The Role of Video Games in Learning EFL

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This paper investigates the role of video games in learning English. The research conducted examined learners’ perception of how much vocabulary they have acquired through 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 to learn a language and its vocabulary, but combining video games with activities that make use of learners’ productive skills may prove very beneficial.

Key words: video games, English, language acquisition, vocabulary

1. INTRODUCTION

Video games have been around for some time now; however, only in recent years have educators found the value of video games as educational tools. Video games can be sometimes regarded as tools for spending your free time and relaxation. Nonetheless, some people seem to link them to increased violence, even though Cruz (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, books (e.g American Psycho). Cruz (Cruz, 2007) also states that a study found that video games usually relieve stress and serve sometimes as a way for relaxing. 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 learning mathematics, biology, physics, medicine etc.

This paper examines the role of vocabulary acquisition through video games. Learners are exposed to a large vocabulary while playing video games and the question would be “how much of it do they retain?” The vocabulary in video games may range from simple everyday vocabulary to sophisticated vocabulary that might even rival some books. This paper also looks at some types or genres of video games that might offer more chance of vocabulary
retention. The authors mentioned in this paper believe that video games such as Role Playing Games and adventure games might offer more chance for vocabulary learning since it contains a lot of texts and dialogues. This paper will discuss some of the positive sides of vocabulary acquisition that happen outside of the classroom context.

2. Video Games and Learning

This part of the paper deals with video games and general learning. According to Gee, “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). However, this predicament can be managed if the learner has already had a lot of experience of such context 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 when inside 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 usually 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 actual context of practice in different ways. The author 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” (Gee, 2004, p. 114).

Let us take a look at 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\textsuperscript{1} series of video games. In Tomb Raider: The Last Revelation, she goes on an archaeological expedition to Cambodia with her new mentor Werner von Croy. In this first episode of the story, a 16- year old Lara is being trained by von Croy. This episode also serves as a back story.

\textsuperscript{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. The video games in the series usually revolve around exploring old temples, solving puzzles and eliminating enemies.
Things are easier in this episode than the rest of the game. The player must search for various treasures and avoid many traps. 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. Von Croy is quite a strict teacher and tells Lara not to “deviate from his route” (Gee, p. 116). The player is placed in the exact same psychological space as Lara.

Another interesting element is the way in which Von Croy gives us direction 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 it is not while we are playing this episode. Lara has no keys to press, but it is the player who must press the corresponding keys in order 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.) (Gee, 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 is listening 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 (Gee, 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 certain 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 in order to play the rest game (Gee, p.120). It only 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 stays at the edge of the “player’s regime of competence” (Gee, 2004 p.121). The interesting thing here is that those learners are not always overtly aware of the fact that they are “learning”.

Gee mentions another important thing here. Namely, he mentions active learning. When the player is facing a new enemy or a new puzzle, he or she quickly abandons a routinized strategy if it does not work. He or she then transfers skills and strategies from previous experiences by seeing underlying similarities between that experience and the current problem. The player is then faced by the cold reality that, while school sometimes sets up problems so that earlier solutions may transfer directly to later ones, this uncommonly 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). The player remains flexible and thereby adapts performance in action.

2.1 Defining play

According to Pilar, play takes place outside of ordinary life and it 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 by a group. Thirdly, play has its own boundaries of time and space. People usually play within some type of contexts, which also provide play with certain meaning. Lastly, play creates social groups that become communities (p. 3-4).

Video games, just like any movie or book, have a genre (Pilar, 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.

The classification of video games according to Pilar (p. 7-8) is the following:
**Adventure** – the focus is on the story and the plot. This genre focuses on interactive fiction.

**Strategy** – players confront problems that need solving e.g. distributing resources, organizing productions, defenses and attacks.

**Sports** – covers all sports imaginable

**Action** – the most popular kind. The player controls the actions of a virtual character

**Simulation** – the player modifies the environment and their inhabitants

**Role playing** – the player may play with different characters in the game world. He/she creates the character and improves him/her.

