



UNIVERSIDAD DE CUENCA

Facultad de Filosofía, Letras y Ciencias de la Educación

Carrera de Lengua y Literatura Inglesa

Effects of Digital Videogames on the Learning Process in an EFL Classroom

Trabajo de titulación previo a la
obtención del Título de Licenciada en
Ciencias de la Educación en Lengua y
Literatura Inglesa

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Cuenca-Ecuador

22-enero-2021



RESUMEN

En el siguiente estudio de investigación, se emitirán los efectos de los videojuegos en el proceso de aprendizaje de un contexto EFL; específicamente, estarán relacionados con el desarrollo de habilidades de aprendizaje, estrategias léxicas y motivación. Algunos criterios de inclusión estuvieron relacionados con; (a) escenarios EFL, (b) años a partir de 1995, (c) cualquier consola de juegos, entre otros. Siendo esta una síntesis de investigación exploratoria, se seleccionaron 20 estudios para ser comparados en la literatura posible para crear una discusión entre sus hallazgos. Después de la documentación indicada para cada una de las tres categorías, el análisis mostró que existieron resultados positivos si los videojuegos se usaban en un aula. La mayoría de los estudios tenían como objetivo encontrar un solo resultado, pero después de aplicar su metodología, también surgieron posibles resultados secundarios. Esto demostró que los videojuegos están conectados al aprendizaje EFL de maneras inesperadas. Del mismo modo, varios autores explicaron que los videojuegos también deberían utilizar actividades interesantes para obtener un resultado constructivo real. Finalmente, también fue importante descubrir que la mayoría de los estudios se llevaron a cabo en Asia debido a la falta de recursos tecnológicos en las escuelas latinoamericanas.

Palabras clave: Videojuegos digitales. Videojuegos. Aula EFL. Estudiantes EFL.

Aprendizaje en el aula. Aprendizaje a través del juego. Aprendizaje de lenguas extranjeras.

Enseñanza de idiomas basada en videojuegos.



ABSTRACT

In the following research study, the effects of video games in the learning process of an EFL context will be issued; specifically, they will be related to the learning skills development, Lexical strategies and Motivation. Some inclusion criteria were related to; (a) EFL settings, (b) years from 1995-onwards, (c) gaming consoles, among others. Being this an exploratory research synthesis, 20 studies were selected to be compared in the possible literature to create a discussion among their findings. After the stated documentation for each of the three categories, the analysis showed that there were positive outcomes if video games are used in a classroom. Most of the studies aimed to find just one result, but after applying their methodology, possible secondary results emerged as well. This showed that video games are connected to EFL learning in some unexpected ways. Similarly, it was explained by various authors that video games should use interesting activities as well to get an actual constructive outcome. Finally, it was also important to discover that most of the studies were carried out in Asia due to the lack of technological resources in Latin American schools.

Key words: Digital Video games. Video games. EFL classroom. EFL students. Classroom learning. Learning through play. Foreign Language Learning. Video-game based language instruction.



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ACKNOWLEDGEMENTS

We are beholden to our tutor Jean Paul Jara, who shared his knowledge to make this a complete project. To Sally Cowell, who corrected our tiniest details which could have been fatal. To Anita María Calle who gave us the best feedback we could have ever received. To Angel Carrion, Walter Romero, and Paola Torres, who gave us their support during the whole process with their knowledge. Lastly, to our wise teachers who formed our professional life in every single aspect; we will not be ever grateful enough.



DEDICATION

Dedicated to my parents, who were mostly supportive towards my dream. To my best friends Carolina and Richard, who always let me hold their hands in case of despair. To Fabian, who has been hugely supportive towards each one of my goals. Not many have the pleasure to be in your lives.

Monica Guartazaca

I want to dedicate this project to God who allowed me to finish one more dream in my life, giving me life and health every day. To my parents who were with me in each stage of my life, who taught me never to give up. To my sisters who gave me their unconditional support. Finally, I want to dedicate this to Lizandro who gave me words of encouragement while this project was being done.

Valeria Rodríguez

Introduction

Nowadays, students have access to a lot of information using different digital devices connected to the internet, and this could make conventional activities in a classroom boring for them (Marín & Martín-Párraga, 2014). Consequently, the use of a new and modern method to gain students' interest is mandatory; in this case, digital video games. It is necessary to note that even if they might be considered a new method for some researchers, they could also be dismissed as non-educational content for others (Fengfeng, 2008).

Video games as an EFL tool for teaching the language can be complicated if the teacher and students are not aware of their proper use. Also, some misbeliefs include that video games do not give an educational outcome for anyone and display only violence (Fengfeng, 2008). Video games are considered to have only distracting content and this results in constant concerns for parents and teachers (Turgut & Irgin, 2009). Nonetheless, there are studies that prove how video games benefit students in a school environment.

The learning process and video games have a close bond because they elicit the use of mental skills and motivation to learn a targeted language. In addition, they create a fun environment in which learners and teachers become more engaged in the learning- teaching process (Amory, et al., 1999; Ashraf, Ghanei, & Salami, 2014; Ebrahimzadeh & Alavi, 2017). Computer-based games can also address the learners' emotional needs, such as the social anxiety produced when using a second language (Letchumanan, et al., 2015). Even teachers who do not have much knowledge about video games can be induced to involve them in their lesson plans. It is worth noting that using video games as a methodology to teach a foreign language also depends on the ability of the teacher's classroom management.



The effects that video games may have towards EFL learning and the activities that could be used alongside are the main focus of this exploratory bibliographic research. Some of these effects include learning skills strategies, lexical development, and motivation. Learning skills strategies are the mental processes students utilize when learning. This includes six strategies (i.e. cognitive, metacognitive, memory, compensatory, affective, and social). Lexical development involves passive (listening and reading) and productive skills (speaking and writing), vocabulary, and spelling. Motivation is well known for being an important component in learning and there are two types; intrinsic and extrinsic. Extrinsic motivation comes from the outside, whereas intrinsic motivation has to do more with inner factors. Additionally, worksheets, tests, or written assignments are activities that could be used in conjunction with video games. In this study, the previously stated aspects will be broadened so as to provide an answer to the inquiries posed in this paper.



Chapter I

Description of the Research

1.1 Background

English learning in a class is mostly guided by the teacher, and students have little or none spoken interaction among them or with the teacher. In high schools, it follows the conventional way where paper-and-pencil activities, tests and homework are the only materials used. Mackereth and Anderson's 2000 study (as cited in Mifsud, Vella & Camilleri, 2013) found that these tools are not enough to satisfy students from this decade since they are abandoning traditional readings and writings to use digital literacies. Additionally, teachers are more preoccupied about finishing the curriculum on time, and the lack of exposure to authentic materials often appears (Anderson, Reynolds, Yeh, & Huang, 2008). This leads to problems in learning a foreign language. Within time, students may lose the interest in learning it; consequently, the use of a new and modern method to gain students' interest is necessary.

Nowadays, students in their free time are constantly interacting with technology at home or when they hang out with their friends. They spend hours on their smartphones, computers, and game consoles checking social networks, digital video games, or educational tools. This occurs due to the development of information, communication technologies, and especially the internet (Marín & Martín, 2014). On the contrary, when learners are in class, they are not allowed to use any type of technological device that they may have. Great technological tools are ignored, and one of them is digital video games.

Now, the presence of video games in education is almost null in our current society even though technology is always present in our daily activities (Marín & Martín, 2014). They are only linked to leisure time because no one really knows a pedagogical strategy to

apply them in a class. Besides some research projects carried out using video games in class, do not show their real implementation. This can happen due to many misbeliefs surrounding video games in general, leading to teachers and parents to be dubitative about their real usage. One of these misinterpretations is that video games do not give an educational outcome for anyone (Fengfeng, 2008).

1.2 Statement of the Problem

Students dedicate their spare time to their hobbies which can include playing digital video games at home, and by doing so, they gain a significant number of new skills. As this occurs naturally, learners also pick up the meaning of words just as native speakers do when they are children (Letchumanan, Tan, Paramasivam, Sabariah, & Muthusamy, 2015). It is worth saying that this process is slow and that is why students cannot find the same procedure of learning in their school environments. As a consequence, they constantly meet a curriculum which does not have time for activities using video games (Anderson, et al., 2008).

Additionally, according to Rice (as cited in Mifsud, et al., 2013), some teachers consider that video games lack an intrinsic educational value. Hence, they are not taken as being necessary in a classroom of any type.

Now, it is also believed that video games may have distracting content or display violence which is a constant concern for parents and teachers (Turgut & Irgin, 2009). As a result, some people consider that video games are not good for learning at all and research studies on how to use them in a pedagogical practice are not often conducted (Fengfeng, 2008). Nonetheless, there are studies that prove how online video games benefit students in a school environment. Authors like Amory, Naicker, Vincent, and Adams (1999) stated that video games and the learning process have a close bound because they elicit the use of mental skills to learn the targeted activity. Additionally, they provide motivation which is important to learn a new language.

