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The Role of Video Games in Learning EFL: A Case Study

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This study examines learners' perceptions of how much vocabulary they have acquired through video games; other aims of the study were to explore (1) whether exposure to video games is related to better grades, (2) time spent playing video games, (3) preference for English over Croatian in video games, (4) participants' awareness of the vocabulary learned in video games, and (5) strategies participants employ while dealing with the language used in video games. It has been found that video games can have a profound effect on language learning, especially if they are used in combination with other activities. Video games alone might not be the appropriate tool for learning a language and its vocabulary, but combining video games with activities that use learners' productive skills may prove very beneficial.

Keywords: *video games, English, language acquisition, vocabulary*

1. INTRODUCTION

The author's childhood experiences learning foreign languages through video games inspired this study. He vividly recalls exposure to foreign languages through television and video games in the late 1990s, when he was three to six years old. Despite lacking German-speaking parents or relatives, he acquired German through these media. At the time, English-language games were challenging to obtain in Croatia, so German-dubbed games had to be imported, which helped him develop proficiency in German with excellent pronunciation.

Video games have been around for some time now; however, only in recent years have researchers and educators found the value of video games as educational tools (Cruz, 2007; Stanley & Mawer, 2008; Whittaker, 2013). Video games can sometimes be regarded as tools for spending your free time and relaxation. Nonetheless, some people seem to link them to increased violence, even though Cruz (2007) states that violence has hardly anything to do with video games since children and adults are also exposed to other media formats that contain violence, such as movies and books (e.g., *American Psycho*). Cruz even reports that many educators are already incorporating video games in their classes and are using them as educational tools, not only for language learning but also for subjects such as mathematics, biology, physics, and medicine (2007). Learners are exposed to large vocabularies while playing video games, and the main research question in this study would be whether the learners are aware of the vocabulary they learn while playing video games. The vocabulary in video games may range from simple everyday vocabulary to sophisticated vocabulary.

2. VIDEO GAMES AND LEARNING

This part of the paper deals with video games and general learning. According to Gee (2007), "humans are bad at learning from lots of overt information given to them outside the sorts of contexts in which this information can be used" (p. 113). This predicament can be managed, however, if the learner has already had a lot of experience in such contexts and can stimulate the contexts in their minds as they listen to or read information. Additionally, humans have difficulty remembering information they have received outside contexts of actual use, especially if they cannot simulate such situations in their minds (Gee, 2004, p.113). Conversely, people do not learn well in contexts they know little about. Humans need overt information and immersion in actual contexts of practice. Overt information and actual contexts are useless without one another. Educators usually stress one thing over another, and they often ignore effective ways to balance and integrate the two. On the other hand, video game developers have no such luxury. If they do not manage to integrate the two things, no one will be able to learn to play their games; thus, no one will buy their games. Different games integrate overt information and the actual context of practice in different ways. Gee claims that "Good video games incorporate good learning principles because otherwise there would be no video games because too few people would have purchased them" (2004, p. 114).

We shall examine the contents of Tomb Raider: The Last Revelation. In this game, we have one of the famous video game characters - Lara Croft, the heroine of the Tomb Raider.[1] In *Tomb Raider: The Last Revelation*, she goes on an archaeological expedition to Cambodia with her new mentor, Werner Von Croy. In the first episode of the story, 16-year-old Lara is being trained by Von Croy.

Simultaneously, this episode is also envisioned as a training module where the player is trained on how to play the game. However, the training is done in quite a unique way. While Von Croy is training Lara to be an adventurer, he is at the same time training the player to operate the computer controls and play the game (Gee, 2004, p. 116). Thus, the player is placed in the same psychological space as Lara.

Another interesting element is how Von Croy gives us instructions – e.g., "Press and hold walk, now push forward" (Gee, 2004, p. 117). This would be a strange thing to say in real life, but not while we are playing this episode. Lara has no keys to press, but it is the player who must press the corresponding keys to move and control Lara. Von Croy is using the functional names for the keys (actions such as walk, jump, and forward), instead of the computer names for the keys (shift key, up arrow key, etc.) (p. 118). The question now would be "How does the player know what keys to press?" Gee claims there are three ways:

1. The player can use the booklet that comes with the game. This would mean that the player would listen to Von Croy while simultaneously looking up the computer key equivalents of his commands.
2. The player can use his or her previous experience with other Tomb Raider games and make intelligent assumptions about the keys.
3. The player could also press all keys until he or she manages to receive the right result and thereby finds the right key (p.118).

When the player manages to complete the first episode, he/she has learned how to operate the basic controls and some basic strategies of how to explore the virtual world and avoid dangers.

As a typical element of training modules in good video games, the training level in *TR: The Last Revelation* does not tell the player everything he or she needs to know to play the rest of the game (Gee, 2004, p.120). It only

[1] Tomb Raider is an action-adventure video game series starring Lara Croft that began in 1996. Lara Croft is a famous British archaeologist who explores old tombs and temples.

gives the player enough information and skill to play and learn from subsequent episodes. It is on the player to use the basic knowledge obtained in the first episode and apply it in the forthcoming episodes. The player must use this basic knowledge in order to adapt to more complex challenges. The puzzles and obstacles are more difficult with each episode, and they build on previous puzzles. In a way, the player is simultaneously playing and learning. Good games also adapt to the level of the player, thus rewarding different players differently and staying at the edge of the "player's regime of competence" (Gee, 2004, p.121). The interesting thing here is that those learners are not overtly aware of the fact that they are "learning."

Gee mentions another important thing here. Namely, he mentions active learning. When the players are facing a new enemy or a new puzzle, they quickly abandon a routinized strategy if it does not work. They then transfer skills and strategies from previous experiences by seeing underlying similarities between those experiences and the current problem. The player is then faced with the cold reality that, while school sometimes sets up problems so that earlier solutions may transfer directly to later ones, this rarely happens in real life. This is the place where transfer and innovation meet. The player becomes creative and combines his previous experiences with innovation. The learner might also use what he or she finds on the spot by accident, which requires "reflection in the midst of action" (Gee, 2004, p.127).

2.1 Defining play

According to Pilar (2013), play takes place outside of ordinary life and is not considered serious; thus, it is absorbing in that play enables people to forget the immediate environment. Secondly, play proceeds according to fixed rules. It is connected to the idea that there is something to be accomplished because this has been agreed upon by a group. Thirdly, play has its own boundaries of time and space. People usually play within certain types of contexts, which also provide play with a certain meaning. Lastly, play creates social groups that become communities (p. 3–4).