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

According to Gee, 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 where the teacher concentrates the most fundamental words, phrases and grammatical forms, is the same as the early part of a video game where the game concentrates the most basic artefacts, tools and even language the player needs in order to play the game (p. 135). He even claims “*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*” (Gee, 2007, p. 2). It is therefore obvious that he maintains the fact that video games represent language in an environment that is alive and dynamic.

#### 3.1 Incidental vocabulary acquisition

The acquisition of language is a subconscious process, which takes place informally in the context of functional language use. Of course, learners are not consciously aware that they are learning a language. A similar situation happens when a person is acquiring a second language. Children are preoccupied with meaning rather than grammar (Neuman, p. 95).
Children are also stimulated by oral and written exposure in and outside of school and acquire language literacy without formal instruction in school by using the language they already know and cues from their environment.

Vocabulary as such, is one of the most important elements of successful and meaningful communication in our mother tongue and in a target language. If learners know the 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 meaning can be attained either on their own or by guessing from contextual clues or socially by asking teachers or peers for help. Other important things for better vocabulary learning and retention would be the interaction with native speakers, contextual use of words and imagery, verbal or written repetitions 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 and growth in interpersonal skills, self-confidence and self-awareness (Kerka, p. 1). The interesting thing is that incidental learning is not consciously labelled as learning.

It is reasonable to assume that children may learn a lot of vocabulary while playing. They might encounter an unfamiliar word e.g a video game might tell the player that a wrench is required to open up a way through the rest of the game. The player who has many items might not be able to tell what a wrench is, but through trial and error he will finally pick the
right item (the wrench) and unlock the way. Of course, such situations offer them some type of meaningful context where they are able to acquire the word more easily as the wrench is graphically represented in the game. Therefore, the child will probably associate the word wrench with its graphical representation. The wrench item will probably be repeated many times during the course of the video game and the child may even replay the game many times; thus, he or she will be exposed to the word many times and will remember it more easily.

The child is also actively observing what is happening on screen. Though much less likely, a child might be also exposed to an unfamiliar word while watching someone else play. He or she would probably ask for the meaning of a word if it frequently appears on screen. Kerka (p. 1) mentions incidental learning may also happen during social interaction. This may happen while children are playing video games in the presence of someone else. Their companion may help them if they encounter an unfamiliar word or situation. Also, if they are playing an online game, other players may help them if they are unable to understand some expressions.

Incidental learning of second language vocabularies occurs through extensive reading and input-rich environments. It may as well be defined as learning one thing while intending to learn another. When it comes to language acquisition, incidental learning is an effective way of learning vocabulary from context. An incidental onetime encounter of a word would rarely lead to full knowledge or understanding of a word’s meaning. The authors claim that the goal of extensive reading is to read for pleasure, which would translate into language improvement. Some suggest that extensive reading is mainly for reinforcing partially known words; however, this does not exclude the learning and the acquisition of new vocabulary entirely (Brown, p. 136-137). Teachers typically tell their learners to choose whatever they want for extensive reading as the experience must be pleasurable. Incidentally learned vocabulary boosts deeper mental processing and better retention than intentional vocabulary learning. The learners are completely involved in the process of deciphering the meaning through clues available in the text. In fact, the author states that “Intentional learning that is usually based on synonyms, antonyms, words 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” (Ahmad, 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 the given word (Ahmad, p. 68). Incidentally learned words are actually all words learned from some kind of special context and incidentally learned words are not learned less frequently than intentionally taught words. This is a point on which a lot of language vocabulary specialists agree on (Alipour Madarsara, p. 25).

Kolb as cited in Yunus et. al. (p. 356) states that learning:

1) is a process, not merely an outcome
2) is a continuous process grounded in experience
3) involves transaction between learners and the environment

This, of course, fits the theory of incidental and informal learning perfectly, which explains the unconscious and self-directed learning condition. It always occurs without conscious knowledge of it because it is integrated very well into daily routines (Yunus et al. p. 356). The educating elements in video games provide informal learning opportunities while being amusing at the same time. Good games have the potential for learning that actually encourages cognitive development and bolsters problem-solving skills. The more someone plays, the better the grasp on their cognitive and psychomotor senses, problem solving skills, leadership, competition, teamwork and collaboration (Yunus et al.356).

