, 2006; del Blanco, Marchiori & Fernández-Manjón, 2010; Cheng, Shen & Yeh, 2010; Chen et al., 2021)

The current research on language education and commercial off-the-shelf (COTS) adventure games is as follows:

In their proposal, Cornillie et al. (2011) emphasize that dialogue-based role-playing and adventure games provide affordances to learners since characters in the game self-explain words or phrases elaborately if they are asked about by the player, choosing dialogue alternatives. This system is interwoven with the game-play and always active during the game and while having conversations with game characters. In their mixed-methods study, Enayat and Haghighatpasand (2017) found that exploiting adventure games could be a reliable supplementary for English classes as long as they are chosen and conducted well. They state that those well-chosen video games promote each skill and sub-skill of language. They worked with 30 freshmen undergraduates majoring in English literature. They also try to define the implications of classroom use

of adventure video games. In their 2013 paper consisting of two studies, Chen and Yang (2013) tried to find the incidental vocabulary contribution of adventure games on 57 EFL learners in Taiwanese University students all of whom are non-English majors from different disciplines whose average age was 19 with a proficiency level of intermediate. A vocabulary pre-test and post-test were applied to two groups of participants in the first and short written reports and a questionnaire was used in the second study. While the first study did not show a significant difference between the post-test scores of the two groups of participants, they showed significant improvement compared to their pre-test results. The second study yielded results about the perceptions of participants about their learning and the game design which were both significantly positive, demonstrating the previous studies' point.

2.2.10. Role-Playing Video Games

A proper game for language learning should supply learners with plentiful language input and engaging game design (Gee, 2005; Chen & Yang, 2013). RPGs by design, combine the visually compelling of many popular games and the powerful contextual language of adventure games. In this paper, only single player role-playing games will be referred to as role-playing games (RPGs). Online and multiplayer counterparts will not be considered RPGs but as different video game genres.

RPGs consist of virtual worlds created by a game engine that is installed on a personal computer. These virtual worlds are designed to interact with a single human player throughout game-play sessions. In this aspect, it differs from some other virtual world definitions because it lacks persistency which means when the player quits the game, it ceases to exist until the next game session. While interacting with the game world, the player changes it by putting events in motion, preventing disasters from happening, fighting enemies of the people of the game world, gaining reputation, or simply being a villain, a simple bandit or a thief.

There are many RPGs that fit the description of Gee's good games for learning definition (Gee, 2007). These games engage learners by their visuals, storytelling, humor and most importantly learning outcomes. De Haan argues that the feature of natural repetition in this type and adventure games allows learners to *"bootstrap;* to use known language (semantic context, vocabulary or grammar) to decode unknown elements through constant exposure" thus, contributing to learning (de Haan, 2005).

Jantke and Hume (2015. p. 3), on the immersive power of RPGs, state that: "Consequently, even those players who are more interested in the virtual game world with its dragon fights than in language learning have a strong motivation to improve their real language skills". Another benefit of RPGs for language learners is that as theorized by Cornillie, Thorne and Desmet (2012) is that being able to advance the player's own pace and when the outcome of a decision is not satisfactory, repeating a quest in the game may mean that RPGs are well suited for language learning. A clear advantage of using RPGs to enhance acquisition is that the learner is in total control of the pace of progression which in turn increases engagement and learning motivation (Harbord, Dempster & Jayemanne, 2021)

There is a great deal of research on single-player commercial off-the-shelf RPGs in language and education fields. Many of them show that either they can be good learning tools or they have demonstrated the positive effects of RPGs on learning provided that they are handpicked by researchers considering the game's educational aspects. In her synthesis paper consisting of 17 qualitative, quantitative and mixed-method studies over the last decade of publication, with the search filters "role-playing, incidental learning, ESL", Yudintseva (2015) concludes that there are valuable benefits of employing RPGs since they lead the players to use cognitive skills and offer natural like learning affordances such as authentic contexts. In his mixed-methods master's thesis paper for which he worked with 22 Norwegian 10th graders, Løkke (2016), using the specific RPG named *Bastion,* found a substantial amount of vocabulary acquired besides improvement in oral skills after four weeks of game playing sessions.

2.2.11. Life Simulation Games

This genre is considered as a sub-genre of simulation games where real world is taken into account and the game world is designed in such a way that its aim is to resemble the real world as much as possible. Many of the video games of this genre is considered to pack the authentic and meaningful language to acquire vocabulary from (Bakar & Nosratirad, 2013). The virtual world's resemblance level to the real world is not as much observed in other genres in which developers feel free to manipulate the virtual world so that it would appeal to players. For the reasons above, the genre attracts research to find out many kinds of different questions such as whether and how they affect learners' perception towards learning through game-play and vocabulary learning

in particular. One of the most popular of this genre is The Sims™ 3 launched in 2009.

The aforementioned life simulation game was used in the case study conducted with purposively selected 3 adult male participants whose ages ranged from 25 to 29 by Bakar and Nosratirad (2013). In a period of 2 months, the participants played the game, and they were interviewed three times during this period. The researchers used self-report checklists to fill every time they played the game. A Pre-test and post-test were also used that had been created using the context of the video game. This test was developed to test vocabulary and contained 30 items which the participants had 30 minutes to complete. Thematic analysis was conducted to understand the participants' perceptions. The results showed that all the participants showed a positive perception towards gaming and learning vocabulary. They reported that they learned 5 to 7 words with each game-play session totaling between 100 to 130 new words throughout the research. The researchers also tried to find out about the learning strategies that the participants used. The learning strategies used by the participants are: "guessing the meaning; asking people nearby, asking friends; looking up in online dictionary and using Google Translate". The researchers state that the ability to control the learner's own learning goals and leaning conditions will gradually increase the learner's self-confidence and self-management (Bakar & Nosratirad, 2013).

CHAPTER III

3. METHODOLOGY

3.1. Research Design

The purpose of this study was to find out the specific outcomes of single-player RPGs on ESL learners' perception throughout the process and the improvement of the participants' vocabulary competence under the guidance and supervision of a language instructor. In order to research this, a mixed-methods design that is a combination of two quasi-experimental designs were employed: pretest-posttest design and non-equivalent groups design. Along with qualitative data, quantitative data was collected during the processes of this research in order to have an understanding for the research questions. Zoltan Dörnyei (2007) describes mixed methods research design as: "some sort of a combination of qualitative and quantitative methods within a single research project". Quasi-experimental design is employed when an experiment is applied to at least one group of individuals, but control or experiment group individuals cannot be randomly selected. In the case of this study, both the experiment and control group participants were selected purposefully for the reasons explained under the related title.

Quantitative data was collected in order to find an answer to the question whether employing a well-designed single-player role-playing game (RPG) have a positive effect on the vocabulary competence of EFL students in tertiary level education. In order to understand the second and third research questions, however, qualitative data was collected to find out the students' perceptions towards the idea of playing RPG games to improve language skills and learning techniques that they used throughout the process. Jackson, Drummond and Camara (2007) note that qualitative research is primarily concerned with understanding human beings' experiences in a humanistic, interpretive approach. Quantitative data was mainly used to back up the qualitative findings in this research.

3.1.1. The Process as a Whole

In order to have a better understanding of the whole process, the steps of the research process were as shown below.

Figure 1: Research process as whole

1- Interview of two ESL students to find out what attracts them in a video game and wat their perceptions are about video games and learning English	→ **2-** Finding a suitable video game that is linguistically rich.
4- Creating the vocabulary test as pre-test and post-test using the vocabulary pool created. Corrections and improvements were made for validity and reliability.	← **3-** Exploration of the game to assess its educational value, create a tasks list and a vocabulary pool to transform into a vocabulary test
5- The information form was created in order to select participants and gather basic information of their gaming habits and perceptions of gaming and learning English	→ **6-** The word press blog was created to make weekly announcements and provide basic how-to documents to the participants
8- Conducting the pre-test	← **7-** Creating the treatment and control group
9- 3 phases of the treatment, interviews, researcher journal entries	→ **10-** Conducting the post-test
11- Analysis of the data	

3.2. Setting of the Study

The data regarding the current paper was collected at a private university in Konya Province, Turkey. Konya is one of the major cities of Turkey housing 3 state and 2 private universities with a population 2.161 million according to official records as of 2016. The university consists of 13 faculties or colleges. Although not intensively enough, English is taught as a course in all of the 47 departments. There is also a prep school where students take language courses of 27 lesson hours of English intensively. The English courses in other faculties and colleges vary in the matter of purpose and aimed proficiency level. English Courses' weekly sessions vary between 2 to 4 lesson hours in other departments.

3.3. Participants of the Study

The participants of the experiment group are referred to by using pseudonyms in this paper. They were named after Roman deities for no apparent reason. The pseudonyms that were used are: Jupiter, Neptune, Mars, Vulcan and Apollo. Inozu, Tuyan, Sürmeli & Sürmeli (2007, p. 241) put forward those individual differences such as age, motivation, language aptitude and level of intelligence play an important role on learning outcomes. Because of the possibility that participants' individual differences might have played an important role in the scores that they got in the pre-test and post-test and in their responses in the interviews, they were described in detail in this section.

Table 1:

Summary of treatment group participants' information

Id	Age	Major	Gaming Habit	Is familiar With RPGs?	Proficiency Level
Jupiter	20	Comp. Eng.	9+ hours	Yes	C1
Neptune	19	Int. Trade	9+ hours	Yes	B2
Mars	19	Prep (Comp. Eng.)	5-7 hours	No	A2
Vulcan	19	Eng. Translation	1-3 hours	No	B2
Apollo	19	Comp. Eng.	5-7 hours	No	A2

In the Table above, a summary of information of the treatment group participants was given. In the gaming habit column, participants' responses to the related question in the information form were based. In the column next to it, information on whether they had played single-player RPGs was given. In the following, participants were introduced in more detail starting with Jupiter.

Jupiter was a 20-year-old first-year computer engineering student at the time that the data collection process took place. He had his first year in the university as a prep school student. He defined himself as a hardcore gamer who had played an enormous selection of video games. It is also worth noting that he was familiar with almost every video game that the researcher asked about. He was the most proficient participant among all. He stated that he strongly agrees with the ideas both single-player and multiplayer video games contributed to his English language proficiency in the 5-option Likert scale. One of the open-ended question items asked the participants to write down the most important 5 vocabulary items that they had learned from their previous video gaming experiences. Although the information form was created in Turkish, he replied to that item saying "Almost, every, word, I, know" in English counting to exactly 5 vocabulary items.

Neptune was a 19-year-old first-year student of the department of international trade in the school of economics and administrative sciences. He also studied prep school although it was not compulsory for a student of his department in the university. He also defined himself as a gamer. In the last item, which was open-ended, which asks the participant to write down 5 vocabulary items that he learned while playing video games, he responded in Turkish what translates as "Almost all of my English".

Mars was a 19-year-old prep school student with a fascination with video games especially the ones that are popular among average gamers in Turkey. He wanted to improve his English to stand out in the crowd of other prep school students. That's why, as he stated, he joined to participate in this study. When asked about why he did not list any single-player RPGs in the information form although he stated that he strongly agrees with the idea that single-player RPGs contribute to learning English, He replied:

"They kind of scare me because I know that language plays a very important role in those games but my English is not that good. If I play them on my own, It will not be fun with my current English skill. I will not be doing the tasks in the game consciously because I will not know what I will be doing that way."

For the last item in the information form which was open-ended, asking the participant to write down 5 vocabulary items learned while playing video games, Mars replied exactly as "Options, resume, Cover, shoot, assasin"

Vulcan was a 19-year-old first-year student in the English Translation and Interpreting Department. The first year in the said department is a prep school differing from the regular prep-school in aspects of purpose and language level outcome. For the 5-point Likert scale item asking the participant whether he agrees with the idea that multiplayer online games contribute to learning English, the participant selected "I agree" while he responded "I strongly agree" for the same item regarding RPGs. For the last item in the information form that is asking the participant to write down 5 vocabulary items learned during video game-play, Vulcan replied "Kick off, assault, launch, proceed, sign".

Apollo was a 20-year-old first-year computer-engineering student. One thing soon became very clear when speaking to him in English: He was over-confident about his language skills. He thought he was an above B2 CEFR level English speaker but in reality, he was roughly A2. For the two 5-point Likert scale items that was asking the participant whether he agreed on the idea that single-player and multiplayer video games contribute to English learning endeavor, he chose the option "I agree" for both. For the last item in the information form that is asking the participant to write down 5 vocabulary items learned during video game-play, Apollo replied as "nerf, dodge, buff, ditch, lagger".

3.4. Instruments and Tools
3.4.1. The Video Game

Previously collected data suggested that a single-player video game could be the best choice because they offer a linguistically rich, safe and pace-optimized environment for learners as long as they're hand-picked by an educator-researcher who

is a video gaming literate (Champion, 2009). Thus, a hunt for a suitable video game to be used as a treatment in this study began. Review articles were inspected on the web to assess the affordances of a number of video games. After the first assessment, 12 video games, 5 of which were used in the previous action research were noted as candidates. 4 video games were crossed out due to the factor of price. Affordability was considered an important variable so that no participant had to be left out because of financial reasons. Due to language quality, 2 games were excluded. Among the remaining 6, one game stood out with the best availability, language quality, voice acting, complementary features, story line and game design. *The Elder Scrolls IV: Oblivion* met all the requirements including multi-platform installing and running features. It can also run on older machines enabling participants with old computers to be able to play it as well. The other reasons why this specific video game was chosen are as the following:

1- There is a great deal of content including memes online about the video game. This makes the game a part of popular culture.

2- The game itself features quality voice acting for NPCs acted by 14 professional voice actors including movie celebrities Patrick Stewart, Lynda Carter, Sean Bean and Terence Stamp. There are tens of thousands of dialogue recordings in the game which takes up 1.7 GB of space in computer storage when installed. These dialogues contain lots of language input for an EFL learner.

3- The game features subtitles synced with the spoken form while an NPC is talking to the character. The player also overhears rumors while NPCs are talking to each other. They are subtitled as soon as the player reaches proximity to hear them.

4- The dialogues that are exposed during the quests contain grammatically correct, sound, intelligent and informative speech. They do not include any vulgar language items in contrast to multiplayer online games where it is impossible to control what words that players utter during gameplay.

5- The player can either enjoy the game by doing side quests or main quests to further his or her own unique story in the game.

6- The game has 223 quests that the player can do. These quests sometimes include humor to entertain the player. Additional quests are generated by the game's AI. These quests take months with a regular game-play of 2 hours daily.

7-   The player has the option how to complete each quest and when. In addition to that, the player has the choice to avoid violence which may prove suitable for learning purposes.

8-   The music that played throughout the game was composed by renowned award-winning American composer Jeremy Soule. He made a complete album consisting of 26 soundtracks for *The Elder Scrolls IV: Oblivion.*

9-   The player is sometimes tasked with solving crimes, schemes, and mysteries which add to the atmosphere of the game as an engaging activity.

10-   The game contains books that give background information and some explanations on certain aspects of the virtual world such as people, religion, history and magic. The player can read them when encountered and buy them to learn certain pieces of information. They also bear important elements of language.
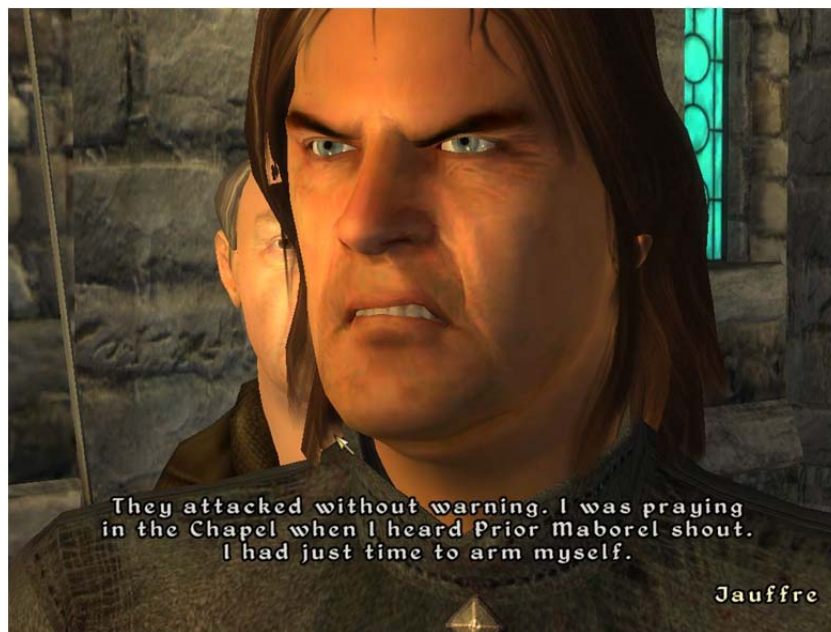
Figure 2: A dialogue with built-in subtitles in The Elder Scrolls IV: Oblivion

Figure 3: A dialogue with built-in subtitles in The Elder Scrolls IV: Oblivion

3.4.2. The Information Form

There was a necessity to select participants according to some criteria for this study. Firstly, the individuals had to be among the ones who played video games as a recreational activity at some point in the past or as an ongoing habit so that it would help orientation with the procedure and save the researcher from the burden of teaching them the mechanics of playing a video game from scratch. Secondly, they had to have a belief that they could improve their language skills by playing a video game. This would help maintain their motivation and take part in the procedure of game-play for the duration that this research took place. Thirdly, basic information about their video-game playing preferences and habits had to be gathered to have an understanding of those individuals. Fourthly, their contact info was necessary to contact and inform them about the procedure that was about to take place via email. Lastly, it was crucial to find out whether those individuals had ever played the video game which was used as a treatment in this study or for at least a significant amount of time.

In order to develop the information form, before the commencing of the current research, two prep-school students were interviewed in order to have an idea of what type of video games they were attracted to. The interviewees were selected purposively based on the criterion that the candidates define themselves as gamers. The definition of gamer was presumed as a person who plays video games regularly, during a period of time no less than 6 hours a week. The mean score of game-play habits of those interviewees were 12 hours a week according to their statements. Those interviews were conducted as a semi-structured manner to find out about their gaming habits, what they like playing in respect of genre, platform and how often. When the interview question

"What makes a video game good in your point of view?" asked, both of the participants respond contained keywords such as "story, fun, solve, puzzles, adventure, escape". The collected data suggested that while one participant most often preferred multiplayer competitive games, the other preferred single-player games with lots of adventures. When the question "Do you believe you gained lots of English vocabulary knowledge while gaming?" They both responded affirmatively. The data from these interviews was used to create the information form used to recruit participants of the main study. The transcripts of these interviews were attached to the appendices (appendix 6).

34 candidates answered the call for the study. In order to contribute to their motivation, the participants were promised a single-player RPG from a list that was created by the researcher as a gift provided that they completed the study till the end which was two months. 14 participants delivered the consent form with their signatures. They were explained the aim of this study and what they were expected to do throughout the research. At first this information form was designed to be used as a printed instrument, however, due to the COVID-19 outbreak, it had to be conducted online using google docs. (see: https://docs.google.com/forms/d/1A-0PNuUSRpOvzgHEjLa0b1m7ggY5r4EY-62xrSZe_wg/viewform?edit_requested=true)

3.4.3. Vocabulary Test

A vocabulary test was developed to be used as a pre-test and post-test. In order to achieve that, several game-play sessions were conducted that totals to 60 hours by the researcher of the current study. Throughout the game-play sessions, 551 vocabulary items were noted as candidate words and phrases to be used in the 2-part vocabulary test. The vocabulary test was created using these vocabulary items that were meaningfully repeated in the game. The vocabulary test consisted of multiple-choice and matching parts. The vocabulary items that were noted down prior to the preparation of the test were exposed to three to eight times till the end of the exploration of the game. The number of repetitions was the main criterion before noting down the first selection of vocabulary items because natural repetition of words makes them easier to learn and remember (deHaan, 2005). These words then, were picked out to be used in the vocabulary test according to their level in accordance with CEFR and frequency of usage in the corpus. Selected response test types were used in this study due to the fact

that receptive skills were planned to be tested. According to Brown and Hudson (1998), this type of testing is suitable for testing receptive skills.