When it comes to students, they are very interested in using video games in the EFL classroom because it breaks the typical routine ‘teacher-class-student.’ Moreover, Ashraf, et al. (2014) mentioned that they create a fun environment in which learners and teachers become more interested in the learning and the teaching process. Even teachers who do not have enough knowledge about video games can feel attracted to involve these digital games in their lesson plans. Likewise, Letchumanan, et al., (2015) explained that computer-based games can address the learners’ emotional needs.

These types of games are often present in students’ daily life through different consoles such as a computer, PlayStation or Xbox. Hence, if they use digital video games for hobbies, why not use them in an EFL class to improve their English learning process? This is why the purpose of this exploratory study is to analyze the extent to which digital video games can affect the English learning process of an EFL student in the classroom.

1.3 Justification

According to Amory et al. (1999), the development of learning tools based on adventure video games provide educators with a superior mechanism. This allows learners to entice themselves into virtual environments where knowledge is acquired through intrinsic motivation. In addition, digital video games allow players to meet foreign people who speak this target language. Ashraf, et al. (2014) explained that involving them in a language learning process creates stimulation and simulation to acquire new knowledge, especially one of a foreign language. Consequently, this learning method has been shown to be fun and enjoyable for learners due to the innate motivation and advantages it provides.

An important study by Connolly, Stansfield, and Hainey concluded that using video games in the classroom is useful to motivate learners of second language learning (as cited in Ebrahimzadeh & Alavi, 2017). Thus, motivation is probably the key element in an EFL

classroom to learn the target language. Authors like Jones and Nemitcheva (as cited in Letchumanan, et al., 2015), affirmed that games are capable of reducing the fear of making mistakes in another language since they lower the existing invisible barrier.

Besides motivation, video games allow learners to complete missions and defeat the enemy; for that, they communicate by using any skill. Therefore, EFL students that play digital video games unconsciously need and gain new skills, besides reading, speaking, listening and writing. Some of them may include problem-solving puzzles, new challenges, working in teams, guessing from the context, and even critical thinking (Colby & Colby, 2009). These new skills make players become keen observers, readers, writers, and even speakers. What is most puzzling about it is that students do it all without knowing it. They are slowly becoming interested in learning a target language and the main features of the game to speak or write with their new friends. Also, they do it by themselves since most students enjoy winning.

Subsequently, according to Prensky (as cited in Mifsud, et al., 2013), one of the advantages about using video games is that they can be introduced into a lesson to better understand and comprehend a language in a creative form for students. Thus, video games can be considered as effective tools for the teaching process of a language. Likewise, Tao et al. (as cited in Mifsud, et al., 2013) stated in their last study about video games that students want to use them in class to develop other abilities while having the opportunity to improve their computer, reaction and problem-solving skills, subject knowledge and the ability to work in teams. Morrison explained that video games offer potential in improving the EFL listening ability, too (as cited in Anderson, et al., 2008).

Given the strong bound that digital video games and education can have, it is necessary to investigate to which extent they can influence the English learning process of a student in an EFL classroom.



1.4 Research Questions

As our research is exploratory, we consider it necessary to address the following questions:

1. To which extent can digital video games influence the English learning process of EFL students?
2. Which type of activities can be carried out using video games in an EFL class to improve the English learning process?

Chapter II

Theoretical Framework

This research paper will focus on the positive outcomes video games give to EFL learners and the activities that can be carried out with them. Thus, relevant terms will be defined to have a more insightful understanding on these matters.

2.1 What are video games?

According to the Cambridge English Dictionary and the American Heritage Dictionary, video games are electronic games in which players control images on a video screen which are manipulated for a specific reason. Video games are also efficient tools to motivate students to create, model and modify their knowledge while they are learning a new language (Marín & Martín-Párraga, 2014). Based on Kirriemuir and McFarlane's definition, video games are manifestations of authentic engaging material and this is why they have been receiving attention from educators in general (as cited in Anderson, et al., 2008).

When it comes to defining video games in education, Campos, de Oliveira, and Brawerman-Albini, (2013) believed that video games are an effective supporting tool in the second-language acquisition process as they promote motivation and relationship towards a learning environment. Therefore, they allow players to work in teams to surpass a challenge, to develop language in communicating with other players, to seek answers related to the software itself or the game during a match, and most importantly, to motivate a learner to improve his or her knowledge about a target language.

2.2. Generations of video games

Video games' generations may vary according to authors' own considerations (Ferguson, 2007; Egenfeldt-Nielsen, 2007). Given the topic of this paper, the definition of the

third era of video games is relevant. According to Carnagey and Anderson, its beginning was in 1995 (as cited in Ferguson, 2007). This era is characterized by technological enhancements in graphics, the online feature that most video games present since that year, and violence. Violence has made video games more commercial since that year, gaining a lot of controversy and concerns.

2.3 Types of video games

As the third era or third generation of video games appeared, different types have emerged as well. They can be mainly sorted into genres. Gross (2007), classified them into seven categories; action games or platform games, adventure games, fighting games, RPGs (Role Playing Games), simulations, sports games, and strategy games. He also formulated that it is difficult for authors to classify games since one game can pertain to two or more categories. Some of these categories are used in different papers in the Literature Review instead of the video games' names.

2.4 Characteristics of video games

There are general characteristics that some video games contain which make them interesting for players. DeHaan et al. (as cited in Vahdat & Behbahani, 2013) explained that a video game characteristic is “the extent to which users can participate in modifying the form and control of a mediated environment in real time.” It means that video games let the world presented to players be modified according to their own perspective. Gee (2003) stated that the most important characteristics of a video game are: the interest it creates in a player (for its virtual world or for its challenges); the intrinsic motivation each player gets from mastering a level; the higher risk a player can take since it is not the real world; and the engagement it provides due to the effort a player has to put forth on the game.

2.4.1 Video Game Characteristics in Education

Turgut and Irgin (2009) mentioned that video games allow learners to acquire knowledge of a specific subject for their own purposes in a different and exciting experience. It is more likely that students will have less fear speaking through a microphone to other players than doing a role-play in a classroom. According to Jones and Nemitcheva, video games are capable of reducing the fear of making mistakes in another language since they lower the existing invisible barrier (as cited in Letchumanan, et al., 2015). Gee (as cited in Gross, 2015) stated that using video games in an EFL classroom can provide opportunities and knowledge of a target language, meaning that they would be useful for students.

When it comes to edutainment video games, Egenfeldt-Nielsen (2007) mentioned that these types of games are based on the behaviorist and cognitive perspective, and in a minor part to socio-cultural factors, too. It means that the main characteristics of these games are their simplicity and practice drills. Furthermore, edutainment is based on extrinsic motivation instead of intrinsic motivation which certain video games present. It offers rewards and not necessarily motivates the player to feel good for completing a challenge.

2.5 Control and Experimental Groups in research papers

In some paper pieces, students are divided into different groups to appreciate their outcomes better. That being said, control groups refer to students who are mostly taught using conventional lessons and materials, such as only worksheets and readings. They could use video games as well, but there will be the absence of teachers' guidance. The experimental group refers to the students that are tested using video games as their main source in lessons. They are obviously guided by teachers or the researchers, and there are different activities proposed for them alongside (Jalali & Dousti, 2012).

2.6 Players, Readers and Watchers in research papers

As experimental groups, the players group refers to students who are allowed to have video games support and teachers' guidance as part of their lessons. Readers refer to the ones who are presented conventional lessons using mainly books, worksheets, tests and readings. They can have guides as well. Lastly, watchers refer to the group that in the majority of the cases had the same training as the players, but they are not allowed to play video games. Their main role is to be guides for players as they monitor what players are doing in the video game (Ebrahimzadeh & Alavi, 2017).

From now on, the following definitions are displayed due to the nature of the questions posed in this paper. The appropriate research papers that match these definitions will be categorized according to them.

2.7 Learning Skills Strategies Development

According to Arnseth (2006), since the 1980s several studies have identified the potential of games for learning. His article explained that learning is in fact using learning skills, meaning that playing video games is directly linked with them, too. Video games both use and help to develop cognitive skills such as strategy thinking, problem solving, and group decision-making. In fact, cognitive skills are only one part of the language learning strategies stated by Oxford (2003). For this author, language learning skills are mental processes that learners use to improve their second language, including a foreign one. It is up to the learner to choose consciously (unconsciously sometimes) which skill fits his or her learning better. It is important to mention that learners that apply consciously learning skills have a higher achievement level at speaking, reading, and motivation. Motivation itself is probably one of the most important features that learners need (Campos, De Oliveira, and Brawerman-Albini,



2013); therefore, it will be explained in another section. To accomplish a correct practice of learning skills, a guide or teacher should also be present in the process.

Oxford (2003) specified six categories related to language learning skills. The first one, called cognitive strategies, is related to taking notes, summarizing, memorizing, and practicing in general. The second one, metacognitive skills, is related to realizing one's own style of learning, planning, and gathering enough material to acquire the necessary EFL or L2 proficiency. The third category is memory strategies as they allow the learner to make mental associations between a concept and an item to retrieve information in a certain time. The fourth category, compensatory strategies, is related to the cunning of a student to evade positively a situation in which a lack of knowledge exists. For example, guessing from the context and using synonyms are part of this category. Affective strategies are stated as the fifth category and they are related to our own emotional needs when it comes to anxiety, taking risks, and encouraging oneself to feel motivated. The last category is related to social skills. They are important since they lead students to cooperate with classmates, to ask questions if any doubt is left in class, and to be aware of other students' feelings.