A child who is learning its 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 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, p. 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 technologies have the potential to provide this immersion. Video games have the potential and power to immerse the child in any environment (Hodent, p.154).
Of course, language acquisition in children is natural, instinctive and effortless. It is incidental because the child’s primary task is understanding, not acquiring language. The first language is acquired implicitly, since rarely will children be engaged in conscious explicit learning. Saffron claims that “implicit learning involves the unconscious and unintentional acquisition of abstract information” (Saffran, 1997, p. 101). Another set of phenomena that has effect on 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 (Saffran, 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” (Ajileye, 1998, p. 2).

### 3.3 Narrative in video games

Video games are a new type of media. The first ones were developed 50 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 arts and some simply as tools to spend time in an amusing way (Pilar, p. 1).

Squire (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 literacy activity. Written language is actually central in communicating with other players online; with the help of written language players are able to “negotiate activities and enact identities” (Squire, 2006, p. 23). When we consider video games, we must see it 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 it is on the player to use birds in order to destroy the pigs’ structures. The whole game rests on the point that these pigs have stolen the birds’ eggs. This type of narrative is quite simple. Let us turn to video games where the narrative plays a more prominent role (Ostenson, p. 72). Video games
where the narrative plays a more integral role are called RPG 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 successfully completed. The adventure video game includes solving puzzles through in-game clues; however, they rely on story elements to provide context for these challenges.

Games, according to Squire (p. 22), are organized around doing as opposed to television where we are only watching. In games we are learning through performance. In other words, we (the players) are shaping the story of the game. Players start a new game by taking a controller and seeing what they can do. 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 system. Most children who play games will be talking, sharing strategies, downloading FAQ\(^2\) 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 others 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.

\(^2\) FAQ- frequently asked questions

\(^3\) Walkthrough – a written guide for a particular video game

\(^4\) MMORPG – Massively Multiplayer Online Role Playing Games
3.4 Video Games: An opportunity for extensive reading?

Extensive reading is reading for pleasure i.e. learners pick whatever they want to read (Brown, p 137). Video games as such 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 (lazygamer.net) in addition to various letters, manuscripts, descriptions and information found in the game. In contrast, this paper contains around 900 lines. It can be concluded that such video games usually offer quite a lot of material for reading. We can usually encounter such a great amount of text in some type 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 dialogues and in-game text so that RPGs and adventure video games might not be the only ones that offer some type of extensive reading. The exclusion would be arcade games\(^6\).

Extensive listening is defined as listening to texts for fluency and entertainment (Brown, p. 139). Learners or players will rarely acquire many words in their first play through if the word is not relevant for 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 and therefore they increase the chances of players 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. Production of the second language is very 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.

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\(^5\) An expansion pack or DLC (Downloadable Content) is an addition to the main video game which is much shorter than the core game. It may contain new areas, side-stories, items, enemies etc.

\(^6\) Arcade games are games that are usually played on arcade machines, but may also be found on other platforms. Their main element is action and contain little to no story.
3.5 The effect of subtitles

Another interesting thing to consider here is television. Northern European (Finland, Denmark etc.) countries and South European Countries (Croatia, Slovenia etc.) do not have television programs dubbed or in other words the audio of the movie is not replaced with the language of the country in which it is shown. People in these countries often have good listening skills and are quite fluent in English as opposed to countries where dubbing occurs such as Italy, Portugal etc. People in these countries are often denied input from television. The countries where no dubbing occurs leave the TV show or movie in English but only add subtitles in their language (Richards, p. 2).

Even though Neuman (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 Neuman’s study, it was shown that subtitles or captions have an advantage over non-subtitled media. All learners who viewed captioned TV outscored all of those who did not. She also states that there are some problems with captioned TV, namely one of the biggest problem 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 has read a sentence in order to continue the dialogue, thus giving him time to re-read the sentence as much as he wants.