269 Vocabulary items from the game were used in the vocabulary test (Appendix 7). Among these items, there are phrases, collocations and phrasal verbs, or words such as verbs, nouns, adjectives, adverbs. In order to collect expected proficiency level-based data about the selected vocabulary items, they were treated separately as single-word and multiple-word vocabulary items while analyzing them. In the single word vocabulary items group, there are 20 A1 level (7,43 %), 25 A2 level (9,29 %), 57 B1 level (21,18 %), 79 B2 level (29,36 %), 24 C1 level (8,92 %) and 15 C2 level (5,57 %) words when CEFR is based as a level analysis of these words in this group. The 220 single-word vocabulary items consist of 85 verbs, 69 nouns, 63 adjectives and 3 adverbs. The other vocabulary group consist of 49 multiple word vocabulary items such as collocations, phrases and phrasal verbs. The levels of the single-word vocabulary items were discovered using a text inspector tool on the website: https://languageresearch.cambridge.org/wordlists/text-inspector

This tool detects the words, syntax and grammar of a written text then analyzes every vocabulary item individually according to their frequency of use in several English corpora then marks every item with an English proficiency level. Every word analyzed by the text inspector was gone through one by one manually to make sure the correct meaning of the words was analyzed by the text inspector and changed if necessary to get accurate results.

The second part of the vocabulary test consists of multi-word vocabulary group. This vocabulary group consist of 18,21 % of the total count of the vocabulary items that were used to create the vocabulary test. The multi-word vocabulary group was analyzed in order to find their difficulty level. This was done by getting their value of frequency of use in Corpus of Contemporary American English (https://www.english-corpora.org/coca/)
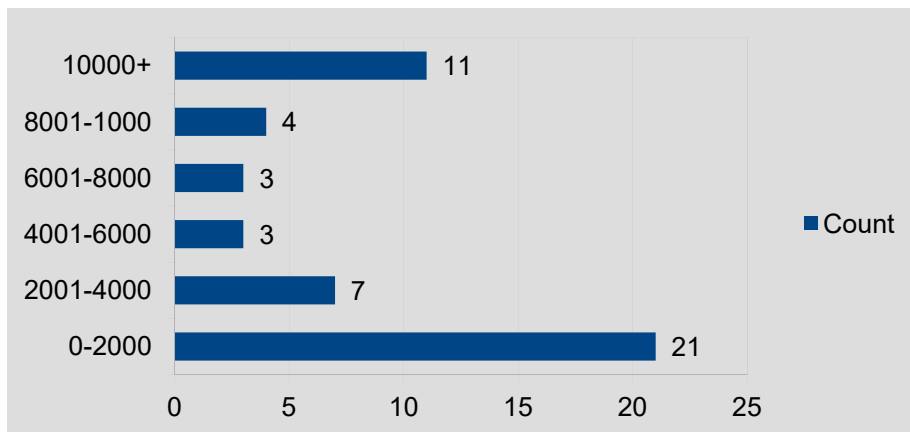
Figure 4: Multi-word vocabulary item count according to frequency
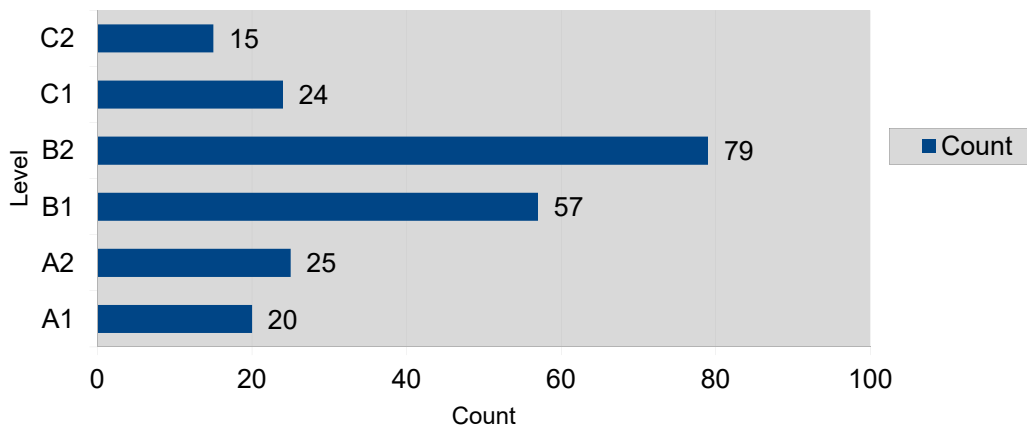
Figure 5: Single-word vocabulary item count according to frequency
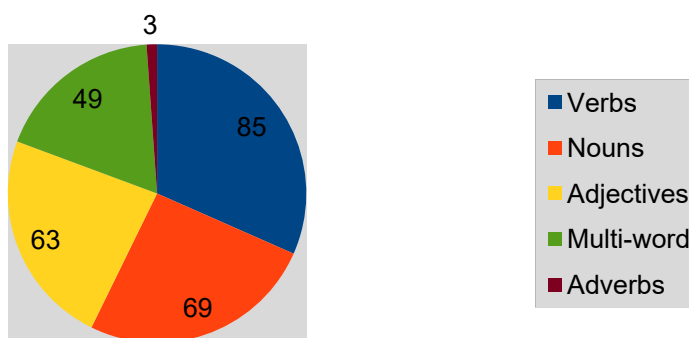
Figure 6: Vocabulary item type distribution

3.4.4. Gaming and English Blog

A blog to let the participants know about their weekly quests in the game was created at the beginning of the current study on February 22nd, 2020. The participants were asked to check out the updates in the blog to be informed about the instructions, tips and clues in the game. They visited this blog to figure out what they were supposed to do weekly when they completed the quests of the current week. Several how-to documents were also published in this blog. The blog welcomed its first visitors with a message that can be seen in Appendix 9. It is still up and can be viewed on: https://gamingandenglish.wordpress.com/2020/02/22/welcome-to-my-blog/

3.4.5. Interviews

Throughout the study, the participants were interviewed once in two weeks for two main reasons: to get a clear picture of their progress and perception and make sure they were following the quests of the game as instructed. Each of the participants was interviewed once in two weeks during the period of time the study took place which was 8 weeks thus all of them were interviewed 4 times. A semi-structured interview design was employed in these interviews (Appendix 8) to get the clearest picture possible about the process while keeping the duration of the interviews at a reasonable length for the sake of both parties. The reasons why semi-structured interview design was used are: Semi-structured interview design allows the interviewer to stay on the topic while extracting as much data as possible. It was also the most suitable design because not all the questions would be asked explicitly. Sometimes the participants could have answered some of the questions while explaining their perceptions throughout the process, proving to be the most suitable design.

Because of the possible issues that might arise such as the game design would allow progression even without comprehension as put forward in the study of Linderoth (2012), some interview questions were included in the interviews to find out whether the participants used affordances in the game or just aimed at completing the tasks without making use of them because bypassing those affordances would contradict with the purpose of this research. Those questions are: "What was the last thing you did?", "Who did you last talk to?" and some follow up questions such as "what happened then?" When a participant was found to ignore the affordances, that participant was reminded that the most important point of the process was to understand rather than

progression. This was done because the game world was aimed to be used as an ecology rather than a labyrinth.

3.5. Data Collection Procedure and Ethical Issues

Before the beginning of any data collection procedure, the necessary permissions were requested from both Çağ University and the university that this study took place. The ethical committees of both universities granted permission to proceed. After filling out the information form, the participants were explained what was expected and what awaits them for two months. They were then asked to sign the consent form (appendix 2) to begin participating in the study. Although 14 participants delivered the consent form with their signatures, only 5 of them remained active till the end. Thus, the data regarding the 9 who left were incomplete and were not included in the analysis. However, the data of the 5-participant control group and 5-participant experiment group was analyzed.

3.5.1. Reliability and Validity

In order to conduct scientific research, the elements of reliability and validity of instruments are of vital importance. They are two of the strongest suits of science that promote its accuracy and repeatability of results. The measurement of human behavior belongs to the generally accepted positivistic view, or empirical-analytic approach, to determine reality (Smallbone & Quinton, 2004). Because most behavioral research takes place within this paradigm, measurement instruments must be valid and reliable (Drost, 2011). In order to achieve these elements for each of the instruments and the research itself, some procedures were followed throughout this research.

3.5.1.1. The Vocabulary Test

The five principles for language assessment as put forward by Brown and Abeywickrama (2010, p.25) were studied when constructing the vocabulary test. They include authenticity, practicality, reliability, validity, and washback. Following is a discussion of how the vocabulary test in the current study measures against the five principles.

Authenticity is one of the key elements of a good vocabulary test. That is; the vocabulary aimed to be tested having real use in real the world. However, for the reason

that the game was used as a source of authentic language in order to achieve authenticity, vocabulary units to create the vocabulary test was selected directly from the video game. Thus, 269 vocabulary units were selected among the 551 that was initially noted down. The final selection of vocabulary units to be used in the vocabulary test were conducted by consulting the supervisor of this MA thesis, esteemed professor Senem Dağ Zaimoğlu, PhD, English Language Teaching. In order to define the difficulty levels of the vocabulary units, frequency of these vocabulary units was based. Nation (2001) argues that high frequency vocabulary units should be used in a vocabulary test. However, a mixture of high and low frequency units were used in the vocabulary test (see: figure 1 & figure 2) to discern the results of the post-test were a result of the gameplay but not a result of external learning sources and activities such as language classes, movies or TV shows, etc. The mixture of low-frequency medium frequency and high frequency vocabulary units were measured using several tools mentioned above. The distribution of these vocabulary units is shown in the table below.

Table 2:

Vocabulary units difficulty distribution according to usage frequency

P1 med-high freq.	P1 low freq.	P2 med-high freq.	P2 low freq.
82,28%	17,72%	57,14%	42,86%

The difficulty levels of vocabulary units shown above shows a significant difference for the first and second parts of the vocabulary test. The low frequency vocabulary units' prevalence in the second part compared to the first part was ensured in order to ensure the reliability of the test. The biggest disadvantage multiple choice tests is known to be the factor of the chance success in which luck plays a role even if the test taker doesn't know the answer to a question (Davis, 1967). Thus, the second part was created to decrease this factor to achieve better accuracy and reliability for the vocabulary test results. The second part consists of 30 matching questions of three sub-sections. These sections were created to make this part of the test more organized and convenient.

Practicality is concerned with how practical the test is to carry out in terms of budget, materials and resources, and the time required to design, execute, and score the test. Although the time that it takes to develop such a test, it was created to make a point in other words, for research purposes. It is not a step that every teacher-researcher is supposed to do to follow the steps of this research. Other elements such as execution and and scoring criteria were considered and applied accordingly.

Validity has 3 kinds of sub-categories: content, criterion and construct validity (Brown and Abeywickrama, 2010) In order to ensure content the validity of the vocabulary test, only A1 level grammar was used in the test to make sure the participants select the correct alternative provided that they know the meaning and use of the vocabulary unit in question (Laufer, 2001; Read, 2013) This was done to achieve validity of the test so that it only measures vocabulary knowledge but not grammar. Criterion validity refers to the predictor factor of the test. In order to test the criterion validty of the vocabulary test, a pilot test was conducted with 29 students who volunteered to take the latest version of the vocabulary test. 15 students were from the school of foreign languages majoring in English Translation while the other 14 were prep school students. After the testing, the results were gathered and then graded by the researcher. The mean score of Students of the English Translation Department was significantly better than the rest (.21). The reason for that difference in results of the two groups is highly probable to be because students of the English Translation Department are exposed to the target language more than the other group of students who are from the Engineering Faculty. The third kind of validty is construct vality which is regarded as the property of the test being able to test various aspects of what it is testing. In this case, two aspects of vocabulary were aimed to be tested: meanings of words and phrases.

The reliability of test scores is the extent to which they are consistent across different occasions of testing, different editions of the test, or different raters scoring the test taker's responses (Brown & Abeywickrama, 2010). In order to achieve the highest reliability possible, unambiguous multiple-choice questions and matching questions were used in the vocabulary test. After completing the initial form of the vocabulary test, a pilot study was conducted with five EFL students to find out whether the questions were intelligible, consistent and made sense. Several changes were made according to the questions and feedback from those students. Another colleague took

the vocabulary test. After an hour of discussion, several typos and other language errors were noticed then corrected. Another test was conducted with two more people who are native speakers of English. Some modifications to the test were done according to their recommendations for the test to be more authentic. To consult with another esteemed professor in the field, the vocabulary test was discussed on with Mehmet Çelik, PhD, English Language Teaching. Several minor changes were done after this discussion session. Then, when the test took its final form, it was sent to the supervisor professor of this research, she approved the test to be used as an instrument in this research. Finally, 10 students who previously took part in the first pilot test of the vocabulary test retook the test to see whether their scores were the similar 2 weeks after they took it the first time. Those scores were graded by 2 different raters and both test-retest and two raters' scores were the same implying that the designed test is reliable enough to test vocabulary of English that was acquired through gameplay.

Washback is defined as a test's effect that it has on the teaching and learning. Cheng and Curtis (2004) put forward both positive and negative effects of washback in students such as motivation and stress. However, in this study, the participants had been made aware that the scores that they get from the tests will not affect their grades at school and they had been informed that this is a separate study. In addition, they had been informed in the consent form they would be taking a test at the beginning and end of the research process, but they did not know what kind of test it would be. If the test had been the conclusion of an-eight-week cycle in school to measure their achievement that affect their grades, this would have been a weak point of the test. However, since this study aims to emulate the gaming that the participants already do at home, the lack of a washback effect should not be viewed as a drawback for the test.

3.5.1.2. Interviews

The interviews that were conducted during this research were done in semi-structured manner in order to both stay on the topic of gameplay and extract as much information as possible at the same time. This type of interviews is known to have less validity than structured interviews. However, at the expense of extra and unexpected information, semi-structured interview type was used. The interviews were recorded and transcribed by the researcher in order to be analyzed later. Two other colleagues were asked for help for coding the transcripts for the reliability of the results. The transcripts

of the audio recordings of the interviews were thematically analyzed by three instructors of the school of foreign languages including the researcher. The codes under the themes then, discussed on and were agreed upon. These codes then, were used in order to answer the second and third research questions.

3.5.1.3. The Researcher Journal

The qualitative researcher needs to describe relevant aspects of self, including any biases and assumptions, any expectations, and experiences to qualify his or her ability to conduct the research (Greenbank, 2003). For this reason, the researcher kept a journal during the research process to record the events, his feelings and predictions towards the events which would otherwise be difficult to make commentary about and detail the whole procedure. The entries of the researcher's journal were not included in a separate section but under every related section in order to maintain a meaningful unity throughout this research.

3.6. Data Analysis

The data regarding the 1st research question was analyzed using Wilcoxon signed rank test. The aforementioned data consists of pre-test and post-test scores of treatment group and control group. This test was conducted to find out whether there is a statistically significant P values between the total test scores of treatment group and control group. The test was run again for the second part scores of the pre-test and posttest. The results of the total scores of the participants in the vocabulary test, and second part scores of the vocabulary test was calculated for the reasons mentioned in the sub-section 3.4.1.1. The Vocabulary Test under the section reliability and validity.

The qualitative data that was collected was analyzed for 2nd and 3rd research questions. The 2nd and 3rd research questions were investigated and analyzed using the interview transcripts and research journals. A thematic analysis was conducted in order to find answers to 2nd and 3rd research questions. The researcher journal was consulted in order to detail the process.

CHAPTER IV

4. RESULTS

4.1. Introduction

The data collected throughout this study was analyzed in two sections for convenience and draw a clearer image of the 2 months of treatment. These sections were divided into quantitative data and qualitative data regarding the research questions. In the first section, quantitative data was analyzed to have an understanding of the first research question. The second section on the other hand, was allocated for the second and third research questions. In hopes to find answers to these research questions, the qualitative data was employed which was extracted from the interview transcripts, researcher journals and WhatsApp messages and replies to the information form. The second section of this part includes the data from the 3 phases of the treatment process for each participant.

4.2. Quantitative Data

In order to investigate the first research question, the results of the pre-test and post-test were used. To improve the accuracy of the results, all the participants in the treatment group and the control group was asked to leave the questions unanswered, if they don't know what the answer was during both the pre-test and the post-test. The research question that was investigated in this section is:

1- Does employing a well-designed COTS single-player RPG for out-of-class learning activity lead to a significant language improvement in terms of vocabulary in EFL learners in university?

4.2.1. Vocabulary Test
4.2.1.1. Results

The vocabulary test consists of 85 question items in total separated into two sections. The first section consists of 55 items of multiple-choice questions while the second part consists of 30 matching questions. In the following, results of the participants from both groups are shown.

Table 3:

Total Pre-test and Post-test scores of the control group

Group	ID	Pretest total	Posttest total	Gain
Control	Minerva	76.5	78.8	2.3
Control	Venus	41.1	35.2	-5.9
Control	Juno	82.3	76.4	-5.9
Control	Diana	58.8	59.9	1.1
Control	Vesta	78.8	74.1	-4.7
	Mean	67.5	64.88	-2.62

The gain value of the control group was a negative number for 3 out of 5 control group participants. The other two although showing improvement, the value does not seem to be high compared to the treatment group.

Table 4:

Second part scores of Pre-test and Post-test of the control group

Group	ID	Pretest P2	Posttest P2	Gain
Control	Minerva	66.6	69.9	3.3
Control	Venus	16.6	13.3	-3.3
Control	Juno	79.9	66.6	-13.3
Control	Diana	46.6	49.9	3.3
Control	Vesta	63.3	59.9	-3.4
	Mean	54.6	51.92	-2.68

Probably because of the harder nature of the second part, leaving almost no chance for chance success factor, the mean score of this part is lower in the control group. The mean value of the difference between pre-test and post-test of the second part of the vocabulary test (-2,62) show a very similar value with the total score mean value of the difference (-2,68).

Table 5:

Total Pre-test and Post-test scores of the treatment group

Group	ID	Pretest total	Posttest total	Gain
Treat	Neptune	86.3	90	3.7
Treat	Mars	42.5	52.2	9.7
Treat	Jupiter	90.5	100	9.5
Treat	Apollo	60.6	63.4	2.8
Treat	Vulcan	77.5	82.6	5.1
	Mean	71.48	77.64	6.16

The value showing the difference between the pre-test and post-test scores of the treatment group for each participant was, besides being a positive value, compared to the control group, was greater than each of the corresponding control group participants.

Table 6:

Second part scores of Pre-test and Post-test of the treatment group

Group	ID	Pretest P2	Posttest P2	Gain
Treat	Neptune	76.6	80	3.4
Treat	Mars	10	23.3	13.3
Treat	Jupiter	79.9	100	20.1
Treat	Apollo	36.6	43.3	6.7
Treat	Vulcan	33.3	66.6	33.3
	Mean	47.28	62.64	15.36

The second part of the vocabulary test, when calculated separately from the total score, showed a bigger mean value among treatment group participants (15,36) compared to the control group (-2,68). This might be because of the meaningful repetitions taking place throughout the game, enabling the participants to learn even the low frequency multi-word vocabulary items in the corpus while the control group not being exposed to those vocabulary items in the game, or not being exposed to them in any other way. Another reason might be that because there were 30 items in the second part of the test, each correct item was counted as 3.33 points while the total score of the test was calculated by assigning each correct item 1.17 points. Thus, each correct

answer affected the score and analysis value of the 2nd part more greatly than it did in the total score. While analyzing the total score, however, every item in the test was counted as equal, thus, the second part answers did not affect the score in such a great manner.