Video games, just like movies or books, come in different genres (p. 6). The genre concept in video games originates in literature. The difference here is that the audience in video games participates physically and mentally.

Video games, according to Pilar (p. 7–8), can be classified into the following genres:

(1) Adventure
(2) Strategy
(3) Sports
(4) Action
(5) Simulation
(6) Role-playing

Only the most important genres are listed here; subgenres are not mentioned. For example, a *survival horror video game* would be roughly placed under action video games.

3. VIDEO GAMES AND LANGUAGE LEARNING

Guo indicates that in-classroom exposure to English is simply not enough (Guo, 2011, p. 246), but that learners' engagement in English language activities outside of the classroom does enhance their English abilities. According to Gee (2007), games place language and learning in a setting that fits very well with how the human mind is built to learn and think (p. 123). Gee claims that early lessons of a foreign language class, when the teacher concentrates on the most fundamental words, phrases, and grammatical forms, are very similar to the early part of a video game, when the game concentrates on the most basic artefacts, tools, and even language the player needs in order to play the game (p. 135). He even claims that "Good video games reverse a lot of our cherished beliefs. They show that pleasure and emotional involvement are central to thinking and learning. They show that language has its true home in action, the world, and dialogue, not in dictionaries and texts alone" (p. 2). It is therefore obvious that he maintains that video games represent language in an environment that is alive and dynamic.

3.1 Incidental vocabulary acquisition

A child who is learning their first language learns it without formal instruction. They acquire it by "being immersed in rich, meaningful, and natural communicative settings" (Hodent, 2014, p. 153). Our second language is usually learned in a different way. First of all, it is usually learned at school. Secondly, it is practiced less regularly. Lastly, it is usually practiced in a non-meaningful way, and therefore, the learner is usually not compelled to communicate in the foreign language (Hodent, 2014, pp. 153–154). Complete immersion in a foreign country is usually the best way to learn a new language. Books and blackboards cannot do this. However, new technolo-

gies such as video games have the potential to provide this immersion (p. 154).

Vocabulary is one of the most important elements of successful and meaningful communication both in our mother tongue and in a target language. If learners know a word's spoken and written forms, grammatical patterns and collocations, function, and meaning, vocabulary acquisition is evident. Vocabulary learning is quite a life-long process; this means that vocabulary is never learned at the same rate all the time and that it is learned gradually and on random occasions. As cited by Yudinsteva, "Schmit asserts that second language learners acquire vocabulary initially through the discovery of a word's meaning and then by remembering the word when its meaning has been already discovered" (Yudinsteva, 2015, p. 101–102). The learner can attain the meaning either on their own or by guessing from contextual clues or socially, by asking teachers or peers for help. Other important factors causing better vocabulary learning and retention would be interaction with native speakers, contextual use of words and imagery, verbal or written repetition, and taking notes. Media can also have a role in vocabulary acquisition. Both native speakers and second language learners acquire most vocabulary incidentally, through "multiple exposures to a word in different contexts" (p. 102).

According to Kerka, "Incidental learning is unintentional or unplanned learning that results from other activities" (Kerka, 2000, p. 1). It may happen in various ways: through observation, repetition, social interaction, and problem-solving – even from implicit meaning in the classroom. It may also occur from mistakes, assumptions, beliefs, and being forced to accept or adapt to situations. Kerka calls this the "natural" way of learning, since it has characteristics of what is considered most effective in formal learning situations: it is situated, contextual, and social. Incidental learning as such can result in improved competence, changed attitudes, growth in interpersonal skills, self-confidence, and self-awareness (Kerka, 2000, p. 1). What is interesting is that incidental learning is not consciously labelled as learning. It always occurs without our conscious knowledge of it because it is integrated very well into daily routines (Yunus et al., 2012 p. 356). The educational elements in video games provide informal learning opportunities while being amusing at the same time. Yunus et al. (2012) claim that good games have the learning potential that encourages cognitive development and bolsters problem-solving skills. The more someone plays, the better their grasp on their cognitive and psychomotor senses, problem-solving skills, leadership, competition, teamwork, and collaboration (Yunus et al., p. 356).

According to Ahmad, "Intentional learning that is usually based on synonyms, antonyms, word substitution, multiple choice, scrambled words, and crossword puzzles, is not so effective, because learners are more prone to rote learning. They cram the words without undergoing cognitive processes" (2011, p. 68). Guessing the meaning of a word from the context will be productive, since it trains the ability to guess. Inferring the meaning of a word with the help of the context or environment of that word will lead to longer retention of that word (p. 68). Incidentally learned words are all words learned from some kind of special context, and incidentally learned words are learned no less frequently than intentionally taught words. This is a point on which a lot of language vocabulary specialists agree (Alipour Madarsara, 2015, p. 25).

Language acquisition in children is natural, instinctive, and effortless. It is incidental because the child's primary task is to understand language rather than to acquire it. The first language is acquired implicitly, since rarely will children be engaged in conscious explicit learning. Saffran claims that "implicit learning involves the unconscious and unintentional acquisition of abstract information" (1997, p. 101). Another set of phenomena that affects the process of incidental language learning is frequency. The frequency of events present in the environment is a vital type of information that is encoded in memory incidentally (p. 101).

Much of what must be learned must be acquired outside of formal instruction even with an optimal teaching system. This does not mean that formal instruction has little value for language practice. Ajileye claims that "Some learners, because of certain effective factors, are able to exploit formal learning environments for extensive practice while others derive only limited benefit from formal instruction" (1998, p. 2).

3.2 Narrative in video games

Video games are a new type of media. The first ones were developed 60 years ago, and since then, video games have advanced quite rapidly in graphical presentation, quality, and storytelling. Attitudes towards video games are quite varied. Some people may regard them as overtly violent, others as works of art, and some simply as tools for spending time in an amusing way (Pilar, 2013, p. 1).

