

UCUENCA

Universidad de Cuenca

Facultad de Filosofía, Letras y Ciencias de la Educación

Carrera de Ciencias de la Educación en la Especialización de Lengua y Literatura Inglesa

The Impact of Video Games on ESL Teenagers' Classrooms

Trabajo de titulación previo a la obtención del título de Licenciado en Lengua y Literatura Inglesa

Autor:

Edison Fabián Encalada Narváez

Directora:

Juanita Catalina Argudo Serrano

ORCID:  0000-0002-3337-7803

Cuenca, Ecuador

2023-07-31

Resumen

La influencia de los videojuegos en contextos de inglés como segundo idioma (ESL) ha cobrado relevancia en los últimos años, especialmente en relación a los efectos que puede tener en el proceso de aprendizaje de idiomas, así como las percepciones por parte de docentes y estudiantes en esta área. Por esa razón, el presente estudio se enfoca en explorar dichos efectos a través de una síntesis de investigación sistemática que se orienta en el impacto de los videojuegos en las aulas de inglés. Por lo tanto, se recopilaron datos para ser analizados de 15 artículos científicos que exploran el efecto de los videojuegos en estudiantes adolescentes en el aula de ESL. A través de este análisis, fue posible determinar el enfoque de investigación de los estudios, la influencia de los juegos de video en el entorno de aprendizaje, los efectos de la exposición a los juegos en el aprendizaje de idiomas y, cómo estos interfieren con la vida real. Se encontró que los videojuegos tienen un efecto positivo en la motivación de los estudiantes, a pesar de los inconvenientes reportados por algunos investigadores. Sin embargo, existe una falta de conocimiento sobre cuál sería la mejor manera de implementar los juegos en el aula de ESL.

Palabras clave: lengua extranjera, videojuegos, efectos, inglés



El contenido de esta obra corresponde al derecho de expresión de los autores y no compromete el pensamiento institucional de la Universidad de Cuenca ni desata su responsabilidad frente a terceros. Los autores asumen la responsabilidad por la propiedad intelectual y los derechos de autor.

Repositorio Institucional: <https://dspace.ucuenca.edu.ec/>

Abstract

The influence of video games in English as a Second Language (ESL) contexts has become relevant in recent years, especially, in regards to the effects that they can have on the process of language learning, as well as how they are perceived by teachers and students. For that reason, this study focuses on exploring those notions through a systematic research synthesis that focuses on the impact of video games on ESL classrooms. Thus, analyzed data was gathered from 15 studies that explore the effect of video gaming on teenage students in the ESL classroom. Through this analysis, it was possible to determine the research focus of the studies, such as the influence of gaming on the learning setting, exposure to gaming, benefits for language learning, and how it interferes with real life. It was found that video gaming is considered beneficial for language learning and positively affects student motivation, despite the drawbacks reported by some researchers. However, there is a lack of knowledge on the best way to implement video gaming in the ESL classroom.

Keywords: foreign language, video games, effects, english



The content of this work corresponds to the right of expression of the authors and does not compromise the institutional thinking of the University of Cuenca, nor does it release its responsibility before third parties. The authors assume responsibility for the intellectual property and copyrights.

Institutional Repository: <https://dspace.ucuenca.edu.ec/>

Table of contents

Table of Contents	4
Acknowledgements	5
Dedication	6
Introduction	7
Background	8
Problem Statement	8
Rationale	9
Research Questions.	10
Objectives	10
Theoretical Framework	11
Second language acquisition	11
Language acquisition features of video games	12
Game-based language learning	12
Motivation	12
Krashen's Theory of Second Language Acquisition	13
Literature Review	14
Methodology	17
Data analysis	18
Location of studies per continent	18
Research Focus and Influence on ESL Learning	19
Effects of the implementation of videogames in ESL classes	21
Teachers and students' perceptions on the implementation of video games.	22
Conclusions	24
Recommendations	25
References	26
Annexes	32

Acknowledgements

I want to express my most sincere gratitude to my thesis tutor, Lcda. Juanita Catalina Argudo Serrano, Ph.D., for her patience and support during the development of this work. To my first teacher, Javier Sidel, who had helped me since the first level. To my best friend, Walter Tepán, who has helped and supported me on this path. I also want to thank everyone of my teachers and classmates whose emotional encouragement has allowed me to finish my goal of becoming an English teacher.

Edison Encalada

Dedication

First of all, to God, who has been the one who pushed me in my most difficult moments. To my dear parents, Jorge and Cecilia, and my brother Edwin, who have always been my greatest source of support and comfort, and whose example has motivated me to become a better person. To my grandparents, Manuel and Luz, whose affection inspires me to keep up the good job. Thanks a lot for all your support. To my best friend, Walter, who has been patient and helped me to never give up. To my friends, Juan Francisco, Karina, Paul, and Wilmer, for being part of this process.

Edison Encalada

Introduction

The use of video games in ESL contexts has become a topic of interest around the world in recent years. For that reason, this study aims to provide a critical examination of studies about the effects of video games, benefits and challenges, implementation, and perceptions (Huang & Hwang 2013). Thus, this study was divided into six chapters. Chapter 1 deals with the background of the research, which states the problem and rationale that drive this study, as well as the research questions and objectives that it aims to achieve.

The second chapter references the most important concepts and theories that will be discussed in the study. Here, it is possible to find information regarding second language acquisition, game-based language learning, the impact of motivation, and how gaming in ESL contexts can relate to Krashen's theory of second language acquisition. Next, chapter three deals with the literature that has been written beforehand about the topic being researched. In this part, there are fifteen articles related to the topic of the influence and effects of video gaming in ESL classrooms.

Chapter four describes the methodology that was used for this research synthesis, and explains what type of articles were considered for the study. Subsequently, chapter five shows the collected data and how it was organized and analyzed. Finally, in chapter six, it is possible to find the conclusions that were reached after thorough analysis, as well as recommendations that could help future research.

Chapter 1

Description of the Research

Background

In recent years, several researchers have taken an interest in the influence that playing video games could have on the language-learning process, as well as its effects that it could have. Although there are split opinions about the benefits of gaming on aspects such as anxiety and motivation, the question of how video games influence language learning has yet to be fully explored (Rudis & Postic, 2018).