4.2.1.2. Analysis

The data analysis was conducted using statistical analysis software GNU PSPP version 1.4.1-1. GNU PSPP is a program for statistical analysis of sampled data. It is a free and open-source replacement for the well-known proprietary program SPSS®. However, the data output that was analyzed was compared to the output of proprietary statistics analysis tool SPSS® using the same data sets. The results were observed to be identical.

Wilcoxon signed rank test is the non-parametric alternative to the independent samples t-test (Dörnyei, 2007) that is employed for much larger numbers of samples. Woolson (2008) describes it as: "it is a nonparametric test procedure for the analysis of matched-pair data, based on differences, or for a single sample. The null hypothesis is that the differences, or individual observations in the single-sample case, have a distribution centered about zero". The analysis results are given in the tables below.

Table 7:

Wilcoxon test result of treatment group pre-test and post-test total scores.

		N	Mean Rank	Sum of Ranks
	Negative Ranks	0	NaN	,00
T_Posttest - T_Pretest	**Positive Ranks**	5	3,00	15,00
	Ties	0		
	Total	5		

	T_Posttest - T_Pretest
Z	-2,02
Asymp. Sig. (2-tailed)	,043

It is observed in the table above that all the post-test scores in treatment group showed a positive difference when compared to the pre-test scores. The point of interest here in the table above is the P value (Asymp. Sig.) which yielded a value of significance (P<,05).

Table 8:

Wilcoxon test result of control group pre-test and post-test total scores.

		N	Mean Rank	Sum of Ranks
	Negative Ranks	3	4,00	12,00
C_Posttest - C_Pretest	**Positive Ranks**	2	1,50	3,00
	Ties	0		
	Total	5		

	C_Posttest - C_Pretest
Z	-1,21
Asymp. Sig. (2-tailed)	,225

It is shown in the table above that some of the control group participants (N=3) scored a negative post-test score difference when compared to their pre-test scores. The point of interest in the data analysis of the table above which shows the pre-test and post-test total scores, is the P value that was shown under asymp. Sig. (2-tailed) section. The value is ,251 (P>,05).

Table 9:

Wilcoxon test result of treatment group pre-test and post-test 2nd part scores.

		N	Mean Rank	Sum of Ranks
T_Posttest_P2 - T_Pretest_P2	**Negative Ranks**	0	NaN	,00
	Positive Ranks	5	3,00	15,00
	Ties	0		
	Total	5		
	Posttest_P2 - Pretest_P2			
Z		-2,02		
Asymp. Sig. (2-tailed)		,043		

As seen above, analyzing the second part of the pre-test and post-test results of treatment group yielded the same value as the total scores (P=,043).

Table 10:

Wilcoxon test result of control group pre-test and post-test 2nd part scores

		N	Mean Rank	Sum of Ranks
C_Posttest_P2 - C_Pretest_P2	**Negative Ranks**	3	3,67	11,00
	Positive Ranks	2	2,00	4,00
	Ties	0		
	Total	5		
	C_Posttest_P2 - C_Pretest_P2			
Z		-,94		
Asymp. Sig. (2-tailed)		,345		

Like the Wilcoxon signed rank test analysis of the total scores of the vocabulary test, the P value is not statistically meaningful. (P=,345)

4.3. The Qualitative Data

In order to investigate the second and third research questions of this study, qualitative data was analyzed. In order to do this, interviews were coded and evaluated. The qualitative data was separated into 3 phases. Those phases were created from the whole process of treatment to have convenience and a better understanding of how the perceptions of the participants towards the video game and their learning curve evolved and whether that happened at all. The 1st phase represents the first week of the treatment while the 3rd phase represents the 8th and last week of the treatment process. The second phase is the time period between the two.

In order to analyze the interviews, thematic analysis was carried out. 3 Themes were identified and focused on while analyzing these interview transcripts. Those themes were: Positive attitude, negative attitude and learning strategies. In each interviews, participants commented on the video game and their experiences in it. They made positive and negative comments on the process in every interviews. The number of positive comments was greater than the negative ones in each interview. Those numbers were used to calculate the disposition score. It was calculated by subtracting negative comment count from the positive comment count. This score was used be translated to a motivation score. In addition, participants were asked what they did when they encounter an unknown vocabulary in each of those interviews. The learning strategies were identified by using their answer to this question.

4.3.1. The First Phase

All the participants had what can be called as an orientation period during this treatment phase. They started the game, learned the mechanics of it and asked their questions if they had any. Nothing was certain at this phase. Some of the participants who started playing the game left with various reasons or did not state a reason at all. Only 5 of the treatment group remained by the end of this phase. In order to have a better understanding of the 2nd and 3rd research questions, the interview transcripts were coded in 3 separate themes. They were: Positive perceptions, negative perceptions and learning strategies.

The related research questions that were considered in this qualitative data analysis section were:

2- What learning strategies do the participants use during game-play sessions?

3- What are the perceptions of participants towards using video games for improvement in language skills at the beginning, during and at the end of this research?

Table 11:

Thematic analysis of the interviews of the first treatment phase

Participant	Positive	Negative	Disposition	Learning strategies	Learned?
Jupiter	15	3	12	dictionary, context	1
Neptune	8	1	7	context	1
Mars	6	1	5	context	1
Vulcan	16	1	15	context	1
Apollo	0	0	0	0	N/A
Mean	9	1.2	7.8		

Jupiter showed eagerness as soon as it was revealed what game would be used as a treatment in this study. He defined himself as a "hardcore gamer" and he stated that he was excited to finally play the game used as a treatment in this study. He mainly listed single-player games rather than multiplayer online games. This shows that he was different in the aspect of the choice of video games from the mainstream gamers in Turkey. Because the participants were not allowed to trigger a quest before its time, they were told to wait until the next task list to be published. They were only encouraged to explore the wilderness such as forests and caves in order to prevent this from happening. About this matter, he stated "It is actually sad to have a quest list and having to wait for that list to be posted to the blog every week. I got excited especially when I got out of the prison. The view was beautiful. I wanted to explore every part of it(the game world)." When asked about whether he thought that he was learning, he replied "Yes. I think I learned some words and phrases. I've always believed that you can learn a great deal from a good video game. It seems this game is one of them, sir." Although he knew his score was very high (90,5) in the pre-test, he didn't show any sign of unwillingness. Everything about Jupiter seemed alright according to the interview and researcher journal data at this phase. His disposition score was the second highest among the participants at the first phase (12).

Neptune also showed eagerness to play because the game caught his interest according to what he said in the first interview. He stated what translates to English as: "I really wonder what awaits me in the game. I think the images are good enough as well." he also said, "maybe the best game I've ever played (from the period it came out)" Those statements show that the game was entertaining for him, and he was willing to continue. He had listed a homogeneous mixture of multiple online games and single player games in the information form. He had listed 1 RPG game which means he was not unfamiliar with many concepts in the game. When asked about learning strategies, he replied to what translates as: "Sir, I continue playing. I can make sense of most of them using the words I know if they are in the dialogue. I haven't done anything extra so far other than playing. the game". This statement matched exactly with what he selected in the question form. However, he was encouraged to do more if he does not understand a vocabulary item in the game. He stated "I think I'm learning, sir. I think it goes into my subconscious." which might imply that he had incidentally learned before and was aware this might happen again. Everything seemed in order after the first interview with Neptune according to both data sources. He was eager to continue and didn't have a major problem in the game. He also said something about his learning strategy in the interview that exactly overlap with the data from the information form. His score in the pre-test was the second highest after Jupiter (86.3). However, during the first phase, in the first interview after the first task list, his disposition score resulted as 7.

Mars perfectly fit the average Turkish gamer profile according to what he chose in the information form. He had some technical difficulties with the game such as the game crashing upon launch, but they were fixed soon. He was the lowest proficiency (42,5) participant among the five but after the first interview, he didn't show any sign of disengagement. When asked, he said that he encountered vocabulary items that he was not familiar with during the game at the ratio of 30% to 40%. However, he stated that he didn't look up their meanings. This means showed the same behavior as he replied in the information form related to the learning strategies item. He was warned that he needed to do more than that and he agreed. Because he was not confident about his English proficiency, when offered to continue the interview in English, he kindly refused stating what translated to: "Sir, if we continue in Turkish for now, is it okay if we switch to English in the next weeks?". Which was understandable for an A2 level EFL student. He commented the video graphics could have been better about the game

which overlapped with what he replied in the information form. He had chosen video game graphics were an important factor for him while choosing a game. He then, was recommended to increase the video graphics quality settings. When he was asked if the game was entertaining for him, he replied what he translates to "It's fun when I understand, sir. If I know what I'm doing for what. But when I do it by trial and error with my own instincts, it's still fun, but not that much." He also stated for another question: "No, sir, the tasks are engaging. Frankly, I wonder what will happen in the rest of the story and what kind of role I will play." He was eager to keep playing and doing the tasks. When asked whether he thinks he was learning, he replied "As I said, teacher, I think I learn when there are repetitive words. But I think I'd better look at the word meanings during the game to speed up this process even more. Then I'm sure I will learn more as you say." At a proficiency level he was at, it was crucial for him to look up the meanings for the words that he didn't know then he agreed. There were no apparent problems according to the first week interview with him related to the process. Everything was going as expected. He completed the quests and sought assistance from the researcher when necessary. As it turned out after the first week interview, his disposition score was 5.

Vulcan was also an average Turkish gamer according to what he chose in the information form. He was not familiar with single player RPG genre and didn't list a game that belonged to this type. He was fascinated when he started playing the game that was used as a treatment in this study according to the first week interview. Most of the first interview was conducted in English with Vulcan. He found the game very "grasping" and wanted to play more. He said "When I escaped the prison I was very happy to see the bright world with all the details. The graphics, the music everything about it was so grasping". He remarked when asked whether he found the game enjoyable: "Very much hocam. The graphics, the music, the story, dialogues, everything is very good. It can be the best game for learning English that I have played so far. Which is the first actually (laughs)". Which showed that he had good motivation to keep playing. There were no problems about his progress for the first week, according to the interview data. He was a B2 level which helped him understand most of the dialogues without using a dictionary or another tool. He also commented about his classmates leaving the study "I don't care sir. I am an individual who has his own decisions to make. This is my decision and I'm not (pauses) regretful". His determination was not

affected by the incident according to what he said. This was a very important factor considering many people leaving the study till that point. He was very attentive to the language even while the researcher was interviewing him. He showed that with various reactions he gave to the researcher such as:

"Ir: I hope this feeling lasts till the end.

Ie: Excuse me hocam. What does it mean?

Ir: What does what mean? "last"?

Ie: Yes. I don't think I know that word.

Ir: (tries British accent) last?

Ie: Aah now I understand. I forgot you use American English.

Ir: It's OK. It happens with my students all the time.

Ie: Maybe because we always hear the word as "last" (in British Accent) from our teachers. It has always been like that. You are probably my first teacher who pronounces this word like that. (calls the researcher as his teacher although the researcher never taught him anything in a classroom setting.)

Ir: I think this is good for you, don't you think?

Ie: Definitely hocam. I think I must pay more attention to language while listening to videos on YouTube".

When asked whether he thought he learned new words while playing, he replied: "I do sir, yes. There are words that I don't understand, sure. But the situation (context) gives me an idea usually on what that word might be. We do this in reading classes too." In conclusion, everything went well according to the first interview data with Vulcan. He completed the first-week tasks in the game as he was supposed to. In addition, he stated that he liked the video game which was important for his motivation to keep playing. His score in the pre-test was 77,5 and his disposition score was calculated as the highest in the group (15) for the first phase.

In the first week, it was a little difficult to reach Apollo. Thus, the interview was conducted the next day just to find out that he had not started the game yet. Considering the tasks did not take too much time for the first week, he was advised to start as soon as possible because it would have been difficult to catch up with the rest of the tasks, otherwise. He agreed to do so for the next week. The journal entry about Apollo stated

that he might quit the study as well because of his behavior. Due to not completing the tasks, he could not be interviewed about the game experiences and his disposition score in the first phase could not be calculated. His pre-test score was 60,6 the second lowest after Mars in the first phase.

4.3.2. The Second Phase

The second phase data showed that the individuals who are in the treatment group adopted the game-play of the game as a habit. Their learning strategies also increased in number. They adopted new behavior in order to understand more of the game and in turn, learn more. Apollo had shown negative behavior at the beginning. This issue was resolved in the next interview (3rd week). He could manage to catch up with the rest by the end of the treatment process. The rest of the group showed signs of engagement in the interviews and in the WhatsApp group. The more they were exposed to the game, the more positive feedback they gave about the story-line of the game. They were also more willing to conduct the interviews in English by the 3rd interview (5th week).

Table 12:

Thematic analysis of the interviews of the second phase

Participant	Positive	Negative	Disposition	Learning techniques	Learned?
Jupiter	28	9	17	online dictionary, context	1
Neptune	10	3	7	context, online dictionary	1
Mars	21	3	18	online dictionary, context	1
Vulcan	18	3	15	online dictionary, context	1
Apollo	13	1	12	context	1
Mean	18	3.8	13.8		

During the 3rd week interview, it was understood that Jupiter got carried away by game-play and went further on the story-line than he was supposed to. According to what he said, he did not notice that he was supposed to leave the progress there and move on to another quest. It might be an indicator that he has such good motivation that he forgot or ignored the instruction on the tasks list on the blog. In this phase, he didn't

have any technical or motivational issues and went on completing the tasks. He commented on one of the quests: "Yeees sir (excitedly) It was an amazing quest. Very nice story. I felt like I was Müge Anlı while doing that." Which is a clear indicator that the process was going well for him. He was asked questions on what happened while doing the tasks to make sure that he was following the path as he was supposed to. His replies showed that he completed all of them. In the next interview (5th week) he showed signs of intensive engagement with the game with a very positive attitude. On one of the tasks, he again commented in a very positive way.

"Then sir. Oh my god. The usurer orc. That (one) was amazing! Poor guy was kidnapped by the usurer and it turns out he was just a bait to lure somebody who was sent to rescue him. That was of course me. Then a hunting game began. The rich people were hunting poor or unfortunate people for fun! For years maybe. That was shocking. Not unfamiliar at all.

These exact words of him showed clearly that he was not only engaged with the game but also was comprehending exactly what was going on while doing the quests, leading to an understanding that the second phase went on very well with Jupiter. When asked whether he thought that he was learning he responded positively. In the aspect of vocabulary learning strategies, he stated that he had started using an online dictionary when he had encountered an unknown vocabulary item in this phase. He also said that he started to make out the meanings of those vocabulary items using the context. His disposition score was the second highest (17) after Mars during this phase.

Neptune was the first to notice the voice of one of the celebrities that had voice acted in the game during the second phase. Although he didn't comment on the music of the game, either positively or negatively, he could recognize Sean Bean's voice in Martin character in the first encounter. According to what he stated, this made him happy because Sean Bean was one of his favorite Hollywood actors. In the later steps of the interviews, it became clear that he completed the quests without any trouble and had fun during the game. He gave details about the quests in the game but stayed neutral in commenting either positively or negatively relative to 3 participants: Jupiter, Mars and Vulcan. He used some of the words or phrases during the interview as well. An extract from the 5th week interview goes:

"OK. Hocam. Firstly, I started advance in the mages guild. In one of the recommendation letter task, I almost died. I met Glarthir, He lost it, I killed him. because I had to. He left me no choice. I learned it from the game (He means "left me no choice"). In the journal it was saying like that"

He used context to understand when he encountered an unknown vocabulary item and he also used a dictionary, differently than the first phase where he only used context to understand unknown vocabulary. His disposition score was 7 in the second phase.

Mars, although the lowest proficiency participant, had the highest disposition score throughout the 2ⁿᵈ phase (18). Although he was hesitant to conduct the interviews in English, it was clear that he had a high motivation to understand and keep playing the game. He tried to conduct the interview in English in the 5ᵗʰ week but when the researcher made sure that it is not necessary, he switched back to Turkish. He showed positive attitude towards the game according to his words and word choice in the interview. About one of the tasks in the game, while describing what happened, he also commented what translates as:

The next scene was very good, sir. All of the guards there put the tips of their swords on the ground like a cane, and fell on one knee and swore allegiance to Martin. It was a very impressive scene. Martin was also stunned. He didn't know either. Only Jaufre knew. I learned the word "pledge" there. They said "Pledge my life."

Mars had a bad habit of closing information windows that pop up during the quests to inform the player without reading them. He admitted that it had become a reflex as a user of microsoft windows operating system and he needed to change that at least while playing the game. However, he showed many signs of positive perception towards the game. This made his disposition score the highest during this phase of the treatment process. One of his significant comments during the interview to show that was:

"Sir, missions are really fun. The scene where those guards are kneeling, Martin's voice shaking, it's all beautiful details. The game world also looks beautiful, especially when it's daylight. I wish I lived there somewhere. in the forest. But creatures shouldn't exist (laughs)"

He used an online dictionary when he encountered an unknown vocabulary item and tried to make out of the meanings of any unknown vocabulary item by using context, according to what he stated.

Vulcan started the first interview of this phase stating that he really liked the game. Which was apparent during the rest of the conversation. It was clear that he understood the quests, grabbed the details of them and succeeded in conveying them in the interview adding his comments to them. His disposition score was 15 which was the third place among the participants during this phase. He showed positive signs with words like "well-thought, grasping, beautiful for a 14 year-old game". He stated that he also started taking notes of the words that he had just looked up the meanings of so that he could learn them by heart. Along with these learning strategies, he also said that he used context to understand unknown words or phrases during the game. He showed clear signs of grasping what really happened about one of the more thrilling quests by saying: "I felt thrill. It was a good adventure. I felt like a hunter in the dark. Fools waited for me to get them one by one actually I was the hunter there." Everything looked good about his progress just as the rest of the participants throughout this phase. Shortly, he was learning and having fun.

Apollo, although having lost quite some time to begin doing the tasks, made efforts to catch up with all the other treatment group participants. However, it seemed like he missed some important points of the game according to the data extracted from interviews and the researcher journal. The interview analysis backed up the data from a researcher journal entry as well saying "he is more focused on completing the tasks than trying to understand what was going on. His discovery of the quest compass which is a tool showing the player where to go for the active quest actually made it easier for him to complete the quests in the game without completely understanding. He said about this matter: "If the task is progressing, then I say I understood correctly and continue." According to what he stated in the interview, he did not use any other method than trying to figure out the meaning of an unknown vocabulary item using the context. His disposition score was 12, the second lowest to Neptune.

4.3.3. The Third Phase

The data collected throughout the third phase did not show significant differences from the second phase. One notable improvement in this phase could be referred as one different learning strategy discovered by Mars which was watching a walkthrough video. Walkthrough videos enable players to show how to proceed in a game for the best possible outcome. Video creators on YouTube make these videos basically in two types: with commentary and without commentary. In the first, a video creator plays a game with usually camera and microphone turned on and makes comments throughout. They are among the most-watched videos on the platform. In the latter one however, a video creator just plays the game without commenting. This serves as only a presentation on how to go through quests in that game. Mars shared his discovery in the WhatsApp group and let all the other participants know about it. However, In the interviews, none of the participants mention walkthrough videos when asked about their learning strategies. The mean score of disposition among participants was not as high as the previous phase. However, Mars, Jupiter, Neptune and Vulcan stated that they wanted to keep playing the game even after the data collection process of the research finishes in the interviews. However, this was not confirmed thoroughly with all the participants (only Mars and Jupiter).

