”It was all fun and games”

Perceptions of English vocabulary acquisition via playing video games

Master's Thesis

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Tiivistelmä – Abstract

Videopelaaminen on yksi nykypäivän suosituimmista vapaa-ajan harrastuksista, ja sillä on tutkittu olevan monia positiivisia vaikutuksia. Pelaamisen suosion kasvu osoittautuu esimerkiksi kasvavina tuotantobudjetteina, jotka lähentelevät suuruusluokaltaan elokuvabudjetteja sekä tuotannon että markkinoinnin puolella.

Tämä tutkimus pyrkii kartoittamaan ensisijaisesti yliopisto-opiskelijoiden kokemuksia ja ajatuksia videopelaamisen ja kielenoppimisen suhteesta. Erityisesti tutkimus keskittyy opiskelijoiden kokemuksiin ja käsityksiin videopelaamisen kautta tapahtuvasta sanaston omaksumisesta. Tutkimus toteutettiin verkkopohjaisena kyselynä. Tutkimuksen otos koostui 119 yliopisto-opiskelijasta, joista 67 oli miehiä ja 52 naisia, joiden vastaukset taulukoitiin sukupuolta ja pelaamistiheyttä apuna käyttäen. Avokysymysten luokittelussa käytettin apuna myös kategorisointia.

Tutkimustulosten perusteella voidaan sanoa, että videopelejä pelanneet suomalaiset yliopisto-opiskelijat kokivat omaksuneensa englannin kielen sanastoa videopelaamisen kautta. Opittu sanasto koostui pääasiassa substantiiveista, verbeistä sekä kuvailevista sanoista. Suurin osa opiskelijoista koki omaksuneensa sanaston hyödyllisenä, ja koki sen edistäneen heidän kielenoppimistaan.

Sukupuolten väliset erot korostuivat pelaamistiheydessä ja koetun sanastonomaksumisen määrässä ja laadussa. Pelaamistiheys itsessään ei juuri vaikuttanut vastauksiin. Koska videopelaamisen koettiin olleen hyödyllistä kielenoppimisen kannalta, tulisi aihealuetta kartoittaa lisää. Videopelejä tulisi myös pyrkiä hyödyntämään oppimateriaalina.

Asiasanat – Keyword Vocabulary acquisition, video games

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TABLE OF CONTENTS

1 INTRODUCTION

Playing video games is an increasingly popular freetime activity: according to Mäyrä et al. (2016), 75% of Finns play digital games at least occasionally. Even though gaming is commonly seen as a phenomenon of youth culture, it is increasingly popular among all age groups. The average age of a player of digital games in Finland is 38 years (Mäyrä et al. 2016: 4). Researchers have found that playing video games has many positive effects, including e.g. improvement in the speed of decision-making (see e.g. Boot et al. 2008: 395).

Since the majority of video games is published in English, gamers worldwide play video games in a foreign language, which can result in language learning or acquisition. Playing video games has many advantages when it comes to language learning: first, learning the language happens naturally by acquiring it without a conscious effort. Video games provide a fair amount of repetition and visual leads that help interpreting meanings even when the language used in the game contains features that the player is not yet familiar with. Secondly, players are often highly motivated: to be able to advance in a game, the player needs to know what to do next. The quests and directions are often given in a way that requires understanding the language (e.g. written or spoken advice and quests). Thirdly, playing video games provides positive experiences, which advance language learning: most of the time, people play video games voluntarily: they have chosen the games they play themselves, and thus, are likely to show interest in the game and its themes. Making progress in a game they feel positive about gives the players positive experiences.

The subject of playing video games is rather recent in academic research. Studies related to video games and language have focused on both language use in gaming situations (e.g. Leppänen and Piirainen-Marsh 2009) and language learning (e.g. Sundqvist 2009). The studies focusing on vocabulary learning from video games have often relied on vocabulary tests or school grades, but little to no research has been done on learner perceptions of

learning vocabulary via playing video games. Thus, the present study focuses on Finnish university students' perceptions and personal experiences of vocabulary learning through video games. The data was collected by an online questionnaire, and analyzed by comparing the answers by gender and gaming activity.

The present study begins with an introduction into the subject of video games by defining what video games are, how they can be categorized, and their rise into their current status as one of the most popular freetime activities in the modern society. After that, it discusses vocabulary, and more specifically, how to define a word, how acquisition differs from learning, and what it means when a word is learned. The background's final section then combines the previous subjects and discusses language learning via playing video games.

The present study's point of focus is language that is learned from playing video games. More specifically, its main focus is the perceptions of the acquired vocabulary: the present study aims at discovering what kind of vocabulary the Finnish university students have, according to their own perceptions, learned from playing video games. Furthermore, it also focuses on the perceived usefulness of said vocabulary and on gender differences in these perceptions. Section 3 illustrates how the present study was performed: it presents the research questions and describes the methods used for data collection and analysis in detail. The results are then presented in Section 4, and discussed further in section 5, which also concludes the present study.

2 VIDEO GAMES AND VOCABULARY ACQUISITION

In this section I shall discuss the necessary features related to language acquisition via playing video games. In 2.1 I define what is meant by the term *video games*, their history in brief, providing information on how they have become one of today's most popular pastimes and explain some of the possible reasons for their popularity, and furthermore, their current status in today's society. In 2.2 I move on to language learning and acquisition by defining what a word is, how learning and acquisition differ from each other, and what knowing a word is. Later on in 2.3 I combine the subjects of video games and language acquisition and discuss language learning via playing video games.

2.1 Video games

Due to ever-growing numbers of games that are played on a device of any kind and platforms that either support or are made specifically for playing games, the concept of video games is not an easy one to agree on the terminology used. Perron and Wolf (2009: 6-9) cover the difficulty of finding suitable, consistent and commonly used terms: there is no terminological consensus between those who play video games, the gaming communities, or academics who study video games or the video game industry. They state that the difficulty of making a decision on a term is also connected to what the term holds within: for example, all computer games can be defined as video games, but not all video games are computer games: the vastest possible definition of video games includes arcade games, handheld games, mobile games, online games and locally played games – in short, all games that are played on a digital interface of any kind can be fit into the definition of video games. In addition to the term 'video games', these kinds of games are often referred to as 'computer games', 'videogames' or 'digital games', as well as many other sets of words, which makes choosing a correct term rather difficult. On deciding which term to use in the present study, Google search engine was utilized: October 30th in 2015, Google found approximately 32,300,000

results for 'videogames', and about 914,000,000 results for 'video games', which suggests that the latter form is at the moment the most commonly used term. Thus, in the present study, the term 'video games' shall be used to describe games that require a digital platform, such as a computer, a console, or a mobile device, in order to be played.