Regarding motivation, Warschauer and Healey (1998) have found that video games have often been utilized to increase motivation and authentic communicative practices. Because of that, video games have been conceptualized as an enjoyable factor in language learning, as well as a motivating activity that can benefit the development of several skills, such as communicative and metacognitive ones (Reinders & Wattana, 2012). Furthermore, video games create a fun environment where learners and teachers become more interested in teaching and learning (Da Silva, 2014). In this regard, Väisänen (2018) mentioned that individuals who play video games learn the language unintentionally. This means they enjoy engaging in the game dynamics while learning is an additional benefit.

Moreover, the amount of time children and adolescents spend on video games has increased steadily according to educators and parents who have noticed the increasing popularity of video games among teenagers (Gentile, 2009). However, experts in the field wonder how gaming might impact the players' psychosocial aspects. In this regard, Griffiths (2010) stated that high-frequency gaming might compromise the ability to gain social skills and increase social anxiety.

Problem Statement

In the 21st century, teaching processes have changed positively due to technological innovations that have taken a more important role in education (Miller, 2015). Therefore, public and private high schools' traditional education and teaching processes have begun to disappear. The reason is that traditional schooling does not meet today's conditions and expectations (Miller, 2015). On the other hand, technological development and the Internet's widespread accessibility have made video games popular all over the world, especially among children and adolescents (Yilmaz, et al., 2017). Therefore, video games and similar applications have emerged as a trend in today's education. Thus, this research aims to investigate the impact of video games on teenagers' ESL learning process to determine the effects of integrating video games in the ESL classroom.

According to Abreu, et al. (2008), electronic games can facilitate the development of many skills, such as thinking skills, decision-making, and coordination. However, excessive playing may have adverse consequences, such as abandonment of other activities, including study, sports, and social or family interaction. Moreover, Liu et al. (2014) mention that, it was observed that the students who had fun and learned at the same time gained considerable progress in their learning ability and the persistence of the learned information was found to be more successful than the traditional way of learning.

Regarding these findings, it is important to analyze the impact of video games on ESL teenagers' classrooms and encourage teachers to use them in their classes.

Rationale

In recent years, video game playing has become a favorite pastime of people thanks to the growth of the gaming industry (Eyüp, et al., 2018). While worldwide software game sales were \$70 billion in 2012, this amount reached over \$100 billion in 2017 and was expected to reach \$115 billion in 2018, according to Global Games Market Report (2017). This data also showed that approximately one-third of gamers' (29%) are under 18 years old, which comprises a significant number of children and teenagers (Entertainment Software Association, 2017).

According to Gee (2013), video games feature plenty of principles for problem-solving skills, which support the player's learning process through the game. Furthermore, video games can facilitate second language learning and acquisition. This process is often known as game-based learning, and it refers to learning based on the use of games, such as games created for educational purposes (Reinhardt & Sykes, 2012).

Additionally, games create an environment where education is mostly learner-centered, often offer a good opportunity for socialization, and awaken the desire to win and be competitive (Uzun, 2009). Not to mention that video games usually involve practicing certain skills to reach new levels or progress the story. Because of that, Gee (2005) alleges that learning entertainingly is more effective than simply memorizing theoretical facts without practicing them.

However, even though research on video games and language learning has been conducted at large, studies on language and technology are limited (Turgut & Irgin, 2008). For all these reasons, it is important to continue researching this topic since it is necessary to know the impact of video games on teenagers in ESL classrooms. Thus, it becomes imperative to analyze the effects of video games on the acquisition of a second language, as well as determine teachers and students' perceptions about the application of video games for ESL learning.

Research Questions.

1. What is the effect of video games when teaching teenagers English as a Second Language?
2. What are teachers' and students' perceptions regarding the application of video games?

Objectives

General Objective:

- To analyze the impact of video games on teenagers' learning process in English as a Second Language.

Specific Objectives:

- To identify the effects of video games when teaching English as a Second Language to teenagers.
- To analyze teacher and student's perceptions about the integration of video games in ESL classrooms.

Chapter 2

Theoretical Framework and Literature Review

Theoretical Framework

In only a few decades, the world has undergone an amazing transformation. Thanks to technology and the Internet revolution, communication across borders and languages is now only a click away (Theodorsen, 2015). It is easier than ever to access content produced abroad. Because of that, the study and analysis of lyrics, dialogues, and written media in ESL contexts seem to be quite extensive, whereas the study of video games is only recently taking place (Da Silva, 2014).

Defining video games is not quite a clear-cut issue, as they come in many different forms and complexities, and thus, they can be approached from multiple perspectives (Väisänen, 2018). The question is: How do video games influence language learning? According to Plass and Jones (2005), video games help associate the written word with a picture, sound, virtual 3D representation of the object, and actions associated with the object. This makes the players activate word processes on several different levels continuously and simultaneously, which has been proven to enhance word learning (Plass & Jones, 2005).

Interactivity, often defined as “the extent to which users can participate in modifying the form and content of a mediated environment in real time” (Steuer, 1993, p. 84), is a defining characteristic of video games (Wolf & Perron, 2003). While many games include animated or video sequences that do not allow or require player interaction, all games require some degree of player interaction to advance the game and meet the objectives (Tamborini et al., 2001).

Second language acquisition

Nowadays, we live in an increasingly internationalized world that sets new and higher standards for communication. In the past, learning a second language could be a hobby or interest for a selected group of people. Today, it is considered a necessity for education and work.

According to Cambridge Advanced Learner's Dictionary & Thesaurus, ESL is “the teaching of English to speakers of other languages who live in a country where English is an official or important language” (2016, p. 1). Similarly, Ellis et al. (2006) define L2 acquisition as “The way in which people learn a language other than their mother tongue, inside or outside of a classroom” (p.365). In this regard, Lightbown (2000) states that adults and adolescents can 'acquire' a second language; however, there are also limitations to second language acquisition for teenagers and adults.

According to Piirainen-Marsh and Tainio (2009), repetition and imitation are central to first and second language acquisition as well as language learning. The reason for this is that repetition

involves the processing of the structures present in the target language, which eventually enables the user to use language more automatically and spontaneously.