Squire (2006, p. 23) writes that video games are often blamed for a decline in literacy, intellectual life, and even civic engagement. Despite these claims, participation in Massively Multiplayer Online (MMO) discourses

is itself a literary activity. Written language is central in communicating with other players online; with the help of written language, players can "negotiate activities and enact identities" (Squire, 2006, p. 23). When we consider video games, we must see them as another media format. Just like any book, movie, or TV series, a video game has a plot and a narrative. A narrative can be found even in the simplest video games. For example, we have the mobile game *Angry Birds,* where the player's goal is to use birds to destroy the pigs' structures. The whole game rests on the premise that these pigs have stolen the birds' eggs. This type of narrative is quite simple. We shall now turn to video games where the narrative plays a more prominent role (Ostenson, 2013, p. 72). Video games where the narrative plays a more integral role are called RPGs or role-playing games and adventure games. The focus in these video games is character development or, in other words, gaining skills and abilities as quests are completed.

Adventure video games include solving puzzles through in-game clues; however, they rely on story elements to provide context for these challenges. One of the better examples where the story is an integral part of a video game is the video game *Soul Reaver 2* (2024, Aspyr & Saber Interactive). This video game, in addition to a complex story, contains massive amounts of dialogue where the characters use sophisticated language and advanced vocabulary. There is a section in the game called "The Dark Chronicle" where players can view the dialogue and script. I will provide a short excerpt here of Raziel's monologue:

> As I entered the chamber, I sensed that it had been sealed for hundreds - perhaps thousands - of years. And while this room was clearly built when the Pillars were erected, I knew that no human hand could have shaped this place - and that perhaps it had never been seen by human eyes. The surrounding murals depicted a winged race, their features so like my own - but beautiful, where mine were grotesque... and angelic, while mine were demonic. I tried to decipher these images... a great war, but with combatants like none I had ever seen... the Pillars, raised by this winged race, who thus defeated their adversaries... the winged beings again, writhing in agony, apparently afflicted with the same blood-thirst I had so recently suffered... And throughout the chamber, inscribed everywhere, images of the Reaver itself. Was this what Kain had urged me to discover? I wondered... (2024, Aspyr & Saber Interactive)

Games, according to Squire (2006, p. 22), are organized around doing, as opposed to television, where we are only watching. In other words, the players are shaping the story of the game. The players, of course, are not doing anything they want in the game world. The motivation comes from the challenges that are set there by the game designers, and the players are limited by the constraints of the game. Most children who play games will be talking, sharing strategies, and downloading FAQs[2] and walkthroughs[3] from the internet, or participating in online forums and discussions. The point is that rarely does a child "play" a game alone. In other words, video games open up a new world to children, and children tend to share their opinions and interests on the internet with other players. Gameplay usually spans multiple media, and most players describe their play as a social experience – a way to connect with friends (Squire, p. 23). We will find the most social learning in MMORPG[4], where players interact with other players in real time. Players usually choose an avatar and have some kind of anonymity. Players are allowed to explore and investigate different identities, particularly ones where they inhabit worlds through different genders. Playing MMORPG and other online games offers opportunities to speak with native speakers.

3.3 Video Games: An opportunity for extensive reading?

Extensive reading is reading for pleasure, that is, when learners pick whatever they want to read (Brown, 2008, p 137). Video games might not be the first media for extensive reading, but they can sometimes offer a similar experience to books. For example, the expansion pack[5] for *The Witcher 3: Wild Hunt* named *Blood and Wine* contains no less than 14,000 lines of dialogue (Tim, 2016) in addition to various letters, manuscripts, descriptions, and information found in the game. In contrast, this paper contains around 850 lines. It can be concluded that such video games offer quite a lot of material for reading. We can usually encounter such amounts of text in some types of games. The RPG and adventure video game genre offers the most lines of dialogue and in-game text. However, games that are story-driven may also offer a moderate amount of dialogue and in-game text, so RPGs

[2] FAQ - frequently asked questions
[3] Walkthrough – a written guide for a particular video game
[4] MMORPG – Massively Multiplayer Online Role Playing Games
[5] An expansion pack or DLC (Downloadable Content) is an addition to the main game that contains new areas, side stories, items, enemies, etc.

and adventure video games might not be the only ones that offer some form of extensive reading.

Extensive listening is defined as listening to texts for fluency and entertainment (Brown, 2008 p. 139). Learners or players will rarely acquire many words in their first play-through if the word is not relevant to the story; however, many video games encourage players to play through the game many times in order to acquire new items or to unlock extra content, which therefore, increases the players' chances of acquiring new vocabulary.

It is apparent that video games create a lot of comprehensible input, yet they do not create ample opportunity for children to speak unless they are playing online games and communicating with other players. Written language is somewhat limited. Learners may be able to communicate with other players via keyboard; however, this kind of output may be limited since the sentences created are short and far between.

3.4 The effect of subtitles and regional varieties

Northern European (Finland, Denmark, etc.) countries and South European Countries (Croatia, Slovenia, etc.) do not have dubbed television programs. People in these countries often have good listening skills and are quite fluent in English, as opposed to countries where dubbing is common practice, such as Italy, Portugal, etc. People in those countries are often denied input from television. In countries where no dubbing occurs, the TV show or movie is shown with original dialogue in English, while only subtitles in their language are added (Richards, 2015, p. 2).

Even though Neuman (1992, p. 104) discusses captions or subtitles on television, the same logic can be applied to video games. A video game, just like television, is a combination of pictures and sounds, and therefore, it manages to establish some kind of relationship between meaning and words. In her study, Neuman showed that subtitles or captions have an advantage over non-subtitled media. All learners who viewed captioned TV outscored all of those who did not. Neuman also states that there are some problems with captioned TV; one of the biggest problems, for example, is the speed of the subtitles, which is too fast for some readers. Fortunately, a large portion of video games, especially RPGs, require the player to press a button when he/she has read a sentence in order to continue the dialogue, thus giving him/her time to re-read the sentence as many times as he/she wants.

Since American and British English are two of the most widespread regional varieties present in video games, players might not have many problems

understanding what is spoken without subtitles. Problems may arise, however, when players are exposed to lesser-known varieties of English. For instance, in the action-adventure video game *Uncharted: The Lost Legacy,* the main characters Chloe Frazer, Nadine Ross, and Asav speak Australian English, South African English, and Indian English, respectively (Naughty Dog, 2017).