In their earlier work Wolf and Perron (2003: 14) define video games by stating that the unique elements of a video game are 'an algorithm, player activity, interface, and graphics'. Wolf and Perron (2003: 14) also give examples of these elements: In practice this means that the basis of any video game is that a player is required to solve a set of problems presented by visual cues, such as text or images, in order to proceed in a game that is played on a digital interface. A set of problems in a game can be anything from getting the circular projection of an object (e.g. A circle that portrays a tennis ball in a game) to move towards the intended location to solving complex crimes by studying the crime scenes and interrogating possible suspects. Player activity can consist of one or more players' actions, and it can be, for example, clicking, dragging, writing, touching, voice controlling, or even moving. The types of gamer activity depend on the game and the platform: for example, to advance in a dancing game, the player must move their body in real life, whereas in a shooting game, clicking is often the manner in which an in-game weapon is controlled. An interface means the device the game is played on, for example a gaming console, an arcade machine, a computer, or a TV. The graphics evidently mean the visual aspect of video games.

All in all, the term *video games* is a broad one, and is not always used to refer to the same things. Instead, it has more than one meaning, and to some its definition is broader than to others. In the present study, however, I shall use the term 'video games' to refer to any game that is played on a digital interface of any kind.

2.1.1 Categorization of video games

Categorizing video games into different genres is rather challenging. Genres, as they also do in both literature and on film, miss stability and often overlap, and e.g. a specimen of a role-playing game might include features of adventuring, action, and horror. According to Apperley (2006: 9), genre boundaries are expected to be pushed by innovation. Kline et al. (2003: 104-105; cited in Apperley (2006: 9)), suggest that the lack of innovation and inability to develop video games in a new direction in the 80s were the fundamental reasons that caused the North-American video game crisis, a period when the total number of video game companies plummeted and their revenues decreased by nearly 50% (Ernkvist 2008:183). Although genres are constantly evolving and genre boundaries are becoming increasingly blurred, some defining features remain.

Categorizing video games can be done in multiple ways. In their study, Chou and Tsai (2007: 819) categorize video games into eight different game types: role-play, strategy, action, sports, puzzle, first-person action, adventure, and simulation. Making a definitive list of video game genres is impractical, but to make the list of genres more complete, a closer look at how video games are played is needed. Apperley (2006: 10-11), on the other hand, divides video game genres into interactional characteristics: platform, mode, and milieu. Hardware always has its effect on the game, and even though many games are playable on multiple different platforms (e.g. *Sony PlayStation, Microsoft Xbox, Nintendo Wii*, mobile devices), some features in the game change. Furthermore, games that are made for a specific platform can have their distinguishable characteristics. For example, mobile devices offer different kinds of possibilities for playing video games than PCs. Thus, mobile games are often quite different from computer games. Mode, on the other hand, is how the game is experienced: the 'spatial and temporal arrangements of the game' (Apperley 2006: 11), the player's ability to move in either a linear of free way, the structure of the game, and the number and proximity of plaýers. Milieu is used to describe the visual setting of the game as well as its atmosphere. Examples of such genres are horror, science fiction, and fantasy, which are commonly used in

categorizing both literature and film.

2.1.2 The history of video games

The history of video games is rich and eventful. Video games have evolved from mid-1900's simple single player dot-moving into numerous different games that include everything from complex plots and storytelling to movie-like features, high resolution, 60 frames per second to games that anyone can create by using their computer or another suitable device. There is no consensus on which video game was the very first one to appear, but according to Creeber and Martin (2009:76-77), one of the earliest video games was produced as early as 1947. This game simulated missile firing by allowing the user to move a dot on the screen. During the next decade other video games that are seen as the first video games were produced, such as *Tic-Tac-Toe* in 1952 and *Tennis for Two* in 1958, which, according to some sources, is considered to be the first actual video game (The first video game? n.d.).

2.1.3 The rise of video games as a pastime

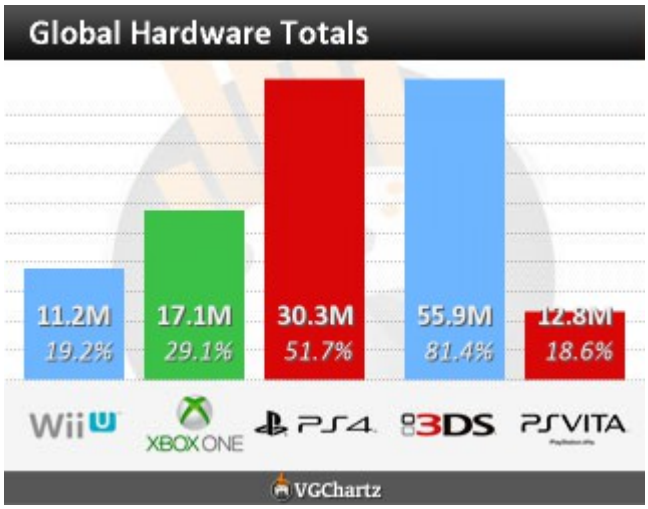
Creeber and Martin (2009:77-78) discuss the chain of events that led to the popularity of video games as a pastime: they state that video games started to become more visible during the cold war, partially because of the fact that the war inspired the development of computer-based attack and defence simulations. The rarity alongside the price and remarkable size of computers, however, meant that video games in the early 60s, such as *Spacewar* (1962), were mainly available for scientific institutions. Later on, technological advances enabled the development of commercially distributed video games and the first platforms specifically designed for digital games, such as *Magnavox Odyssey* (1972), which sold 100,000 units in its first year on the market. The success of *Odyssey* inspired other companies to create their own digital gaming systems in order to compete in the video game market, and by 1984, hundreds of systems similar to the original *Odyssey* had been created (Creeber and Martin 2009:77-78).

Due to increasing popular interest in video games, console development, the rise of arcades, and the releases of iconic games, the late 70s to early 80s are nowadays considered as 'the first golden age of video games' (Creeber and Martin 2009:78). Followed by what is known as the North-American video game crisis (see 2.1.1), this 'golden age' eventually ended with a number of unsuccessful video game releases, decreasing console sales, and bankruptcy of multiple video game companies.

While the console market was struggling, the increasing availability of computers momentarily transformed the main focus of video games from consoles to PCs, to which Nintendo responded my creating NES, a gaming console that brought an end to decreasing console sales. From then on, computer gaming and console gaming have co-existed side to side. Since 1972, eight generations of video game consoles have been published, containing more than 130 different devices and platforms (Gamerfaqs.com 23.1.2017), estimated 44,000 different video games (http://pastebin.com/EuxZMbWT, 23.1.2017), and development in graphics from text-based games to photorealistic high definition, 3D, and soon, 4K-games.