2.8 Lexical development

The term 'Lexical Development' was coined to include the four language skills (listening, reading, speaking, and writing,), vocabulary, and spelling.

2.8.1 Language Skills

The four language skills are divided into two categories; passive and productive. The passive categories are listening and reading, while the productive ones are speaking and writing. According to the Cambridge English Dictionary, listening is linked to hearing someone or any recording and understanding it, while writing is the skill of making sentences on a digital or a physical surface. Reading involves a number of interactive processes

between the reader and the text in which people use their knowledge to build, to create, and to construct meaning. Lastly, according to Nazara (2011), speaking is a specific discourse that is used according to the social context.

2.8.2 Vocabulary

According to the Cambridge English Dictionary, vocabulary refers to all the words that a person or a language knows and uses. It is the primordial factor to immerse the student in a new language since vocabulary is also linked to developing the four skills (reading, listening, speaking and writing) in the teaching-learning process of a new language (Nushi & Jenabzadeh, 2016; Richards & Renandya, 2002). In other words, for the teaching-learning process of a new language, it is fundamental to memorize vocabulary.

2.8.3 Spelling

The Cambridge English Dictionary defines spelling as the formation of words using correct letters located in an adequate order to obtain real terms with meaning. Also, the Oxford Dictionary considers spelling as the ability for naming or writing the letters of words correctly. Then, for an EFL-learning process, it is important to know spelling since there are many homophones that sound similar, but are written differently. For example, the words 'here' and 'hear'; 'to', 'too', and 'two'; 'their', 'they're', and 'there' sound similar, but their meaning and spelling are not alike.

2.9 Motivation

As it was mentioned in the section of Learning Skills Development, Campos, De Oliveira, and Brawerman-Albini (2013) stated that motivation is important in the process of learning a foreign or second language. Thus, there are two important types of motivation that need to be defined in this paper; intrinsic motivation and extrinsic motivation. Ushioda (2012), defined intrinsic motivation as a learner's own willingness to do something. In this



case, external rewards are not expected since personal enjoyment and knowledge acquisition happens. The learner is interested in acquiring things correctly. In the case of extrinsic motivation, the student does something to get an outcome. It might be related to a grade, to get points for participation, to please the teacher or to avoid a punishment. As a consequence, video games are related to motivation since they provide intrinsic motivation in the majority of cases. In the case of edutainment, this type of video game provides extrinsic motivation mainly (Egenfeldt-Nielsen, 2007).

Chapter III

Literature Review

In the Theoretical Framework, it was explained the principal terms that will be of use in the Literature Review. Hence, papers will be grouped according to the following categories; learning skills development, lexical development, and motivation. When it comes to learning skills development, papers that found results regarding cognitive, metacognitive, memory, compensatory, affective, and social outcomes will be illustrated. Papers that found outcomes related to listening, reading, writing, speaking, vocabulary and spelling accordingly will be in the lexical development category. Lastly, empirical studies on motivation and its types, extrinsic or intrinsic, will be displayed.

3.1 Developing Learning Skills Strategies

Learning skills development may arise when learning a foreign language if video games are involved (Reinders & Wattana, 2014; Salehi, 2016; Turgut & Irgin, 2009). Reinders and Wattana (2014) carried out a research study to investigate if a video game can influence the willingness to communicate while using the English language. For this purpose, they used 30 Thai students who attended an English course in a Thailand University. The instruments used were; two questionnaires and the online RPG video game called ‘Ragnarok’. The questionnaires were designed to measure students’ confidence, anxiety and willingness to communicate in English. ‘Ragnarok’ had to be modified in certain challenges due to the length of the study. Some modifications were included in specific challenges to encourage teamwork and communication. The results showed that after playing the video game, EFL students were inclined to use English to talk to other players and ask for clarifications in English. Additionally, they did not show stress or anxiety when they did not



understand English while playing 'Ragnarok'; hence it means that these paper's findings were related to affective and social strategies.

Additionally, Salehi (2016) aimed to study the contribution of video games on Iranian students who were learning English as a Foreign Language. After taking the English World placement test, 60 learners remained to take part in the experiment. Two groups were created to meet the researchers' purpose; an experimental and a control group. The instruments used in this research were; a vocabulary pretest, the webpage 'gamestolearnenglish.com', a posttest, a delayed posttest to assess the knowledge retention level of students, and a booklet that contained 50 new words. To carry out the research, the experimental group received a booklet and a CD that contained video games from the mentioned webpage to practice at home. The control group had to repeat and memorize the same words only in class. Posttest results showed no significant difference between the groups, but the delayed test, which was taken a month after, displayed a remarkable difference. The experimental team manifested a longer term retention which made the author conclude that video games are an enormous supportive tool when it comes to memory retention. Salehi also mentions that retention is the most important aspect of teaching another language and it is what most teachers want to develop in their students. Besides, he stated that students can increase their vocabulary, meaning that new words will be acquired easier. In other words, cognitive and memory strategies were the main outcomes in this paper.

Furthermore, Turgut and Irgin (2009) aimed to study the implications that video games have on vocabulary and pronunciation in an EFL context. They worked with ten students from different primary and secondary schools. At the time this study took place, students spent their free time playing video games in internet cafes. For that reason, this study was held in internet cafes in Mersin, Turkey. Students were observed for two hours while they played video games there. The participants played; '*Knight Online World version*',



'Counter-Strike', 'Grand Theft Auto: Vice City', 'Warcraft III: Reign of Chaos', and 'FIFA 08' according to their preferences. The study design was qualitative. Conclusions indicated that learning a new language can be related to three definitions: transfer, motivation, and awareness. Firstly, transfer was defined as the interaction students had through playing video games with other people to increase their knowledge of the EFL language. As a matter of fact, it could be used to guess from the context, to research new words on an online dictionary, and to talk with native speakers. Secondly, motivation is a factor that may affect students to acquire new words and definitions from the EFL language. Lastly, awareness is another element that these authors identified. Children were aware of the advantages and disadvantages that playing video games offered them. Therefore, they could choose the activity that would motivate them according to their own needs to learn the language. Recapitulating, these findings are related to affective, compensatory, metacognitive, and social strategies.

To sum up, through the three different pieces of papers that were displayed in this section, we can conclude that video games are related to developing learning skills strategies. In this case, results were mainly related to all the subcategories learning strategies have (affective, cognitive, compensatory, memory, metacognitive, social).

3.2 Lexical development

In this section, findings related to the passive language skills (listening and reading), the productive skills (speaking and writing), vocabulary, and spelling will be listed. Then, Anderson, et al., (2008) carried out a research with the purpose of emphasizing important factors that a video game can give when it comes to the learning process in an EFL classroom. This research was made in Taiwan. In this study, two experiments were applied. The first experiment involved 12 non-English native students from different universities.



Observations, screenshots, and videos were taken for further analysis. In the second experiment, 29 non-English native students took part. They were tested using an America's Army video game that had an audio script. Each student was provided with a PC and the game '*America's Army: Special Forces*' installed in it. The data was collected through different questionnaires, one-to-one interviews, pretests, and posttests. As a result, the researchers found that using video games in an EFL classroom can certainly improve the listening skill if it matches the player's current listening level. It is worth mentioning that at some point, students started to shout previously unknown words which were not part of their vocabulary before the research. It demonstrated that improvements could happen if there are a variety of interesting activities in a classroom. Furthermore, it was found that video games must be appropriate for both genders; female students were stressed out (since it is related to military vocabulary) while male participants found the video game interesting. In other words, main findings in this paper showed relation with listening and vocabulary.

Another paper piece investigated which lexical benefits video games may give for an EFL learner (Palaioiannis, 2014). The researcher explored how video games help in an EFL context. For this, he used 20 Greek students who were learning English to work; individually, in members of three or in pairs based on their friendship and location closeness. The instruments used in this study were; three diaries written by each subject within the time the study lasted, a final questionnaire, and the video game '*Agatha Christie: Murder on the Orient Express*'. The researcher chose this video game because of its characteristics; English dialogues within the game and English slang expressions. Also, a Facebook group was created to exchange important information, to give feedback to other players, and to agree on due dates. In the video game, the students had to achieve certain vocabulary and writing tasks which were pre-planned by the teacher, such as writing letters. The experiment required mixed-method research, meaning that it was qualitative and quantitative. The first conclusion

was that female students preferred to use social strategies to understand new vocabulary. Next, all students agreed that mastering vocabulary through a video game helped them be more autonomous since they had to complete puzzles, think about possible murderers, scenarios, and so on. Also, they mentioned that the letters provided an exciting context to write about and that they were eager to work in the laboratory to register their progress. Some students mentioned that working in groups made them feel more confident in their English knowledge. According to the author, it is worth emphasizing that to develop vocabulary and writing during the whole process, students were using some of the learning strategies related to; affective, cognitive, metacognitive, and social strategies.