Table 13:

Thematic analysis of the interviews of the third phase

Participant	Positive	Negative	Disposition	Learning strategies	Learned?
Jupiter	9	1	8	online dictionary, context	1
Neptune	4	0	4	context, dictionary, note taking	1
Mars	8	0	8	dictionary, context, walkthrough	1
Vulcan	9	0	9	context	1
Apollo	5	1	4	context	1
Mean	7	0.4	6.6		

As in the previous phases, Jupiter's positive attitude towards the process lasted till the end of this phase. One of the important comments he made during the interview about one of the tasks was: "I really liked the story, sir. So realistic. I mean, these are the things that happen in our world as well." It was not an interview question to ask the participants whether they consider playing the video game after the data collection process was over. Thus, it was not asked. However, Jupiter stated: "I will continue, sir. Even if the research is over, I will continue (playing) the game." His learning strategies stayed the same as the previous phase which were context and dictionary. In addition, his disposition score was 8. At the post-test, he scored 100 answering all the questions in the vocabulary test correctly.

In the last interview with Neptune, he stated that he had created a vocabulary list of 15-20 items in the last three weeks of the treatment. He did not clearly say between what dates those vocabulary items were noted down, but the count of the items gives an idea of a period of one week. Like Jupiter, he stated that he wanted to play the game even after the research was over although that question was not asked. His learning strategies stayed the same with the previous phase which were context and dictionary. His disposition score was 4 and he scored 90 out of 100 in the vocabulary test.

Mars had put forth a strong case of motivation throughout the first two phases of the treatment process. This lasted till the end of the third phase as well. As a proof that he understood the quest, that required infiltrating to a rival mercenary company, he uttered words that translate as:

"Sir, they gave me a drug, then the leader came and said we are going on a mission. I passed out. When I opened my eyes, we were in a village, there were goblins everywhere. We killed them together with my people (other mercenaries). The goblins did not respond at all, some even ran away. Then I realized that we killed the people living there (in the village). (It turned out) What they gave was something that me made me hallucinate".

He continued giving the details of that quest which he stated that he liked doing very much. Mars discovered the walkthrough strategy during this phase. It was not clear whether it helped him understand the game more or not, but he showed a greater interest to the game and the quests in it. Other than walkthrough videos, he used online

dictionary and context as before. His disposition score was 8 and post-test score was 52.2.

Vulcan was another participant who stated that he wanted to keep playing the game even after the data collection process was over. He, like all the other participants, shared this plan without being asked to. To show his appreciation of the game, he said: "The dialogues and music, they all create an amazing environment to learn from. (pauses) learn in. I have been learning from it a lot." His disposition score was 9 and he scored 82,6 in the vocabulary test.

Apollo somewhat caught up with other participants in this phase in the aspect of tasks in the game. However, when asked whether he thought he understood the quests, he replied what translated to "I understand enough to progress, sir". Which was not the main concern in the treatment process. He shortly retold what happened in the game, which was mostly correct, but his retells were missing some key details which backed up the point of view that he didn't complete some of the quests knowingly. However, his attitude towards the game was deemed positive according to his comments about it. His disposition score was 4 and he scored 63.4 in the post-test.

4.4 Summary

Although one of the participants had a rough start in the 1st phase (Apollo), he managed to complete the whole process without reporting any serious problems. The rest of them were observed to develop new behavior patterns in the aspect of learning strategies and interview language preference. All of the five treatment group participants completed all the necessary steps except for minor inadequacies. Their disposition score remained at positive values throughout the 8-week period of the treatment according to interview and researcher journal data. After the post-test, a mean gain value of 6,16 was observed while the control group's value of mean gain was -2,68. When calculated separately, the second part of the vocabulary test results showed a much greater difference between the treatment group (15.36) and the control group (-2,68). The question "whether they noticed some weird things about the post-test" was asked to all the participants in the treatment and control groups after the post-test and their responses confirmed that none recognized that it was exactly the same vocabulary test, they took as the pre-test. They retook it after a period of roughly 16 weeks (March 15th, 2020 - July 10th, 2020).

CHAPTER V

5. DISCUSSION AND CONCLUSION

5.1. Introduction

This study mainly focuses on EFL learners' experience and learning outcomes of regular game-play outside the classroom. More specifically, finding the effects and outcomes of using a single-player RPG game was aimed in the aspects of vocabulary acquisition, learning strategies and learners' perception while the treatment period took place. It is hoped by the researcher that the findings of the study shed light on what factors to consider while conducting similar research. In an attempt to investigate the research questions, a vocabulary test was developed and used as the pre-test and post-test in this study, semi-structured interviews were conducted with the participants using 9 questions and the researcher journal was kept. All in all, the results of the collected data will be discussed, and conclusions will be revealed in this section.

5.2. Discussions on the Data

5.2.1. Discussion of the Research Question 1

The first question in this study *"Does employing a well-designed COTS single-player RPG for out-of-class learning activity lead to a significant language improvement in terms of vocabulary in EFL learners in university?"* seeks to figure out employing a fine example of RPG in order to generalize the result to the genre itself.

When the data was applied to the Wilcoxon signed rank test, the output yielded a statistically significant value (P=0,043) for the treatment group. However, the P value was 0,225 for the control group's total pre-test and post-test meaning that the pre-test and post-test results did not show a statistically significant difference for the control group. The data analysis of total scores of pre-test and post-test implies that while the treatment group showed a significant improvement, the control group did not. In light of the data analysis of the first research question; it is highly probable that treatment group showed improvement while the control group did not because of the treatment factor. However, the analysis of the second part of the pre-test and post-test data did not show a more statistically significant value although it was expected. The reason for that expectation was that the second part of the vocabulary test consisted more low-

frequency vocabulary items compared to the first part. Those low-frequency words and phrases were meaningfully repeated five to eight times throughout the video game just as the medium-frequency and high-frequency words and phrases. The second part of the test was designed to be more discriminating to prove the point that those words and phrases were learned from the game-play sessions but no other means. Although the P value was the same for total scores and part 2 scores of treatment group in the Wilcoxon signed rank test, it was a higher value for part 2 than the total scores' analysis for the control group. It means that the second part of the vocabulary test, which consisted of more low-frequency vocabulary items than the first part, were more difficult for the control group compared to the first part, which consisted of fewer low-frequency vocabulary items compared to the second part of the test. The P value resulting from the treatment group's total scores and part 2 scores of pre-test and post-test analysis yielded the same statistically significant value while it turned to a higher insignificant value for the control group. This implies that although the second part of the vocabulary test was more difficult than the first part, the treatment group participants were not affected by it and the difference in their pre-test and post-test scores is the evidence for that. Because of the design of this research, it shows that the analysis result for this significance stems from the treatment and the meaningful repetitions during game-play sessions of the RPG game *The Elder Scrolls IV: Oblivion.* The quantitative findings of the first research question thus corroborated the quantitative findings of Rankin et al. (2006), Løkke (2016), Altınbaş, (2018) and Enayat and Haghihipasant (2019).

5.2.2. Discussion of the Research Question 2

The result of the data related to the research question *"What learning strategies do the participants use during game-play sessions?"* showed that the participants in the treatment group used various learning strategies. Oxford (1994) described learning strategies as the pattern of behavior conducted by language learners to improve language proficiency. In this respect, participants' behaviour patterns as language learners were investigated.

The thematic analysis of the interviews showed that in the first phase, the participants mostly used context in order to understand, the game. However, in the next two phases, the learning strategies diversified except for one participant. This result can easily be interpreted that the participants wanted to understand and the context more and

showed effort to do so. This again can be explained as a high motivation to understand the environment and interact with it. In the case of this study, repetitive words and dictionary use alongside other strategies possibly lead to reinforcement for the newly acquired vocabulary knowledge. The results can be an indicator that such a treatment can only work on students who have achieved a specific level of learner's autonomy and self-efficacy (Oxford, 2008).

The rest of the participants except Apollo, adopted new vocabulary learning strategies while playing the game. The reason for that might be that the rest of the participants recognized their need to understand the story of the game more because of the authentic language of the game that was used but Apollo did not. The case of Apollo for this research question, however, differs from the rest probably because his self-efficacy was mostly false about his skills and proficiency level at the beginning of the research. This can be the leading cause that it remained the same throughout the game and he thought that it was not necessary for him to use any learning technique other than using context to figure out the meaning of the words encountered in the game as in some cases observed in Hulstijin's work (1993). Another reason for that might be that he was so focused on finishing the tasks, he did not pay much attention to learning strategies thus, understanding the game more. He likely used the game as a labyrinth rather than an ecology as Linderoth (2012) investigated in his study. There is substantial amount of interview data that might lead to this conclusion about his learning strategies that remained the same for all the 3 phases in this study. The excerpt from 5th week interview is an example for this:

> *Sir, I did not understand it (He means the task). I just killed whoever came my way. I searched for the exit a bit but finally found it. There was a green man there (the orc who kidnapped him) he appeared before me and then I beat him*
too.

He should have understood that he was betrayed by a man and was put in an old fortress to be used as human prey for wealthy hunters who looked for a different kind of fun. He did not mention any of these and clearly stated he did not understand why he was kept prisoner and wanted dead. He progressed and broke free anyway, proving the point of Linderoth (2012).

The research of Bakar and Nosratirad (2013) and the current research are very similar in respect of findings regarding the learning strategies used by participants during game-play. Although they did not reveal how often and at what phase the participants used those strategies, in the end, the participants of both studies used similar strategies in order to learn vocabulary. Those strategies were: looking up online dictionary, guessing the meaning and using google translate. There were different strategies used by their participants but not by the participants of the current study or the other way around as well. For instance, 2 of the participants of Bakar and Nostratirad stated that they asked friends or other people nearby when they encountered an unknown word.

Another research that was very similar in design was a 2016 study that Løkke conducted with 22 Norwegian 10th grade students. He used an MMORPG game called Bastion. The aim of the study was to inspect the results of employing the said video game on students from 3 different parts of Norway. He created a vocabulary test to be employed to investigate the effects of the recreational gameplay for 6 weeks. The words used in the vocabulary test were selected from the names of items, places, concepts in the game which were made up for the game and many of them had no correspondence in the real world. Even in this case, the participants were successful in acquiring those meanings and were able use them meaningfully in the interviews while talking about the game. The participants claimed having used mostly guessing the meanings of the words that were encountered during gameplay.

Iacovides, Cox, McAndrew, Aczel and Scanlon (2015) studied different levels of involvement of game-play using the player involvement model (PIM) presented by Gordon Calleja (2011). They worked with 9 participants whose ages ranged between 23 and 59. They found that understanding the context of the game played a significant role in involvement in game-play in both micro and macro levels. There were cases that some trial and error took place by some of their participants to progress in the game. This was found to happen when the participant did not understand what to do next but wanted to progress anyway. In order to minimize this occurrence, the interviews in the current study included questions to find out whether the participants were involved in the video game or not. These were specific questions per each situation like comprehension tests after reading exercises in the classroom that aim to find out whether students understood the reading text. This was done to make sure that the

participants in this study were doing the in-game tasks and they were doing them by understanding but not in an automated manner like trial and error. This behavior is typically seen in low language proficiency players (Pretorius, Gelderblom, and Chimbo, 2010) or with game instructions that are not clear enough (Iacovides et al, 2015). The participants all faced situations where they were stuck and did not know what to do. The interview data concluded that these trial-and-error methods were employed by the participants mostly at the first phase. However, after this phase, they employed more learning strategies to find solutions instead of going blindly. They had been reassured that the key point was not to progress but to understand the game and its story in the first interviews. The result could be seen in the next two phases that all the participants except Apollo used more learning strategies. This was done to make sure that the participants in this study were doing the in-game tasks and doing them by understanding but not in an automated manner by trial and error typically seen in low language proficiency players.

5.2.3. Discussion of the Research Question 3

The third research question *"What are the perceptions of participants towards using video games for improvement in language skills at the beginning, during and at the end of this research?"* was investigated and discussed in this sub-section using the interview data. The perceptions of the participants were attempted to investigate using thematic codes of positive and negative. The high disposition score of each participant is interpreted that the idea of playing a video game to learn or improve English vocabulary motivated them to keep playing. The result and analysis of this research question are closely in line with Chen & Yang's (2013) study on learners' motivation and video games.

Chen (2015) set out to investigate about the learners' perceptions towards gaming and its contribution to L2 interaction. She used a survey and conducted interviews to collect data mainly about the learners' perception towards the idea of gaming and language proficiency. She employed two MMORPG games known as *World of Warcraft* and *Ragnarok Online.* She also collected chat messages to detail the process of research to see how the participants interacted each other and other players in the game. 176 participants aged between 13 and 18 took the survey and it was found that the participants found the idea of gaming and learning English enjoyable and 86%

(n=151) of the participants showed a strong agreement to the item stating: "using MMORPG games for classroom purposes is a good idea". All in all, the data of the current research regarding the perception of gaming corroborated with the data of Chen (2015) and Adris and Yamat (2015), Altınbaş, (2018) and Harbord et al. 2021

Scholz (2017) conducted an extensive research on 14 participants whose ages ranged between 14 to 37, with an average of 14,4 hours of gameplay of the MMORPG game *World of Warcraft* for 4 months. He also observed all communication channels within the game to detail the process in addition to using several other data collection tools such as questionnaires and interviews. He found out that the majority of the participants found the process engaging and enjoyable, which is basically the summary of the regarding data of the current study.

It is also worth noting that some of the participants in the treatment group stated that they wanted to play the game even after the data collection process ends (Mars, Jupiter, Neptune and Vulcan). This was a clear indicator that their perception evolved towards a very positive level about the idea that they can learn English vocabulary or improve their skills while doing something they like such as playing a single-player RPG game.

Although it was promised by the researcher to deliver each of the participants an original copy of an RPG as a present provided that they completed all the steps of this research, they did not ask for it in the end except for Mars. He got his present, a similar RPG with a different setting and somewhat similar mechanics and thanked a lot in return.

5.3. Conclusion

The learning strategies that the participants found practical and employed throughout the process affected their learning output in a positive way according to the analysis. This is interpreted to result from the positive disposition of participants, resulting in the language learning gain.
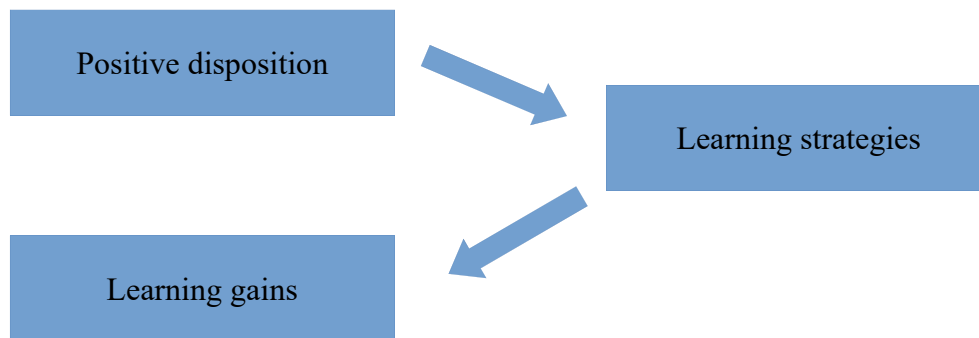
Figure 7: The causality of learning process chart in the context of this study

All in all, the results and analysis showed that the video game and the process of treatment enabled the learners to experience new things in the form of vocabulary inputs and lots of fun. The analysis of each research question's findings seems to be related in a causative way provided that they showed improvement.

5.4. Limitations of the Study

The first notable limitation of this study was that it had so few participants which makes it difficult to repeat its findings and generalize the results. It is likely that the individual differences played a huge part in the results. The second notable limitation was that the participants were, although diverse, all males. The participation of female individuals in the treatment group could not be realized. One reason for that is possibly their perception of gender roles in the society. According to the gender roles that were assigned by the society, females should not do things that males are supposed to do, and the opposite stands true for males as well in the society where the research took place. In the case of this study, they were supposed to fight some giant rats and some zombies in order to escape the sewers in the first minutes of the game. They might have thought that this was a activity for men, not women. Another possibility is that they did not find what they expected or were afraid of the creatures in the game, or simply did not like the game. However, the fact that the majority of the participants' who left the research being female backs up the point of view for the first two possibilities. Thus, the decision to use only one game to be used as the treatment in this study proved to be another limitation of this study. Using only one video game and

expecting a huge number of people from both genders to like the game and keep participating in this study proved to be unrealistic when considering the number of remaining treatment group participants and individual differences.

5.5. Suggestions for Further Research

The demographical aspects of the individuals were not the focus in this study. Thus, this research was conducted with a 5-male treatment group in addition to 4-female and 1-male control group participants. However, the results could have turned out to be much more differently than they currently have been, if the demographics had been considered as a more important factor while selecting the participants. This would have probably helped them see more reasons to continue taking part in this study instead of leaving. Thus, it should be borne in mind that while conducting similar research, acting on the society's point of view about gender differences is likely to prove important in getting a greater number of participants from all genders. A simple way to tackle this could be putting forward at least 2 video games according to what candidates from different genders think on what a good game is.

The vocabulary test was created from scratch using the vocabulary pool which was created during the exploration of the game. This proved to be impractical due to its nature. Thus, this method was only applied to show the results of such an application on participants. A readily-available generic placement test with high validity and reliability values could have been used as an instrument for such a study that compares two groups of people which were assigned to be treatment or control group participants. Alternatively, such a test could have been used while comparing the effects of two genres of video games on participants as many examples in the literature showed.

This study only focused on vocabulary acquisition throughout the process, learning strategies and learner perceptions. However, video games such as the one used in this study offer a rich aural environment to convey messages, directions or instructions to the player. These factors beg the question of whether this type of games have an effect on listening and speaking proficiency of the participants. Thus, it is likely to be fruitful to include or focus on listening and speaking skills in the list of research questions for further research to take place.

5.6. Implications of The Study

The data analysis of the process as a whole shows that video games, RPGs in particular, can be a viable option for out-of-class activity for EFL students. Educators of language no matter video game literate or not, can learn a lot by reading video game reviews and game-play videos that are regularly published on media platforms such as YouTube. By observing and evaluating these video games in question, as a result of a session of a half-an-hour search, an educator can easily find out the evaluate educational quality of the video games that she/he investigated. This can be done to remedy the lack of exposure of students to the language. Like in many ways, students need mentoring in endeavors such as learning a language. Recommending video games to them is probably one fine example of mentoring. Teachers can at least recommend video games to students especially the ones who define themselves as gamers. When adopted, this new set of dynamics in the form of conversations based on video games can introduce more intimate relationships between teacher and students if this is the desired outcome.

In the case of this study, the perception of participants who were acquainted with the researcher from the previous classes towards the researcher changed in a positive way because of this factor. As they stated many times, when they found out the fact that the researcher was a video game literate and a seasoned gamer himself, they were surprised and showed a greater appreciation, supporting the findings of Gehlbach, Brinkworth, King, Hsu, McIntyre and Rogers (2016).

As the ecological perspective suggests, language is an ecology where many elements are at play at the same time. Video games, especially the good and serious ones provide learners with an ecology where language is exposed by the learner in aspects just like dialect, register, intonation, humor all give messages to the interlocutor. Learner agency, as well, can be practiced with either other players or NPCs which is an often-sought-after activity by learners. Thus, a perception-action cycle is achieved. These features make video games a viable, safe and virtual option for learners waiting to be exploited as the participants of the current paper have.

REFERENCES

Adris, N. B., & Yamat, H. (2015, February). Massively Multiplayer Online Role-Playing Games (MMORPG) as virtual grounds for second language learning: Players' perception. In *Proceedings of the International Seminar on Language Teaching* (pp. 4-5).

Ahmad, J. (2016). Technology Assisted Language Learning is a silver bullet for enhancing Language competence and performance: A Case Study. *International Journal of Applied Linguistics and English Literature*, *5*(7), 118-131.

Altınbaş, M. E. (2018). *The Use of multiplayer online computer games in developing EFL skills* (Master's thesis, Middle East Technical University).