Language acquisition features of video games

According to Gee (2013), video games feature the key principles of problem-solving, which support the player's learning throughout the game. As an example, good games face their players with challenging, yet manageable problems that build upon their knowledge from previous challenges.

As an example, Wiklund and Ekenberg (2009) researched the outcomes of twenty students who felt that they increased their knowledge and acquisition of the English language by playing World of Warcraft. Based on the results, the students' positive attitude towards playing resulted in reinforcing the skills needed for grammar and punctuation, as well as increasing the vocabulary related to the concepts and themes of the game World of Warcraft.

Game-based language learning

Game-based learning is defined as "any initiative that combines or mixes video games and education" (Tsai & Fan, 2013, p. 115), with a game being "a system in which players engage in an artificial conflict, defined by rules, which results in a quantifiable outcome" (Salen & Zimmerman, 2004, p. 93). Informal language learning instruments such as digital video games and movies have been found to result in higher learning outcomes compared to traditional classroom practices (Cole & Vanderplank, 2016).

Motivation

Motivation affects human behavior in the "choice of a particular action, the persistence with it and the effort expended on it" (Dörnyei et al., 2006, p. 9). For instance, Vygotsky (1962) stated that individuals who have an active participatory role in the construction of motivational goals also perform better in what they internalize as a result.

Furthermore, existing research recognizes video games and game-like settings as motivating and engaging, despite a relative lack of formal research on game-driven motivations (Ryan, et al. 2006). Additionally, the Self-Determination theory (SDT) addresses either different factors, which affect an individual's motivation positively, or negatively (Ryan & Deci, 2000). A basic distinction in these factors is the origin of motivation, usually called intrinsic motivation and extrinsic motivation. Intrinsic motivation refers to inherently motivating or interesting factors within an action, such as finding the topic at hand interesting, while extrinsic motivation refers to external reasons for performing a task or action. An example of extrinsic motivation would be a reward for doing a certain task, or a punishment for not completing the task (Väisänen, 2018).

Moreover, identification and integration are autonomous forms of extrinsic motivation. In identified forms of extrinsic motivations, an individual identifies with the importance of a task

or behavior and therefore accepts its value as their own (Ryan & Deci, 2000). For instance, Sundqvist and Sylvén (2014) showed in their study with Swedish children that they are extensively engaged in what Sundqvist (2009) calls extramural English, which is English outside of school, and how those children report both high motivation for learning English and high self-assessed English ability.

Krashen's Theory of Second Language Acquisition

This is based on five main hypotheses, as established by Krashen (1982). The first hypothesis is the Acquisition-Learning hypothesis. The idea of this hypothesis is that there is a difference between learning and acquisition. Therefore, language acquisition occurs in a naturalistic environment whereas language learning occurs in the classroom environment. The second hypothesis is the Monitor hypothesis, which is concerned with the second language user's monitoring of his/her spoken language (Krashen, 1982). Thus, monitoring happens when the language is learned, not acquired. Consequently, people who usually prioritize fluency over accuracy have a lower monitoring activity. The third hypothesis is the Natural Order hypothesis (Krashen, 1982). Regarding the Natural Order hypothesis, Mitchell and Myles (2004) mentioned that we acquire the rules of language in a predictable order, with some rules tending to come early and others late. The order of the rules does not appear to be determined solely by formal simplicity and there is evidence that it is independent of the order in which rules are taught in language classes.

Next in line is the Input hypothesis, which is often associated with the Natural Order hypothesis. It states that language learners acquire the language by understanding verbal messages or receiving comprehensible input (Johnson, 2004). Finally, the Affective Filter states that the mind of learners has a filtering device that can facilitate or limit language learning. For example, learning anxiety can activate this filter, which will result in a limitation of the input received, as the learner will not be able to settle the new information as a result of this emotion.

Similarly, Vygotsky's (1962) sociocultural theory has also been prominent in the area of language acquisition and cognitive development. This theory implies that learning takes place in the social interaction between individuals and that different social environments can have different outcomes for the learning process of individuals (Vygotsky, 1962).

Literature Review

English has become the most widespread and important language of the world. It is essential for communication when there are no common languages across borders. According to Shaffer et al. (2005), children spend most of their free time interacting with computers and playing computer games. In fact, the average teenager in America spends 1.5 hours on the Internet and 1.5 hours playing video games. It is undeniable that video games have become an inseparable part of children and adults' leisure time activities, and that they have become involved in their virtual world where they find themselves taking the roles of different identities, solving problems, and learning different skills (Shaffer, et al. 2005).

Before delving into the literature focused on the influence of video games on language acquisition, it is pertinent to explore some of the concepts of language acquisition in general. Researchers such as Reinders & Wattana (2011) highlighted the positive effects of digital gaming on language acquisition.

For instance, Thorne et al. (2014) posited that learning a second language in school is confined by the settings of the school itself, which limits the breadth of language use, whereas online gaming along with its online communities provides a greater opportunity to learn, acquire, and practice the second language.

Likewise, a study by Cole and Vanderplank (2016) compared a group of autonomous language learners to in-class learners in order to confront an informal learning condition in a formal learning environment. They concluded that learning a second language outside the classroom through informal means resulted in superior outcomes. Moreover, Cole and Vanderplank (2016) noted that fossilization was observed among in-class learners but not in autonomous learners. Thus, the researchers identified self-determined instrumental motivation as an important force helping autonomous learners achieve better results.

In addition, Musa (2015) developed a case study using games like Minecraft (Mojang) and Candy Crush (King.com) and concluded that the participants developed new groups of vocabulary when they played these games and that vocabulary acquisition occurred when the words were directly exposed to the player. Furthermore, Galvis-Guerrero (2011) conducted a study in Colombia for an entire semester using the video game Grand Theft Auto: San Andreas, and game-based instructions in a military school. He concluded that students were more attentive and involved and that video games helped students to explore virtual realities that simulate real-life contexts.

Moreover, a semi-ethnographic study carried out by Steinkuehler (2010) on a young adult student known by his online nickname "Julio", found that Julio's digital reading literacy was acquired from video games. Steinkuehler (2010) also found that video game fan-based online websites had texts on the same level as advanced-level reading texts. Because of that, Julio

tended to lose interest and achieve lower marks in conventional advanced reading exams that were not related to computer games.