In short, it was demonstrated that video games help in lexical development through the papers in this section. While the first study stated that learners acquired better listening and vocabulary skills, the second said that there could be a broader improvement when it comes to reading, writing, listening and some learning skills strategies (affective, cognitive, metacognitive, and social strategies).

3.2.1 Vocabulary Improvement

Video games have been proven to support gaining vocabulary. Therefore, Ashraf, et al. (2014) researched how video games can improve vocabulary learning of a foreign language (English specifically). To do so, they took a proficiency test to 45 students of the Khorasan Language Institute in Iran, from which 24 low intermediate EFL learners were selected. These subjects were randomly placed into two groups, experimental and control, with 12 students each. The students who were in the experimental group spent 15 weeks playing social, history, roleplaying, and guessing games while the control group did not. They learned through phrases and sentences using the paper-pencil technique. The instruments used to measure the participants were; a vocabulary-based test, a pretest, and a



posttest. Results showed that the experimental group gained more vocabulary, which was proven in the posttest. The authors mentioned that video games used for EFL learning did show an enormous difference compared to paper-pencil activities. Also, it was stated that video games provoked a fun and enjoyable experience due to the competition, cooperation, and motivation it provides. In other words, the main finding of this piece of paper is related to the section lexical development, in which we can find vocabulary as a subcategory, and to social strategies, from the category learning skills strategies development.

Likewise, Chen and Yang (2013) investigated the impact that a video game has on foreign language learning and what perceptions students can have towards it. These authors carried out two stages in their study; the first focused on vocabulary only and the second, on perceptions towards video games because the researchers did not know if their knowledge was acquired in the classroom or in the first stage of the study. Results in the first part showed that there was not a significant difference between the experimental and the control groups because both learned new vocabulary through the video game. For that reason, they continued with the second stage. Like mentioned previously, the second stage focused on the perception that students had towards this video game only. The participants were 35 college students from Taiwan and as far as the game was concerned, they could play it from one to two hours per week outside the class. The instruments were; an essay including comments on the game content, design, and whether an increase in their English ability happened, the same video game used in the first stage, '*BONE*', and a questionnaire divided into two parts; a 10 Likert-scale items (options from strongly agree to strongly disagree) and three open questions. Due to the questionnaire used, the research was mix-method, qualitative and quantitative. Results of the two stages of the study were later analyzed. In the first, the authors showed that students could acquire new vocabulary from a foreign language by playing video games, but a visible improvement was not exactly found. In the second stage,



students informed some perceptions that they had towards the video game. The missions' difficulty was a positive challenge for some of them, but for others these were too difficult to accomplish. Also, some students said that the video game's subtitles went by too fast. This led to some players losing interest in continuing with the class. Thus, the authors concluded that to use the video game *BONE* as a didactic strategy in an English class, students need to have a high level of English to better comprehend the game. At the same time, it was discussed that teachers should choose a video game according to the benefits that students can acquire; for instance, video games that have clear pronunciation from the characters or an easier context for learners to follow. However, in spite of having some difficulties in solving the enigma in the video game, students displayed an increased ability at listening, reading, and vocabulary knowledge playing video games, meaning that lexical improvement occurred.

Another study related to vocabulary was carried out by Ebrahimi and Zamanian (2013). They looked for connections between video games and vocabulary at the sentence level in children in an EFL context. For this purpose, they used 20 Iranian students, who were randomly divided into two groups, an experimental and a control group. The experimental group used two video games called 'Jumpstart English' and 'Baby Einstein' while the control learned the same vocabulary in conventional lessons. The instruments used in the study were; a Raven's colored Progressive Matrices test to measure their abstract reasoning, the video game 'Jumpstart English' which presents a lot of activities using sounds, the video game 'Baby Einstein' which uses real-world pictures and sounds, and an oral achievement test made of 20 questions based on vocabulary and words in sentences. The control group used the book 'My First English Adventure' as the class material. Results displayed great differences at sentence level between the experimental and the control group, although they had almost the same level of word knowledge. Both groups showed almost the same level of vocabulary retention when teachers used a video game to teach children, but at sentence



level, the control group did better at the oral achievement test. Once more, it was proven that lexical development, specifically vocabulary, occurred while students played video games.

Ebrahimzadeh (2017) also carried out a study to assess vocabulary input on students using video games. For this, 241 Iranian male students were chosen and divided into three groups; readers, players, and watchers. Seniors could be part of any group, but junior students could only form teams in the watchers or the players' team. The materials and instruments used were; a list of target vocabulary based on the game '*Warcraft III: The Frozen Throne*', worksheets and readings, a vocabulary pretest, weekly vocabulary posttests, game pictures, videos about the game, and field notes. When it comes to the groups, the readers first watched a video clip from the game, solved reading activities about it, and after they were asked to retell details they had observed. Likewise with readers, players were also shown a video at the beginning of their lessons, but they were also instructed on the items' names and their location in the map. After that, they could play to obtain the items and to discuss the contextual meaning of them. Since watchers also knew the vocabulary and location of them, they provided hints and encouragement to players by monitoring. Results indicated that watchers and players outperformed readers regarding vocabulary acquisition. It was explained that this big difference might be due to game knowledge. Players, especially, had to know which items were going to give them better effects to destroy their enemies. As the game was in English, they had to acquire their meanings quickly to win. In other words, a video game assisted vocabulary improvement on students in this study, meaning that lexical development occurred.

Additionally, Ebrahimzadeh and Alavi (2016) carried out a research study to evaluate the influence of video games in an EFL high school classroom regarding vocabulary and enjoyment. These authors worked with 136 male Iranian students. The participants were divided into two groups; players and watchers. The instruments and materials used were; an

EGameFlow Scale to measure the lessons' enjoyment, the digital game *'Warcraft III: The Frozen Throne'*, a list of vocabulary items, a vocabulary test which was also taken four weeks prior to the study, and researcher field notes. The research design was considered as quantitative. As their findings were stated, video games in an EFL classroom were related to enjoyment, and enjoyment is related to learning vocabulary. Also, they found out that self-learning is present when a learner is exposed to a video game since there are challenges that they must complete. Although some limitations were stated, the authors' results were positively related to lexical vocabulary development.

Another study related to vocabulary was made by Shahriarpour and Kafi (2014). The authors analyzed not only how video games can affect the vocabulary input in EFL learners, but also how motivation is arisen using them. To achieve these purposes, they used 25 male Iranian learners. The video game the authors chose for this investigation is called *'L.A.Noire'* because of its popularity among teenagers in those years, 2011-2012. Besides the video game, interviews and observations were used as instruments. The interview carried out had ten yes/no questions related to English, video games, and computer proficiency. Results displayed that *'L.A.Noire'* indeed helped students in vocabulary learning and retention of them. As a matter of fact, students had to use dictionaries or any available device to look for the meaning of a word so they could continue the game. They had to know which word is the one to use in a certain context, so they would not mock the fictional character the player was talking to. It means that players had to learn which words are formal or informal, unconsciously improving their language register as a bonus. Comparing students who knew the game and played it at home to the ones that only played the game in class, another conclusion was also made by the observers. The players that knew the game showed greater motivation, stamina and willingness to participate in class. Due to this piece of paper, it was



demonstrated that vocabulary can be a positive vocabulary development if video games are used to teach.

To add to this section of vocabulary improvement, Smith, et al, (2013) investigated how Chinese undergraduate students could learn new vocabulary through video games. Their study was carried out with 57 EFL undergraduates from a university in China. These students were divided into an experimental group and a control one, 29 and 28 learners respectively. All participants formed part of both groups to counter-balance. Each participant had four readings to complete in each group, although the experimental group could play a video game afterwards. The materials and instruments used were a vocabulary pretest and a posttest using the learned vocabulary. As a counter-balance in this experiment, participants learned 20 words in the control group and 20 different words in the experimental group. Thus, there was the necessity to create a pretest for control, a pretest for experimental, a posttest for control, and a posttest for experimental. The video game used was called 'IMapBooks'. The results from the study displayed that using video games as part of the learning process in an EFL context strengthens more vocabulary learning than physical copies, texts, and multiple-choice questions. It helped students to easily remember what they had seen in a lesson. Additionally, students could form sentences inferring the vocabulary practiced with the video game because they had memorized them quicker. As a matter of fact, the authors also found that video games can shorten the time a learner acquires vocabulary of a foreign language. Motivation was a factor that was also present. Highlighting, this study was a perfect example of how learning improvement happens in different areas; learning skills strategies development, lexical vocabulary development, and motivation.

Additionally, Vahdat and Rasti (2013) studied the involvement of video games in an EFL classroom for teaching vocabulary. As a matter of fact, 40 intermediate EFL Iranian learners studying at Azad University were divided into two groups; control and experimental.