Amory, A. (2001). Building an educational adventure game: Theory, design, and lessons. *Journal of Interactive Learning Research*, *12*(2), 249-263.

Anand, V. (2007). A study of time management: The correlation between video game usage and academic performance markers. *CyberPsychology & Behavior*, *10*(4), 552-559.

Anderson, C. A., & Dill, K. E. (2000). Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. *Journal of personality and social psychology*, *78*(4), 772.

Apperley, T. (2006). Genre and game studies: Toward a critical approach to video game genres. *Simulation & Gaming*, 37. 23.10.1177/1046878105282278.

Arifani, Y. (2016). Optimizing EFL Learners' Sensitizing Reading Skill: Development of Local Content-Based Textbook. English language teaching, 9(5), 1-7.

Barnett, J., & Coulson, M. (2010). Virtually real: A psychological perspective on massively multiplayer online games. *Review of General Psychology*, *14*(2), 167-179.

Barr, M. (2017). Video games can develop graduate skills in higher education students: A randomised trial. *Computers & Education*, *113*, 86-97.

Bartle, R. (2004). *Designing virtual worlds. Indianapolis, IN: New Riders Publishing.*

Bell, M. W. (2008). Toward a Definition of "Virtual Worlds". Journal of Virtual Worlds Research; Vol 1, No 1: *Virtual Worlds Research: Past, Present and Future.* 18. 10.4101/jvwr.v1i1.283.

Gehlbach, H., Brinkworth, M. E., King, A. M., Hsu, L. M., McIntyre, J., & Rogers, T. (2016). Creating birds of similar feathers: Leveraging similarity to improve teacher–student relationships and academic achievement. *Journal of Educational Psychology*, *108*(3), 342.

Bradley, T., & Lomicka, L. (2000). A case study of learner interaction in technology-enhanced language learning environment. *Journal of Educational Computing Research,* 22(3), 247–368

Brown, J. D., & Hudson, T. (1998). The Alternatives in Language Assessment. *TESOL Quarterly*, *32*(4), 653–675. https://doi.org/10.2307/3587999

Brown, H. D., & Abeywickrama, P. (2010). Language Assessment, *Principles and Classroom Practices.* New York: Pearson Education

Castronova, E. (2003). Theory of the Avatar. Available at SSRN: https://ssrn.com/abstract=385103 or http://dx.doi.org/10.2139/ssrn.385103

Champion, E.M. (2009). Roles and Worlds in the Hybrid RPG Game of Oblivion.

Chen, D. (2015). Gamer perception of language learning and L2 interaction in MMORPGs (Master's thesis).

Chen, H. J. H., Hsu, H. L., Chen, Z. H., & Todd, A. G. (2021). Investigating the impact of integrating vocabulary exercises into an adventure video game on second vocabulary learning. *Journal of Educational Computing Research*, 59(2), 318-341.

Chen, H. J. H., & Yang, T. Y. C. (2013). The impact of adventure video games on foreign language learning and the perceptions of learners. *Interactive learning environments*, 21(2), 129-141.

Cheng, L., & Curtis, A. (2004). *Washback or backwash: A review of the impact of testing on teaching and learning* (pp. 25-40). Routledge.

Cheng, Y. C., Shen, C. Y., & Yeh, H. T. (2010, March). Utilizing Design-Based Research Methods to Design and Develop Computer Adventure Games. In *Society for Information Technology & Teacher Education International Conference* (pp. 1861-1865). Association for the Advancement of Computing in Education (AACE).

Chik, A. (2012). Digital gameplay for autonomous foreign language learning: Gamers' and language teachers' perspectives. In Digital games in language learning and teaching (pp. 95-114). Palgrave Macmillan, London.

Chinnery, George. (2006). Emerging technologies going to the MALL: mobile assisted language learning. *Language Learning & Technology*, 10.

Cook, T. D., & Campbell, D. T. (1979). Quasi-experimentation: Design & analysis issues in field settings. Boston, MA: Houghton Mifflin.

Cabraja, A. (2016). The effects of video games on the receptive vocabulary proficiency of Swedish ESL students.

Cooper, H., Lindsay, J. J., Nye, B., & Greathouse, S. (1998). Relationships among attitudes about homework, amount of homework assigned and completed, and student achievement. *Journal of educational psychology*, 90(1), 70.

Cooper, H., Robinson, J. C., & Patall, E. A. (2006). Does Homework Improve Academic Achievement? A Synthesis of Research, 1987–2003. Review of Educational Research, 76(1), 1–62.https://doi.org/10.3102/00346543076001001

Cornillie, F., Jacques, I., De Wannemacker, S., Paulussen, H., & Desmet, P. (2010, May). Vocabulary treatment in adventure and role-playing games: A playground for adaptation and adaptivity. In *International Conference on Interdisciplinary Research on Technology* (pp. 131-146). Springer, Berlin, Heidelberg.

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

Crawford, G. (2015). Is it in the game? Reconsidering play spaces, game definitions, theming and sports video games. Games and Culture 10(6): 571-592.

Davies, G.. (2006). Language Education, Computer-Assisted. Encyclopedia of Language & Linguistics. 10.1016/B0-08-044854-2/00973-1.

Davies, G. (2016). CALL (computer assisted language learning). *Режим доступа: http://www. llas. ac. uk/resources/gpg/61*.

Del Blanco, Á., Marchiori, E. J., Torrente, J., Martínez-Ortiz, I., & Fernández-Manjón, B. (2013). Using e-learning standards in educational video games. *Computer Standards & Interfaces*, *36*(1), 178-187.

Daskalovska, N., Gudeva, L. K., & Ivanovska, B. (2012). Learner motivation and interest. *Procedia-Social and Behavioral Sciences*, *46*, 1187-1191.

Davis, F. B. (1967). A Note on the Correction for Chance Success. *The Journal of Experimental Education*, *35*(3), 42–47. http://www.jstor.org/stable/20156896

De Freitas, S., & Griffiths, M. (2007). Online gaming as an educational tool in learning and training. *British Journal of Educational Technology*, 38(3), 535-537.

Del Blanco, Á., Marchiori, E. J., & Fernández-Manjón, B. (2010). Adventure games and language learning. In *First International Workshop on Technological Innovation for Specialized Linguistic Domains: Theoretical and Methodological Perspectives* (pp. 1-9).

DeHaan, J. (2005). Learning language through video games: A Theoretical Framework, an Evaluation of Game Genres and questions for Future Research. *SP Schaffer & ML Price (Eds)*, 229-239.

Demir, A. N., & Zaimoğlu, S. (2021). The relationship between foreign language anxiety and decision-making strategies among university students. Journal of Language and Linguistic Studies, 17(1), 18-32.

Dickey, M. D. (2007). Game design and learning: a conjectural analysis of how massively multiple online role-playing games (MMORPGs) foster intrinsic motivation. Educational Technology Research and Development, 55, 253–273

Doctoroff, G. L., & Arnold, D. H. (2017). Doing homework together: The relation between parenting strategies, child engagement, and achievement. *Journal of Applied Developmental Psychology*, *48*, 103-113.

Dornyei, Z. (2007). Research Methods in Applied Linguistics: *Quantitative, Qualitative, and Mixed Methodologies.* Oxford: Oxford University Press

Drost, E. A. (2011). Validity and reliability in social science research. *Education Research and perspectives*, *38*(1), 105-123.

Duff, P. A., & Van Lier, L. (1997). Approaches to observation in classroom Research; Observation from an ecological perspective. *Tesol Quarterly*, *31*(4), 783-787.

Entertainment Software Association [ESA]. (2020). *2020 Essential Facts About the Video Game Industry.* Retrieved from *https://www.theesa.com/resource/2020-essential-facts/*

Eren, O., & Henderson, D. J. (2008)*. The impact of homework on student achievement. The Econometrics Journal,* 11(2), 326-348.

Evans, M. A., Norton, A., Chang, M., Deater-Deckard, K., & Balci, O. (2015). Youth and video games. *Zeitschrift für Psychologie.*

Eyler, J. (2009). The power of experiential education. *Liberal education*, 95(4), 24-31.

Feldman, J. (2008). From molecule to metaphor: A neural theory of language. MIT press.

Garrett, N. (1991). Technology in the service of language learning: Trends and issues. *Modern Language Journal,* 75, 74–101.

Gee, J. P. (2007). Good video games+ good learning: Collected essays on video games, learning, and literacy. Peter Lang.

Gee, J. P. (2005). Pleasure, Learning, Video Games, and Life: The Projective Stance. E-Learning and Digital Media, 2(3), 211–223. https://doi.org/10.2304/elea.2005.2.3.2

Gee, J. (2009). Deep learning properties of good digital games: How far can they go? In *Serious Games: Mechanisms and Effects* (pp. 67-82). Routledge Taylor & Francis Group. https://doi.org/10.4324/9780203891650

Gee, J. P. (2016). Video games, design, and aesthetic experience. *Rivista di estetica*, (63), 149-160.

Gentile, D. A., & Gentile, J. R. (2008). Violent video games as exemplary teachers: A conceptual analysis. *Journal of Youth and Adolescence*, 37(2), 127-141.

Ghasemi, Babak & Hashemi, Masoud & Bardine, Simin. (2011). The capabilities of computers for language learning. Procedia - Social and Behavioral Sciences. 28. 58–62. 10.1016/j.sbspro.2011.11.012.

Girvan, C. (2018). What is a virtual world? Definition and classification. Education Tech Research Dev 66, 1087–1100 (2018). https://doi.org/10.1007/s11423-018-9577-y

Greenbank, P. (2003). 'The role of values in educational research: the case for reflexivity', *British Educational Research Journal,* vol.29 no.6

Harbord, C., Dempster, E., & Jayemanne, D. (2021). The use of avatars in digital role-playing games (RPGs) in computer-assisted language learning (CALL). *Digital Games and Language Learning: Theory, Development and Implementation*, 137.

Harmer, J. (2007). *The practice of English language teaching*. Pearson Longman.

Hart, R. S. (2013). The Illinois PLATO Foreign Languages Project. *Calico Journal*, *12*(4), 15–37. https://doi.org/10.1558/cj.v12i4.15-37

Henderson, L., Gilbert, P., & Zimbardo, P. (2014). Shyness, social anxiety, and social phobia. In Social anxiety (pp. 95-115). Academic Press.

Hou, H. T. (2012). Exploring the behavioral patterns of learners in an educational massively multiple online role-playing game (MMORPG). *Computers & Education*, *58*(4), 1225-1233.

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

Huang, B. G., & Yang, J. C. (2014, August). The Effects of Prior Knowledge for Incidental Vocabulary Acquisition on Multiplayer Online Role-Playing Game. In *International Conference on Web-Based Learning* (pp. 98-105). Springer International Publishing.

Hulstijin, J. H. (1993). When do foreign-language readers look up the meaning of unfamiliar words? The influence of task and learner variables. *The Modern Language Journal*, 77, 139–147

Jabbari, N., & Eslami, Z. R. (2019). Second language learning in the context massively multiplayer online games: A scoping review. *ReCALL*, *31*(1), 92-113.

Jacobson, D. (2020, August 3). *What was the first computer?* The Conversation. Retrieved November 7, 2021, from https://theconversation.com/what-was-the-first-computer-122164.

Jackson, R. L., Drummond, D. K., & Camara, S. (2007). What is qualitative research?. *Qualitative research reports in communication*, *8*(1), 21-28.

Janebi Enayat, M., & Haghighatpasand, M. (2019). Exploiting adventure video games for second language vocabulary recall: A mixed-methods study. *Innovation in Language Learning and Teaching*, *13*(1), 61-75.

Jantke, K. P., & Hume, T. (2015, January). Effective learning through meaning construction in digital role playing games. In *2015 IEEE International Conference on Consumer Electronics (ICCE)* (pp. 653-656). IEEE.

Jones, S. E. (2008). *The meaning of video games: Gaming and textual strategies.* Routledge.

Kaplan-Rakowski, R., & Wojdynski, T. (2018). Students' attitudes toward high-immersion virtual reality assisted language learning. *Future-Proof CALL: language learning as exploration and encounters–short Papers from EUROCALL*, 124-129.

Karagiorgas, D. N., & Niemann, S. (2017). Gamification and game-based learning. *Journal of Educational Technology Systems*, *45*(4), 499-519.

Kenny, R. F., & McDaniel, R. (2011). The role teachers' expectations and value assessments of video games play in their adopting and integrating them into their classrooms. *British Journal of Educational Technology*, *42*(2), 197-213.

Kiesler, S., Siegal, J., & McGuire, T.W. (1984). Social psychological aspects of computer mediated communication. *American Psychologist*, 39, 1123–1134.

Kongmee, I., Strachan, R., Pickard, A., & Montgomery, C. (2011, July). Moving between virtual and real worlds: second language learning through massively multiplayer online role playing games (MMORPGs). In *2011 3rd Computer Science and Electronic Engineering Conference (CEEC)* (pp. 13-18). IEEE.

Koster, R. (2004, January 07) *A virtual world by any other name? [Msg 21]* Message posted to http://terranova.blogs.com/terra_nova/2004/06/a_virtual_world.html

Krashen, S. (1982). Principles and practice in second language acquisition.

Kronenberg, F. A. (2012). Selection Criteria for Commercial Off-the-Shelf (COTS) Video Games for Language Learning. *IALLT Journal of Language Learning Technologies*, *42*(2), 52-78.

Kumaravadivelu, B. (2006). *Understanding language teaching: From method to postmethod*. Routledge.

Laufer, B. (2001). Quantitative evaluation of vocabulary: How it can be done and what it is good for. *Experimenting with uncertainty*, 241-250.

Lee, J., Luchini, K., Michael, B., Norris, C., & Soloway, E. (2004, April). More than just fun and games: Assessing the value of educational video games in the classroom. In *CHI'04 extended abstracts on Human factors in computing systems* (pp. 1375-1378).

Lin, T. J., & Lan, Y. J. (2015). Language learning in virtual reality environments: Past, present, and future. *Journal of Educational Technology & Society*, 18(4), 486-497.

Linderoth, J. (2012). Why gamers don't learn more: An ecological approach to games as learning environments. *Journal of Gaming & Virtual Worlds*, 4(1), 45-62.

Little, D. (1991). Learner autonomy. *Dublin*, 86, 11.

Lonergan, C., Craighead, B., & Weber, R. (2018). Hardwired to play: an evolutionary, neurophysiological approach to video game research. In *Evolutionary Psychology and Digital Games* (pp. 49-60). Routledge.

Løkke, F. (2016). *Incidental vocabulary acquisition through recreational play of video games in Norwegian 10th grade learners of English* (Master's thesis, University of Stavanger, Norway).

Magalhães, P., Ferreira, D., Cunha, J., & Rosário, P. (2020). Online vs traditional homework: A systematic review on the benefits to students' performance. Computers & Education, 152, 103869.

Malliarakis, C., Satratzemi, M., & Xinogalos, S. (2016). CMX: The effects of an educational MMORPG on learning and teaching computer programming. *IEEE Transactions on Learning Technologies*, 10(2), 219-235.

Margolis, H., & McCabe, P. P. (2006). Improving self-efficacy and motivation: What to do, what to say. Intervention in school and clinic, 41(4), 218-227.

Marty, F. (1981). Reflections on the use of computers in second language acquisition. *Studies in Language Learning,* 3(1), 25–53.

Marzano, R. J., & Pickering, D. J. (2007). Special topic: The case for and against homework. *Educational leadership*, 64(6), 74-79.

Matheson, K., & Zanna, M.P. (1988). The impact of computer-mediated communication on self-awareness. *Computers in Human Behavior*, 4, 221–233.

Mayer, R. E. (2016). What should be the role of computer games in education?. *Policy Insights from the Behavioral and Brain Sciences,* 3(1), 20-26.

Melber, L. M., & Abraham, L. M. (1999). Beyond the classroom: Linking with informal education. *Science Activities*, 36(1), 3.

Merriam-Webster. (n.d.). Avatar. In Merriam-Webster.com dictionary. Retrieved November 28, 2021, from https://www.merriam-webster.com/dictionary/avatar

Moreno-Ger, P., Martinez-Ortiz, I., & Fernández-Manjón, B. (2005). The< e- Game> project: Facilitating the development of educational adventure games. *Cognition and Exploratory Learning in the Digital age (CELDA 2005)*, 353-358.

Musa, N. C., Lie, K. Y., & Azman, H. (2012). Exploring English language learning and teaching in Malaysia. *GEMA: Online Journal of Language Studies*,12(1), 35-51.

Oxford, R. (1994). Language Learning Strategies: An Update. ERIC Digest

Oxford, R. L. (2008). Hero with a thousand faces: Learner autonomy, learning strategies and learning tactics in independent language learning. In Language learning strategies in independent settings (pp. 41-64). Multilingual Matters.

Padilla-Zea, N., Gutiérrez, F. L., López-Arcos, J. R., Abad-Arranz, A., & Paderewski, P. (2014). Modeling storytelling to be used in educational video games. *Computers in Human Behavior*, *31*, 461-474.

Paran, A. (2008). The role of literature in instructed foreign language learning and teaching: An evidence-based survey. *Language teaching*, *41*(4), 465-496.

Paraskeva, F., Mysirlaki, S., & Papagianni, A. (2010). Multiplayer online games as educational tools: Facing new challenges in learning. *Computers& Education*, *54*(2), 498-505.

Pasfield-Neofitou, S. (2014). Language learning and socialization opportunities in game worlds: Trends in first and second language research. *Language and Linguistics Compass*, *8*(7), 271-284.

Peterson, M. (2010). Massively multiplayer online role-playing games as arenas for second language learning. *Computer Assisted Language Learning*, *23*(5), 429-439.

Peterson, M. (2012). *Learner interaction in a massively multiplayer online role playing game (MMORPG): A sociocultural discourse analysis. ReCALL*, *24*(3), 361-380.

Peterson, M., White, J., Mirzaei, M. S., & Wang, Q. (2022). A review of research on the application of digital games in foreign language education. *Research Anthology on Developments in Gamification and Game-Based Learning*, 1948-1971.

Prensky, M. (2005). Computer games and learning: Digital game-based learning. *Handbook of computer game studies, 18*, 97-122.

Pretorius, M., Gelderblom, H., & Chimbo, B. (2010, October). Using eye tracking to compare how adults and children learn to use an unfamiliar computer game. In *Proceedings of the 2010 annual research conference of the south african institute of computer scientists and information technologists* (pp. 275-283).

Rama, P. S., Black, R. W., Van Es, E., & Warschauer, M. (2012). Affordances for second language learning in World of Warcraft. *ReCALL, 24*(3), 322–338.

Ranalli, J. (2008). Learning English with The Sims: Exploiting authentic computer simulation games for L2 learning. *Computer Assisted Language Learning, 21*(5), 441–455.

Rankin, Y. A., Gold, R., & Gooch, B. (2006). *3D role-playing games as language learning tools.* Paper presented at EuroGraphics 2006, Vienna, Austria. Retrieved from: http://www.thegooch.org/Publications/PDFs/Rankin_Gold_Gooch.pdf

Rankin, Y. A., & Shute, M. W. (2010). *Re-purposing a recreational video game as a serious game for second language acquisition.* In Serious game design and development: Technologies for training and learning (pp. 178-195). IGI Global.

Rankin, Y. A., McNeal, M., Shute, M. W., & Gooch, B. (2008, August). User centered game design: evaluating massive multiplayer online role playing games for second language acquisition. *In Proceedings of the 2008 ACM SIGGRAPH symposium on Video games* (pp. 43-49).

Read, J. (2013). Validating a test to measure depth of vocabulary knowledge. In *Validation in language assessment* (pp. 55-74). Routledge

Reja, U., Manfreda, K. L., Hlebec, V., & Vehovar, V. (2003). Open-ended vs. close-ended questions in web questionnaires. *Developments in applied statistics, 19*(1), 159-177.