4. PREVIOUS RESEARCH

In recent years, video games have increasingly become a topic of research when it comes to language acquisition. In a qualitative study by Winaldo et al., (2022) 71.4% of the participants said that video games can improve their English language skills, while the remaining 28.6% said probably. No one said "no". Participants indicated that RPGs (33.3%), light novels (33.3%), and open-world games (28.6%) are the best genres of games from which players can learn English. Two fifths (40.9%) said "yes" when asked about the effectiveness of learning English through video games. The remaining 59.1% remained neutral. No one said "no" (pp. 23–25). A study conducted by Ebrahimzadeh divided participants into three groups: Readers (who learned vocabulary by intensive reading from books), Players (who learned vocabulary by playing video games), and Watchers (who learned vocabulary by watching two classmates play video games). The "Players" and "Watchers" outperformed the "Readers" (Ebrahimzadeh, 2017).

Yunus et. al. (2012) conducted a study in which they investigated vocabulary acquisition and writing skills. The study included 30 learners from a Malaysian university (30% male, 70% female). They investigated learners' vocabulary acquisition by giving them a questionnaire where the learners had to indicate their perception of how much vocabulary they had acquired. The result was that 73.86% of learners agreed that video games had helped them acquire more vocabulary (p. 357). Their writing skills were investigated in the same way, that is, by self-evaluation. The result was that 76.5% of learners claimed that video games had enhanced their narrative writing skills (p. 358).

According to Richards, gameplay can develop familiarity with topics and vocabulary that may not be included in a regular language class (2015, pp. 7–8). He cites an example of a boy who started playing on a basketball team. The boy had no idea about the terms used in basketball since he had only begun playing. After playing a video game about basketball, however, he had no problem understanding basketball terms and communicating with other team players (p.8).

Calafato and Clausen (2024) conducted a survey of 116 Norwegian secondary school students focused on their out-of-school English activities, with an emphasis on gaming. The students reported playing strategy, sports, shooter, and sandbox survival games more frequently than multiplayer online battle arena (MOBA), platformer, or role-playing games. The study investigated vocabulary learning strategies (VLS) and found that students mostly relied on inferencing from context when encountering unknown words. Visualization, language references, and rehearsal were used less frequently than inferencing but more often than note-taking, which was the least preferred strategy due to its tendency to disrupt gameplay immersion (p. 12). Similarly, Bibani (2024) conducted a quasi-experimental study in the Kurdistan Region and demonstrated that young learners who participated in game-based instruction exhibited significantly greater vocabulary gains compared to those in traditional classrooms. Kara (2022) further validated the advantages of serious mobile games by demonstrating that students utilizing a targeted vocabulary application outperformed their peers on post-tests. These findings, in conjunction with earlier research conducted by Ebrahimzadeh (2017) and Yudintseva (2015), emphasize that digital games provide both exposure to authentic language and motivation to engage with vocabulary in meaningful, contextual settings. This accumulating body of evidence supports the present study's focus on the vocabulary acquisition of young learners through English-language video games.

5. STUDY

The study employed a qualitative approach to investigate learners' perceptions of vocabulary acquisition through video games. The research was conducted at a primary school and comprised two primary phases: a focus group interview and a questionnaire-based survey. The initial focus group, comprising 13 students selected by their English teacher for their frequent gaming habits, provided foundational qualitative insights that guided the design of the survey instrument. The final questionnaire was distributed to 49 students across grades 5, 6, and 8, and gathered data on the participants' video game habits, language preferences, vocabulary awareness, and self-assessed language proficiency. Descriptive statistics were employed to analyze frequency and trends, while qualitative responses from the focus group and open-ended survey items enriched the interpretation of the results. The methodological framework aligns with case study research in

educational settings, emphasizing context-specific insights and participant perspectives.

5.1 Aim

The general research aim was to investigate the participants' perception of how much vocabulary they acquired through video games; more specific aims of the study were to explore the following: whether exposure to video game activities is related to better grades, time spent playing video games, learner preferences, preference of English over Croatian in video game activities, participants' awareness of the vocabulary learned in video games, and strategies participants employ while dealing with the language used in video games.

5.2 Sample and Procedure

The research was conducted in Prečko Primary School in May 2016. The headteacher was asked for permission to conduct the research. After receiving permission, the children's parents were asked for consent for both the focus group and the general questionnaire.

A focus group of 13 children was assembled by asking the English teacher to select students known for their frequent playing of video games. The children were asked general questions about their gaming habits and language learning experiences. The group consisted of 11 boys and two girls. Four were in 5th grade, six in 7th grade, and two in 8th grade.

The focus group questions were organized into four thematic categories: quality, quantity, genre, and online communication. Before the session began, participants were asked to report their academic performance, including grades from the previous and current school years, and to self-assess their proficiency in English. All students indicated a grade point average of 5 for both years and rated their English proficiency as 5 as well.

Participants who completed the general questionnaire were also asked to indicate their grades from both years and to self-evaluate their English language skills.

In the online communication category, three questions were posed: (1) How often do you play online games? (2) Do you play games where you communicate with others online? (3) If so, do you use a microphone or a keyboard? Only two participants reported playing online games, and both rarely communicated with other players. When communication occurred, it was minimal and consisted of simple English phrases such as "Go there!"

or "Pick this up!" Communication was limited to essential interactions and was conducted mostly via keyboard. Because of the limited relevance of these questions, they were excluded from the questionnaire.

The quantity category included three questions: (1) How often do you play? (2) Do you play with others? (3) Do you focus on one game at a time or play multiple games simultaneously? Participants reported playing video games daily or every other day, typically for two to three hours. On weekends or during holidays, sessions often lasted longer. Most participants primarily played alone, though some occasionally played with friends. Some preferred to complete a game before switching to another, while others would switch games when bored. The first question was directly included in the questionnaire, while insights from the second question helped inform vocabulary-related options.

The quality category addressed language exposure: (1) How many of your games are in English? (2) Do you choose Croatian or leave the game in English when given the option? (3) Do you believe playing video games in English helps you learn the language? All participants reported playing video games in English, even when other languages were available. Some occasionally switched to Croatian out of curiosity but always reverted to English. They stated that games were easier to understand in English and that they could navigate more effectively. All agreed that playing video games in English helped them improve their language skills. The second question was incorporated into the questionnaire to assess language preference and required participants to explain their reasoning.