The control group had to take conventional lessons while the experimental group received video games as part of their class. The instruments and materials used in this research study were; the TOEFL test, an achievement test, a questionnaire to determine the experimental group's achievements using video games, the video game '*Runaway: A Road Adventure*', and a text designed by the researchers that had the same vocabulary as the game. The results showed that using video games to learn vocabulary is more useful than conventional lessons. Also, learning skills strategies development was visible since natural repetition, motivation, and interactivity were part of the video game. An attractive finding was also stated by the authors since they mentioned that more male students preferred video game-based learning than female students. This research study provided a great sample of the fact that vocabulary can be acquired better using video games.

To sum up, lexical development was demonstrated to be one of the improvements that EFL students can have after playing videos. As some of the studies in this section, vocabulary is not the only skill that is going to be developed if a video game is played, but also motivation, listening, reading, speaking, writing, and some learning skills strategies. Probably it was noted that memory retention is also a fundamental factor that plays an important role in memorizing vocabulary, meaning that retention of these new words will take place more often.

3.2.2 Spelling Improvement

This lexical development subcategory will focus on how video games can influence the improvement of the spelling in an EFL context. Then, Shokri and Abdolmanafi-Rokni (2014) carried out a research study to investigate the effects that digital games can cause in the process of learning a new language regarding spelling. For this purpose, they worked with 40 Iranian students that were divided into two groups, a control and an experimental group. This research study used as its only instrument a Likert-scale questionnaire, meaning that it

was a qualitative study. The procedure started with both groups being introduced to the video games that they were supposed to play. The control group was not taught any spelling and they did not have an instructor as a guide while they were playing. Meanwhile, the experimental group played the video games, were guided by a teacher or instructor, and they were taught spelling. After, a questionnaire was applied to the experimental group.

Conclusions stated that the experimental group surpassed the control group. They could show that using video games in the classroom as a didactic strategy had a great influence in the spelling part among students, basically reinforcing the fact that lexical development occurs.

3.3 Motivation

According to the concepts checked in chapter II, Theoretical Framework, motivation is one of the key elements to learn a foreign language. This being said, it could be extrinsic or intrinsic motivation. Therefore, Anyaegbu, Ting, and Yi (2012) made a study to investigate how motivation can affect the English learning process in a Chinese environment. For this purpose, they used two schools located in Nanjing, having a total of 229 students in the experiment. The instruments used in the research study were: the game '*Mingoville*', field notes, observation, and interviews. Furthermore, the schools involved in the study received technological equipment to meet the research study needs. After each lesson, the researchers or their helpers had to stay and chat with the students to note down their perceptions about the game. As a result, researchers got the following findings; the majority of students answered that motivation is a key element to learn another language and that video games give this to students. To support their responses, Chinese learners stated that they felt motivated since '*Mingoville*' gave them a fun and entertaining environment when it comes to learning English. Also, they stated feeling less scared of failing and more relaxed in front of a teacher, and having more confidence to speak since the game allowed them to record their own voice and practice their pronunciation. It is worth mentioning that improvement at

collaborative work and problem-solving skills were noted by the researchers. Besides from all the different findings in this study, the type of motivation to fit in this result was not specified.

Likewise, Díaz and Martín-Párraga (2014) explored how video games can be used as a methodological strategy inside the early-education curriculum in Spain. They worked with 65 students who were majoring in primary education. The instruments used were a pretest, a posttest, and the video game '*Lemmings*'. They had to evaluate if the game was capable of influencing the learning process of children, and they had to prepare their own teaching activities involving the curricular area, contents and goals. Because of this process, the study was considered mix-method, which means that it included qualitative and quantitative processes. According to the results, using video games as a didactic strategy is a great motivation since students want to be involved in the learning process. For that reason, some teachers said that they will be implemented in their classrooms as a didactic strategy in the future. As a matter of fact, this study is related to the concept of motivation in general because it did not specify if extrinsic or intrinsic motivation was found in its results.

Additionally, Ebrahimzadeh and Alavi (2017) carried out another research in which the purpose this time was to examine the effect of commercial digital video games in students' motivation. This study worked with 214 male Iranian high school students who were divided into three groups: readers, watchers, and players. The materials and instruments used were; vocabulary items, readings and worksheets, a motivation scale to measure extrinsic or intrinsic motivation, the digital video game *Warcraft III: The Frozen Throne*, pictures and cinematics, and field notes. Results revealed that commercial digital video games affect the motivation learning process of the students, even in the readers group. The players and watchers showed that there were not huge differences in their motivation. Concerning the materials that were used to help the subjects, they avoided creating anxiety



for the lack of information while the players were taking part in the video game. Further details were not explained in the document, making this fit into the category of motivation in general.

Moreover, Galvis H. (2011) carried out a research to explore how a video game can boost the learning of a foreign language through different types of activities. They worked with four students from a military academy, three men and one woman. This study took place in Colombia. The instruments and materials used in this research study were; field notes, a survey, and a recorded interview, the video game '*Grand Theft Auto San Andreas*'. The research method was qualitative. As a result, it was stated that using this method is more effective than other learning conventional methods. Students seemed more interested and motivated in their English class since they were explained that video games were going to be used alongside the experiment. It is noteworthy that extrinsic or intrinsic motivation was not found specifically, making this piece of paper be considered in the category of motivation in general.

Similarly, Jalali and Dousti (2012) carried out a study to prove how video games affect English vocabulary and grammar learning. Instead, they ended up highlighting motivation in an EFL classroom. To meet this purpose, 58 Iranian female students took part in the experiment, who were placed into the experimental or the control group randomly. The instruments used were; the book and workbook '*Family and Friends I*', the video game '*Student Multirom*', a pretest, a posttest, and an achievement test. The experiment was mix-method; quantitative and qualitative. Results showed that there was not a great difference in terms of grammar and vocabulary in both groups. These results might be affected since the majority of the students were accustomed to conventional classes, making this process not really effective for them. For instance; some learners invested more time in trying to learn how to use a computer and the video game per se instead of playing it. Nonetheless, results

showed another important finding; the experimental teams' motivation and participation were greater than the ones the control teams displayed. It occurred since the experimental group could have a new and challenging English lesson. Students were eager to play and participate, making the class environment brighter. As a matter of fact, the type of motivation is once again not specified, fitting this research study in the category of motivation in general.

Furthermore, Vélez-Agosto and Rivas-Vélez (2018) carried out a research to investigate the benefits that video games can have in the learning process of a foreign language in Puerto Rican public schools. They worked with 77 students who were divided into three groups; an experimental group (students from the same school), an internal group (same school), and an external group (different schools). The instruments used were; the video game '*My English Coach- Spanish Edition*', a vocabulary test, and a 10-question survey. This study was qualitative and quantitative. Results showed that implementing video games in the learning process of a foreign language is beneficial and meaningful to students since they were more motivated at learning English in the last stage of the research study. Improvement in grammar and vocabulary were also found since the video game is about mastering different words. As part of the process, once the players were done with the in-game challenges, they started using this new vocabulary aloud, meaning that they were already applying what they had learnt and practicing their speaking. Some other findings showed that players were competitive among themselves and when needed, they collaborated with their peers at a higher level.

Overall, motivation was the main finding that research papers found in this category. The majority of them did not specify if it refers to extrinsic or intrinsic motivation after their processes were done. Notoriously, secondary findings were also found; for instance, in the first paper of this category, results showed that learning skills strategies were found since students displayed a greater development of affective and social strategies. Also, in the last



piece of paper in this section found learning skills strategies improvement, memory strategies and social strategies, and lexical development, speaking and vocabulary, as well.

In this section, all 20 articles described findings related to how video games could improve any of the three following categories; (a) learning skills strategies improvement, (b) lexical development, (c) motivation. As displayed, there were three articles concerning learning strategies, 11 lexical development (three for listening, reading, writing, or speaking, seven vocabulary improvement, and one spelling), and six motivation. These findings were discussed to be the main results; nonetheless it is worth reminding that there were secondary findings which fit lexical development or motivation as well.

Chapter IV

Methodology

4.1 Introduction

This section provides an outline about the research methods that were developed in this study and the inclusion criteria. There are activities that can be conducted in an EFL classroom using video games since they lead to the acquisition and improvement of learning skills strategies, lexical development, and motivation. Therefore, to find out the extent to which digital video games can be beneficial for EFL students, this study is conducted as an exploratory bibliographic research.

For the purpose of this review, the attention was focused on articles, studies and journals that were published after 1995, considering 1995 is the ‘third era’ of video games according to Carnagey and Anderson (as cited in Ferguson, 2007). Although this year is stated as the basis for our research, current articles were thoroughly looked for. Consequently, the following research questions will be addressed: (1) To what extent can digital video games influence the English learning process of EFL students? and (2) Which types of activities can be carried out using video games in an EFL class to improve the English learning process?

Research articles were mainly revised from Google scholar because either (a) databases did not have existent articles related to the topic, or (b) they were only focusing on paper-and-hand games. Then, the following electronic journals were used for our purposes; *Second IEEE International Conference on Digital Games and Intelligent Toys Based Education, The Turkish Online Journal of Educational Technology, Procedia- Social and Behavioral Sciences, Interactive Learning Environments, New Approaches in Educational*

Research, English Language Teaching, Cogent Education, Teaching English with Technology, BELT Journal, Colombian Applied Linguistics Journal, Gema Online Journal of Language Studies, Research Papers in Language Teaching and Learning, Language Learning & Technology, Universal Journal of Educational Research, Studies in English Language Teaching, Computers & Education, Science Direct, Reading Matrix: an International Online Journal and International Journal of Educational Technology.