Another fact to take into consideration is that video games can also change and improve the attitude of learners toward language learning. For instance, Yip and Kwan (2006) expressed that their students' motivation and attitudes changed while using video games. This phenomenon was observed through data obtained in surveys and in interviews. They also affirmed that their pupils' attention was easier to retain while using video game-based activities. Thus, it is possible to see that video games have the potential to improve the perceptions of learners about their own learning abilities. Furthermore, participants in a study conducted by Moline (2010) which involved video game players in the twelve to eighteen-year-old range viewed their game-related learning experiences as constructive, evolutionary, and satisfying due to the self-solving nature of the activity.

On the other hand, a study conducted by DeHaan, et al. (2010) indicated that video gamers tended to be distracted from learning vocabulary while playing a music video game. The study was designed to compare the increase in the vocabulary of participants who actively played a game as opposed to participants who only watched the game being played. Eighty female adult undergraduates participated in the study, divided into pairs where one individual played the game and the other one watched it. It turned out that the individuals who kept watching the game managed to acquire a greater number of new words as opposed to the players, who were under a significant cognitive load while playing the game (DeHaan et al., 2010).

However, the research showed that after conducting a vocabulary recall test two weeks after the gameplay both the players and watchers forgot a significant number of vocabulary words from the game. Furthermore, the authors pointed out a few problems with the study. The first one is that language was not the key aspect within the goal of the game played, and thus the comprehension of the vocabulary was not necessary. Second, the genre of the game did not have a story component to it, which would require the player to be able to comprehend what was being stated and how to respond to the game's challenges correctly.

Contrarily, Da Silva (2014) discussed ways in which language learners could use video games as a way to increase their language proficiency using video games. The article described two particular types of skills video games helped cultivate: (1) receptive skills (reading and listening) and (2) expressive skills (writing and speaking) (Da Silva, 2014). The study selected commercial Digital Video Games (DVG) for language learning purposes where language played a role in achieving the ultimate goal of the game. Thus, players who enjoyed playing DVG would also be involved in language processing tasks. This finding is similar to the one conducted in a study by Rosas et al. (2003), who mentioned that involvement in gameplay resulted in language learning.

Additionally, Ortiz and Griffiths (2015) expressed that video gamers can express Game Transfer Phenomena (GTP) when they think in the real world as they do in the virtual one. It was found that video gamers described the use of strategic thinking and critical evaluation of situations, as well as the testing of their moral and personal boundaries in the games they played. These experiences then manifested themselves in real-world situations, providing gamers with additional entertainment value and increasing their sense of intelligence and power in their environments (Ortiz & Griffiths, 2015).

School performance

Despite the benefits listed above, Abreu, et al. (2013) have mentioned that video games can affect school performance negatively as students play too much, too often, and late into the night. According to Abreu, et al. (2013), some of the problems associated with inappropriate Internet and video game use include excessive exposure to age-inappropriate content, maintaining virtual instead of face-to-face relationships, spending excessive time online at the expense of other activities, as well as other forms of violence such as bullying and sexual harassment.

Moreover, Belva-Medina and Calvo-Ferrer (2022) conducted a study regarding teachers' perceptions of video games for ESL learning. The research considered 154 teachers at a higher education institution in Spain and the focus of the study was the adoption of digital games in language learning. The instruments used were a pre-and post-survey, digital game presentations, and student blog posts. The games selected were aimed at children in preschool and elementary education and were oriented toward learning English. In the end, the study found that teachers showed positive attitudes but lacked practical knowledge about the integration of digital games into language learning. Similarly, Dos Santos et al. (2020) conducted qualitative research in which college-level ESL teachers were interviewed about the way they perceived the use of gaming in ESL contexts. It was found that teachers acknowledged the benefits of gaming in ESL; however, they were unsure about its application in the classroom.

That is the reason we consider to look for information about the effect of video games when teaching teenagers English as a Second Language and English as a Foreign Language and analyze the teachers' and students' perceptions regarding the application of video games in education.

Chapter 3

Methodology

A research synthesis is a systematic secondary review of accumulated primary research studies (Norris & Ortega, 2006). Considering this definition, the present research was an exploratory bibliographic research synthesis that was based on the impact of video games on ESL teenagers' classrooms. In order to obtain adequate information, a thorough search was performed. For the collection of data, quantitative as well as qualitative studies were examined to get not only significant numerical information but also a deep representation of the concept. Research conducted in the ESL context and with teenage students in the 14 to the 18-year-old range was considered. In addition, most of the studies were found on prestigious academic data bases such as Google Scholar, Redalyc, Hindawi, and Researchgate.

Fifteen studies were selected for the full-text analysis; all the studies were checked in order to discover whether they focused on the research topic. This review was performed with articles published in the period between 2005 to 2020 with the purpose of gathering updated information. Finally, the following keywords were used: video games and education, acquisition through video games, and video games'-effects on ESL. Most of the information was found in different journals such as International Journal of Mental Health and Addiction, The Modern Language Journal, Language Learning and Technology, and Journal of Adolescent and Adult Literacy.

Chapter 4

Data analysis

Fifteen studies were selected for this analysis in order to answer the research questions in this research synthesis. Thus, the studies analyzed are directly related to the influence of video games on learning a second language, as well as teachers and students' perceptions on this matter. From the studies selected it was possible to find categories to compare and contrast their findings. These categories were (1) location of the studies per continent (2) research focus and influence on ESL learning, (3) effects of the implementation of video games in ESL classes, and (4) teachers and students' perceptions of the implementation of video games.

Location of studies per continent

In this section, the origin of the studies analyzed in this paper will be discussed. For that purpose, the studies were categorized by continent.