The genre category included the following questions: (1) What genre of games do you play? (2) Do you think certain genres help you learn more vocabulary? (3) In which genre have you encountered the most unfamiliar words? (4) How do you deal with unknown words? Participants reported that shooter games like *Counter-Strike* contained little dialogue, while adventure and role-playing games like *The Witcher* and *The Last of Us* offered more opportunities for vocabulary learning due to their dialogue-rich content. To understand unfamiliar words, participants reported either asking others or using contextual clues, which allowed them to stay immersed in the game. They rarely used dictionaries or looked up words online, as doing so interrupted the flow of gameplay. One question from this category was included in the questionnaire, and responses were used to identify words students had learned outside of school.

Several spontaneous questions emerged during the interview. When discussing genres, the concept of "genre" was initially misunderstood as "plat-

form," prompting clarification. Once explained, students discussed their favorite genres and platforms. They reported using PCs, consoles (PlayStation), and smartphones, though they described console and PC gaming as more "immersive" than mobile gaming.

When asked whether they skipped cutscenes or dialogue, all participants said they did not. They explained that understanding the dialogue was crucial for progressing through the game, and skipping it left them "confused." They stated that listening to dialogue helped them understand objectives and complete tasks.

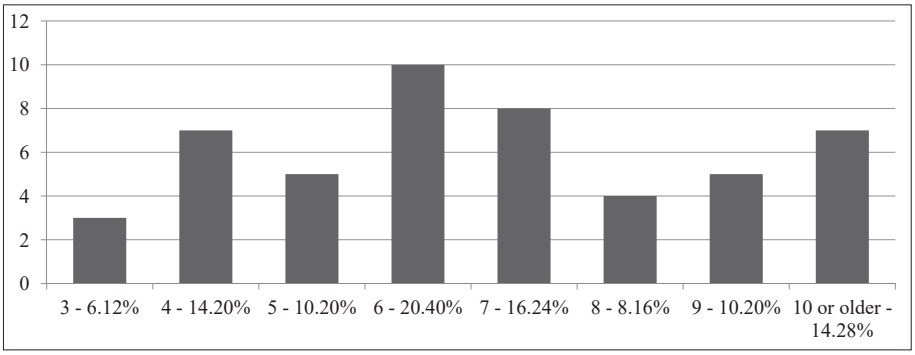
Participants were also asked about specific vocabulary they had learned while playing. Boys who played football games (*FIFA*, *PES*) mentioned terms such as *cross*, *league*, and *offside*. A girl who played *The Sims* learned words like *appliances* and *plumbing*. Overall, participants reported that they learned more English vocabulary from video games than from school, and that they occasionally used these words during English class.

Games mentioned by the focus group included the following: *Counter-Strike*, *Agraria*, *Portal*, *Grand Theft Auto*, *Call of Duty*, *PlanetSide*, *Sleeping Dogs*, *Minecraft*, *Super Mario*, *Crash Team Racing*, *The Sims*, *Command and Conquer*, *Killzone*, *Hearthstone*, *Uncharted*, *FIFA*, *NBA*, *PES*, *The Last of Us*, *Tomb Raider*, *Payday*, *Tekken*, *Need for Speed*, *Mortal Kombat*, *The Hulk*, *Star Wars*, *God of War*, *Fallout 4*, *Star Wars: Battlefront*, *Battlefield*, *Clash Royale*, *Heroes of the Storm*, *League of Legends*, *Batman: Arkham City*, *Arkham Asylum*, *Witcher*, *Assassin's Creed*, *Undertale*, *Dead Space*, *Destiny*, *Deadpool*, *NOVA*, *Uncharted*, and *The Walking Dead*.

Additional questions that emerged during the interview and were later added to the questionnaire included the following: On which platform do you play video games? On which platform is it best to play video games, and why? Do you remember any words you learned outside of school? Do you remember any words you specifically learned while playing video games? From which part of the game do you believe you acquired most of your vocabulary—dialogue, menu options, instructions, or textual content?

The answers and information gathered were later used to compile questions for the general questionnaire (see Appendix). The questionnaire was given to 49 participants of Prečko elementary school. Out of 49 participants, 34 were male (69.38%) and 15 were female (30.62%). They were in the 5th, 6th and 8th grade (11–14 years old). Figure 1 shows the age at which participants started playing video games. The average age would be 6.2. Most of them were exposed to video games before starting elementary school.

Figure 1
Age when they started playing video games
Slika 1
Dob u kojoj su počeli igrati videoigre



The three pie charts below (Figures 2, 3, and 4) indicate the participants' grades (in English) in the previous year and the current year (they had to estimate what their grade in English would be that year), as well as an estimation of their general knowledge of the English language.

Figure 2
Grades from last year
Slika 2
Prošlogodišnje ocjene

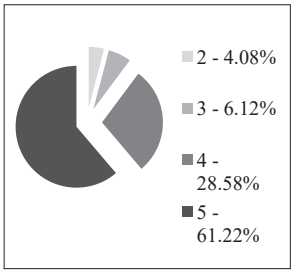


Figure 3
Grades this year
Slika 3
Ovogodišnje ocjene

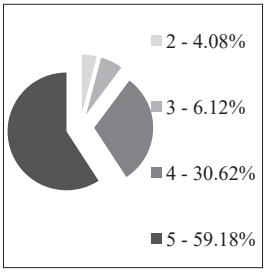
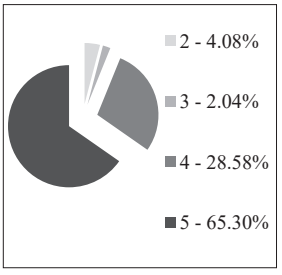


Figure 4
Self-assessment of their knowledge of the English language
Slika 4
Samoprocjena njihova znanja engleskoga jezika



5.3 Results and Discussion

The first question in the questionnaire was connected to the participants' exposure to video games. Figure 5 clearly illustrates that most of them play video games at least a few times a week (26.53%); those that played only once a week were rare. It appears that all the students whose grades were 3 or 2 (five in total) said that they played once a week or only during weekends, while those with higher grades (44) played at least a few times a week

or more often. However, a quantitative analysis would prove more beneficial in this instance. Likewise, a larger sample size might be beneficial in this case as well.