4.2 Inclusion criteria

Articles used in the literature review section concerning how video games improve abilities in EFL students met the necessary inclusion criteria. To choose what type of articles were used in this exploratory research, the following parameters were stated.

- Studies could have any research design (mixed, quantitative, or qualitative). It means that studies could use a pretest and posttest analysis, or interviews comparing sample groups.
- The studies needed to focus on the effect video games have on sample groups. They could affect either; (a) learning skills development, (b) lexical development, or (c) motivation, considering that these categories were made up for our own purposes. It is worth mentioning that learning skills strategies development includes; affective, cognitive, compensatory, memory, metacognitive, and social strategies. Lexical development includes reading, writing, listening, speaking alongside vocabulary and spelling. Motivation could be either (a) extrinsic, (b) intrinsic, or (c) motivation in general.
- Articles were published in an academic peer-reviewed journal.
- The years of the publication were chosen from 1995 onwards; it is considered the ‘third era’ of video games in which technological enhancements were

updated or appeared, including the ‘online’ modality most current video games present nowadays. It means that this feature permits players to connect to any abroad gamers and play at the same time.

- Articles were written in (a) English, or (b) Spanish.
- Articles described any type of digital video games launched in any gaming consoles, such as; PlayStation, Xbox, computers, and so on.
- The analyzed articles took place in an EFL setting, or used EFL sample groups. We made an exception with Puerco Rico, one of the United States’ states, that has as its official languages English and Spanish, but 80% of its community speak only the latter.

4.3 Exclusion Criteria

In the exhausting process of choosing articles that analyzed video games and answered our questions, we found 41 articles. However, some of them did not include information required for this paper. Therefore, articles that were among one of the following criteria were excluded;

- They were not peer-reviewed.
- They did not have an EFL setting; places or students.
- They misused the word ‘ESL’ or ‘EFL’ context.
- They did not analyze digital video games, but pencil-and-paper games.
- Participants were not students at all.

In the end, we noticed that there were some papers that used ‘ESL’ instead of ‘EFL’, or vice versa. After thoroughly reading, only 20 out of 41 articles that were found at the beginning of



this bibliographic research met our inclusion criteria. Consequently, articles followed by an asterisk in the reference section are included for the analysis.

4.4 Conclusion

This section explained the methodology in detail used in this study. Explanations of the inclusion and exclusion criteria were also stated. Names of the online resources or journals were included too. Moreover, the initial number of studies that were found and the current number of used studies were mentioned, which are 20 studies. Asterisks are used for the analyzed articles in the reference section.

Chapter V

Analysis

5.1. Analysis of the Results

This analysis includes 20 studies which are divided into the following categories; (a) Year of publication and location to comprehend general facts; (b) Pertaining to the first question ‘To what extent can digital video games influence the English learning process of EFL students?’; learning skills development, lexical development, and motivation; (c) Pertaining to the second question ‘Which type of activities can be carried out using video games in an EFL class to improve the English learning process?’. The studies will be divided according to the activities used by the authors of the papers.

Table 1.

Years of publication

Years	N	%
2005-2010	2	10%
2011-2015	13	65%
2016-2019	5	25%
Total	20	100%

N = 20

According to the leftmost column (table 1), video games that were used as part of educational research gained more popularity around 2011 and 2015, having 13 papers focused on this. It could be due to the definition of video games that Campos, et al. (2013)



provided in this time. Recalling, they related video games and education to a supportive level. They stated that video games promote motivation and social strategies such as cooperation with peers to seek for answers in the different in-game challenges.

The definition of video games and education by Kirriemuir and McFarlane stated that they were manifestations of authentic engaging material (as cited in Anderson, et al., 2008). Nonetheless, this concept does not specify if there are outcomes related to either learning skills strategies, lexical development, nor motivation. This could have brought enough attention to researchers, but as there was not enough knowledge concerning EFL education, it is probably the reason why the years in which less study papers used video games were around 2005 and 2010.

In short, the third era of digital video games started in 1995 and it means that it took almost 20 years for a considerable number of authors to experiment with them in an EFL context.

Table 2.*Location of studies using video games in an EFL context*

Location	N	% 20 studies
China	2	10%
Colombia	1	5%
Greece	1	5%
Iran	10	50%
Puerto Rico*	1	5%
Spain	1	5%
Taiwan	2	10%
Thailand	1	5%
Turkey	1	5%
Total	20	100%

N = 20

Note: Puerto Rico is a territory of the United States of America.

Locations where studies included an EFL context were also worth analyzing (table 2). As it can be observed, 16 studies were carried out in Asia, two in Europe and two studies in America, including Puerto Rico. Puerto Rico is not an EFL context or a country by itself. Being a territory of the United States, its official languages are both, English and Spanish, but 80% of the population speaks Spanish. This study was included in this analysis because there is a reason to improve their motivation to learn English, especially in schools (Vélez-Agosto & Rivas-Vélez, 2018). Therefore, the only EFL study in America took place in Colombia, and even this was a small research study. It did not include a lot of subjects and it was only carried out in a military school since they had proper technology. It can be inferred that

technological enhancements are a barrier when video games research is to take place in American schools. As for Europe, the few number of papers could be due to the fact that the only places involved were Spain and Greece.

At this point, it is worth mentioning that in some of the research pieces used in this analysis the authors have addressed more than one significant finding within the same study. For that reason, from Table 3 onwards, percentages have been omitted, and the total number of studies in each may not add up coherently. So as to avoid confusion, some supporting tables were included in the Appendixes section.

5.1.1. To what extent can digital video games influence the English learning process of EFL students?

To answer this question, the categories of learning skills strategies development, lexical development, and motivation were included. It is important to bear in mind that different skills strategies are linked with learning; hence, they are always present if an EFL learner is playing a video game (Arnseth, 2006). For that reason, some papers issued in the literature review addressed secondary relevant discoveries as well. Consequently, all papers were compared again in each of the three previously mentioned categories to appreciate their insights better, as Appendix 1 shows.

The first category to analyze (Table 3) is the development of learning skills strategies. As stated in the theoretical framework of this paper, there are cognitive, metacognitive, memory, compensatory, affective, and social strategies, each with its own subcategories. After analyzing the 20 papers in this category, there were some subcategories that were not included in table 3 (such as taking notes, planning, mental association, avoiding a situation and using synonyms) because these were not specifically mentioned in the studies. Also, there was a study carried out by Anyaegbu, et al. (2012) that mentioned problem solving as



one of the secondary findings, but since it was not stated specifically in any of the previous categories, it was not included in table 3.

Another secondary finding done by Turgut and Irgin (2009) was not mentioned in the table since it described video games helping their participants to talk with natives. This study could not be placed in the affective nor the social strategies due to its lack of further information. Similarly, Anderson, et al. (2008) found that gender matters when it comes to the type of video game to use. As this did not display information clearly related to a strategy, lexical development or motivation, it was omitted as well. The last unnamed finding was related to natural repetition (Vahdat & Rasti, 2013); the same prior issue applied given that there was not enough data to place it in an existing category of this analysis.

Table 3

Learning Skills Strategies Development using video games in an EFL context

Strategies	N	Total
Affective		
Encouraging own motivation	3	6*
Managing anxiety	2	
Taking risks	1	
Cognitive		
Memorizing	2	3*
Does not specify	1	
Compensatory		
Guessing from the context	2	2*
Memory		
Retrieving	5	5*
Metacognitive		
Gathering	1	2*
Does not specify	1	
Social		
Asking questions	2	9*
Awareness of own feelings	1	
Cooperating	6	

N= 11

Note: Some of the studies address different strategies simultaneously (Appendix 3).

Table 3 shows that, unexpectedly, social skills had the majority of results in table 3 (nine papers), which shows that if there is no cooperation with classmates, awareness of the students' feelings, or the need to ask questions, the development of other learning skills strategies could be arduous. There are even articles dedicated to strengthening teamwork since it is considered a prime skill of the 21st century (Andújar-Montoya, García-González, & López-Peral, 2017). Consequently, the finding that video games are highly associated with social skills development means that not only are they convenient for EFL education, but also, they are needed in other fields.

The strategies of compensatory and metacognitive can be seen as having the least paper pieces involved; two papers each. Nonetheless, it does not mean that they are less relevant to learn a new language since a learner uses unconscious strategies sometimes (Oxford, 2003). Also, as stated previously, there were some findings such as problem solving or gender relation that were excluded because they did not match any of the paper's authors criteria.

When it comes to lexical development, it is necessary to recall it involves the four main skills; the passive ones, listening and reading; and the productive ones, speaking and writing. To achieve a better analysis, lexical development also included spelling and vocabulary in different categories, as mentioned in chapter 2.

Table 4.