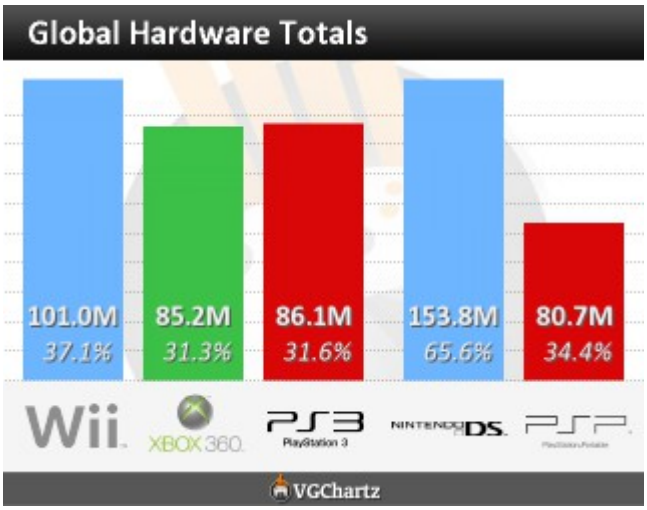
Video games have steadily increased their popularity as a pastime. According to Interactive Software Federation of Europe (ISFE), there has been a significant increase in playing video games from 2010 to 2012: the percentage of Europeans who had played video games in the past 12 months has increased from 25.4% to 48% (Video gamers in Europe 2012: 6). In Finland, the percentage of people playing video games is noticeably above the European mean: Karvinen & Mäyrä (2011: 229) found that 79% of Finns play video games and 56% of Finns play them at least once a month. The console sales statistics (see chart 1) verify the prevalence of playing video games as a leisure time activity:

Chart 1: Global hardware sales totals of the latest console generation (December 10th, 2015) **(http://www.vgchartz.com/)**



As seen in Chart 1, the global hardware totals of the best-selling consoles are each above 10 million units. Furthermore, by 2015, a total of 127.3 million console units of the present generation were sold worldwide. These best-selling current-generation consoles have been on the market since November 2012 (Wii U), November 2013 (Xbox One, PS4), February 2011 (Nintendo 3DS), and December 2011 (PS Vita). For comparison, a chart of previous generation sales statistics is included below:

Chart 2: Global hardware sales totals of previous generation consoles (December 10th, 2015) (http://www.vgchartz.com/)



As seen in Chart 2, the global hardware totals are noticeably higher than those of the present console generation. The previous console generation's life span was approximately 10 years, which explains these high sales rates. The number of units sold worldwide is above 80 million in all console types listed above, and the total of units of the five best-selling consoles totals at 506.8 million units. The release dates of these previous-generation consoles are November 2006 (Wii, PS3), November 2005 (Xbox 360), November 2004 (Nintendo DS), and December 2004 (PSP). In addition to these best-selling consoles, video games are played on computers, other consoles, tablets, smartphones and other devices, which reinforces the fact of how common playing video games is.

Another factor that describes the vastness of video game industry and playing video games as a common freetime activity is the comparison of movies and video games, more specifically, the budgets and revenues of movies and video games. The budget of the most expensive movie ever made, *Avatar*, which production cost approximately 240 million dollars and promotion 150 million dollars. In comparison, the most expensive video game made by far, *Call of Duty: Modern Warfare 2*, had a budget of 250 million dollars, including its development, marketing, and launch. The global revenue of the entire video game industry

has been estimated 101.62 billion dollars (https://www.statista.com/topics/868/video-games/ 23.1.2017), whereas the global revenue of film industry of both tv and video is 286.17 billion dollars (https://www.statista.com/topics/964/film/, 23.1.2017). As we can induce from these numbers, both budgets and revenues of video games are nearing those of movies, which indicates firm growth in the video game industry and playing video games as a form of entertainment.

Playing video games is commonly seen as a phenomenon of youth culture, but in reality, it is both cross-gender and cross-cultural (Griffiths 1993: 401-407). This can also be seen in the percentages by ISFE (Video gamers in Europe 2012: 6) and Karvinen & Mäyrä (2011: 229) (above). The reasons for the popularity of video games are not unambigous, and video games are played for various reasons: Chou & Tsai (2005), as cited in Chou & Tsai 2007: 813) found that Taiwan high school students' motivations for playing video games included the following:

> "The results indicated that most youth play games with six identified motivations: for entertainment, for seeking information, for filling time, for escaping from loneliness, for escaping from routines and people, and as a social device. The kinds of enjoyment they experienced in playing these games were shared joy, excitement, fantasy, escaping boredom or unhappiness, and emotional release." (Chou & Tsai 2007: 813)

The results (Chou & Tsai 2005) only included Taiwanese high school students' motivations for playing video games, but since these motivations can be seen as somewhat universal, it can be assumed that the motivations of people from other cultures and age groups would likely have certain similarities. According to the results, playing video games is, among other things, an escape from the reality that brings joy to players. Furthermore, a social aspect to video games can be seen in the results: they are seen as a 'social device', which can be interpreted as a means of communicating and spending time with friends, either physically or via the Internet. Nowadays playing video games increasingly includes an Internet connection, which enables social interaction that no longer requires physical presence. Using video games

as a social device can also mean communicating with strangers who play the same game. Due to the social nature of video games that mixes and alternates between verbal and non-verbal, written and spoken, physical and digital communication, video games can be an adequate tool in keeping in touch with friends, making new acquaintances, improving one's social skills, and even learning and acquiring languages.

2.1.4 The positive effects of playing video games

Playing video games that either require or encourage cooperation can have a positive effect on players' teamwork skills: as a team, all participants work in order to achieve a mutual goal. The goal can be e.g. a chance to proceed in the game, to win, or to obtain in-game items that facilitate advancement, such as gear or currency. In some games, all team members have their designated role that they play to achieve the team's goal. A team can have, for example, healers that heal team members during a fight, tanks that draws most of the damage their way, and DPSes (*damage per second*) that do as much damage per second as possible. Thus, all team members work together and every player is valuable to the team. Ducheneaut et al. (2007) studied player-organized groups, guilds, in *World of Warcraft:*

> ”Our observations indicate that MMOGs like WoW certainly familiarize their players with organizational forms that are prevalent in today’s work environment. Players are also given clear roles (their class) that naturally steer them into specific positions in their guild’s social network. This may later affect the way these players behave in the workplace (for instance, WoW players might prefer working in small teams with clearly-defined individual responsibilities).*” (*Ducheneau et al. 2007: 847)

In brief, according to Ducheneaut et al. (2007:847), games that involve a high level of organization such as *World of Warcraft* familiarize their players with forms of delegation that are frequently found in modern companies and organizations. Furthermore, social interaction while working towards a common goal naturally induces social competence altogether and can conceive varying degrees of companionship between players.