Table 1

Location of the studies

Continent	Nº of studies	Authors/Years
Asia	1	Musa (2015)
Europe	3	Ortiz & Griffiths (2015); Wiklund & Ekenberg (2009); Rosas et al. (2003)
Africa	1	DeHaan et al (2010)
North America	6	Shaffer et al. (2005); Yip & Kwan (2006); Steinkuehler (2010); Thorne et al. (2014); Moline (2010); Ryan et al (2006)
South America	4	Galvis-Guerrero (2011); Abreu et al. (2013); Cole & Vanderplank (2016); Da Silva (2014)

Table 1 shows the location where the analyzed studies took place. 6 studies were conducted in North America, 4 in South America, 3 in Europe, 1 in Asia, and 1 in Africa. Thus, it is possible to see that most of the research focused on the use of video games in ESL contexts has been contextualized in North America. A possible reason for that could be that the educational

context that we find in North America is strongly tied to ESL since English is the most widely spoken language in both the United States and Canada.

South America was the second region where most studies could be found, even though English is not the main language spoken in this region. This might show that scholars in South America have placed great importance on the study of English, possibly as a means to achieve greater proficiency levels that will allow students to use English for their academic and professional purposes. On the other hand, Europe, Asia and Africa have few studies in this regard. This could be related to their socio-cultural perspectives, which might differ from those from North and South America.

Research focus and influence on ESL learning

The category classifies the research focus of the studies into four sections: Learning setting, exposure to gaming, benefits for language learning, and interference with real life.

Table 2

Research focus and influence on ESL learning

Focus	Nº of studies	Author (s)
Learning setting	3	Cole & Vanderplank (2016), *Steinkuehler (2010), *Thorne et al. (2014).
Exposure to gaming	4	*Abreu et al. (2013), DeHaan et al. (2010), Musa (2015), Shaffer et al. (2005).
Benefits of language learning	7	Da Silva (2014), Galvis-Guerrero (2011), Moline (2010), Rosas et al. (2003) *Steinkuehler (2010), *Thorne et al. (2014), Yip & Kwan (2006).
Interference with real life	3	*Abreu et al. (2013), Ortiz & Griffiths (2015), *Steinkuehler (2010).
Total	13	

*Studies can belong to more than one category.

The first section refers to the influence of formal and informal learning settings, such as the classroom and online gaming communities. In the case of Cole and Vanderplank (2016), the results were that formal learners had more fossilized errors, while autonomous learners had higher self-motivation.

This finding is similar to Thorne et al. (2014) who concluded that school limits learning. Instead, online gaming communities seemed to improve their attitude toward learning and boost their self-motivation. Moreover, Stenkuehler (2010) found in a case study that online gaming communities could improve the reading skill to an advanced level. However, motivation outside of gaming was lacking and the students used to score low on school tests. Thus, autonomous learners were found to have better proficiency than formal learners.

The next section explores exposure to gaming and its effects. Here it was considered whether it is necessary to be involved in gameplay to learn the language, as well as the time spent playing. Musa (2015) studied the acquisition of vocabulary through gaming and found out that in order to have positive results the learner needed to play the game. Contrarily, DeHaan, et al. (2010) ascertained that it was not necessary to play the game to learn vocabulary. In fact, it was observed that players had less retention of words when compared to their peers only who watched them play. The reason for these different outcomes might be the nature of the game itself, given that Musa (2015) employed a game where storytelling and language were crucial to complete the game. Furthermore, it is still uncertain whether the vocabulary learned from playing games is stored long-term. Thus, it can be concluded that being involved in gameplay is important for learning but so is the nature and purpose of the game.

Regarding the time spent playing, Abreau et al. (2013) and Shaffer et. al (2015) did not agree on the length of time that learners should devote to gaming. The difference in both studies is likely due to the age of the participants who were kids in the first study but teenagers in the second one. Therefore, it is possible that the issue is not the time spent gaming but rather the age of the participants.

Seven studies focused their research on the benefits that gaming can bring to learning a second language. Da Silva (2014), Galvis-Guerrero (2011), Moline (2010), Rosas et al. (2003), Steinkuehler (2010), Thorne et al. (2014), and Yip and Kwan (2006) were able to determine that gaming helped learners increase their attention and focus, especially in gameplay that related to real-life contexts. It also improved their attitude toward learning the language and boosted their self-motivation. Finally, regarding specific skills, Da Silva (2014) mentioned that gaming helped improve receptive and expressive skills, while Steinkuehler (2010) observed an increase in reading skills. All in all, it seems that self-motivation was the most common

benefit, found across all seven studies.

In regards to how games interfere with real life, three studies researched this topic. Ortiz and Griffiths (2015), Abreau et al. (2013), and Steinkuehler (2010) found that players who spend long periods playing, often with no restrictions, can be exposed to inappropriate content and violence. What these studies have in common is that gaming freely, without restrictions or set purpose, can interfere with real life. If that is the case, then the learner will not be able to benefit from the advantages of video games.

Effects of the implementation of video games in ESL classes

This category identified the positive and negative effects of video games on ESL learning. It was possible to identify nine studies that talked about the positive effects of gaming for ESL and shared similar views.

Table 3

Effects of video games on ESL learning

Effects of the implementation of video games	Nº of studies	Author (s)
Positive effects	9	Cole & Vanderplank (2016), Da Silva (2014), Galvis-Guerrero (2011), Moline (2010), Ortiz & Griffiths (2015), Ryan et al (2006), *Steinkuehler (2010), Wiklund & Ekenberg (2009), Yip & Kwan (2006).
Negative effects	3	Abreu et al. (2013), DeHaan et al. (2010), *Steinkuehler (2010).
Total		12

*Studies can belong to more than one category.

Regarding the positive effects of gaming, Da Silva (2014), Steinkuehler (2010), and Wiklund and Ekenberg (2009) found that learners who played video games achieved higher skills compared to those who did not engage in gaming. Furthermore, studies conducted by Galvis-Guerrero (2011), Ryan et al (2006), and Yip and Kwan (2010), showed that gaming also had a positive effect on learners' motivation and engagement. It was possible to determine that playing video games was an activity that learners found rewarding and fun, which led to

increased levels of motivation to continue learning. Similarly, Cole and Vanderplank (2016) added that gaming resulted in higher test scores. Additionally, Ortiz and Griffiths (2015) found out that gaming also helped boost learners' critical thinking abilities.