Figure 5
Exposure to video games
Slika 5
Izloženost videoigrama

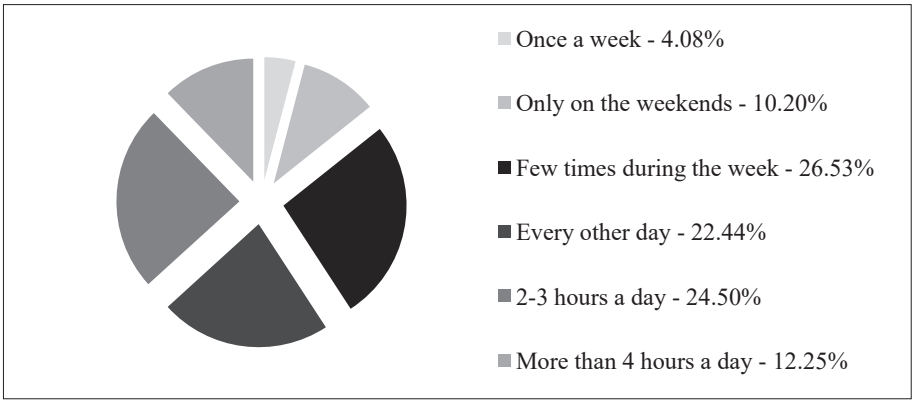


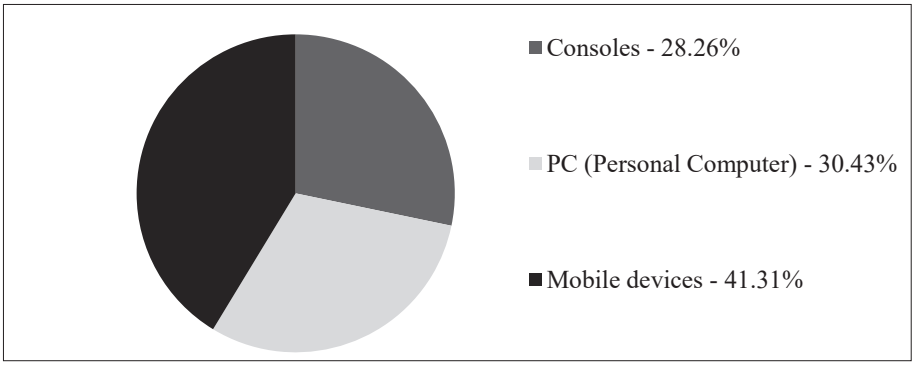
Figure 6 shows the video game system (i.e., platform) of the participants' choice. The category of consoles refers to systems such as the PlayStation, Xbox, and Nintendo video game systems. PC refers to other computers and laptops regardless of operating system. Mobile devices are a broad category; they include devices such as smartphones, tablet computers, and portable video game systems (Sony PSP, Nintendo DS, etc.). However, out of all these types of mobile devices, participants mostly played on smartphones, since only three of them indicated that they played on tablet computers and one indicated that they played on a Sony PSP (PlayStation Portable).

The next question was aimed at the reason why participants played on a particular system. The answers were mostly divided between mobile devices and consoles/PC. Most of the participants who used mobile phones claimed that they were more practical than their console counterparts. On the other hand, participants who played on consoles/PC claimed that the reason they were better was because of their superior graphical quality, sound quality, comfort while playing, and more options available to them while playing. Two participants who played on consoles/PCs claimed that their systems were more immersive. They offer deeper stories and more dialogue. These participants claimed that "you can learn a language in that way". One other participant who played on consoles/PCs claimed that consoles/PCs had the option of communicating with other players, whereas

mobile devices hardly ever had that option (at least to the extent of consoles/PCs).

The author agrees with the participants' comment that console and PC video games are more immersive. PCs and consoles, as opposed to smartphones, seem to provide a more immersive and richer story. Smartphones are limited by their capacity, processing speed, and battery life; hence, video game designers usually design much shorter and simpler games for mobile devices.

Figure 6
Learner's preferences
Slika 6
Preferencije učenika



The participants were then asked about their preference for English over Croatian in video games. Out of the 49 participants, only 4.08% claimed that they played in Croatian; while 95.92% played video games in English (one participant even claimed that he played in Russian, in addition to English). All other participants identified English as the language in which they played video games. The main reason was the fact that most video games have English as their main language (even though some video games have the option of selecting other world languages such as German, Spanish, Italian, French, and Russian). The participants also play video games in English because they are used to it because "they learn English that way" and because they "love playing video games in English". This is confirmed in a study by Winaldo et al., (2022) where the participants claimed that playing video games can improve their English skills. A few claimed that video games in Croatian tend to sound "awkward and unusual" (one participant mentioned that a game translated into Croatian would be bad). Most participants claimed that they learned new words by playing video games in English. Video games are usually designed for a wider market and

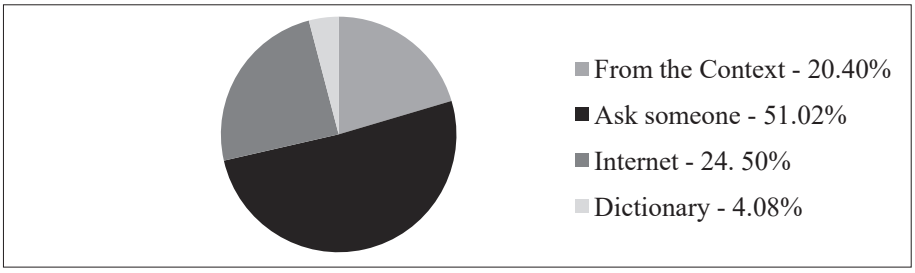
are usually in English. Croatian is very rarely included as an option. In a similar vein, Kara (2022) observed that learners who engaged with serious mobile games exhibited both enhanced vocabulary acquisition and a more favorable disposition toward English language learning. Notably, the participants' intrinsic motivation, particularly their sense of pride in identifying and utilizing novel vocabulary, suggests that games facilitate emotional engagement within the learning process, which is a pivotal factor in long-term retention.