In addition to social benefits, video games are said to improve certain cognitive, visual, attentional, and perceptual abilities (Boot et al. 2008: 387). Boot et al. (2008: 392-395) found that people who play video games on a regular basis achieve better results than non-gamers in tests of high-speed object tracking, visual short memory, task-switching, and decision-making. They also found that the play time required to gain these improved abilities is rather high: in their study, non-gamers who played a variety of video games did not improve their performance in tests after a 21-hour play time.

Video games are a subject that is increasingly visible in the media in both positive and negative. It stirs controversy, and since it affects an increasing number of people, opinions can differ greatly. April 28th, 2017, Google found approximately 15.8 million results for the search 'positive effects video games', and 6.04 million results for 'negative effects video games'. In addition, when the same searches were performed on Google Scholar, positive effects got 674.000 results, whereas negative effects got 626.000 results. This suggests that the positive effects of playing video games are getting more attention than the negative, and maybe even that the number of positive effects exceeds that of negative ones. Even though playing video games have been proven to have a number of positive effects, news that cover acts of violence that involve shooting often bring forth the information if the suspect played video games (e. g. See http://www.charismanews.com/culture/52651-14-mass-murders-linked-to-violent-video-games (April 28th, 2017), http://www.iltalehti.fi/ulkomaat/2013091717499371_ul.shtml (April 28th, 2017)). Ferguson (2007: 314), however, studied the positive and negative effects of playing violent video games, and found that playing video games was not associated with aggressive behavior but instead, with some positive effects.

After defining the term *video games* and taking a look at their variety, history and benefits, we shall move on to vocabulary learning and acquisition:

2.2 Vocabulary learning and acquisition

When discussing vocabulary learning and acquisition, there are a few relevant issues that need to be covered. First of all, we need to define what a word is, and furthermore, what knowing a word means. We also need to compare the means of adding to ones vocabulary, acquisition to learning. In this section I will cover the aforesaid themes in short in the sense of what is meaningful when analyzing English vocabulary knowledge, and omit the facts that only apply to languages other than English.

2.2.1 What is a word?

Even though every individual surely has a certain idea of what a word is, it is surprisingly difficult to define it in a way that takes into account both its written and spoken forms. Carter (1998) discusses different ways of defining a word, some of which will be shortly described below. Perhaps the simplest and the most practical way of defining a word is the ortographic definition, according to which it is a sequence of letters separated by a space or punctuation. (Carter 1998: 4). For example, the phrase *The unemployment rate is relatively high* consists of six ortographic words, all separated by space or punctuation. This definition, however, only applies to the written form of a word, and like any other definition, it also has its flaws: it is not sensitive to distinctions of meaning or grammatical function. In the example given above, the first three ortographic words, *the unemployment rate*, can be seen as one word when calculated semantically, that is, by their meaning. Nevertheless, the ortographic definition is perhaps the most practical way of calculating vocabulary knowledge, the words studied in this paper shall be ortographically defined.

The opposite of ortographic definition is phonological definition, which is a more complex definition of a word. It only refers to spoken language form. As said above, in written form, words are separated by space or punctuation, but in speech, words appear in continuous

strings rather than separately. For example, in the sentence *I miss you* the words are, in written form, separated by spaces in between them, but in spoken form they are pronounced right after one another: [aɪmɪsju]. According to Carter (1998), a word in English can only have one stressed syllable, which facilitates separating words from free speech. This, however, poses problems, since some ortographic words, such as *if*, do not include any stressed syllables, and thus, according to phonological definition, are not calculated as words. Moreover, phonological definition counts compound words, e.g. *love letter* and *hate crime* as separate words because each string of letters separated by a hyphen or a space contains a stressed syllable in their phonological form, even though semantically both words are needed in order to form the intended meaning.

A more specific definition is to define a word semantically as the minimal meaningful unit of language (Carter 1998: 5), which applies to both written and spoken language, but fails to include structural words that carry little meaning, such as *by* and *indeed.* Furthermore, a word can also be defined as the minimal free form, e.g. be an acceptable answer to a question or an exclamation. Again, this approach excludes a number of words that cannot stand on their own without being at least contextually attached to other words. Any discourse is largely comprised of *formulaic sequences*, expressions, that consist of combinations of words that occur together. Myles et al. (1998: 325) define formulaic words as situationally dependent strings of words that are used repeatedly in the same form community-wide. They are often used as gap-fillers in conversations to minimize the length of pauses: they can be used to give the speaker time to formulate their following utterance or to increase fluency. Formulaic sequences are learned as a whole, and at the moment of learning them, can be above the learner language level. Examples of such string of words are *I know, isn't it,* and *I can't even.* Defining a word as the minimal meaningful unit of language does, however, introduce a solution to a problem called *polysemy*, or the occurrence of multiple meanings within the same ortographic form (Carter 1998: 7). An example of such word would be the word 'man', which can refer to an adult male, the human species, or biological gender.

Carter (1998) also introduces the concept of *lexemes*. A lexeme is a basic, contrasting form of vocabulary, which in a dictionary marks separate entries. For example, BEAR is the lexeme of *bore* and *born.* Lexemes are abstractions that do not themselves appear in text, but they realize different word forms. Lexemes also include lexical items, such as multi-word verbs (e.g. take off). Furthermore, words can be divided into lexical words and grammatical words. Lexical words are seen as content words that carry meaning, such as nouns or verbs, whereas grammatical words are functional words, such as prepositions and pronouns. For clarity, in this thesis I shall use the word *word*, but in its broader definition, referring to lexemes, lexical items, and grammatical words.

2.2.2 Learning and acquisition

After knowing what understanding a word means, we need to take a look at how vocabulary is learned, and more specifically, how the process of learning vocabulary works. According to Clark (as cited in Carter 1998: 184), an 18-month-old child knows around 50 words, which in years to come increases to several hundred words. On average, an adult native speaker has a vocabulary of 15,000 – 20,000 words (Carter 1998: 236). These known words can be retrieved from the memory in no time, which suggests that the words in our heads exist in an organized environment (McCarthy 1990: 34), or a *mental lexicon*. Navracsics (2007:17) defines the mental lexicon followingly:

> ”The mental lexicon is a kind of internal dictionary that contains not only the ‘entries’ for each word a speaker knows but also all the linguistic information about the word: its semantic content, syntactic properties, phonological shape, and so on”. (Navracsics 2007: 17)

According to McCarthy (1990), mental lexicon is constantly under editing since information about each word is constantly added and edited : when encountering a word for the first time, a mental note is made of its 'general shape', which contains information about the word's semantic information and stress and syllable patterns. After that, the new information is

accommodated with the existing information.