Reinders, H. (2017). Digital Games and Second Language Learning. 10.1007/978-3-319-02237-6_26.

Saito, K. (2017). Effects of sound, vocabulary, and grammar learning aptitude on adult second language speech attainment in foreign language classrooms. Language Learning, 67(3), 665-693.

Schwienhorst, K. (2002). Why Virtual, Why Environments? Implementing Virtual Reality Concepts in Computer-Assisted Language Learning. *Simulation & Gaming,* 33(2), 196–209. https://doi.org/10.1177/1046878102332008

Sevin, R., & DeCamp, W. (2016). From playing to programming: The effect of video game play on confidence with computers and an interest in computer science. *Sociological Research Online*, *21*(3), 14-23.

Smallbone, T. and Quinton, S. (2004). Increasing Business Students' Confidence in Questioning the Validity and Reliability of their Research. *Electronic Journal of Business Research Methods,* 2(2): 153-162. www.ejbrm.com

Sproull, L., & Kiesler, S. (1991, September). Computers, network and work. Scientific American.

Squire, K. (2003). Video games in education. *Int. J. Intell.* Games & Simulation, 2(1), 49-62.

Squire, K. (2005). Changing the game: What happens when video games enter the classroom?. *Innovate: Journal of online education*, 1(6).

Squire, K., & Steinkuehler, C. (2014). Video games and learning. *Cambridge handbook of the learning sciences*, 377-396.

Starr, P. (1997). Computing our way to educational reform. The American Prospect, 27, 50–60. Wallace, P. (1999). *The psychology and the Internet*. New York: Cambridge University Press.

Steinkuehler, C. (2007) Massively multi-player online gaming as a constellation of literacy practices. *ELearning*, 4(3): 297–318.

Stracke, E. (2009). Spotlight on blended language learning: A frontier beyond learner autonomy and computer assisted language learning. In *ILA (Independent Learning Association) Japan 2007 Conference* (pp. 1-13). Association for Academic Language and Learning.

Suh, S., Kim, S. W., & Kim, N. J. (2010). Effectiveness of MMORPG-based instruction in elementary English education in Korea. *Journal of computer assisted learning*, 26(5), 370-378.

Tafazoli, D., Golshan, N. (2014) Review of Computer-Assisted Language Learning: History, Merits & Barriers. International Journal of Language and Linguistics. Special Issue: Teaching English as a Foreign/Second Language. Vol. 2, No. 5-1, 32-38. doi: 10.11648/j.ijll.s.2014020501.15

Thorne, S. L. (2008) Multiplayer Online Games. *Mediating Discourse Online* 3: 305.

Tobias, S. E., & Fletcher, J. D. (2011). *Computer Games and Instruction*. IAP Information Age Publishing.

Toh, W., & Kirschner, D. (2020). Self-directed learning in video games, affordances and pedagogical implications for teaching and learning. Computers & Education, 154, 103912.

Twitchell, D. P., Wiers, K., Adkins, M., Burgoon, J. K. & Nunamaker, J. F. Jr. (2005). *StrikeCOM: a multi-player online strategy game for researching and teaching group dynamics*. Thirty-Eight Annual Hawaii International Conference on System Sciences (CD/ROM), Big Island, Hawaii. Computer Society Press.

Van Lier, L. (2000). From input to affordance: Social-interactive learning from an ecological perspective. In J. P. Lantolf (ed.), *Sociocultural theory and second language learning.* Oxford: Oxford University Press, 245-259.

Vella, D, Giappone, K, (2018). The city in single player fantasy role playing games. In Proceedings of DIGRA 2018. Available at: https://www.academia.edu/37483896/The_City_in_Singleplayer_Fantasy_Role_Playing_Games_DiGRA_18 (accessed 15 November, 2021)

Vlachopoulos, D., Makri, A. (2017). The effect of games and simulations on higher education: a systematic literature review. *Int J Educ Technol High Educ* 14**,** 22 https://doi.org/10.1186/s41239-017-0062-1

Vogel, J. J., Greenwood-Ericksen, A., Cannon-Bowers, J., & Bowers, C. A. (2006). Using virtualreality with and without gaming attributes for academic achievement. *Journal of Research on Technology in Education*, *39*(1), 105-118.

Wagner, J. (2004). The classroom and beyond. *The Modern Language Journal,* 88(4), 612–616. https://doi.org/10.1111/j.0026-7902.2004.t01-21-.x

Warburton, S. (2009). Second Life in higher education: Assessing the potential for and the barriers to deploying virtual worlds in learning and teaching. *British Journal of Educational Technology,* 40(3), 414-426.

Watson, R. (2010). *Future minds: How the digital age is changing our minds, why this matters, and what we can do about it.* Boston: Nicholas Brealey Publishing.

Weaver, J., Kim, P., Metzer, R. L., & Szendrey, J. M. (2013). *The impact of video games on student GPA, study habits, and time management skills: What's the big deal.* Issues in Information Systems, 14(1), 122-128.

Whiteson, V. (1996). New Ways of Using Drama and Literature in Language Teaching. *New Ways in TESOL Series II. Innovative Classroom Techniques. TESOL, 1600* Cameron Street, Suite 300, Alexandria, VA 22314-2751(members, $18.95; nonmembers, $21.95).

Wigham, C. R., & Chanier, T. (2013b). Interactions between text chat and audio modalities for L2 communication and feedback in the synthetic world Second Life. *Computer Assisted Language Learning, 28*(3), 260-283.

Wilkins, D. A. (1972). *An Investigation into the Linguistic and Situational Content of the Common Core in a Unit Credit System.*

Woolson, R. F. (2007). Wilcoxon signed-rank test. *Wiley encyclopedia of clinical trials*, 1-3.

Yang, J. C., & Quadir, B. (2018). Effects of prior knowledge on learning performance and anxiety in an English learning online role-playing game. *Journal of Educational Technology & Society*, *21*(3), 174-185.

Zheng, D., Newgarden, K., & Young, M. F. (2012). Multimodal analysis of language learning in World of Warcraft Play: Languaging as values-realizing. *ReCALL*, *24*(3), 339–360.

Zheng, D., Bischoff, M., & Gilliland, B. (2015). Vocabulary learning in massively multiplayer online games: context and action before words. *Educational Technology Research and Development*, *63*(5), 771-790.
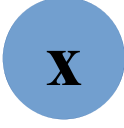
APPENDICES

Appendix 1: Approval of the Ethics Comittee

T.C	
ÇAĞ ÜNİVERSİTESİ	
SOSYAL BİLİMLER ENSTİTÜSÜ	
TEZ / ARAŞTIRMA / ANKET / ÇALIŞMA İZNİ / ETİK KURULU İZİNİ TALEP FORMU VE ONAY TUTANAK FORMU	
ÖĞRENCİ BİLGİLERİ	
T.C. NOSU	
ADI VE SOYADI	Kadir Ünaloğlu
ÖĞRENCİ NO	20188031
TEL. NO.	
E - MAİL ADRESLERİ	
ANA BİLİM DALI	İNGİLİZ DİLİ EĞİTİMİ
HANGİ AŞAMADA OLDUĞU (DERS / TEZ)	TEZ AŞAMASI
İSTEKDE BULUNDUĞU DÖNEME AİT DÖNEMLİK KAYDININ YAPILIP-YAPILMADIĞI	2019 / 2020 - GÜZ DÖNEMİ KAYDINI YENİLEDİM.
ARAŞTIRMA/ANKET/ÇALIŞMA TALEBİ İLE İLGİLİ BİLGİLER	
TEZİN KONUSU	Üniversİte Bağlamında Bilgisayar Oyunlarının Bir Araç Olarak Kullanımının İngilizce Kelime Kazanımına Etkileri Üzerİne Karma Yöntemli YARI DENEYSEL Bir Çalışma
TEZİN AMACI	Bu çalışmanın temel amacı CEFR a göre A2-B2 arasında dil beceri seviyelerine sahip olan ingilizce dersi alan KTO Karatay Üniversitesi öğrencilerinin çeşitli türlerde bilgisayar oyunları oynayarak ingilizce kelime dağarcıklarındaki değişimleri, bilgisayar oyunlarına karşı algılarını incelemektir.
TEZİN TÜRKÇE ÖZETİ	Bu çalışma üniversite kapsamında ingilizce öğrenen öğrencilere uygulanıp, 9 maddelik bir bilgi formu, 85 soruluk bir İngilizce kelime bilgisini ölçen bir yazılı sınav, günlükler ve röportajlar 8 haftalık bir sürecin ardından nicel ve nitel metodlar kullanılarak gerçekleştirilecektir. Çalışma sonunda iki farklı grupta gerçekleşen değişiklikler analiz edilecektir.
ARAŞTIRMA YAPILACAK OLAN SEKTÖRLER/ KURUMLARIN ADLARI	Konya KTO Karatay Üniversitesi
İZİN ALINACAK OLAN KURUMA AİT BİLGİLER (KURUMUN ADI- ŞUBESİ/ MÜDÜRLÜĞÜ - İLİ - İLÇESİ)	Konya KTO Karatay Üniversitesi Rektörlüğü ve Etik kurul
YAPILMAK İSTENEN ÇALIŞMANIN İZİN ALINMAK İSTENEN KURUMUN HANGİ İLÇELERİNE/ HANGİ	Konya KTO Karatay Üniversitesi bünyesinde ingilizce dersi olan ve çalışmaya katılmak isteyen bütün öğrenciler

KURUMUNA/ HANGİ BÖLÜMÜNDE/ HANGİ ALANINA/ HANGİ KONULARDA/ HANGİ GRUBA/ KİMLERE/ NE UYGULANACAĞI GİBİ AYRINTILI BİLGİLER	
UYGULANACAK OLAN ÇALIŞMAYA AİT ANKETLERİN/ ÖLÇEKLERİN BAŞLIKLARI/ HANGİ ANKETLERİN - ÖLÇELERİN UYGULANACAĞI	1-Bilgisayar Oyunları Anketi, 2- Kelime bilgisi testi
EKLER (ANKETLER, ÖLÇEKLER, FORMLAR, …. V.B. GİBİ EVRAKLARIN İSİMLERİYLE BİRLİKTE KAÇ ADET/SAYFA OLDUKLARINA AİT BİLGİLER İLE AYRINTILI YAZILACAKTIR)	1-Bilgisayar Oyunları Anketi, (2 sayfa) 2-Yabancı Dil Sınavı (10 sayfa), 3-Rıza beyan formları (1 sayfa))
ÖĞRENCİNİN ADI – SOYADI: Kadir Ünaloğlu	ÖĞRENCİNİN İMZASI: Enstitü müdürlüğünde evrağın aslı imzalıdır TARİH: 10/02/2022

TEZ/ ARAŞTIRMA/ANKET/ÇALIŞMA TALEBİ İLE İLGİLİ DEĞERLENDİRME SONUCU			
1. Seçilen konu Bilim ve İş Dünyasına katkı sağlayabilecektir.			
2. Anılan konu İngiliz Dili Eğitimi faaliyet alanı içerisine girmektedir.			
1.TEZ DANIŞMANININ ONAYI	**2.TEZ DANIŞMANININ ONAYI (VARSA)**	**SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRÜNÜN ONAYI**	**A.B.D. BAŞKANININ ONAYI**
Adı - Soyadı: Senem ZAİMOĞLU	**Adı - Soyadı:** ……….…… …..…	**Adı - Soyadı:** Murat KOÇ	**Adı - Soyadı:** Şehnaz ŞAHİNKARAKAŞ
Unvanı: Dr. Öğr. Üyesi	**Unvanı:** ……….…..…	**Unvanı:** Doç. Dr.	**Unvanı:** Prof. Dr.
İmzası: Enstitü müdürlüğünde evrağın aslı imzalıdır		**İmzası:** Enstitü müdürlüğünde evrağın aslı imzalıdır	**İmzası:** Enstitü müdürlüğünde evrağın aslı imzalıdır
Tarih: 10/02/2020		**Tarih:** 10/02/2020	**Tarih:** 10/02/2020

ETİK KURULU ASIL ÜYELERİNE AİT BİLGİLER				
Adı - Soyadı: Mustafa BAŞARAN	**Adı - Soyadı:** Yücel ERTEKİN	**Adı - Soyadı:** Deniz Aynur GÜLER	**Adı - Soyadı:** Ali Englin OBA	**Adı - Soyadı:** Mustafa Tevfik ODMAN
Unvanı: Prof. Dr.	**Unvanı:** Prof. Dr.	**Unvanı:** Prof. Dr.	**Unvanı:** Prof. Dr.	**Unvanı:** Prof. Dr.
İmzası: Enstitü müdürlüğünde evrağın aslı imzalıdır	**İmzası:** Enstitü müdürlüğünde evrağın aslı imzalıdır	**İmzası:** Enstitü müdürlüğünde evrağın aslı imzalıdır	**İmzası:**	**İmzası:**
Tarih: 10/02/2020	**Tarih:** 10/02/2020	**Tarih:** 10/02/2020	**Tarih:**	**Tarih:**
Etik Kurulu Jüri Başkanı - Asıl Üye	**Etik Kurulu Jüri Asıl Üyesi**	**Etik Kurulu Jüri Asıl Üyesi**	**Etik Kurulu Jüri Asıl Üyesi**	**Etik Kurulu Jüri Asıl Üyesi**

OY BİRLİĞİ İLE		**Çalışma yapılacak olan tez için uygulayacak olduğu Anketleri/Formları/Ölçekleri Çağ Üniversitesi Etik Kurulu Asıl Jüri Üyelerince İncelenmiş olup, 10/02 /2020 - 24/04 /2020 tarihleri arasında uygulanmak üzere gerekli iznin verilmesi taraflarımızca uygundur.**
OY ÇOKLUĞU İLE	**X**	

AÇIKLAMA: BU FORM ÖĞRENCİLER TARAFINDAN HAZIRLANDIKTAN SONRA ENSTİTÜ MÜDÜRÜNE ONAYLATILARAK ENSTİTÜ SEKRETERLİĞİNE TESLİM EDİLECEKTİR. AYRICA YAZININ PUNTOSU İSE 12 (ON İKİ) PUNTO OLACAK ŞEKİLDE YAZILARAK ÇIKTI ALINACAKTIR.

Appendix 2: Informed Consent Form

Rıza Beyan Formu

Çağ Üniversitesi / Sosyal Bilimler Enstitüsü

Tez*: İngilizce rol oynama bilgisayar oyunları ve kelime öğrenimi arasındaki bağlantı*

Sorumlu Araştırmacı: Öğr. Gör. Kadir Ünaloğlu

Diğer Araştırmacılar: Dr. Öğretim Üyesi Senem Dağ Zaimoğlu

Katılımcı Adı, Soyadı: _____

1. Detayları bana sözlü olarak açıklanmış olan ve aynı detayları düz metin halinde yazılı biçimde tarafıma verilmiş olan bu çalışmaya katılmayı kabul ediyorum.

2. Bu çalışmanın amacının, *bilgisayar oyunları ve İngilizce kelime öğrenimi arasındaki ilişkiyi araştımak* olduğunu anlıyorum.

3. Bu çalışmaya katılımımın sadece araştırma maksatlı olduğunu anlıyorum.

4. Bu çalışmaya katılımımın olası etkileri tarafıma açıklanmıştır ve tarafımca kabul görmüştür.

5. Bu çalışmada benden beklenen, bilgi anketini doldurup kelime bilgisi testini çözmek ve ardından araştırmacı uygun görürse belirlemiş olduğu bilgisayar oyununu 2 ay süresince oynayarak kendisiyle bu süreç ile ilgili haftalık telefon görüşmelerine katılmak olduğunu anlıyorum ve kabul ediyorum.

6. Bu çalışmada yapılacak olan haftalık röportajların ses kaydına alınabileceğini anlıyorum ve kabul ediyorum.

7. Bu çalışmaya katılımımın tamamen gönüllü şekilde olduğunu anladığımı ve çalışmadan istediğim zaman herhangi bir açıklamaya gerek duymaksızın ve sağlamış olduğum işlenmemiş ve yarım kalmış veriyi de çalışmadan geri çekebileceğimi anlıyorum ve kabul ediyorum.

8. Verdiğim bilgilerin gizliliğinin herhangi bir yasal zorunluluğa tabi tutulmayacağı, verilerimin şifre korumalı olacağı ve yalnızca adı geçen araştırmacılar tarafından erişilebilir olacağı konusunda bilgilendirildim.

9. Bu Rıza Beyan Formunu imzalayıp teslim ettikten sonra sonra formun araştırmacı tarafından geri alınacağını anlıyorum ve kabul ediyorum.

Çalışma Başlangıç Tarihi:

Katılımcı İmzası _____ **Tarih:** _____

Appendix 3: Research Questions

1- Does employing a well-designed commercial off-the-shelf (COTS) single-player Role-Playing Game (RPG) as an out-of-class learning activity lead to a significant language improvement in terms of vocabulary for EFL students at tertiary level education?

2- What learning strategies do learners use during game-play sessions?

3- What are the perceptions of learners towards using video games for improvement in language skills at the beginning, during and at the end of this research?

Appendix 4: Information Form
Bilgisayar Oyunları ve İngilizce Öğrenimi Bilgi Formu

Ad Soyad:
Üniversite:
Fakülte / Bölüm:
Yaş:
Cinsiyet:
E-posta adresi:

1. Daha önce toplamda 10 saatten fazla oynamış olduğunuz bilgisayar oyunlarının adlarını yazınız.

2. Hangi bilgisayar oyunu türlerine aşınasınız?

2-a. Tek Oyunculu :

(…) First Person Shooter   (…) Strateji   (…) Aksiyon
(…) Macera   (…) Korku   (…) Açık Dünya   (…) Hayatta Kalma
(…) Fantastik   (…) Role-playing   (...) Dövüş   (…) Platform
(…) Simülasyon   (…) Spor   (…) Diğer (belirtiniz):

2-b. Çok Oyunculu:

(…) First Person Shooter   (…) Strateji   (…) Aksiyon
(…) Macera   (…) Korku   (…) Açık Dünya   (…) Hayatta Kalma
(…) Fantastik   (…) Role-playing   (...) Dövüş   (…) Platform
(…) Simülasyon   (…) Spor   (…) Diğer (belirtiniz):

3. Haftada kaç saat bilgisayar oyunları oynarsınız?
(…) 1-3   (…) 3-5   (…) 5-7   (…) 7-9   (…) 9 saatten fazla

4. Bir bilgisayar oyununu seçmenizdeki başlıca sebep/sebepler nelerdir?
(…) Grafikler   (…) Oynanış   (…) Tekli-çoklu oyunculu olması
        (…) İçerdiği aksiyon   (…) Sunduğu hikaye (…) Diğer

5. Dil öğrenimize katkı sağlayacağına inanırsanız, daha önce dememiş olduğunuz bir bilgisayar oyunu türünü dener misiniz?

(…) Evet   (…) Hayır   (…) Kararsızım

6. Bir bilgisayar oyununda bilmediğiniz bir kelime ya da dil bilgisi yapısıyla karşılaştığınızda en çok ne yaparsınız?

(…) Daha sonra anlayacağımı düşünür ve oyuna devam ederim.

(…) Oyunu durdurup sözlükten ya da internetten anlamına bakarım.

(…) Oyundaki diğer ipuçlarından anlamını çıkarmaya çalışırım ve anladığımı düşünürsem   devam ederim.

(…) Hiç olmamış gibi davranır, oyunu oynamaya devam ederim.

(…) Not alır, daha sonra anlamına bakarım.

(…) Başka oyuncular varsa, anlamını onlara sorarım.