Lexical development in an EFL context using video games

Skills	N	T
Passive		
Listening	2	4*
Reading	2	
Productive		
Speaking	2	4*
Writing	2	
Spelling	1	1
Vocabulary	12	12*
N = 13		

Note: Some of the studies address different skills simultaneously (see appendix 4).

In table 4, research papers that found vocabulary improvement were 12. In other words, all of these authors considered that vocabulary is an important outcome that video games give to EFL learners. This reinforces what has been stated about vocabulary in previous sections; to learn a new language, vocabulary is needed (Nushi & Jenabzadeh, 2016; Richards & Renandya, 2002). This can be achieved through video games that have different characteristics to meet certain purposes, as mentioned in chapter II. That being said, some studies used vocabulary regarding the in-game challenges, others gave students edutainment video games so they could practice drills and repetitions, according to behaviorist and cognitive perspectives (Egenfeldt-Nielsen (2007).

Moreover, four of the findings represented results regarding the passive skills, four the productive, and one addressed spelling. It was believed that video games would provide a

higher result when it comes to the passive and productive skills since the studies described how they had scripts, maps, subtitles and more tools to enhance those. Nonetheless, through this table it can be assumed that vocabulary is the actual strength that video games offer to players. Vocabulary is listed as one of the crucial elements to learn a new language since a student needs a basic lexis to acquire deeper knowledge. As a matter of fact, to learn vocabulary the student might need to develop cognitive and memory strategies as well; the subcategories memorizing and retrieving could be linked to them, but that specific information was not clearly specified.

The last table (table 5) for this question of the research showed the analyzed results regarding motivation. It was stated that being in another context does not motivate students since they do not have a real booster for their learning. That is why most results in this section displayed that students involved in the research study were eager to participate when they heard of a new way of learning English – using video games. Now, motivation can be intrinsic or extrinsic, but there were some studies that did not specify relevant details about each type. For those cases, the category ‘does not specify’ was added. Also, the category of extrinsic motivation was taken out since studies showing detailed results about it were null.

Table 5

Present motivation in an EFL context using video games

Motivation	N
Intrinsic	3
Intrinsic and Extrinsic	1
Does not specify	9

N = 13

Table 5 showcases how only three studies focused on intrinsic motivation as a result; specifically, secondary result. Whereas, there was only one study that showed intrinsic and extrinsic motivation alongside video games. It means that even if authors mentioned that motivation is a key factor to learn another language, it was not found as a primary result in all the 20 studies described through the Literature Review of this paper. Finally, there were nine studies that did not specify which type of motivation their results addressed. In two of them, they were secondary findings related to learning skills strategies development that were mentioned. They happened after students were motivated to learn, proving that there is a greater link among the three main categories that were described throughout this paper; learning skills strategies improvement, lexical development, and motivation.

5.1.2. Which type of activities can be carried out using video games in an EFL class to improve the English learning process?

After attentively revising papers concerning video games in an EFL context for the second question of this analysis, it was concluded that there are not papers that address activities and their direct use with video games. Instead, instruments and materials that could pose for activities were included. Six different activities were found, according to the authors' criteria. In the case of the category tests, they could be pretests, posttests, vocabulary tests or achievement tests stated by the different research papers. Individual interviews were used in some papers, but it was discussed that in a real class they could not be applied due to the number of students; hence, this instrument was not included.

Table 6.*Activities in an EFL classroom using video games*

Activities	N
Booklets	3*
Questionnaires	8*
Social Media Interaction	1
Tests	12*
Writing Assessments	2*
Worksheets	3*

N= 17

Note: Some of the studies address different topics (see appendix 6).

In table 6, it can be observed that eight studies used questionnaires. Some of them used the Likert-Scale survey and Motivation Scale, while 12 papers used tests. When it comes to vocabulary lists and booklets, their function was identical in the experiments. Therefore, it was decided to place them as one category. In three studies, the participants were given a list of different in-game items as a lead-in before playing the video game. As a matter of fact, those vocabulary lists were not only included for the student to learn new words, but were also used to give the participants a better insight into what the video game was going to be about. In this way, students could feel more motivated to take part in the experiments.

Similarly, two research papers used written assessments, such as diaries or reports. These writings were used mainly for reporting their feelings about the video game. Such reports were also useful because they displayed their motivation, grammar, vocabulary and



some learning skills strategies that participants applied while playing. It is worth mentioning that one study used social media interaction for explaining different points of view. In this case, they used Facebook for students to interact and practice their writing. The last activity that could be used in an EFL class to improve the English learning process involved the use of worksheets, which included readings.

Activities were generally given after the experimental groups played the respective games. The order of instructions did not begin with showing the video game nor the activities; most researchers used videos or pictures about them and later showed the vocabulary list or booklets. Lastly, worksheets or final tests were applied. These instructions could come in handy for a teacher to apply a video game in a real environment or to manage a class using video games in an EFL context.

Chapter VI

Conclusions and Recommendations

6.1 Discussion

We conducted our bibliographical research around the topic ‘Effects of Digital Videogames on the Learning Process in an EFL Classroom’. Our two questions were; ‘To which extent can digital video games influence the English learning process of EFL students?’, and ‘Which type of activities can be carried out using video games in an EFL class to improve the English learning process?’.

To seek for answers, we compared and analyzed different paper pieces, displaying positive outcomes regarding the questions presented. Concerning the first, it is indeed proven that video games affect positively learning skills strategies, lexical development, and motivation in an EFL context. As a matter of fact, it was believed that motivation would be an outcome present in all the 20 studies, as well as vocabulary, but they were not. They were either, not mentioned at all, or were just stated generally by the authors in any section but the results. Concerning our second question, tests, worksheets and vocabulary items come in handy whenever a video game is to be used in a classroom. Other important factors are the presence of teacher guidance, technology literacy, and technology per se. It is worth reminding that instruments and materials were used as activities since there were no papers focused on this topic at the time the literature review was developed.

Now, it was stated that some educators thought video games do not give productive outcomes to learners for the sole fact that violence is sometimes part of them (Fengfeng, 2008). This belief could have grown more because of the new features that the third era of video games display (violence and the ‘online’ modality). Nonetheless, through meticulous revision of papers, it was demonstrated that there are vastly beneficial outcomes to EFL

learners since video games are efficient tools to motivate students and to modify their language learning process (Marín & Martín-Párraga, 2014). Also, as video games create interest in players, intrinsic motivation and engagement can arise (Gee, 2003).

Lastly, in some papers players, readers, and watchers were created as groups for the experiment, as well as control, experimental, internal, and external groups. This sort of distribution was insightful for the authors of these papers since these divisions displayed clearly what types of outcomes each group had according to the activities that were posed for them. Fortunately, the players and the experimental group (which also used video games as part of their activities) were the learners with most outcomes, reinforcing the theory and the previous analysis presented; video games do allow students to improve their EFL learning.

Overall, it is obvious that in spite of many misbeliefs surrounding video games, positive outcomes cannot be denied. Although the application of them in class cannot happen without teachers guidance and technology, they can certainly be a new type of modality that can catch the interest of learners if intrinsic motivation wants to be developed further. Similarly, language skills strategies development, lexical development, and motivation are parts of the improvements related to video games in an EFL classroom. If they are to be used according to the type of education that we actually have due to the COVID19 pandemic, their results may even include more outcomes that were not analyzed throughout this paper.

6.2 Conclusions

Some people might think that digital video games do not give a positive outcome to learners; that they only bring distracting content and violence to players (Turgut & Irgin, 2009) and that activities using them as an educational tool is nonviable. Those were even stated as beliefs parents and teachers have towards them. Nevertheless, through analysis of the different experiments in this research synthesis, it was demonstrated that video games do grant three main advantages for learners; language learning skills, lexical development, and

motivation. It is worth noting that to learn a new language, there are several factors which influence the actual acquisition of it. That being said, language learning subcategories such as social and affective strategies, lexical development such as reading and vocabulary, and motivation are some of the many benefits it was found that video games can supply to students in an EFL context.

It is important to emphasize that participants were eager to take part in the research projects when they heard that their conventional classes were going to be switched (Anderson, et al., 2008; Díaz & Martín-Párraga, 2014). In spite of that, it was puzzling to notice that not all the research papers found motivation as a major outcome in their experiments, and in some cases the type of motivation that was part of their results was not mentioned (Smith, et al., 2013; Vahdat & Rasti, 2013). Additionally, researchers also noted that video games should be accompanied by activities to prove they are leading the student toward a positive outcome. It means that activities like worksheets, tests, booklets, questionnaires, among others are to be used alongside to assess the student. Even though the research pieces did not mention those tools as activities for a real class, they were applied as instruments in the experiments, giving lots of benefits to the participants used in the samples.

As advantages of video games to be applied in an EFL context were found, important features that encompass their use had been stated as well; video games need technology to be used and teachers need technology literacy. These are the reasons why most of the studies were carried out in Asia and not in Latin America. Latin America may still lack proper technology in a classroom, making this a huge hindrance for studies to take place here. It is interesting that Colombia and Puerto Rico were the only EFL places that had a study related to video games in America.