3.6 The author’s experience as a language learner

The author of this paper remembers his exposure to other languages through television and video games quite vividly. In the late 90’s, while 3-6 years old, the author was exposed to a lot of comprehensible input in the form of television and video games. The author was exposed to a lot of comprehensible input in German and yet not one parent or relative spoke German at that time. The comprehensible input came from watching television and playing video games in German since at the time it was really hard to acquire a game in English and therefore all of them had to be imported from Germany. All games from Germany were dubbed. The author is capable of communicating in German with little to no problem and his pronunciation is also very good. However, the author has sometimes trouble with fluency, even though he is capable of understanding almost every single sentence in German. It is clear
that he was exposed to a lot of input, yet he did not need nor had ample opportunity to speak German. However, once he found himself in a German speaking situation, he found his oral German skills improving at a rapid pace.

4. Previous research

There are very few studies conducted on the role of video games in the acquisition of language. However, there are studies related to the following: implementation of video games in the English classroom, studies about the proportion of video game players and a few studies about the connection of video games and specific skills such as, for example, writing. Most of the literature on video games and learning is theoretical.

Yunus et al. (p. 355) claim that research has shown that teenagers increasingly spend their time playing video games. It is obvious that video games had a great influence on the 20th century youth. By the time an average American turns 21, he will have spent 10,000 or more hours playing computer games. Apparently, the research claims that people who are older than 18 account for 82% of all video game players in American (p. 355).

Countries where English is not a first language often lack a genuine English environment. Learners in Taiwan and the author Guo indicated that in-classroom exposure to English is just not enough (Guo, p. 246). This can also be applied to countries where English is not actively used. Their English exposure in-class was insufficient for their development of the English language. However, their engagement in English language activities outside of the classroom enhanced their English abilities. Most video games use English as their language of operation and therefore expose learners to a lot of vocabulary, especially ESL learners. Languages, especially English, have always had to be learned in order to participate in games (Yunus et al., p. 357). Apparently, there are several proposed conditions for effective vocabulary learning: learning in context, practice and revision.

Yunus et al. conducted a study where 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 they had to indicate their perception of how much vocabulary they acquired. The result
was that 73.86% learners agreed that video games had helped them acquire more vocabulary (p. 357). The writing skills were investigated the same way i.e by self-evaluation. The result was that 76.5% of learners claimed that video games had enhanced their narrative writing skills (p. 358).

Gameplay can develop familiarity with topics and vocabulary that may not be included in a regular language class (Richards, p. 7-8). The author includes an example of a boy who started playing in a basketball team. The boy had, of course, no idea about the terms used in basketball since he had only begun playing. After playing a video game about basketball, he had no problem understanding basketball terms and communicating with other team players (p.8).

### 4.1 Integration of video games in the classroom

In this part of the paper we will be looking at three different authors (Whittaker, Cruz, Stanley and Mawer) and their implementation of video games in the classroom.

Video games are a new form of interactive media that is worth studying. They are, in fact, an entertaining way to spend time amongst the young. Therefore, some educators strive to include video games in their lessons. Sarah Whittaker (p. 6) speaks about her learners’ unwillingness to read. Since her classroom had computers, she tried giving her learners video games in order to read. It was challenging as she had to find the right video game which should not include adult themes, should not be too childish and it should be free. In the end, she found an adventure game named *Nancy Drew* (only a part of the game was free). The game is about solving a mystery. In the game, there have been bombs planted in the spa and it is on the player to discover the location of the bombs. Throughout the video game, the player needs to find items and connect them or complete specific tasks by clicking on an object and then clicking on a written command. They also need to read and choose the right response for the manager (Whittaker, p. 6). A great number of business, medicine and law schools are also using video games as part of their curriculum and even some schools employ commercial titles such as *Brain Age DS* and *Trauma Center* into their math and science courses (Cruz, 2007).
4.1.1 Choosing the appropriate type of video game

Whittaker (p. 9) mentions that teachers do not have time for developing a specific video game for their learners. Nonetheless, they have to choose a video game from the list of already available video games. She claims that teachers have to keep three things in mind when choosing a video game:

1. The language cannot be too complex nor too simple
2. The pronunciation should be clear. Subtitles are an additional asset
3. It should be a well-designed game so that it is a challenge, but no so challenging that the player stops playing (Whittaker, p. 9).