7. Eğer daha önce oynadıysanız, çok oyunculu çevrimiçi bilgisayar oyunlarının size İngilizce öğrenimi konusunda katkı sağladığını düşünüyor musunuz? Evet ise derecesi: (1 Kesinlikle katılmıyorum, 5, kesinlikle katılıyorum anlamına gelmektedir.)

(…) 1   (…) 2   (…) 3   (…) 4   (…) 5

8. Eğer daha önce oynadıysanız, tek oyunculu hikaye / macera oyunlarının size İngilizce öğrenimi konusunda katkı sağladığını düşünüyor musunuz? Evet ise derecesi: (1 Kesinlikle katılmıyorum, 5, kesinlikle katılıyorum anlamına gelmektedir.)

(…) 1   (…) 2   (…) 3   (…) 4   (…) 5

9. Bilgisayar oyunları oynarken öğrendiğiniz İngilizce kelimelerden 5'ini yazınız.

Appendix 5: Vocabulary Test

Part 1

1- Social people ____ friends more than others who don't go out so often.

A) put
B) go
C) wait
D) make
E) take

2- My roommate is very ____ in Marvel universe. He has seen all the movies of Iron man, Avengers, Thor and Hulk.

A) fast
B) interested
C) excited
D) easy
E) happy

3- ____ it or not, you are going to visit your aunt with us and please try to be kind, son.

A) run
B) open
C) look
D) join
E) like

4- It's so cold outside. Please ___ in while I'm out getting firewood for the fireplace. Don't try to help me sweetie, I don't want you to catch cold.

A) stay
B) rest
C) lock
D) close
E) stop

5- In winter, ____ get colder and colder.

A) doors
B) people
C) days
D) computers
E) clocks

6- It is difficult to ___ in the dark. Could you turn on the lights please?

A) look
B) see
C) know
D) think
E) hear

7- My hands are full, could you ____ up that book for me?

A) pick
B) read
C) take
D) tell
E) write

8- Your bedroom's ____ is so dirty that I can't really see outside! You should clean it some time.

A) table
B) window
C) drawer
D) bed
E) kitchen

9- You look ____. What's the problem?

A) sad
B) excited
C) cheerful
D) happy
E) interested

10- In winter time, ____ you start the engine, remember to tap your car's hood in case a cat might be there to stay warm.

A) before
B) after
C) later
D) timely
E) then

11- I ____ a knife to cut these tomatoes. Do you have one?

A) join
B) pay
C) look
D) close
E) need

12- Can you ____ me with the problem on my computer? It's not starting.

A) meet
B) change
C) help
D) see
E) look for

13- Because of its many tourist attractions, this Turkish ____ is full of tourists in summer time! You can't find a person here who speaks Turkish.

A) city
B) house
C) car
D) horse
E) season

14- The data in this file is very important so please ____ back to me when you finish analyzing all of it.

A) reveal
B) report
C) assist
D) tolerate
E) mark

15- Mr. Sagan, your new ____ involves getting to TV and talking about science using a simple language so that even an average American would understand it and gets to like science. We have a new TV show in mind called "Cosmos". What do you think? Will you accept this as your new task?

A) assignment
B) council
C) society
D) absence
E) emperor

16- It has been a long time since I last saw professor Björnssen. Please give my ____ when you see her.

A) accusations
B) attempts
C) greetings
D) incidents
E) rewards

17- Detective Hooks is ____ into the case now that involves robbery and murder. The incident happened on the second Tuesday of last month.

A) paying
B) keeping
C) looking
D) running
E) coping

18- Look, sonny, don't listen to people when they say that humans are the strongest predators and we can kill anything we like. We are not even predators let alone the strongest. _____ or hide if you see a bear. They are the real predators and you don't want to challenge them. Just let them be, and they will leave you alone.

A) hail
B) flee
C) murder
D) approach
E) experiment

19- Excuse me, I have just _____ you two talking about how to get vegan food. For that matter, I would like to recommend you the closest of Mildred's. You won't regret it.

A) overheard
B) consulted
C) bothered
D) apologized
E) stressed

20- Yesterday, I had to listen to my brother-in-law _____ about how successful he is for 3 hours. It was painful for me.

A) boast
B) promote
C) attempt
D) benefit
E) reunite

21- All I _____ in life is happiness. Maybe some peace, too. I don't care about money and possessions that people are crazy about. I just want to be left alone.

A) exist
B) reach
C) seek
D) suspect
E) deliver

22- I can't act on my own on such an important matter. For this reason, I have to ask the committee's _____ for a course of action.

A) preservation
B) scheme
C) reward
D) recommendation
E) balance

23- The _____ of a little girl from the town made the townspeople quite uneasy. They started searching for her in parties everyday.

A) invasion
B) retirement
C) threat
D) assumption
E) disappearance

24- The mechanical parts of a car that are not maintained properly are _____ to fail over time. This is simply how they are engineered.

A) involved
B) bound
C) sewn
D) imagined
E) serious

25- Challenging your professor in class is considered to be a/an _____ action although I think it should be accepted and embraced as normal by academics.

A) treacherous
B) embarrassed
C) bold
D) concerned
E) valuable

26- The evolution of dogs is based on surviving like all the other species. It all started with some wolves getting closer to humans. Thus a relationship was born. Humans gave them their surplus food _____, first dogs provided them security and sanitation by clearing all the leftover meat and bones in humans' living areas.

A) in the act
B) in return
C) by chance
D) in a different way
E) at length

27- **Kate**: I can't believe this! The burglar has stolen everything except for the table.
Linus: Oh! look there is a note on it. It says that he was sorry and would pay back for everything when he earns the money that he lost in gamble.
Kate: I can't believe any of this! This must be a joke!
Linus: At least he was _____ enough to apologize.

A) courteous
B) reluctant
C) talented
D) unwilling
E) greedy

28- Why are you _____ like you haven't eaten anything today? I have been with you all day and I saw you ate 5 full portion meals!
A) acting
B) checking
C) ignoring
D) surviving
E) fleeing

29- Now that you finished high school, you have to _____ whether you want to study or start working.

A) afford
B) decide
C) provide
D) obtain
E) assume

30- Ironically, some people say that there isn't enough _____ for theory of evolution, as if they care about facts. I view them as people of belief because no matter how much evidence they are provided, they will still _____ the facts.

A) balance / establish
B) perception / avoid
C) proof / reject
D) condition / restore
E) presence / notice

31- It has been six months since I saw my family. I'm _____ to seeing them.

A) looking forward
B) carrying on
C) giving it away
D) turning out
E) keeping up

32- I am _____ for what you have done, Stan. Not everyone would accept to take me to the airport given the fact that the distance from the city to there is at least forty kilometers. Thanks, and I owe you.

A) confused
B) serious
C) eager
D) worthy
E) grateful

33- Whatever you cook, you should put _____ amount of ingredients in it, because everything you put in will affect its taste.

A) adequate
B) useful
C) exceptional
D) missing
E) entire

34- When it comes to success, you can't _____ because no success is coincidence.

A) hold yourself back
B) find out
C) take chances
D) take over
E) have a good feeling about it

35- When you are in a serious relationship, you should not keep secrets or it will cause your hard-built confidence with your partner to _____ slowly.

A) annoy
B) dissuade
C) neglect
D) crumble
E) fortify

36- It is really difficult for me to say this, but I'm going to try to be _____ with you. When you eat, you chew so loudly that I can hear it across the room. Please don't get mad with me.

A) faithful
B) pleased
C) honest
D) hardy
E) fearsome

37- Could you _____ on my car while I'm off the city? Here is the key. I know I can trust you so I'm not going to tell you how precious it is for me.

A) bear proudly
B) take up residence
C) keep an eye
D) root out
E) pay back

38- Wingsuit flying is definitely something you must _____. You jump off a really high place such as a top of a mountain or a cliff then you glide through the air thanks to the special suit that adds to the surface area of human body. It is pretty much like flying indeed!

A) proceed
B) owe
C) experience
D) remain
E) presume

39- If you are looking for a/an _____, dogs are better than even humans!

A) jewelry
B) confidence
C) value
D) honor
E) companion

40- My son left home with this note behind. It says not to look for him. I called all of his friends but nobody knows his _____.

A) whereabouts
B) desperation
C) conspiracy
D) reputation
E) progress

41- What _____ of washing your car when it's going to rain tomorrow, Greg? Why do you bother when it's going to get dirty tomorrow again? If you have so much time to waste, come and help me.

A) it doesn't matter
B) tends to be
C) a shame
D) is the point
E) wipe out

42- As humankind, we once thought the universe was _____ but today we have strong evidence that it grows constantly and fast and has a limit. There are theories but nobody exactly knows what will happen when it stops growing.

A) endless
B) tough
C) strange
D) frozen
E) sacred

43- Your husband Marshall is a/an _____ person. I know that he doesn't want to move to Canada but I'm sure if you talk to him patiently and tell him how important it is for your career, he will agree and come with you.

A) honest
B) harmless
C) reasonable
D) peaceful
E) prosperous

44- The corona virus is _____ health of people all around the world. For this reason, scientists are working hard to find a solution to the disease once and for all.

A) threatening
B) appealing
C) assassinating
D) responding
E) functioning

45- There is a/an _____ smell here, as if the room hasn't been cleaned properly for at least five years!

A) freezing
B) sober
C) unpleasant
D) amusing
E) anxious

46- Be _____, my child. People will try to trick you at every turn. Always keep your eyes open, don't give them any chance to take away what you have, your pure heart.

A) distracted
B) wary
C) hazardous
D) kind
E) slippery

47- All the ____ on the planet have three simple goals: to survive, to multiply and make sure the safety of their babies or offsprings. No living being wants to die or being killed just like us, humans. It is not difficult to figure out when you just observe.

A) goods
B) sources
C) creatures
D) devices
E) barriers

48- I don't know why she got that mad. All I said to her that she got a little bit chubby and then she ____ out.

A) cycled
B) flew
C) stormed
D) associated
E) prevented

49- In 2009, Turkish government ____ smoking in enclosed public places. Before that, smokers could enjoy their cigarettes almost everywhere they wanted.

A) ruled
B) altered
C) misused
D) convinced
E) banned

50- My boss's ____ towards me changed in a clearly negative way after sharing my opinion about the new company policy. I don't understand. She was the one who announced that we should never be afraid to give feedback to her at the first place.

A) disposition
B) influence
C) asset
D) conscience
E) weakness

51- People who own dogs and put them on a chain in order to prevent them from ____ sickens me. Why do they get a dog if they can't offer a life with at least some sort of freedom?

A) deserving
B) wandering
C) robbing
D) suspecting
E) surveying

52- In the society, we need to ____ the consequences of the climate change more often because as individuals, we are the ones who cause it. This way, maybe we can change some of our habits if not all.

A) unlock
B) rescue
C) discuss
D) abandon
E) blame

53- Tsunamis, hurricanes and even earthquakes are _____ of the nature to us that we refuse to understand.

A) vocations
B) replicas
C) accidents
D) warnings
E) salutations

54- You were my best friend but by talking behind my back, you _____ our friendship, James. I don't want to talk to you anymore.

A) confessed
B) ruined
C) handled
D) deserved
E) confused

55- Fighting is never the best option, if you get into _____ just run or call the police.
A) fascination

B) honor
C) beggar
D) confidence
E) trouble

Part 2

Select the the item that fills in the blank correctly for every question. There are __2__ extra items in each box.

Section A

> **a-** up to   **b-** resigned   **c-** let me know   **d-** effort   **e-** exchange words   **f-** urgent
> **g-** intention   **h-** affect   **i-** lose the track   **j-** make up an excuse   **k-** imagine   **l-** ashamed
> **m-** murdered

56- I appreciate your _____ to speak in my language but it's OK to continue in English. I think you are better at English than Spanish anyway.

57- Upsetting you was never my _____. I'm really sorry for selecting my words poorly.

58- I still can't _____ how it would feel to be a woman in Turkey. I'm a man and I feel privileged after the struggles you have experienced that you told me, and I am really sorry for all the women who face the risk of being _____ for virtually nothing.

59- How could you spend all the money that I gave you on alcohol? You should be _____ young man!

60- You seem so kind to everybody at the office unlike the usual, what are you _____ Stan?

61- When I listen to this music, I _____ of time. It feels like the time slows down and it stretches to infinity. It is like falling in love!

62- Please _____ when you are in Rome the next time. I would love to spend some time together.

63- My friends are inviting me out but I don't want to go. I think I should _____ not to upset them.

64- The worsening economy is expected to _____ all walks of life negatively, not only the rich, poor, or people who have their own businesses.

65- After being accused of corruption, Mr. Meyer, the head of our office _____ right there at that moment.

Section B

a- odd   b- settled   c- fulfilling   d- ransacking   e- drunk   f- prosperity   g- enjoy
h- wind up i- inventory   j- ruled out   k- go unnoticed   l- preventing   m- on behalf

66- _____ driving is a serious crime because it can lead to casualties.

67- I _____ our chats very much. Please do call me tomorrow too.

68- In Ikea stores, you'll find a large _____ of wooden furniture and kitchen appliances.

69- This recent wave of terrorism has _____ any chance of peace talks.

70- The terrible headache I'm having right now is _____ me from thinking clearly. Can you give me some time, please?

71- If you don't want to _____ a loser and a homeless, you should get to studying right now, son.

72- As the management, we have been observing you and I would like to tell you that your achievements don't _____. We would like to reward you with a double pay this month. Besides, I thank you _____ of the board for your hardworking attitude and value of this company you feel a part of.

73- The dispute about water between the two warring tribes in Zimbabwe doesn't seem to be _____ soon.

74- Humanity has been destroying its only planet for the sake of gaining _____ for hundreds of years. Yet, it is too much ignorance for the wisest species on Earth.

75- _____ my dreams about getting a caravan has made me so happy that I could burst!

Section C

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 a- worried   **b-** for a change   **c-** reliable   **d-** remote   **e-** infiltrating   **f-** well-behaved
g- at stake   **h-** embarassing   **i-** capable of   **j-** over his head   **k-** have nothing to do   **l-** protected

---

76- There are so many civilian lives _____ and this is a crime against humanity to bomb a whole city, I am sorry sir but I can't give that order to my pilots.

77- That is correct sir, I was at the apartment at the time of murder and I saw who did it but I assure you, I _____ with it. I will tell you everything I know but please let me go to my family after that.

78- Humans are _____ both creating and destroying. However, the individuals usually choose to destroy although they know the consequences.

79- Ted was refusing to give me the week off so I went _____ and spoke to the boss. Problem solved.

80- When he didn't show up I was _____ but it turned out he was just late.

81- You have very _____ dogs, ma'am. I would like to ask you how you trained them, if I may.

82- Our planet is _____ from harmful charged particles from the Sun thanks to its natural magnetic field which acts like a shield for life on Earth.

83- What I really need nowadays is, having an at least three months of vacation on a _____ place, away from everything and everybody.

82- For the price of _____ myself in public, I asked her out in an unusual way. In the end, I paid that price dearly in the form of a slap in the face.

84- You have been working too hard lately and you look tired, Will. Maybe you should take a week or two off _____ and to rest.

Appendix 6: Interview Transcripts of pre-study

Interview 1 (Translated from Turkish)

Ir: Hello Mr. Blue, how are you?

Ie: Thank you

Ir: Welcome. You know about this study as we have talked about it before.

Ie: Yes, sir.

Ir: Now we are here for the interview. How do you feel?

Ie: A little nervous.

Ir: You really shouldn't be.

Ie: No, it's not like that, doing an activity like that for the first time...

Ir: Ah, so because it's the first time.

Ie: Yes.

Ir: You really shouldn't be nervous. The reason I've chosen you and Green is because you are familiar with video games. That's the only reason. There are no right or wrong answers. What really matters is what your answers will be. Don't let that make you anxious and it's worth mentioning you can't mislead me with your responses. I'll just try to learn about your perceptions.

Ie: OK

Ir: Mr. Blue, how do you define a good video game?

Ie: For me, a good video game has to have a good story, dynamics, graphics, reactions and sound. These are the features that makes me feel insterested in a game.

Ir: So the story has to be good.

Ie: Yes

Ir: The graphics have to be good.

Ie: Actually graphics are not ultimate thing at that point but it is also important for me.

Ir: You think it is one of the things that are important in a video game. So could you tell me why you play video games? Is there a reason or reasons that you can explain?

Ie: Many people who play video games may do it while aware or not. My awareness is like this: In computer games, there are artificial lives which are, different than our real lives. Having fun this way makes a lot of sense to me. I prefer spending time on video games rather than just goofing off. What else I can say, trying to analyze and comprehend graphics, those dynamics of a video game and playing a story is more fun

for me than other things.

Ir: Do you mean video games are virtual worlds for you and sometimes you step in those worlds just for a change?

Ie: Definitely. You experience your game character's life. Because of this, there are video games of the past, of the future, or video games of today. It's good to experience of taking a breath of this kind of a breeze.

Ir: Could you explain what you mean by video games of the future, video games of the past?

Ie: Let me explain by this way then, There is a game called Detroit. People were no more in that game.

This kind of games are the ones that makes sense. I mean, This scenario might come true one day. By playing such games, you have an idea of what's going on, what's foreseen about the future. Because video games are unavoidably a part of real life and and in directly proportional. Because of this, people make video games looking back at the past and looking forward in time. This leads them to create video games that are credible. I think the technology we have today and the technology foreseen in video games are connected. I myself consider video games as reflections of real life. This is because I find the story of a video game the most important feat.

Ir: For how long have you been playing video games, Mr. Blue?

Ie: At least for eleven years.

Ir: Eleven years? Can you say that you play video games every day?

Ie: Of course when I have closing in exams, I don't spend time with with computer games but nowadays I play video games four or five hours a day.

Ir: Isn't that a little too much?

Ie: Yes, it may be, but I get bored of daily routines very easily. Different activities and tasks in video

games are exciting for me. And let me say I play video games four or five hours a day but yesterday for instance I had a lot of free time and I played a video game starting from 4 pm till 12 am. I lost the track of time.

Ir: It makes an average of four or five hours a day no matter. If you don't play a video game in a day, the next day, you make it compensate. (laughs)

Ie: (Laughs) Yes, absolutely.

Ir: OK, I see. Another question: Could you name some video games that you have

played and affectedyou anyhow?

Ie: Yes, the first one is: Assassin's Creed: Black Flag. It is a game about an assassin becoming a pirate.

Need for Speed : Most Wanted Then I can name Witcher. Witcher 3. That is a game about a wizard's adventures and something like that. Then there's the first video game I ever played. The first game of Spiderman. It came out in 2002 or 2003 if I'm not mistaken. I'm not sure about the year. It had weak physics however It was a great fun to play, then.

Ir: Could you tell me about Witcher 3? Where does it take place? What is it's genre? What are the the characters like? Whether it's single-player or multi-player? Could you talk about these?

Ie: It is an RPG game A role play video game. In that game people what we call witchers that is witch hunters work hard to train a new generation of them. It is the last game of the series. I don't really remember what years it took place but there are some kind of mythological things like eagle head griffins and some monsters.

Ir: As far as I understand, it takes place in dark age and contains fantastic elements.

Ie: Yes. It takes you to overwhelming adventures. You go somewhere and somebody attacks you, go somewhere else to save people you lost before, then people give you side-quests, you make money, it's this kind of a game.

Ir: Actually when we evaluate this game fair-and-square, it sounds like it has a lot of violence in it...

Ie: Yes but other than that, it has a poetic conversation language, dialogues...

Ir: So it has dialogues?

Ie: Yes, it has a very wide range of words, and it is viewed as one of the best RPG games ever. Other than that, I believe it teaches people to lock on a task, to do side-quests in order to achieve something, This is why I think this game contributes to one's self development somehow.

Ir: ok, Mr. Blue, let me ask you another question. Do you think video games help you in learning

English? Do you feel it's contribution in your English classes?