According to Krashen and Terrell (1983: 32), in order to enable language acquisition, the level of input should be slightly higher than the level of learner language – that is, i+1. For example, a text that encourages language acquisition should be understandable to the learner, but include some new features that can be understood by the context they occur in.

When speaking of vocabulary, illustrating the processes of learning and acquisition cannot be omitted. Learning is often associated with classrooms and formal contexts. Krashen (1982) sees that the process of learning involves two features: error correction, for example a teacher or a tutor correcting learner errors in language or drawing attention to them and giving the learner a chance to rethink their utterances in order to reach the 'correct' form, and rule isolation, which in a language classroom often means giving a certain form in which a linguistic feature, for example a grammatical item, is formed. Whereas learning is seen as a somewhat conscious process that requires effort, acquisition happens more imperceptibly through adequate input and later on, output, and is considered the natural way of acquiring a language – the way a child acquires their mother tongue. Since this paper focuses on second and foreign language acquisition, in this paragraph I will focus on L2 acquisition instead of L1. Krashen (1982) defines acquisition as the natural way of learning a language than involves no conscious focus on linguistic forms, such as grammar. Furthermore, Johnson (2008: 78) defines acquisition as 'the process by which individuals 'pick up' a language through exposure to it'. After acquiring a mother tongue, a person can acquire foreign languages throughout their life. For example, if a person moves into a foreign country, after a while, he or she is likely to understand at least some vocabulary even without formally learning the language in a classroom. The level of input, however, defines whether a language can be acquired or not. The Input Hypothesis (Krashen and Terrell: 1983: 32) is based on the idea that the input level needs to be slightly above the learners' present linguistic competence. New linguistic features, such as new words, should be comprehensible to the learner, for example through their context.

Even though the basis of the process of language learning and acquisition remains the same, there are, however, individual differences that affect language learning and acquisition. Johnson (2008: 112-135) divides these factors into cognitive and affective variables: the cognitive variables include factors such as intelligence, aptitude, phonetic coding ability, and grammatical sensitivity, whereas the affective factors include items such as motivation and attitude. Motivation to learn a language can be either integrative or instrumental (Johnson 2008: 125). When looking at learning Swedish, for example, integrative motivation stems from willingness to get to know the Swedish culture and from pure interest in the language itself, whereas instrumental motivation for learning Swedish might originate from needing to know it in order to advance in one's career. When looking at learner attitudes, if a learner has positive feelings towards learning Swedish and the country and Swedish people in general, the learning experience becomes more pleasant, which affects learning positively. Instead, if a student has especially negative feelings towards the language, the culture, and the people, the learning experience is likely affected negatively.

Playing video games is, most of the time, a voluntary freetime activity, which results in the player being motivated to advance in a game. Since players have often chosen to play video games, their attitude towards the game is likely positive, even though their attitude towards the language the game is in is not, playing the game requires undertanding the language and thus, is likely to result in language acquisition. Furthermore, video games often contain events that are congested with emotions, either positive or negative (e.g. An emotionally close character dying, falling in love). Such strong emotional connections can increase the chances of acquiring new phrases or words.

2.2.3 Knowing a word

So what defines that a word is learned? Knowing a word involves knowing the different meanings carried by a single word (Carter 1998:5). Carter (1998: 191-192) divides knowing a word into following points:

1) Knowing a word includes knowing which semantic spaces it does and does not occupy
Understanding a word's semantic space in L1 is learned through overextending words, e.g. using the word *dog* for every hairy animal or *ball* for objects you can throw (Carter 1998: 187). Knowing to which objects and ideas a word can and cannot refer is an important aspect of knowing a word.

2) Knowing a word is to know it in a context
When defining what knowing a word in a context means, the first step is to know what a context is. Words rarely appear individually, an even when they do, they are somehow related to other words or situations. One important aspect of knowing a word includes knowing how to use it, – that is, in a sentence or a situation, surrounded by other words, whether they appear in a written, spoken or unspoken form. According to Carter (1998: 209) context can be understood as a naturally occurring string of words, translation to L1, or the linguistic environment in which the word occurs. It can also be understood as a clause, a sentence, a phrase or even collocation. Being able to use a word in a context requires semantic, syntactic and pragmatic knowledge. Practising words in a context allows learners to use strategies to increase their knowledge of vocabulary, but a problem arises when deciding what kind of context secures receiving information of the necessary associations to know a word (Carter 1998: 212).

3) Both word comprehension and production are needed to know a word
To say the word is learned, it is not enough to simply comprehend a word when coming across it, but being able to produce it.

Nation (2009:27) covers what is involved in knowing a word as follows:

Chart 3: What is involved in knowing a word? (Nation 2009: 27)

TABLE 1 WHAT IS INVOLVED IN KNOWING A WORD (NATION 2009: 27)

Form	spoken	R	What does the word sound like?
		P	How is the word pronounced?
	written	R	What does the word look like?
		P	How is the word written and spelled?
	word parts	R	What parts are recognisable in this word?
		P	What word parts are needed to express the meaning?
Meaning	form and meaning	R	What meaning does this word form signal?
		P	What word form can be used to express this meaning?
	concept and referents	R	What is included in the concept?
		P	What items can the concept refer to?
	associations	R	What other words does this make us think of?
		P	What other words could we use instead of this one?
Use	grammatical functions	R	In what patterns does the word occur?
		P	In what patterns must we use this word?
	collocations	R	What words or types of words occur with this one?
		P	What words or types of words must we use with this one?
	constraints on use (register, frequency ...)	R	Where, when, and how often would we expect to meet this word?
		P	Where, when, and how often can we use this word?

Note: In column 3, R = receptive knowledge, P = productive knowledge.

Nation (2009) states that knowing a word involves understanding its form, meaning, and use, which are all divided further into more specific categories and into productive and receptive skills. This table can be used to determine what aspects of knowing a word have been achieved and which ones need more focus. Nation's table of what is involved in knowing a word is considered ”the most comprehensive incarnation” of word knowledge, and it is often referred to in related academic publications, such as Daller et al. (2007) and Milton (2009). These notions of word knowledge shall also be considered in this paper when discussing knowing a word and when a word is learned or acquired.