When the language is too low then the learners have nothing to learn. On the other hand, if the language is too complex, then the learner might feel frustrated and he/she might give up (Whittaker, p. 9). She claims that the zone of proximal development is very important here: “the distance between the actual developmental level is determined by independent problem-solving and the level of potential development is determined through problem-solving under adult guidance, or in collaboration with more capable peers” (Whittaker, 2013, p. 10). The game should challenge the learner, but not so much that they cannot handle it with the help from the teacher (Whittaker, p. 10). The game should not be too colloquial or archaic. Having subtitles is seen as an extra asset.

Not all video games can be considered appropriate for the classroom. They might be excellent games on their own, but have little value for the classroom be it for their violence or for the lack of content. According to Cruz, role playing video games are the ideal genre of video games for the English classroom (Cruz, 2007). A role playing game (RPG) is a game where players take the role of a character and embarks on great adventures. While in the quest of saving a kingdom, defeating an evil king, saving a princess, the player is exposed to a large amount of in-game dialogue and written text. The dialogue might be spoken as well as written. In order to advance through the game, the character must collect information from...
various characters and beings. Failing to do so results in the inability to advance through the game.

Cruz recommends RPGs in the English classroom as they have long hours of in-game dialogues and a lot of written text. Examples of Role Playing Video Games would be: The Witcher: Wild Hunt, Final Fantasy series, Star Ocean series, Valkyrie Profile, Elder Scrolls series, Baldur's Gate etc. (Cruz, 2007). The player must give a lot attention to these dialogues as they give clues as to what should be done next. One interesting thing is that RPGs contain a lot of different accents, which, according to Cruz, would help learners develop their aural skills. Being only exposed to a language or text does not produce bilingual learners. Therefore, it is on the teacher to design activities that help learners talk about the experiences they just had.

Whittaker notes that adventure games can be “thoughtful, engaging and intelligent and provide some type of mental challenge”(Whittaker, 2013, p.6); they focus on puzzle solving within a narrative framework, mostly with minimal action elements. She claims that this type of video game is beneficial to our learners because they are exposed to some kind of English text and therefore they will be increasing their reading and vocabulary skills (Whittaker, p. 9). Learners playing these types of games are exposed to authentic language, which helps them to program their brain with accurate English (Whittaker, p. 9). They may also improve other skills such as listening comprehension, pronunciation and spelling. The focus is typically on meaning rather than specific linguistic forms, which allows incidental learning of the language. The learners are more likely to guess the meaning of an unknown word in the game rather than try to look up the meaning as the game motivates them to continue playing.

4.1.2 Pre-Game Activities

Before playing the game Nancy Drew in Whittaker’s class, the learners received a sheet with vocabulary exercises that was meant to introduce the essential vocabulary; they included various matching and definition activities. Whittaker notes that it had been the first time after two years of teaching that the learners did not want to take a break (p. 7). She also (p. 14) recommends showing pictures of the game, introducing characters and writing a prediction essay as pregame activities. The basic vocabulary can be learned via memory
games, flashcards, and picture/word matching activities. Other activities include: choosing the correct sentence and recognizing grammar structures.

The teacher might also present screenshots with several sentences. The learners would need to choose the correct sentence for a particular scene. Whittaker claims that this can help them become familiar with the grammatical structures and vocabulary before playing the game. The recognizing grammar structures activity includes choosing sentences from the game to analyze. Learners would decide if they are predictions of the future, explanations of the past, or a command. Cruz on the other hand, says that learners should be aware that a video game, just like any story, has five parts: introduction, rising action, climax, descending action and a resolution (Cruz, 2007). They might contain other elements of a story such as flashbacks, foreshadowing and personification. Learners should be made aware of this fact before playing. Before playing, the teacher should discuss different cultures: video games often contain elements of different cultures in them. Stanley and Mawer say that (p. 6) a walkthrough (to a complex and story-driven video game) can be given to the learners as a way to comprehend the text. Completing the video game would mean they have comprehended the text/walkthrough.

4.1.3 While-playing activities

Stanley and Mawer (p. 6) propose an activity while playing video games in class. The teacher could take suggestion from the learners on what to do next in the video game (the learners would be watching the teacher play via projector). They call this activity watch and say. Ostenson (p. 74) uses the same activity in his article; however, he does not label it consciously as an activity. The learners could also write down unknown words and phrases, which would be later discussed. Only Stanley and Mawer propose a while-playing activity. Of course, this activity can only be implemented while playing the video game with the teacher.