6.3 Recommendations, Limitations and Future areas to be studied

An aspect that might be considered as a limitation is the fact that some studies did not specifically report the type of motivation they were addressing. As the analysis showed, only four papers mentioned the type of motivation video games provided to their participants, whereas nine papers stated motivation as an outcome in general. It could be more insightful to have papers that differentiate if video games give more intrinsic or extrinsic motivation in an EFL context.

When it comes to activities in an EFL context using video games, as shown in the analysis they were activities the researchers considered better to acquire their own results due to the nature of their experiments. It was impossible to find papers focusing on applied activities themselves. It could have been more beneficial to state how and based on what they were created for their targets. Hence, research papers describing which types of activities are the best for an EFL context could be more insightful for anyone that is looking for video games and their application.

Similarly, there were not enough Latin American studies to compare and analyze. If there were more, the results could have been completely different regarding any of the three categories the authors of this research paper analyzed. Therefore, carrying out studies in Latin American regarding the type of major outcomes video games can give to EFL students would give us better information to compare and analyze.

Now, it could be proposed to use video games in Ecuadorian high schools since students are required to have a satisfactory B1 English level according to the Ecuadorian English Curriculum. English laboratories could be used not only for listening or showing videos, but also for approaching the language in a more interactive form. In this way, it could be effective to boost motivation, lexical development, language learning strategies, and even more areas of their EFL learning. At the same time, it could be the uplift of less-conventional



classes, eliminating the many stereotypes and assumed-disadvantages that still surround the video games environment. Digital video games, if used correctly, can bring benefits and fun classrooms to an EFL learning.

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Appendixes

Appendix 1

YEARS	T
1999-2004	0
2005-2010 1. Tom A. F. Anderson, Barry Lee Reynolds, Xiao-Ping Yeh, Guan-Zhen Huang - 2008 2. Yıldız Turgut & Pelin Irgina - 2009	2
2011-2015 3. Galvis-2011. Galvis, H. (2011). Using Video Game-Based Instruction in an EFL Program: Understanding the Power of Video Games in Education. Colombian Applied Linguistics Journal, 13(1), 58-74. 4. Hao-Jan Howard Chen & Ting-Yu Christine Yang - 2013 5. Ruphina Anyaegbu, Wei Ting (Jessy), Prof YI Li - 2012 6. Nahid Shahriarpoura & Zahra kafi - 2014 7. Hamid Ashraf, Fateme Ghanei Motlagh & Maryam Salami - 2014 8. Hossein Shokri & Seyed Jalal Abdolmanafi-Rokni - 2014 9. Hayo Reinders & Sorada Wattana - 2014 10. Verónica Marín Díaz & Javier Martín-Párraga - 2014 11. Fateme EBRAHIMI & Mustafa ZAMANIAN - 2013 12. Sedigheh Vahdat & Amin Rasti Behbahani - 2013 13. Sara Jalali, Masoumeh Dousti (2012) 14. Smith, G. G., Li, M., Drobisz, J., Park, H.-R., Kim, D., & Smith, S. D. (2013). 15. Alexandros Palaioogiannis, (2014)	13
2016-2019 16. Mohsen Ebrahimzadeh & Sepideh Alavi - 2016 17. Hadi Salehi, 2016 18. Mohsen Ebrahimzadeh - 2017 19. Ebrahimzadeh-Alavi, 2017 20. Nicole M. Vélez-Agosto & Alfredo Rivas-Vélez - 2018 - PUERTO RICO	5

Appendix 2

AUTHOR	COUNTRY
Reinders and Wattana (2014)	Thailand
Salehi (2016)	Iran
Turgut and Irgin (2009)	Turkey
Anderson, Reynolds, Yeh and Huang (2008)	Taiwan
Palaiogiannis, 2014	Greece
Ashraf, Ghanei, and Salami (2014)	Iran
Chen and Yang (2013)	Taiwan
Ebrahimi and Zamanian (2013)	Iran
Ebrahimzadeh (2017)	Iran
Ebrahimzadeh and Alavi (2016)	Iran
Shahriarpour and Kafi (2014).	Iran
Smith, et al, (2013)	China
Vahdat and Rasti (2013)	Iran
Shokri and Abdolmanafi-Rokni (2014)	Iran
Anyaeibu, Ting, and Yi (2012)	China
Díaz and Martín-Párraga (2014)	Spain
Ebrahimzadeh and Alavi (2017)	Iran
Galvis H. (2011)	Colombia
Jalali and Dousti (2012)	Iran
Vélez-Agosto and Rivas-Vélez (2018)	Puerto Rico



Countries	Studies	T
Iran	1+1+1+1+1+1+1+1+1+1	10
Thailand	1	1
Taiwan	1+1	2
China	1+1	2
Colombia	1	1
Spain	1+	1
Puerto Rico*	1	1
Turkey	1	1
Greece	1	1

Appendix 3

AUTHORS	Learning Skills development															
	Social Strategies			Affective Strategies			Compensatory Strategies			Memory Strategies		Metacognitive strategies (realizing one's learning style)			Cognitive Strategies	
Awareness of Others Feelings		X														
Asking Questions																
Cooperation		X														
Encouraging Own Motivation		X														
Taking Risks																
Anxiety																
Using Synonyms																
Guessing from the Context																
Evade A Situation Where A Lack of																
Retrieve Information	X															
Mental Associations																
Does Not Specify		X														
Gathering																
Planning																
Does Not Specify		X														
Memorizing	X															
Summarizing																
Taking Notes																
Salehi (2016)																
Palaiogiannis, 2014		X														
Smith, et al, (2013)																



Turgut & Irgin (2009)						x					x			native) (talking with	x	x	x	
Anderson, Reynolds, Yeh and Huang (2008									x									
Shahriarpour and Kafi (2014)									x		x							
Vahdat and Rasti (2013)									(natural									
Anyaegebu, Ting, and Yi (2012)										(problem			x		x	x		
Reinders & Wattana (2014)													x	x		x	x	



Ashraf, Ghanei, and Salami (2014)																x		
Vélez-Agosto and Rivas-Vélez (2018)									x							x		
TOTAL 11	0	0	2	1	0	1	1	0	5	0	2	0	2	1	3	6	2	1

Appendix 4

AUTHORS	Lexical Development					
	Passive		Productive		Vocabulary	Spelling
	Listening	Reading	Speaking	Writing		
Anderson, Reynolds, Yeh & Huang (2008)	x				x	
Palaiogiannis, 2014		x		x	x	
Ashraf, Ghanei, and Salami (2014)					x	
Salehi (2016)					x	
Chen and Yang (2013)	x	x		x	x	
Ebrahimi and Zamanian (2013)			x		x	
Ebrahimzadeh (2017)					x	
Ebrahimzadeh and Alavi (2016)					x	
Shahriarpour and Kafi (2014)					x	
Smith, et al, (2013)					x	
Vahdat and Rasti (2013)					x	
Shokri and Abdolmanafi-Rokni (2014)						x
Vélez-Agosto and Rivas-Vélez (2018)			x		x	
TOTAL 13	2	2	2	2	12	1



Appendix 5

AUTHORS	Motivation			
	Intrinsic (own willingness to do something)	Extrinsic (to get an outcome)	Both	Does not specify
Ashraf, Ghanei, and Salami (2014)				x
Turgut & Irgin (2009)	x			
Palaiogiannis, 2014			x	
Ebrahimzadeh and Alavi (2016)	x			
Shahriarpour and Kafi (2014)	x			
Smith, et al, (2013)				x
Vahdat and Rasti (2013)				x
Anyaeibu, Ting, and Yi (2012)				x
Díaz and Martín-Párraga (2014)				x
Ebrahimzadeh and Alavi (2017)				x
Galvis H. (2011)				x
Jalali and Dousti (2012),				x
Vélez-Agosto and Rivas-Vélez (2018)				x
TOTAL 13	3	0	1	9



Appendix 6

AUTHORS	ACTIVITIES					
	Questionnaires	Test, Pretest/posttest	booklet	Writing tasks	Social media accounts	Worksheets
Reinders and Wattana (2014)	x					
Salehi (2016)		X (vocabulary)	X (vocabulary list)			
Anderson, Reynolds, Yeh and Huang (2008)	x	x				
Palaiogiannis, 2014	x			X (Diaries, letters)	X (FB)	
Ashraf, Ghanei, and Salami (2014)		x				
Chen and Yang (2013)	x	x		X (experience essay)		
Ebrahimi and Zamanian (2013)		X (oral test)				
Ebrahimzadeh (2017)		x				X (readings included)
Ebrahimzadeh and Alavi (2016)		x	X (vocabulary list)			
Smith, et al, (2013)		x				X (reading)
Vahdat and Rasti (2013)	x	x				
Shokri and Abdolmanafi-Rokni (2014)	x					
Díaz and Martín-Párraga (2014)		x				
Ebrahimzadeh and Alavi (2017)			x			X (readings)



						included)
Galvis H. (2011)	x					
Jalali and Dousti (2012)		X (achievement test included)				
Vélez-Agosto and Rivas-Vélez (2018)	x	X (vocabulary)				
TOTAL 17	8	12	3	2	1	3