Carter (1998: 239) summarizes knowing a word followingly:

> " 1) It means knowing how to use it productively and having the ability to recall it for active use, although for some purposes only passive knowledge is necessary and some words for some users are only ever known passively.
> 2) It means knowing the likelihood of encountering the word in either spoken or written contexts or in both.
> 3) It means knowing the syntactic frames into which the word can be slotted and the underlying forms and derivations which can be made from it.
> 4) It means knowing the relations it contracts with other words in the language and with related words in an L1 as well.
> 5) It means perceiving the relative coreness of the word as well as its more marked pragmatic and discoursal functions and its style-levels.
> 6) It means knowing the different meanings associated with it and, often in a connected way, the range of its collocational patterns.
> 7) It means knowing words as part of or wholly as fixed expressions conveniently memorized to repeat— and adapt— as the occasion arises. " (Carter 1998: 239)

To summarize Carter's insights on what knowing a word really means, in order to say a word is learned, it needs, in most cases, to exist in one's productive vocabulary. The word should be recognized in its both written and oral forms in different kinds of contexts and situations, throughout its different functions and stylistic changes in context and the use of the word itself. A known word can be derived into other words, and the known word's multiple meanings should be understood. All in all, a known word can be used freely and in fixed expressions, and it can be adapted when needed.

2.3 The effect of playing video games in vocabulary learning and acquisition

As said above in 2.1, playing video games is beneficial to a number of skills, including linguistic abilities. In order to proceed in a game, one must complete required tasks, which often involve either written or spoken input, and in some cases, even output from the player. Furthermore, as mentioned in 2.1, some video games have a social aspect to them, and highly rely on gamer-to-gamer communication. Since English is a commonly used lingua franca, being able to communicate in it is highly beneficial to the gamer and can even be crucial to

making progress in a video game. For example, being a proficient user of English can prove advantageous in tasks such as finding and collecting required items, traveling to a certain location, defeating foes, and in communicating with other people playing the same game in trading items, negotiating player roles and tactics, and socializing with peers. The input and output acquired while playing video games results in both language acquisition and learning: some vocabulary and structures are acquired without a conscious effort, whereas figuring out meanings to certain items and phenomena demands more deliberate work.

Since the majority of video games is published in English and subtitled or dubbed versions often only exist in a few widely spoken languages, such as Spanish or French, playing video games is considered to strengthen English language skills. All in all, in addition to written and spoken language, video games often offer visual cues to enhance players' abilities to advance within the game. Since video games include multiple factors that contribute to language learning, especially active gamers are often seen as proficient English users. Uuskoski (2011) studied the effect of playing video games on English grades. He found that playing video games had a noticeable positive impact on English grades: compared to non-gamers, whose English grade average was 7.28, casual gamers (0 – 5h of gaming per week) had an average of 7.68, and active gamers had an average of 8.10, maximum grade being 10. Furthermore, hardcore gamers (15+h of gaming per week) achieved an average of 8.79, which is significantly higher than the average of those who did not play video games. Comparing the English grades of students that play video games to those who do not play any video games strongly suggests that playing video games has a positive effect on language learning, which is also in consonance with the results of a small scale Bachelor's Thesis on secondary school students' perceptions of the effect of video games in vocabulary acquisition (Teittinen 2015). The subject of language learning via video games is relatively recent, many other smaller scale studies have been made as well. For example, only in the University of Jyväskylä's Department of Languages, at least 6 Master's theses have been written on the subject.

Sundqvist (2009) studied the effect of extramural English on language learning. She found

that out of various extramural activities, especially playing video games had a significant effect on participants' language skills such as oral proficiency and vocabulary. Many video games either require or encourage oral interaction between players, which results in constant practice and repetition, which positively affects language skills, especially oral and vocabulary skills. Even in games that involve no oral communication, vocabulary is present in its written or spoken form, often in both. Only the amount of vocabulary varies. Thus, the relation between playing video games and development in vocabulary seems reasonable.

Gamers use English to both communicate and advance in a game. In addition to these more traditional uses of language while playing video games, sometimes players repeat the utterances that appear in a video game out loud, especially when playing with their peers (Leppänen & Piirainen-Marsh 2009). This form of oral repetition strengthens both vocabulary knowledge and pronunciation of the said language, in this case, English.

3 THE PRESENT STUDY

As said above, playing video games is perceived as a remarkable means of improving one's language skills, especially English vocabulary. The present study aims at acquiring information on how university students perceive the effect of playing video games on language, in this case, English, and more specifically, vocabulary acquisition. Since the subject is suitable for quantitative research, the targeted number of participants was set at 100 in order to achieve a pool of data that would have some numerical value. The extent of a Master's Thesis does, however, limit the opportunities of generalization.

The research questions of the present study were:

- According to their own perceptions, what kind of vocabulary have Finnish university students learned via playing video games?
- How useful do Finnish university students find the vocabulary they have acquired via playing video games?

Subquestion:

- How does gender affect the views of language acquisition via playing video games?

3.1 The participants

The target group was chosen mainly based on the fact that young adults of today have grown up in an environment that includes video games as one of common leisure time activities, and are often already at least somewhat competent users of English. Furthermore, they have often finished studying English formally in a classroom, at least in elementary and secondary school, and in upper secondary or vocational school. Being mostly young adults, the students might be able to recall what kinds of words they have learned through video games and what kinds of video games have helped them in their language studies. Since the majority of vocabulary acquisition via video games has likely taken place when the language learning process was more active, for example in elementary or secondary school, participants have likely acquired the most vocabulary at that time. In addition, due to their young age and cognitive skills, they are more likely to be able to track the effect of individual factors, such as video games, on their language learning. Furthermore, the target group was easy to reach via email lists, which also facilitated quick data collection. In addition to more academic reasoning to choosing the target group, a personal interest of comparing students' in their early 20s perceptions of language learning and video games to secondary school students'

perceptions.

3.2 The questionnaire

The present study was conducted as a questionnaire that included open-ended, closed, and Likert scale questions, the main focus being on closed and Likert-scale questions. According to Kalaja et al. (2011: 148), a questionnaire that consists of strict claims and multiple choice questions can be used to study precise subjects, which in this case would be perceptions of language acquisition and playing video games and their relation. The present study aims at discovering how university students perceive the effect of playing video games on language learning, based on their personal experiences. Due to the questionnaire being greatly associated with participants' attitudes towards the subject, the formulation of the questions played an important role (Kalaja et al. 2011: 150). The questionnaire was first piloted with five members of the target group, and after receiving their responses and feedback on the questionnaire itself, the questionnaire was edited to better suit the needs of the present study. The pilotees' responses were not included in the final data. After editing the piloted version of the questionnaire, the survey was open for responses from April 10th to April 11th, 2017, and it received 120 answers in total.