4.1.4 Post-Game Activities

The learners could split into two groups and each group should play different games. Every group should identify the important vocabulary and linguistic structures; they should pre-teach it to the other group. They could also create a walkthrough, which is a step-by-step
guide for the game. The learners could also rewrite the storyline in their own words; key words could be written on the blackboard as a reminder. Characters could be also described with special regards to their physical appearances and their personalities. After finishing the game, the groups can discuss the games they have played. They should discuss the pros and cons. This could be also done in written form - an essay, for example (Whittaker, p. 15). Cruz believes that learners should keep a journal where they would summarize the events of the game and keep their progress. Learners should also characterize the characters and more advanced learners should comment on abstract notions such as love, friendship etc. Lastly, learners could give an oral presentation about the characters in the video game, plot segments and themes. Even a quiz could be conducted in the same way as a test about a novel or short story (Cruz, 2007).

Stanley and Mawer (p. 4-6) adopt a different method when it comes to post-game activities. They are mostly using a video game walkthrough as a basis for their activities. For example, the propose a gap filling activity where they take certain words out of the walkthrough and learners are required to put the appropriate word back into the walkthrough. Another type of exercise using the walkthrough is “jigsaw reading” (Stanley and Mawer, p.6) where learners are given different parts of the walkthrough and are required to put the parts of the walkthrough in the correct order. Lower level learners could also have a quick yes/no vocabulary quiz at the end of the game e.g:

You see a cocktail glass on the bar when you wake up? True/False
The bar is on the first floor of a building. True/False
There is a bottle with a green label on the table. True/False (Stanley & Mawer, p.6).

5. Study

5.1 Aim

The general research questions was to investigate the participants’ perception of how much vocabulary they acquire through video games; more specific aims of the study were to explore: if the exposure to video game activities is related to better grades, exposure to 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

Before the participants were given the questionnaire in the Prečko elementary school, the author had created a focus group and investigated possible and general questions about video games such as frequency, length, what type of video games the participants play etc. The focus group consisted of 13 children who were asked some general questions about video games. The answers and information gathered were later used in order to compile questions for the general questionnaire. The questionnaire in the research that the author conducted 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](image)

The three pie charts below (Figure 2, 3 and 4) indicate the participants’ grade in the last year (English), this year (they had to estimate what their grade in English would be this year) and an estimation of their general knowledge of the English language.
Figure 2. – Grades from last year

Figure 3. – Grades this year
5.3 Results

The first question in the questionnaire (see appendix 1.) 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 once a week were rare. The participants who played video games only once a week (4.08%) had lower grades\(^7\) and graded themselves with a lower grade - two and three. All of them who played video games at least a few times during the week had higher grades and graded themselves with a higher grade such as 4 and 5. Out of the 44 participants with higher grades, 13.63% indicated they played more than four hours a day, 29.54% indicated they played about 2-3 hours a day, 25% indicated they played video games every other day, 27.27% indicated they played at least a few times during the week and only 4.54% indicated they only played on the weekends. Out of all the participants (49), the participants with lower grades (10.20%) played less frequently (6.12% played video games only on the weekends and only 4.08% played once a week).

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\(^{7}\) In this study, grades are divided into two groups: lower (2 and 3) and higher (4 and 5).
Figure 5 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 contain devices such as smartphones, tablet computers and portable video games 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).

![Pie chart showing percentages of preferred platforms: Consoles - 28.26%, PC (Personal Computer) - 30.43%, Mobile devices - 41.31%]

Figure 6. – Learner’s preferences

The next question (see appendix 1.) was aimed at the reason why participants played on the 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/PC claimed that their systems were more immersive. They offer deeper stories and more dialogue. The participants claimed that “you
can learn a language in that way”. One other participant who played on consoles/PC 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/PC).

We agree with the participants’ comment that console and PC video games are more immersive. PC and consoles, as opposed to smartphones, seem to provide a more immersive and rich 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.