Ie: Absolutely. Because video games are sometimes multiplayer, that is played world-wide, at the same time. When you connect to a server, for instance there are people from all over the world such as Russia,

Italy. You communicate with those people and because The English say that you will use our language in order to communicate, and because they are more developed than we are, the language there is English and you find people who speak English there.

Ir: What you want to say is that English is the common language, the lingua franca, I believe.

Ie: Yes, definitely, we are exposed to English and we also feel the obligation to use it as a language. Let's say we have an objective in a game for instance in the game called Counter Strike: Global Offense. You

have to win at least 16 rounds to win a match in order to win as a team. In order to achieve that, you have to make tactics, you have to make those tactics in English and talk to your teammates. This way we both improve our English and see how important to learn English.

Ir: Could you be more specific? OK, I understand that it provides you motivation to use English to communicate, other than what?

Ie: Let me tell you about the speaking then. It helps you learn new words and because you use voice chatting, it improves listening and speaking skills significantly. It can be both ways that is we learn new words to understand more English to make friends and win a match and we learn while doing it. As I said before, video games' main function is leading you to complete quests and missions in order to achieve a goal. It is legit to think it that way, I think.

Ir: You just mentioned vocabulary learning. Do you remember what words you learned from video games?

Ie: Yes. "Sword, pickaxe, axe, dirty, stone, marble"

Ir: Marble?

Ie: Yes, "torch, chest, chestplate" I've learned a lot more actually. These are from a game called Minecraft, if you know about the game.

Ir: These words for example "axe". Do you think it is a word that you can hear or use in daily language?

Ie: No, it's not but the word "torch" I can. Because it is a tool that is actually an everyday object.

Ir: What other words do you remember? You can take you time to think. We have time.

Ie: Well, there is the word "box". But I can't remember any more right now.

Ir: It's OK, think we do have time.

Ie: In Withcher for example, I just learned it. There is the word "spider" and then, in Assassin's Creed, the word "flag". In the video game minecraft, there is a world that is not very realistic because it didn't have very good graphics but it resembles a person's real life. Even though it's graphics are not like in first class action and violent games, it is better for me play such games because of the similarity between that and real life. Because it's a creativity and building things game, it is better for me to play such games. s

Ir: So is it better than a video game that takes place in very old times and contains fantastic things?

Ie: Definitely, rather than fantastic, a role play game that takes place in a house, it is likely to contain everyday words like a mirror, and other things, it makes it easy to learn these objects.

Ir: What about grammar structures?

Ie: There are some, but I can't remember right now. They are more like spoken English things like "gonna" or "wanna". Other that these, I can't really remember now. If I could, I would tell you right now.

Ir: Alright, it's ok. Could you score video games' contribution to listening and reading skills between 1 and 10?

Ie: Seperately?

Ir: Yes, please.

Ie: Well, I can say that 10 out of 10 for the listening skills. Because makers of a game live in other countries and they speak English. They make the dialogues in the game as in the language spoken. That's why I think video games improve listening skills by helping with the familiarity with spoken English and They are like telling a story, in which they're very successful. And I think I can say I score reading 3 out of 10.

Ir: I see. So, Listening:10, Reading: 3. Thank you very much, Mr. Blue, our interview is over.

Ie: No, I thank you

Ir: See you later, take care

Ie: See you.

Interview 2 (Translated from Turkish)

Ir: hello Mr. Green and welcome

Ie: How are you?

Ir: I'm fine thanks, how are you?

Ie: I'm fine, I keep trying.

IR: how's it going?

Ie: Thank God, we are trying, we continue to practice, we will learn, hopefully this year

Ir: I hope you will. I hope you do what you need to do, and everything goes well. The reason we are here today, as you know, that I am conducting a study. In this study, I just interviewed Mr. Blue. Now we do it with you. I'm going to ask you a series of simple questions that don't have a right or wrong answer. The goal is to learn your thoughts, learning about your perceptions. Of course, as we have talked about many times before, the subject is computer games and English education. So, I don't need to explain why there are no Russian and computer games. Almost everyone knows when we say something computer games...

Ie: At first, everyone thinks of English.

Ir: As the common language is English, yes. Because game makers etc. are English even if they are from other countries, they make games in English language.

Ie: Because it is an International Language

Ir: Exactly.

Ie: Or rather, since the accepted language is English, they usually go over it.

Ir: Yes. Green

Ie: Yes sir

Ir: When was the last time I played a computer game?

Ie: The last time was 2 days ago, sir.

Ir: Two days ago, you didn't play yesterday?

ie: no

Ir: What's a good video game like for you?

Ie: A good computer game teacher, (pauses) so the Story I value, more precisely, the story of the game rather than the graphics. To add new ideas to me, to strengthen my reflexes, to have a place where I can chat with people. I mean, there is what we call normal single player, there is also multiplayer, online games. I play online game more i

prefer very much.

IR: so?

Ie: To be able to chat with people and communicate with people

Ir: Do you think there is no communication in other games like Single Player games?

Ie: That is, there is only partial communication, that is, in a place where a person is talking to himself. there is no different person, so the route is clear, there is a story, there is a scenario, you go through that scenario but online there may be different possible scenarios in the games, there may be unusual movements, we need to give reflexes accordingly. So, it may be required. They are more unique in that way.

Ir: So, the story, there is nothing predetermined to your actions. Depending on what you do results may vary is it like that?

ie: yes

Ir: For you the story as I understand it Communication. Real Communication with people is important. Then, graphics imagery.

Ie: That's right, sir.

Ir: Well Green, can you explain why you play video games?

Ie: Honestly, sir, let me tell you, there was a game called Knight Online at the time, we used to play it. It was very cool. We spent hours Maybe there were times when we didn't sleep 24 hours 48 hours, but I was spending time and enjoying I was taking it. It seems like there is nothing else in life to give me this pleasure. It was a very different pleasure to me. Frankly, the place we live in is obvious. It's drugs and so on. It kept me away from such things, frankly.

Ir: So, what if we expand a little more? why were you enjoying the games?

Ie: So, when you achieve something, that feeling of achievement makes you happy and eases problems in real life. Throw away their troubles about real life things when you start playing anything in your head You forget Just because you focus on it and when you succeed as a result of it, it's an enormous pleasure people take.

Ir: Got it, well you mentioned Knight Online. It just looks like a very old game. When did it come out in 2003 or 2004?

How many years have you been playing computer Green? did you start back then or since the Knight game came out?

Ie: Let's not say 2003, sir, it would be a lie if we say 2003 Because frankly, if we say 2007-2008, Sorry if we say 2005-2006 it would be more accurate.

Ir: You've been playing video games for 13 years; did I get it right?

Ie: I can say that when I started computer games, I can say that was the time.

Ir: You could say I've been playing computer games for 13 years.

Well, let's talk about the computer games that you have played so far, that caused significant changes in you and left an important mark on you. What if I ask? May I ask what their names are?

Ie: To begin with, about language, for example...

Ir: At the moment, games that have made an impact not only on language but also on you in any way that, you can't forget.

Ie: Need for Speed Underground 2, which left an impression on me. This game is one of the legends. One of the games I can put, the second one is definitely Knight Online Because that game is the reason why I learned software. It is definitely thanks to this game .

Ie: Maybe that was the thing that led you to his field, else...

Ir: Yes, maybe sir.

Ir: So, when you say that you have an impact on your life, you can't forget what you love so much that you want to live again and again.

Ie: These are the two of them, sir, and if we count the third one, it's a game we call Crossfire.

Ir: what kind of game is this?

Ie: How good are your reflexes with a gun. A game that measures how your aiming force is. Good for professionals. It's a game you play. So money Gives certain things up to a point After a while Add your acting after a while you must put your skills in use

IR: Got it. So, Crossfire is an FPS?

Ie: Yes, sir.

Ir: Knight Online?

Ie: MMORPG.

Ir: Massive multiplayer online role play game.

Ie: Exactly.

Ir: OK Need for Speed ?

Ie: Racing. Well, more precisely Arcade

Ir: That's it for 3 games. So, would you like to talk a little bit about Knight Online? What kind of game is it?

Ie: Knight Online Open world game teacher, the two races I mentioned...

Ir: Can you open up the open world a little bit?

Ie: By open world, I mean a game with lots of maps where you can interact with people one-on-one. the way you know. In other words, you come to the place where you trade, and you trade with the level points. You fight.

Ir: Can you explain in a more normal language, not the player language?

Ie: Ok sir, let me tell you this way, you can gather the necessary materials to level up, you can create a clan with people. To Play games together as a team, where you establish your own units, develop that unit, when there are events, it is better to make sacrifices to be the first in those events. There are so many things that I can't explain, so much that if I told you, we could spend an hour here.

Ir: You can do pretty much anything you want in open world games, right?

Ie: Exactly, sir, in the open world, so there is no restriction.

Ir: Okay, got it. Well, do you think computer games help you learn English?

I: Absolutely

Ir: Do you feel the influence of it in your classes?

Ie: Definitely, let me tell you something like this when I took my first English lesson when I was in 6th grade.

One of the first games to come out was Need for Speed Underground 2. Modification of vehicles to get effects of that game I learned the colors from that game, for example, the materials used while making the colors. what circuit means, what Sprint means.

Ir: "Circuit" what does it mean?

Ie: Lap. Multiple lap meant multiple laps there. Color race like Blow engine or simple, simple words. There were Turkish patches of games such as different things, even messages, on the one hand, reading Turkish. Even if we couldn't understand it as much as listening to it, there was ear familiarity with us and there were colors and so on. drawing text and so on because we see, to a certain extent, but a visual perception leaves more traces in the brain.

Ir: In what other way did you learn Colors, gained ear familiarity, how can you give an example, ear familiarity to you? How did it help?

Ie: For example, hearing the words for the word Drive while reading there meant this in this sentence that he said while speaking, even such simple simple words were even if I didn't see it in writing, ear familiarity remained in the brain.

Ir: Well, did you come across any of the words you learned in class?

Ie: It happened, it happened, very frequently. In the example we wrote today, our teacher Muhammad Ali wrote us an example. It got written directly into my brain. There Drive became drove directly into my brain as a past tense verb.

Ir: What other examples can you give? Drive is a pretty common word after all. Actually, what I want to ask is in this lesson you didn't encounter it before you encountered the lesson at first or in your high school lessons, but first in a game an expression you see you learn vocabulary grammar structure what you see again later in the lesson...

Ie: Some words, for example, when playing with foreign players, different abbreviations of some words, namely Street English.

For example, and when we write w8, it means wait or LOL laugh Out Loud.

When you learn the meanings of such words, that is, when you meet them, you get an involuntary smile.

Ir: Yes, I understand. Green, if you rate the contribution it provides to listening and reading skills separately, on a scale of 1 to 10 How many points would you give listening to reading, from computer games to English listening skills and reading?

How do you feel about his contribution to your skills?

Ie: Now let me tell you from 1 to 10, let me explain first and then tell you my score We never for a person who doesn't know it. When we do the listening etc.

I can give points because it is fast reading and so on and so on. It is fast. We wonder what he said.

Ir: Well, if we evaluate your current situation, after all, you are not a person who does not know at all. Are you? So, you start a computer game as you are, you play every day. How many points do you give?

Ie: I can give 9 points

Ir: What about reading?

Ie: 9 Because I'm throwing words to read, for example, in some games certain things write the description under it. When you read the explanation and read the constant explanations of the terms used in the game, there is something like this. they are used words but there are certain words They are used all the time but how is their meaning a game as the author reads them at the bottom of the loading screen, so this is the word that comes to mind directly.

Ir: Well, how many hours do you spend on computer games on average per day?

Ie: It varies. It's about an hour someday, 4 hours someday. Right now, I can say 5 hours.

Ir: So, it's 3 hours on average, but some days are when you don't play at all, so what if we say 2 hours on average?

Ie: it would be reasonable

Ir: OK Yes OK, our interview with you, Mr. Green is over. that's all. Thank you so much for participating.

Ie: I thank you sir for including me in such a project.

Ir: Of course, I would have liked to include more people but unfortunately, we didn't have the time. All in all, I'm happy that you are involved in this. I am really happy and let you know that you've just contributed a lot.

Ie: Thank you sir.

Appendix 7: The vocabulary pool that was used to create the vocabulary test

VERBS

Rule crumble threaten deliver survive remain assassinate rescue murder boast convince reach unlock assist discuss afford hail exist restore obtain suspect fortify deserve abandon notice observe function annoy overhear attempt seek decide alter ban proceed appeal reunite flee pay wander trick apologize bother provide experience reveal report check benefit resign enjoy fulfill blame misuse approach ignore presume promote rob establish ransack owe consult survey neglect respond avoid affect embarrass experiment assume tolerate stress imagine mark dissuade infiltrate act reject

NOUNS

progress absence prosperity companion influence disposition chairperson balance proof inventory warning invasion barrier accusation source intention society retirement creature recommendation goods whereabouts conspiracy desperation reputation greetings salutations drawer device replica chance courage perception vocation assignment council effort presence threat incident attempt condition accident disappearance assumption asset conscience

ADJECTIVES

hardy talented sacred protected useful slippery prosperous wise faithful worried well behaved serious odd sober drunk honest missing kind concerned harmless courteous strange peaceful endless fearsome frozen entire freezing anxious grateful amusing wary treacherous ashamed confused eager adequate unpleasant bold remote embarrassed valuable greedy ashamed unwilling distracted hazardous pleased reliable reasonable settled(solved) reluctant urgent tough exceptional worthy

ADVERBS

constantly immediately

PHRASES COLLOCATIONS

at length in return capable of doing st find out what a shame wind up pay back keep en eye out on sb st courteous enough to do st make sure how I envy you be up to st have a good feeling about st have nothing to do st shed tears give sb regards root out prevent storm out take over cope with st no doubt what is the point exchange words be bound to do st on behalf of sb for a change put st to good use be honest with sb rule out take up residence have a seat lose track of st look into st catch sb in the act give st away hold sb back go unnoticed bear proudly to be at stake take chances look forward to st on sb's behalf over sb's head in a different way let sb know make up excuse wipe out carry on by chance it does not matter

Appendix 8: Semi-structured interview questions used during the three phases of the treatment

1- How are the tasks going?

2- Who did you last talk to?

3- What was the last thing you did?

4- Did you have any problems while doing the tasks?

5- Do you think that the tasks take too much time?

6- Do you find it enjoyable to play this game?

7- Was there any task that you didn't want to do for some reason?

8- What do you do when you encounter an unknown vocabulary item?

9- Do you feel like you are learning while playing?

Appendix 9: The welcome message of the gamingandenglish.wordpress.com

Hello Dear participants.

Thank you for agreeing to take part in this study. This is the website that you are going to visit weekly to get updates, tasks and how-to documents about the game. Feel free to use the **reply** *feature to ask questions or share experiences.*

Why play video games to improve English?

- Because gaming is like experiencing a new world that has certain differences from the one we live in.

- Learning by experience is the most persistent way of learning something, in our case; English vocabulary.

- You can interact with many characters who have unique dialogue options and voice acting from which you will learn new things and even improve your listening skills.

- Some video games like the current one given to you have a subtitle option which makes you understand dialogues more easily.

- By playing the right video game, you can learn so many language related things in a relatively short time that you can't otherwise.

- We can prove to your parents and academics that video gaming doesn't always have to be bad for you.

There are many video games out there, you might ask. Then why using this specific video game instead of one of the more popular games like CS:GO?

To help you understand why, here are a few explanations:

- The Elder Scrolls IV: Oblivion offers a mechanism in which you can shape a story by your decisions and actions. Think of it as a movie but there is no script. (Except the one list of tasks I give you through this website) You are the main character and you act as you like. Well, mostly.

- There are thousands of voice clips recorded by the voice actors to be deployed at the right time by the game as a character's voice when you approach and talk to him/her. This helps you be immersed into the game like everything is natural. This also helps your listening skill. Characters are not like robots who say the

same things in the same way over and over.

- It offers a rich environment full of language elements that it is almost impossible not to learn a remarkable amount of vocabulary from it.

- It's beautifully tailored story offers great life-like and usually surprising situations, which will motivate you to play on to find out what will happen next.

- It is impossible to hear a bad word or broken English unlike what has been happening in some popular multiplayer games. This will affect your learning in an outstandingly positive way. Well, unless you want to sound like a west-side rapper or a Russian 8 year old kid who swears a lot and plays an online FPS game you can guess the name of.

- It includes many elements from J. R. R. Tolkien's mythology, *The Lord of The Rings* which many of you are already familiar with. So, it's not a totally alien world for you.

- Even after many years, you will remember your experiences in the game. Thus, the things you learned like words and phrases from the game.

You are free to choose how to spend the rest of your weekly in-game time after you finish your tasks. You can explore, make some money, meet new people, get some side quests to have some more fun and surprises, improve your character's skills, learn some magic, or you can just read the books you come across while you are exploring. I recommend you not to do bad things like stealing or murdering because it might affect the story line in a negative way.

You can read the how-to posts to learn the basics of the game or ask your questions through email at …………………… or send a comment through this website.

Well, that's it for now. Stay tuned people.

Take care and beware of the ogres.

Appendix 10: Approval Request from Çağ University Rectorate

T.C.
ÇAĞ ÜNİVERSİTESİ
Sosyal Bilimler Enstitüsü

Sayı : 23867972-000-E.2000000333   26.02.2020
Konu : Kadir ÜNALOĞLU' Na Ait Tez
       Anket İzini Hakkında

KTO-KARATAY ÜNİVERSİTESİ REKTÖRLÜĞÜNE

İngiliz Dili Eğitimi Tezli Yüksek Lisans Programı öğrencisi olan (20188031 numaralı) **Kadir ÜNALOĞLU, "Üniversite İngilizce Öğrenimi Gören Öğrencilerin Rol Oynama Bilgisayar Oyunları Oynatılarak Kelime Bilgilerindeki Değişimin İncelenmesi"** konulu tez çalışmasını Üniversitemiz öğretim elemanı Dr. Öğr. Üyesi Senem ZAİMOĞLU danışmanlığında yürütmektedir. Adı geçen öğrencinin tez çalışması kapsamında **Konya KTO Karatay Üniversitesinde İngilizce eğitimi verilmekte olan tüm bölümlerde halen kayıtlı öğrencileri kapsamak üzere** kopyası Ek' lerde sunulan bir anket uygulaması yapmayı planlamaktadır. Tez çalışması kapsamında yukarıda belirtilen anketin uygulayabilmesi için gerekli iznin verilmesini arz ederim.

Prof. Dr. Ünal AY
Rektör

Ek : ÜÇ SAYFA TEZ ETİK KURUL İZİNİ VE ONÜÇ SAYFA TEZ ANKETLERİNİN
FOTOKOPİLERİ.

Appendix 11: Approval of the University the research took place

BEL9RPCN

T.C.
ÜNİVERSİTESİ REKTÖRLÜĞÜ
Kurumsal İlişkiler Direktörlüğü
Arşiv ve Belge Yönetim Ofisi

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TSE-ISO-EN
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Sayı   : 41311933-730.08.03
Konu   : Kadir Ünaloğlu Anket İzni Hk

ÇAĞ ÜNİVERSİTESİ REKTÖRLÜĞÜNE

İlgi   : 26/02/2020 tarihli ve 2000000333 sayılı yazı.

İlgi yazıya istinaden, Üniversiteniz İngiliz Dili Eğitimi Tezli Yüksek Lisans Programı öğrencisi Kadir ÜNALOĞLU'nun "Üniversite İngilizce Öğrenimi Gören Öğrencilerin Rol Oynama Bilgisayar Oyunları Oynatılarak Kelime Bilgilerindeki Değişimin İncelenmesi" konulu tez çalışması Üniversitemizin adının geçmemesi koşulu ile yapılması uygun görülmüştür.

Bilgilerinizi ve gereğini arz ederim.

e-imzalıdır
Prof. Dr. Bayram S.
Rektör