On the other hand, three studies observed the negative effects of playing video games on ESL learning. Abreu et al. (2013) talked about the dangerous influence that video games could have on teenagers who were exposed to inappropriate content and violence and highlighted that playing without purpose or limits could lead to a neglect of the learners' social abilities and interfere with their lives off-game. Likewise, DeHaan et al. (2010) found out that learners who played video games unrelated to language learning were too distracted to focus on new vocabulary words, as gaming required their undivided attention. Finally, Steinkuehler (2010) added that it was possible that learners' interest in gaming did not translate to academic settings, in which case learners would lack the motivation to perform well in class even though they have the skills to do it. Despite these negative effects, it is possible to say that the positive effects of gaming in ESL learning outweigh the negative ones.

Teachers and students' perceptions on the implementation of video games.

The first section of this category refers to students' positive perceptions of video games in the ESL classroom, while the second and third sections talk about the teachers' perspective on this issue, which can be positive or negative depending on the study analyzed.

Table 4

Teachers and students' perceptions

Teachers and students' perceptions	Nº of studies	Author (s)
Students' positive perceptions	2	Moline (2010), Yip & Kwan (2006).
Students' negative perceptions	0	None
Teachers' positive perceptions	3	Bela-Medina & Calvo-Ferrer (2022), Dos Santos et al. (2020), Thorne et al. (2014).
Teachers' negative perceptions	2	Abreu et al. (2013), DeHaan et al (2010).

Total	7
-------	---

First, Moline (2010) and Yip and Kwan (2006) focused on how students reacted to video games in class, and both found that students showed positive attitudes and increased motivation, which resulted in a constructive experience. On the other hand, there were no studies portraying students' negative perceptions. Thus, students perceive video games as a great learning opportunity.

Regarding teachers' perspectives, it was possible to find positive as well as negative perceptions. Belva-Medina and Calvo-Ferrer (2022), Dos Santos et al. (2020), and Thorne et al. (2014) talked about implementing video games in the classroom. These studies focused on the perceptions of teachers regarding the use of video games for ESL, and they had similar findings. For instance, Dos Santos et al. (2020) conducted qualitative research that examined college-level ESL teachers and their views on the use of video games in ESL teaching. The results showed that teachers believe video games can be beneficial; however, they are concerned about the logistics of technology implementation in language classrooms. Therefore, it is possible to say that teachers had positive attitudes toward the use of video games in the class and acknowledged the potential benefits of implementing them, such as providing great learning opportunities for learning. However, they need support to correctly use strategies such as video games in their classroom but acknowledge their effectiveness for language learning.

One thing that teachers with positive perspectives about video games had in common was that they did not feel confident in the procedures or ways in which video games could be implemented, as they either lacked the resources or knowledge required to make use of video games as a tool for learning a second language. This means that teachers would benefit from further research on the ways to implement video games in an ESL classroom.

Regarding the negative perspectives, Abreu et al. (2013) and DeHaan et al (2010) found out that playing video games with little orientation from the teacher could result in a decreased attention and interference with academic life. For that reason, teachers must be able to guide the learning process appropriately.

Chapter 5**Conclusions and Recommendations****Conclusions**

As mentioned in the methodology segment, 15 studies were considered in order to answer the following research questions: (1) What is the effect of video games when teaching English as a Second Language to teenagers? and (2) What are teachers' and students' perceptions regarding the application of video games? After analyzing each study, the following conclusions can be stated.

First, North America is the place where the effects of gaming on ESL have been studied the most. This indicates that the ESL context is strong in North America, hence why there are plenty of studies concerning this topic. After North America, it is possible to see that South America is the second continent with the most studies related to ESL, even though English is not the official language in this region. This shows that there has been an increased interest in this topic lately.

In terms of the research focus of studies, most of them highlighted the benefits of gaming for language learning in ESL. Therefore, it can be concluded that there is a large compendium of research focused on how gaming can help ESL students, possibly due to the interactive nature of gaming and how it positively affects students.

Regarding the effect of video games when teaching ESL, it was found that there were positive and negative effects; however, the positive effects were predominant over the negative ones. The most remarkable positive effects were seen in students' motivation and engagement. Contrarily, the negative effects considered were a lack of academic drive as well as a distraction for the students, as found by DeHaan et al. (2010) and Steinkuehler (2010).

Next, regarding teachers and students' perceptions of the implementation of video games in ESL classes, it was possible to identify positive perceptions from students and both positive and negative perceptions from teachers. First, students thought that video games represented a constructive experience for learning, as stated by Moline (2010) and Yip and Kwan (2006); whereas teachers had mixed reactions to it. On the one hand, researchers such as Belva-Medina and Calvo-Ferrer (2022), Dos Santos et al. (2020), and Thorne et al. (2014) said that there are benefits to implementing video games that cannot be found in regular instruction. On the other hand, researchers Abreu et al. (2013) and DeHaan et al (2010) found that video games could interfere with the learning process if not controlled and oriented appropriately. Therefore, it is possible to say that students' perceptions are positive, while teachers' perceptions are not unanimous.

Recommendations

As a final consideration, some useful recommendations would be proposed for future research. First, it was found that most of the studies were from countries in Europe, Asia, and North America, where English is highly regarded in academic contexts; this means that there is a lack of investigation concerning the implementation of video games in South America, more specifically in the Ecuadorian context. It seems necessary to conduct research that reflects the results obtained in the national setting in order to contrast it with the existing literature from other countries.

Although teachers would like to include video games in their lessons, most of them do not know how to do it; therefore, it would be useful to research ways and methods to implement gaming in ESL lessons. For that purpose, future research could focus on developing lesson plans that deal with the implementation of gaming, as well as providing training for teachers. This would make it easier for teachers to work with video games and assess the results that they get from including video games in their teaching practice.

References

Abreu, C., Karan, G., & Spritzer, D. (2008). Dependência de internet e de jogos eletrônicos: Uma revisão. *Revista Brasileira de Psiquiatria*. 30(2), 156-167.

Abreu, C., Eisenstein, E., & Estefenon, S. (2013). Vivendo esse mundo digital. *Ciencia & Saude Coletiva* 19(3), 991-994.

Belva-Medina, J., & Calvo-Ferrer, J. (2022). Preservice Teachers' Knowledge and Attitudes toward Digital-Game-Based Language Learning. *Education Sciences*, 12(3), 182-198.