The participants were then asked (see appendix 1.) about their preference of 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 and because “they learn English that way” and because they “love playing video games in English”. A few claimed that video games in Croatian tend to sound “awkward and unusual” (one particular participant mentioned that a game translated into Croatian would be bad). Most participants claimed that they learn 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.

The next question (see appendix 1.) 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 include: “English sounds better in video games”, “the game is more natural when I play in English”, “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 to note 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.

Figure 6 illustrates the strategies the participants employ when they encounter an unknown word in the video game. If they encountered an unknown word, most of them (51.02%) would ask a parent, brother, sister or a 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 the dictionary (4.08%).

![Figure 6: Strategies employed when dealing with language](image)

**Figure 7. – Strategies participants employ when dealing with language**

The next two questions (see appendix 1.) were aimed at particular words the participants believe they have learned outside of their classroom (including video games, on the television, internet etc.) and words they had learned from video games exclusively. These questions actually investigated their awareness of the vocabulary they had learned. When asked about words learned outside of school they either put 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 from games exclusively 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. E.g *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. A girl in the focus group provided words such as *plumbing* and *appliances*, which she learned by playing the video games *The Sims*[^8]. The boys were quite aware of the terms and vocabulary used in soccer video games (*PES* and *FIFA*[^9]).

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*, *dash* to less frequent 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*. They may have also learned some acronyms that way such as *GPU – Graphic Processing Unit* and *CPU – Central Processing Unit*.

From the data presented in the following figure it is clear that most of the words the participants had learned come from dialogues and in-game texts (91.84%). This question (see appendix 1.) 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 instruction at the beginning of the game since they occur only briefly. Out of the 49 participants, no one (0%) indicated they had learned new words from menus.

[^8]: *The Sims* is a simulation video games where players build houses, buy furniture and appliances, and decorate their home. They manage the life of their virtual character.
[^9]: *Pro Evolution Soccer* and *FIFA* are football games
Figure 8. – Participant’s awareness of the vocabulary learned from specific parts of the game

Menus and instructions are usually simple, short and do not contain complex language and unusual vocabulary. In game texts and dialogues are much more complex and contain diverse vocabulary and language which in turn offer a much richer input. It is therefore clear why the participants stated that they believe they acquired more unknown vocabulary from dialogues and in-game texts.

Out of the 49 participants, 46.93% indicated that they have 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 their English class. Only 6.13% said that the amount of words learned in their English class was the same as when playing video games. Lastly, 46.93% said that they have learned more words in class since the professor usually “manages to explain the words more explicitly”. Video games clearly provide a rich input; however, it would be great if this rich input was controlled in a way that learners could retain as much vocabulary from it as possible with the help of some extra activities. Nonetheless, participants tend to retain a good amount of words from video games. Out of the five participants with lower grades, four indicated that they learn more words in class than when playing video games.

5.4 Discussion

The author had discovered participants’ attitudes towards English and learning English. 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. It was found that participants who played more often had generally higher grades – 44 of the 49 (89.79%) participants (with higher grades) played at least on the weekends or more frequently. Most of them played 2-3 hours a day (29.54%). The participants with lower grades (10.20%) played only on the weekends or once a week. Most participants played on consoles/PC and claimed that video games on these systems offered deeper stories and more immersion.

- Most participants played video games in English (95.91%).
- Only 10.21% claimed they would set their in-game language to Croatian if it was on offer. These were participants who had lower grades and one participant with a higher grade.
- Most participants (51.02%) stated they would ask someone if they encountered an unknown word, 20.40% would look for the meaning of the word and 24.48% would work out the meaning from the context, since some of them claimed that it would break the immersion.
- Words learned from video games are quite varied, ranging for simple ones, archaic ones, to less frequent ones. The type of vocabulary can be associated with the particular games in question. Apparently, 46.93% of the participants believe they learned more words in class, whereas 46.93% believe they learned more words from video games. Only 6.13% said they learned the same amount of words from video games and in the classroom.