The next question was related to the last one. The participants had to indicate whether or not they would set the in-game language to Croatian or leave it in English. Most (89.79%) participants claimed they would leave the in-game language set to English because they would be able to "learn new phrases, words, and English." Other answers included the following: "English sounds better in video games," "the game is more natural when I play in English," and "I am used to playing video games in English". Only 10.20% of the participants said that they would set the in-game language to Croatian (8.16% of them claimed they would do so if they encountered a lot of unknown vocabulary). It is worth noting that participants who said that they would set the in-game language to Croatian were those who usually rated their level of English as 2 and 3 (on a scale from 2 to 5) and those who had a lower grade in class (2 or 3). Almost all (89.79%) of the participants who indicated that they would set the in-game language to English had a higher grade in English (4 or 5), apart from one participant. Only one participant with a higher grade (5) indicated that they would set their language to Croatian. Out of the 49 participants, 89.79% indicated that their grade was 4 or 5 and also rated their performance with the same grade. The participants with lower grades (10.20%) tended to set their in-game language to Croatian, apart from one participant who preferred English over Croatian. The participants have a positive attitude towards English, which is clearly illustrated by the fact that they preferred playing video games in English and claiming that "Video games sound better in English," "I like playing video games in English," etc.

Figure 7 illustrates the strategies the participants employ when they encounter an unknown word in a video game. If they encountered an unknown word, most of them (51.02%) would ask a parent, brother, sister, or friend for the meaning of the word. Some of them would look up the meaning on the internet (24.50%) or discover the meaning of the word from the context (20.40%). Rarely would anyone consult a dictionary (4.08%). The participants sometimes need explicit explanations of words. Some of them

who claimed they had learned more words in class said they always needed someone who would explain the words to them. This may explain why the most frequent way of dealing with unknown words in video games was to ask someone else (51.02%). Nevertheless, 20.40% of the participants said they would discover the meaning of a word from the context since they did not want to stop playing and break the immersion. While this study used four strategies, in the study by Calafato & Clausen (2024), there are five strategies. Inferencing matches the context strategy and language references match the online and dictionary category; however, rehearsal and visualization are missing from this study, while asking someone (social strategies) are missing from Calafato and Clausen's study. According to Calafato and Clausen, inferencing was used most frequently, whereas in this study, social strategies were more commonly employed. This warrants further investigation, since in the Calafato and Clausen study, social strategies are mentioned but not further investigated. However, this does prove that stopping the game and writing down / looking up the words presents a break in the immersion and that students generally avoid this.

Figure 7
Strategies participants employ when dealing with language
Slika 7
Strategije koje sudionici primjenjuju pri radu s jezikom



The next two questions were aimed at particular words the participants believe they have learned outside of their classroom (including video games, on television, the internet, etc.) and words they had learned from video games exclusively. These questions investigated their awareness of the vocabulary they had learned. When asked about words learned outside of school, they either listed the words learned from games or said that they mostly learned them from cartoons, films, or TV shows. These words were mostly everyday words like *movement, long, short, cat, dog, mirror*, etc.

The words they obtained exclusively from games were more varied. The type of words can sometimes be directly linked to the type of the game, or

the general theme of the game. For example, *conquer, command, rifle, betrayal, infantry, ammo, reload,* and *chopper* indicate that the theme of that game was probably war. Others, such *as pumpkin, shovel, hoe,* and *pickaxe,* probably come from some type of game that involves farming or gardening.

The words participants gave ranged from frequent and everyday words such as *repair, tank, death, kill, actually, cover, heal, destroy, vehicle, fight, enemy, gun, zombies, jump, start, heavy, rush, and dash* to less frequent words such as *drift, sword, torch, judge, gunfire, advice, avoid, corridors, random, cobblestone, potion, replay, brave, meadow, elf, mid, freeze, poison, hostage, backup, instant, motive, corporal, private, sarcastic, portal, crutch, sanctuary, endurance, flash, confirm, discard, kingdom, basin, ravenous, despair, hireling, sampling,* and *magnanimous*. The students have acquired a lot of words from video games, which they have demonstrated by writing the words they remembered from video games. This observation closely aligns with Gee's (2007) concept of "situated learning," in which language is learned through active problem-solving in authentic settings. The games provided meaningful, goal-oriented tasks that encouraged the students to infer meaning and retain words through use rather than memorization, thereby highlighting the educational potential of commercial video games. This also confirms the findings of Yunus et al. (2012) in which they investigated learners' vocabulary acquisition by giving them a questionnaire asking them to indicate their perception of how much vocabulary they had acquired. The result was that 73.86% of learners agreed that video games had helped them acquire more vocabulary. The students were aware that they had acquired a lot of vocabulary from video games.

From the data presented in Figure 8, most of the words the participants reported having learned came from dialogues and in-game texts (91.84%). This question investigated their awareness of the vocabulary obtained from various parts of the game. Rarely do they learn something from the booklet of the game or the instructions at the beginning of the game, since they occur only briefly. No one (0%) indicated that they had learned new words from menus. Menus and instructions are usually simple and short and do not contain complex language. In-game texts and dialogues are much more complex and contain diverse vocabulary and language which in turn offer richer input. It is therefore clear why the participants stated that they believe they acquired more unknown vocabulary from dialogues and in-game texts. Games in which there is little dialogue or in-game text are a poor source of new words since they only contain menus and simple instructions. This is confirmed by Calafato & Clausen's (2024) study, where they

claimed that driving games or driving simulators did not offer enough input for acquiring vocabulary since they do not contain a lot of vocabulary.

Figure 8
Participants' awareness of the vocabulary learned from specific parts of the game
Slika 8
Svijest sudionika o vokabularu naučenome iz određenih dijelova igre

Out of the 49 participants, 46.93% indicated that they learned more words from video games than in their English class because, as they have said, they play video games more frequently than they have English classes. Only 6.13% said that the number of words learned in their English class was the same as when playing video games. Lastly, 46.93% said that they learned more words in class, since the teacher usually "manages to explain the words more explicitly." Out of the five participants with lower grades (2 and 3), four indicated that they learned more words in class than when playing video games.

6. CONCLUSION

Video games can have a profound impact on acquiring foreign language vocabulary and learning a language. Video games may offer a varied type of vocabulary to the players, while also presenting the language in a meaningful context. They offer a different approach to language learning than textbooks and blackboards in that they have the propensity to keep the learner/player always entertained and immersed. Learners are not aware that they are actively learning since their focus is on entertainment, and therefore, vocabulary is learned incidentally. Most video games offer rich input, thus enhancing learners' receptive language skills, especially if the video game offers subtitles. Players are therefore exposed to spoken language through dialogues and written language in the form of in-game texts and subtitles. Despite offering rich input, they do not offer enough opportunities for learners to exhibit much in terms of output, nor is the rich input controlled in any way.