Cambridge University Press. (2016). Definition of ESL. In Cambridge Advanced Learner's Dictionary & Thesaurus. <http://dictionary.cambridge.org/dictionary/english/esl>

Cole, J., & Vanderplank, R. (2016). Comparing autonomous and class-based learners in Brazil: Evidence for the present-day advantages of informal, out-of-class learning. *System*, 61(1), 31-42.

Da Silva, R. (2014). Video Games as Opportunity for Informal English Language Learning: Theoretical Considerations. *The specialist*, 35(2), 155–169.

DeHaan, J., Reed, W., & Kuwada, K. (2010). The effect of interactivity with a music video game on second language vocabulary recall. *Language Learning and Technology*, 14(2), 74-94.

Dörnyei, Z., Csizér, K., & Németh, N. (2006). *Motivation, Language Attitudes and Globalisation: A Hungarian Perspective*. Multilingual Matters.

Dos Santos, L., Von Gillern, S., Lockwood, J., & Geluso, J. (2020). 7 Digital Mindsets: College-Level ESL Instructors' Perceptions of Multimodal Technologies and Video Games for Language Instruction. *European Journal of Applied Linguistics and TEFL*, 9(1), 131-152.

Ellis R., Loewen, S., & Erlam, R. (2006). Implicit and explicit corrective feedback and the acquisition of L2 grammar. *Studies in Second Language Acquisition*, 28(1), 339-368.

Entertainment Software Association. (2017). Essential facts about the computer and video game industry full report. Retrieved from http://www.theesa.com/wp-content/uploads/2017/04/EF2017_FinalDigital.pdf

Eyüp, Y., Selma, Y., & Griffiths, M. (2018). The impact of heavy (excessive) video gaming students on peers and teachers in the school environment: A qualitative study. *Addicta: The Turkish Journal on Addictions*, 5(2) 147–161.

Galvis-Guerrero, H. (2011). Using Video Game-Based Instruction in an EFL Program: Understanding the Power of Video Games in Education. *Colombia Applied Linguistics*, 13(1), 54-70.

Gee, J. (2005). Good video games and good learning. *Phi Kappa Phi Forum*, 85(2), 33- 37.

Gee, J. (2013). *Good video games and good learning: Collected essays on video games, learning and literacy* (2nd ed.). Peter Lang.

Gentile, D. (2009). Pathological video-game use among youth ages 8 to 18: A national study. *Psychological Science*, 20(5), 594–602.

Griffiths, M. (2010). The role of context in online gaming excess and addiction: Some case study evidence. *International Journal of Mental Health and Addiction*, 8, 119–125.

Global Games Market Report (2017). 2017 Global games market report: Trends, insights, and projections towards 2020. Retrieved from http://progamedev.net/wp-content/uploads/2017/06/Newzoo_Global_Games_Market_Report_2017_Light.pdf

Huang, P., & Hwang, Y. (2013). An Exploration of EFL Learners' Anxiety and E-Learning Environments. *Journal of Language Teaching and Research*, 4, 27–35.

Johnson, M. (2004). *A Philosophy of Second Language Acquisition*. Mary Jane Peluso.

Krashen, S. (1982). *Principles and Practice in Second Language Acquisition*. Pergamon Press.

Lightbown, P. (2000). Classroom SLA Research and Second Language Teaching. *Applied Linguistics*, 21(4), 431–462.

Liu, M., Rosenblum, J., Horton, L., & Kang, J. (2014). Designing science learning with game-based approaches. *Computers in the Schools*, 31(1-2), 84-102.

Miller, S. (2015). *Teacher learning for new times: Repurposing new multimodal literacies and digital-video composing for schools*. Routledge.

Mitchell, R., & Myles, F. (2004). *Second Language Learning Theories*. Second Edition. Hodder Education.

Moline, T. (2010). Video games as digital learning resources: Implications for teacher-librarians and for researchers. *School Libraries Worldwide* 16(1), 1–15.

Musa, J. (2015). Adding New Vocabulary While Playing Casual Games: Young People in Brunei as a Case Study. Sultan problems associated with inappropriate Internet use. *Hassanal Bolkiah Institute of Education (SHBIE)*, 7(2), 442 - 450.

Norris, J., & Ortega, L. (2006). Synthesizing Research on Language Learning and Teaching edited by John M. Norris and Lourdes Ortega. *Language Learning and Language Teaching*, 13, 279-300.

Ortiz, G., & Griffiths, M. (2015). Game transfer phenomena and its associated factors: An exploratory empirical online survey study. *Computers in Human Behavior* 51, 195–202.

Pirainen-Marsh, A., & Tainio, L. (2009). Other-Repetition as Resource for Participation in the Activity of Playing a Video Game. *The Modern Language Journal*, 93, p. 153-169.

Plass, J., & Jones, L. (2005). Multimedia learning in second language acquisition. *Cambridge handbook on multimedia learning*, 1, 467–488.

Reinders, H., & Wattana, S. (2011). Learn English or die: The effects of digital games on interaction and willingness to communicate in a foreign language. *Digital Culture & Education*, 3(1), 3-29.

Reinders, H., & Wattana, S. (2012). *Talk to me! Games and students' willingness to communicate*. Palgrave Macmillan.

Reinhardt, J., & Sykes, J. M. (2012). Conceptualizing digital game-mediated L2 learning and pedagogy: Game-enhanced and game-based research and practice. In H. Reinders

(Ed.), *Digital games in language learning and teaching* (pp. 32-49). Palgrave Macmillan.

Rosas, R., Nussbaum, M., Cumsille, P., Marianov, V., Correa, M., Flores, P., & Salinas, M. (2003). Beyond Nintendo: Design and assessment of educational video games for first and second-grade students. *Computers & Education*, 40(1), 71-94.

Rudis, D., & Postic, S. (2018). Influence of video games on the acquisition of the English language. *VERBUM*, 8(8), 112-128.

Ryan, R., Rigby, C., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion*, 30(4), 344-360.

Ryan, R., & Deci, E. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology* 25, 54–67.

Salen, K., & Zimmerman, E. (2004). *Rules of Play: Game Design Fundamentals*. MIT Press.

Shaffer, D. W., Halverson, R., Squire, K. R., & Gee, J. P. (2005). Video games and the future of learning. *Phi Delta Kappan*, 87(2), 105–111.