What we can conclude from this is that video games are a fun way to spend time among the young since most of the participants said they had started playing video game at a young age (age 3-7). Participants that claimed they had learned more vocabulary from video games comprise 46.93% of the participants (46.93% believe they learn more words in class while 6.13% said they learned words equally from both sources). Four out of five participants with lower grades claimed they had learned more words in the classroom. Apparently, the participants need explicit explanation of words sometimes. 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 by asking someone else (51.02%). Nevertheless, 20.40% of the participants said they would discover the meaning of a word from the context. The obvious reason for this is that they do not want to stop playing and break the immersion. More than
90% of learned words come from dialogues and in-game texts. Games where there is little dialogue or in-game text are a poor source of new words since they only contain menus and simple instructions.

It seems that 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. 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 through in-game texts and subtitles. In spite of offering rich input, they do not offer opportunities for learners to exhibit some type of output and neither is the rich input being controlled in any way. Therefore, some authors mentioned in this paper suggest introducing some activities that bolster learners’ learning of vocabulary and language and also a way to retain as much vocabulary and language as possible. The activities can be performed before playing, while playing or after playing a video game. Even participants in the research suggested that even though they encounter many words, they just cannot remember or understand them all without explicit explanation from a teacher or someone else. However, even without explicit explanation of words, learners manage to retain some words 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. A special attention should be given to certain video game types. It is clear that RPGs and adventure games offer the most comprehensible input out of all video game genres. Others games, though amusing, do not have enough value to be considered educational tools since they do not offer a lot of varied words. Video games are different from textbooks and dictionaries in that they offer a unique context which enhances vocabulary acquisition.
6. Conclusion

Video games can have an impact on language learning and vocabulary acquisition if they are used in the appropriate way. 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. This paper only started a brief discussion about the role of video games and the acquisition of the English language. A lot of studies should be done in order to explore the full potential of video games and their impact on language and vocabulary acquisition. For instance, there could be a study that investigates specifically the ratio of words acquired in video games or even long-term studies which compare the acquisition of language and vocabulary in the classical setting (classroom) versus acquisition where the classroom activities are combined with video games. However, such studies would require a lot of time and would also demand a lot of resources.

Sažetak

Ovaj rad istražuje utjecaj video igara na učenje engleskog jezika s naglaskom na percepciju učenika o količina vokabulara usvojenog kroz video igre na engleskom jeziku. Video igre mogu imati značajan utjecaj na učenje jezika i to posebno ako se uz njih koriste i ostale aktivnosti. Video igre same po sebi možda i nisu najbolji način za učenje stranog jezika i vokabulara tog jezika, no kombinacija video igara i aktivnosti koje traže uporabu aktivnih jezičnih vještina bi mogle pokazati pozitivne rezultate u učenju stranog jezika.

Ključne riječi: video igre, engleski jezik, usvajanje jezika, vokabular
Works Cited


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Appendix 1. The questionnaire

UPITNIK

*Istraživanje se provodi u svrhu izrade diplomskog rada na Filozofskom fakultetu u Zagrebu. Svi podaci su anonimni i koristit će u svrhu izrade ovog diplomskog rada.

Spol: M  Ž (zaokruži slovo)

1. Koliko često igraš video igre (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 video igre?
   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 video igre i zašto?
   ____________________________________________________________________________

5. Ako bi imao/imala igricu na engleskom jeziku koja ima opciju da se postavi na hrvatski jezik, bi li igricu postavio/postavila na hrvatski jezik ili ostavio/ostavila na engleskom jeziku?
   Obrazloži svoj odgovor.______________________________________________________
   ____________________________________________________
6. Što činiš kada naideš 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 (crtači, filmovi, serije, igrice itd.)?
___________________________________________________________________________

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

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

10. Iz kojih dijelova igrice smatraš da si naučio/naučila najviše riječi?

A) iz dijaloga (među likovima)
B) iz menija video igre
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 video igre? (koliko si onda imao/imala godina)?____________________

12. Sjećaš li se svoje prve video igre na engleskom jeziku (navedi ime igrice)?____________________

13. Koja je bila tvoja ocjena iz engleskog jezika u prošlome razredu? 2 3 4 5
14. Koju ocjenu, po tvojem mišljenju, ćeš dobiti na kraju ove godine? 2 3 4 5
15. Kojom ocjenom bi procijenio/procijenila svoje znanje iz engleskog jezika? 2 3 4 5