The data collection method for this study was chosen based on the fact that a questionnaire allows data collection from a large number of participants in little time. The subject itself is suitable for a questionnaire-based study: video games can be divided into categories that are easily understood by anyone who plays video games, Likert scales can be used to define perceived language acquisition, and closed questions can be used to measure gaming activity. In addition, some open-ended questions were added in case the participants have a need to clarify their responses or add their further insights on the subject. According to Dörnyei (2009: 12), the topics in the field of second and foreign language rarely make the respondents feel strongly about the subject, and thus, a shorter questionnaire is preferred. The length of the

questionnaire was set at 17 questions in order to maintain the participants' interest for as long as it takes to take part in the questionnaire. Since the primary means of data analysis is quantitative, an online-based questionnaire provides an appropriate tool for calculating percentages and comparing the received responses. An online questionnaire is also easy to distribute, and being able to analyze it requires no data transfer from physical to computer-based. Furthermore, since the subject of the present study is strongly related to video games, distributing the questionnaire online seemed like the optimal way of reaching the target audience. Moreover, modern people spend most of their time connected online in one way or another, e.g. by carrying portable devices such as smartphones, which makes answering an online questionnaire a more comfortable experience (Bryman 2012: 191).

An another possibility for data collection on perceptions on vocabulary learning via playing video games would have been interviewing the participants. However, interviewing participants, categorizing, and analyzing the data takes a considerable amount of time, and would not provide data from as many participants as a questionnaire in a study of this scale. Interviewing enough participants in order to receive a pool of data that could be analyzed quantitatively would simply have been impossible, given the limitations set by the present study. Furthermore, many previous studies that have investigated the relation between language learning and video games have relied primarily on questionnaires. A non-oral questionnaire does, however, pose challenges: answers can have ambiguous meanings, especially those given to open-ended questions. In addition, the questions can be ambiguous in meaning, too, and interpreted differently by different participants, which may result in misinterpretations (Gillham 2008: 8). Since the present study is non-oral and ensures the participants' anonymity, there is no possibility for explanations or clarifications later on. The process of piloting and acquiring feedback on the questionnaire before executing it does, however, help in eliminating or at least decreasing these ambiguities.

The decision of making the majority of the questions closed instead of open-ended was made primarily in order to facilitate the process of data analysis. In addition, Likert scale questions

reduce the negative effects of question wording, and enable more accurate data collection than a question with only two options (Dörnyei 2009: 25). Furthermore, Dörnyei (2009: 94) states that multi-item scales should be used whenever it is possible. Moreover, based on personal experience on open-ended video game related questions, the data received from open-ended questions has proven considerably less useful than the data received from closed questions since the participants tend to go through the questionnaire with minimal effort. For example, if the question asks the participant to give examples of video games they feel they have learned English from, the participants may only list one or two games instead of giving a more comprehensive list, maybe because of being in a hurry, not feeling like putting effort into the questionnaire, or not being able to think of more examples. The examples given might not be the best possible examples they feel they have learned language from, but instead the only ones they could think of at that time. Changing the form of questions from open-ended to closed, these participant-related factors can be almost completely eliminated, which results in more reliable data.

3.3 Data collection and analysis

The data was collected in April, 2017, from April 10th to April 11th. The questionnaire was distributed as an open access link via University of Jyväskylä email lists of various student organizations of every faculty. Students of every faculty were given a chance to participate in order to collect data that gives a more reliable and precise image of how university students in general perceive the subject: for example, humanities students' perceptions might differ greatly from those of economics students. Since the differences in perceptions between different students was not the main focus of the present study, the data was collected anonymously, without asking the faculty or the subject the participants major in. No identifying detail or questions were included in the questionnaire to ensure participant anonymity. The sample consisted of Finnish university students and, deduced by the surprising age distribution, their family, friends, or acquaintances. The age of the participants

varied from the age of 14 to the age of 41, majority of the participants being in their mid-20s. The questionnaire received 120 responses, 119 of which could be taken into account in the present study. The reason for omitting the certain response from the data analysis was that the participant in question had quit the survey after the first questions. Furthermore, some participants did not participate in the open-ended questions. Since motivating enough people to take a questionnaire can prove difficult unless the possible participants feel that the subject is either relevant to them or that they benefit from taking the questionnaire (Gillham 2008: 8), acquiring a decent number of responses in a relatively short time of 24 hours implies that the subject of the present study is personally relevant to present day university students.

Since the sample of the present study was quite sizeable, 120 participants, data was primarily analyzed quantitatively. It was first categorized by themes that occurred in the data, and the methods of analysis included features of content-based (open-ended questions), comparative, quantitative but also qualitative (open-ended questions) analysis. The primary means of analysis was correlation analysis.

The process of analyzing the data was started by examining the data as a whole, question by question. First, the responses were viewed as tables, comparing both genders' responses to each other in order to get a general idea of the respondents' gaming experiences and views on video games and language learning, and furthermore, to see if there are any gender differences to these matters. Certain tables, such as gaming activity and perceived vocabulary acquisition, were compared to one another to see how the percentages change for example in views of the amount of vocabulary learned via playing video games and how useful the participants have experienced the vocabulary in general.

After that, individual responses to each question were compared to other responses made by the same individual in order to to gain more specific data on the participants' gaming habits and perceptions on language learning and video games both in general and based on their personal experience. Later on, the responses of each individual were compared to those of

other participants to see how different kinds of gamers perceive the effect of video games on language learning. It was crucial to this study to find out how different gaming habits (e.g. Regularity, amount, and starting age of playing video games) have affected the participants' perceived vocabulary acquisition via gaming.

The analysis of the open-ended questions started by inspecting the responses in general, and after that, making a list of themes that occur in the data. The responses were then read again, categorizing each response into a matcing theme or themes. The responses per each category or theme were then calculated and made into a table, once again comparing the male and female respondents' views in order to see if any differences occur.