Steinkuehler, C. (2010). Video games and digital literacies. *Journal of Adolescent and Adult Literacy*, 54(1), 61- 63.

Steuer, J. (1993). Defining virtual reality: Dimensions determining telepresence. *Social Responses to Communication Technologies*, *Journal of Communication*, 4(24), 73-93.

Sundqvist, P. (2009). *Extramural English matters Out-of-school English and its impact on Swedish ninth graders' oral proficiency and vocabulary*. [Doctoral Dissertation, Karlstad University], Karlstad University. <http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A275141&dswid=3553>

Sundqvist, P., & Sylvén, L.K. (2014). Language-related computer use: Focus on young L2 English learners in Sweden. *ReCALL*, 26(1), 3–20.

Tamborini, R., Eastin, M., Lachlan, K., Skalski, P., Fediuk, T., & Brady, R. (2001). Hostile Thoughts, Presence, and Violent Virtual Video Games. *Paper presented at the 51st*

annual convention of the International Communication Association, Washington, D.C.

May 24-28, 2001.

Theodorsen, H. (2015). L2 acquisition from video games with minimal exposure. *Studies in Second Language Acquisition*, 21, 181–193.

Thorne, S., Black, R. & Sykes, J. (2014). Second language use, socialization, and learning in internet interest communities and online gaming. *The Modern Language Journal*, 93, 802- 821.

Tsai, C. W., & Fan, Y. T. (2013). Research trends in game-based learning research in online learning environments: A review of studies published in SSCI-indexed journals from 2003 to 2012. *British Journal of Educational Technology*, 44(5), 115-119.

Turgut, Y., & Irgin, P. (2008). Young learners' language learning via computer games. *Elsevier*, 1(1), 760- 740.

Uuskoski, O. (2011). *Playing video games: A waste of time... or not? Exploring the connection between playing video games and English grades*. [Bachelor's Thesis Dissertation, University of Helsinki]. https://core.ac.uk/display/14925093?utm_source=pdf&utm_medium=banner&utm_campaign=pdf-decoration-v1

Uzun, L. (2009). An evaluative checklist for computer games used for foreign language vocabulary learning and practice: Vocaword sample. *Novitas-ROYAL* 3(1), 45-59.

Väisänen, A. (2018). *Learning English through video games: Finnish Learners' Experiences*. [Master's dissertation, University of Jyväskylä]. University of Jyväskylä repository. <https://jyx.jyu.fi/handle/123456789/57392>

Vygotsky, L. S. (1962). In Piaget J. (Ed.), *Thought and Language*. M.I.T. Press.

Warschauer, M., & Healey. D. (1998). Computers and language learning: An overview. *Language Teaching*, 31(1), 57-71.

Wiklund, M., & Ekenberg, L. (2009). Going to school in World of Warcraft. Observations from a trial programme using off-the-shelf computer games as learning tools in secondary education. *Designs for Learning*, 2(1), 36–55.

Wolf, M., & Perron, B. (2003). *The video game theory reader*. Routledge.

Yılmaz, E., Griffiths, M., & Kan, A. (2017). Development and validation of Video Game Addiction Scale for Children (VASC). *International Journal of Mental Health and Addiction*, 15(4), 869–882.

Yip, F., & Kwan, A. (2006). Online vocabulary games as a tool for teaching and learning English vocabulary. *Educational Media International*, 43(3), 233-249.

Annexes

Appendix A

List of primary studies for analysis

Abreu, C., Eisenstein, E., & Estefenon, S. (2013). Vivendo esse mundo digital. *Ciencia & Saude Coletiva* 19(3), 991-994.

Cole, J., & Vanderplank, R. (2016). Comparing autonomous and class-based learners in Brazil: Evidence for the present-day advantages of informal, out-of-class learning. *System*, 61(1), 31-42.

Da Silva, R. (2014). Video Games as Opportunity for Informal English Language Learning: Theoretical Considerations. *The specialist*, 35(2), 155–169.

DeHaan, J., Reed, W., & Kuwada, K. (2010). The effect of interactivity with a music video game on second language vocabulary recall. *Language Learning and Technology*, 14(2), 74-94.

Galvis-Guerrero, H. (2011). Using Video Game-Based Instruction in an EFL Program: Understanding the Power of Video Games in Education. *Colombia Applied Linguistics*, 13(1), 54-70.

Moline, T. (2010). Video games as digital learning resources: Implications for teacher-librarians and for researchers. *School Libraries Worldwide* 16(1), 1–15.

Musa, J. (2015). Adding New Vocabulary While Playing Casual Games: Young People in Brunei as a Case Study. Sultan problems associated with inappropriate Internet use. *Hassanal Bolkiah Institute of Education (SHBIE)*, 7(2), 442 - 450.

Ortiz, G., & Griffiths, M. (2015). Game transfer phenomena and its associated factors: An exploratory empirical online survey study. *Computers in Human Behavior* 51, 195–202.

Rosas, R., Nussbaum, M., Cumsille, P., Marianov, V., Correa, M., Flores, P., & Salinas, M. (2003). Beyond Nintendo: Design and assessment of educational video games for first and second-grade students. *Computers & Education*, 40(1), 71-94.

Ryan, R., Rigby, C., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion*, 30(4), 344-360.

Shaffer, D. W., Halverson, R., Squire, K. R., & Gee, J. P. (2005). Video games and the future of learning. *Phi Delta Kappan*, 87(2), 105–111.

Steinkuehler, C. (2010). Video games and digital literacies. *Journal of Adolescent and Adult Literacy*, 54(1), 61- 63.

Thorne, S., Black, R. & Sykes, J. (2014). Second language use, socialization, and learning in internet interest communities and online gaming. *The Modern Language Journal*, 93, 802- 821.

Wiklund, M., & Ekenberg, L. (2009). Going to school in World of warcraft. Observations from a trial programme using off-the-shelf computer games as learning tools in secondary education. *Designs for Learning*, 2(1), 36–55.

Yip, F., & Kwan, A. (2006). Online vocabulary games as a tool for teaching and learning English vocabulary. *Educational Media International*, 43(3), 233-249.