The participants in the focus group and the participants who were given the questionnaire indicated that they learned a lot of words by playing games. The students said outright that they believe they acquire a lot of words from video games, and students who were given the questionnaire indicated the words they had learned by writing them down in the questionnaire. Learners prefer English over Croatian, since it sounds more natural to them, and they have a positive attitude towards English.

The participants in the study suggested that, even though they encounter many words, they simply cannot remember or understand them all without explicit explanation from a teacher or someone else. However, even without explicit explanations of words, learners manage to retain them since they are presented in a meaningful context and repeated several times throughout the game, which they have demonstrated by remembering many words they have acquired in video games. Special attention should be given to certain video game types which offer the most comprehensible input – RPGs and adventure games.

The findings of this study present several significant implications for language education, particularly in the realm of vocabulary development among young learners. Firstly, they emphasize the educational potential of video games as authentic and immersive environments in which learners encounter and acquire new vocabulary incidentally. Rather than being perceived solely as recreational activities, games – especially those characterized by intricate narratives and dialogues – can serve as valuable supplementary tools within the language classroom. Secondly, the study demonstrates that learners are already employing effective vocabulary learning strategies, such as inferencing, even without explicit instruction. This suggests that educators can enhance learning outcomes by making these strategies readily apparent and formally integrating them into classroom instruction. Recognizing and capitalizing on these informal learning experiences may contribute to bridging the gap between in-school and out-of-school language exposure. Lastly, students' enjoyment and intrinsic motivation while gaming reinforce the significance of emotional engagement in language learning – a factor that educators and curriculum designers should consider when developing vocabulary instruction methods.

The results indicate that gaming in English can positively impact learners' vocabulary expansion, particularly when learners engage in contextual inferencing and receive authentic language input. Notably, there is a potential association between regular gameplay and language proficiency which could be explored in further research using a quantitative method – statistical analysis and a larger sample.

This study presents several limitations that should be considered when interpreting the findings. Firstly, the sample size was relatively small and drawn from a single primary school in Zagreb, which limits the generalizability of the results to English language learners (EFLs) in general. Secondly, the data were self-reported, relying on students' subjective assessments of their English proficiency, gaming habits, and vocabulary awareness, without the support of standardized testing or objective language proficiency measures. Thirdly, the cross-sectional design also prevents conclusions about long-term vocabulary retention or development, and the study focused exclusively on vocabulary learning and did not assess how gaming might support other aspects of language proficiency, such as speaking, listening, or grammar. Finally, while the study identified preferred gaming genres and time spent playing, it did not examine how specific game types contributed to vocabulary categories or language functions. Addressing these limitations in future research will help build a more comprehensive understanding of how digital gaming supports language development among English language learners.

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APPENDIX

The Questionnaire

UPITNIK

Spol: M Ž (zaokruži slovo)

1. Koliko često igraš videoigre (zaokruži slovo)?
   A) jednom tjedno B) samo vikendom
   C) nekoliko dana u tjednu D) svaki drugi dan
   E) svaki dan po 2-3 sata F) više od 4 sata na dan

2. Na čemu igraš videoigre?
   A) Konzole
   B) Osobno računalo – PC
   C) Mobitel
   D) na nečemu drugome (upiši)_____

3. Po tvojem mišljenju, na čemu je bolje igrati od gore navedenih stvari i zašto?
   _____
   _____
   _____

4. Na kojem jeziku najčešće igraš videoigre i zašto?
   _____
   _____
   _____

5. Kad bi imao/imala igricu na engleskome jeziku koja ima opciju da se postavi na hrvatski jezik, bi li igricu postavio/postavila na hrvatski jezik ili ostavio/ostavila na engleskome jeziku? Obrazloži svoj odgovor.
   _____
   _____
   _____

6. Što činiš kada naiđeš na nepoznatu riječ u igrici (koga pitaš za značenje riječi, tražiš li značenje po internetu ili rječniku itd.)?

_____
_____
_____

7. Sjećaš li se nekih riječi koje si naučio/naučila bilo gdje izvan škole (crtići, filmovi, serije, igrice itd.)?

_____
_____
_____

8. Sjećaš li se nekih riječi koje si naučio/naučila baš iz igrica?

_____
_____
_____

9. Smatraš li da si više riječi naučio/naučila na satu engleskoga jezika ili prilikom igranja igrica. Obrazloži svoj odgovor.

_____
_____
_____

10. Iz kojih dijelova igrice smatraš da si naučio/naučila najviše riječi?
    A)iz dijaloga (među likovima)
    B) iz menija videoigre
    C) iz uputstva (instructions)
    D) iz tekstova u samoj igrici (tekst koji nitko ne izgovara, nego na je tebi da ga pročitaš)

11. Kada si počeo/počela igrati videoigre? (koliko si onda imao/imala godina)? _____
12. Koja je bila tvoja ocjena iz engleskoga jezika u prošlome razredu?
    2 3 4 5
13. Koju ćeš ocjenu, po tvojem mišljenju, dobiti na kraju ove godine?
    2 3 4 5
14. Kojom bi ocjenom procijenio/procijenila svoje znanje iz engleskoga jezika? 2 3 4 5

Uloga videoigara u učenju engleskog kao stranog jezika

Darko Kasanić
SOVA Varšavska - škola stranih jezika, Zagreb

U ovom radu istražuje se utjecaj videoigara na učenje engleskoga jezika s naglaskom na percepciju učenika o količini vokabulara usvojenoga putem videoigre na engleskome jeziku. Drugi ciljevi istraživanja bili su istražiti sljedeće: (1) je li izloženost aktivnostima videoigara povezana s boljim ocjenama, (2) izloženost videoigrama, (3) preferenciju engleskoga nad hrvatskim u videoigrama, (4) svijest sudionika o vokabularu naučenome u videoigrama te (5) strategije koje sudionici primjenjuju kada naiđu na nepoznate riječi u videoigrama. Videoigre mogu imati značajan utjecaj na učenje jezika i to posebice ako se uz njih upotrebljavaju i ostale aktivnosti. Videoigre same po sebi možda i nisu najbolji način za učenje stranoga jezika i vokabulara toga jezika, no kombinacija videoigara i aktivnosti koje traže primjenu aktivnih jezičnih vještina mogle bi pokazati pozitivne rezultate u učenju stranoga jezika.

Ključne riječi: *videoigre, engleski jezik, usvajanje jezika, vokabular*