4 PERCEPTIONS OF VOCABULARY ACQUISITION FROM VIDEO GAMES

4.1 Participant distribution

The age distribution of the participants was from 14 to 41, majority of the participants being 20 to 26 years old, which is directly linked to the fact that majority of university students in Finland are in their 20s. Moreover, when compared to the results acquired by Mäyrä et al. (2016: 53-58), Finns in their 20s play more video games than Finns of any older age groups. All in all, from ages 10-19 onwards, how actively video games are played is inversely proportional to age. Thus, it seems plausible that students in their 20s would show more interest towards video games and therefore, studies about video games than their older counterparts. Surprisingly, the survey received three responses from 14-year-olds and one response from a 15-year-old, which indicates that the youngest participants were not students at the university but perhaps their relatives or acquainted with a student who has received the link to the questionnaire in one way or another. Their responses were included in the present

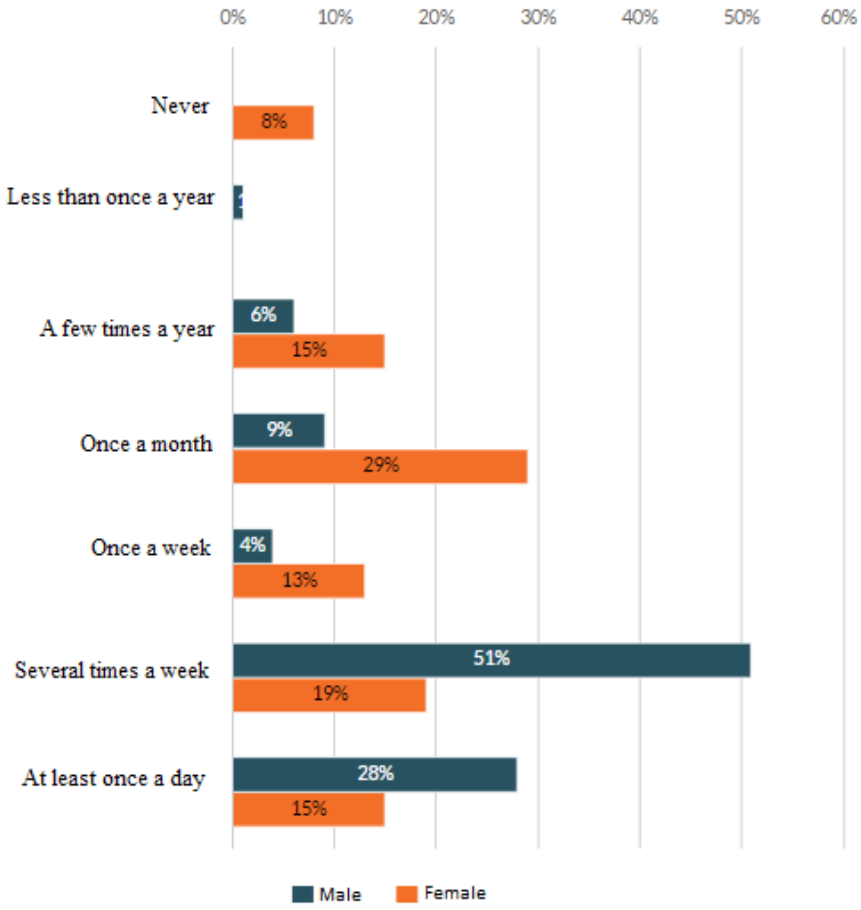
study even though their age did not match the aimed participant group in order to get a more broad variety of views.

56% of the participants were male and 44% were female, which either suggests that both genders equally play video games on their free time or that both genders are as likely to take part in questionnaires that advance other students' graduation.

4.2 Playing video games

According to the results, the male participants play considerably more video games than the female participants:

Table 1: How often male and female participants play video games



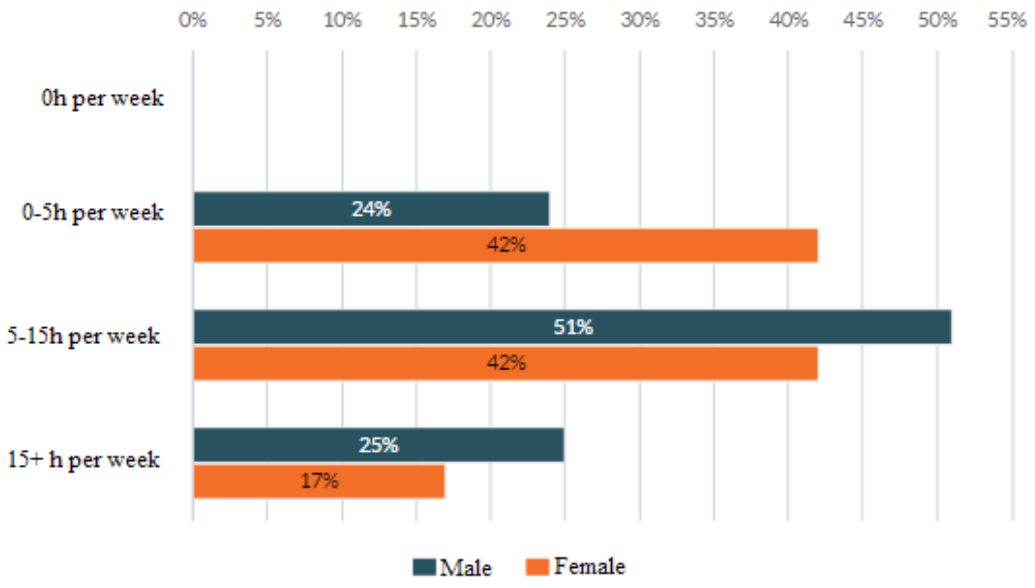
8% of the female participants never play video games and 1% of the male participants only play video games less than once a year. Even though they do not play video games themselves or only play them rarely, their responses to questions about their personal experiences and perceptions were included in the data. They were not, however, shown the questions about further gaming activity. 6% of the male participants and 15% of the female participants play video games a few times a year. 9% of the male participants and 29% of the female participants state that they play video games once a month, whereas 4% of the male participants and 13% of the female participants play video games once a week. 51% of the male participants play video games several times a week, whereas 19% of the female participants play as much. 28% of the male participants and 15% of the female participants

play video games at least once a day.

To sum up, the highest percentage of female participants, 29%, play video games once a month, whereas majority, 51%, of male participants play video games several times a week. Furthermore, the highest achieved percentages in gaming activity with female participants fell on playing video games once a month (29%) and several times a week (19%), while the highest percentages of male participants in the same category were in sections several times a week (51%) and at least once a day (28%). Thus, it can be induced that both male and female university students play video games, but male students play noticeably more often and hence, more in volume. The results in gaming activity and the differences in gaming activity divided by gender are both somewhat in accordance with the results acquired by Uuskoski (2011), who found that the majority of female students play 0 to 1 hours a week and male students play 5 to 10 hours per week.

To further investigate the amount of playing video games, the next question focused on participants who play video games at least once a week, and more specifically, on how many hours per week do participants spend gaming.

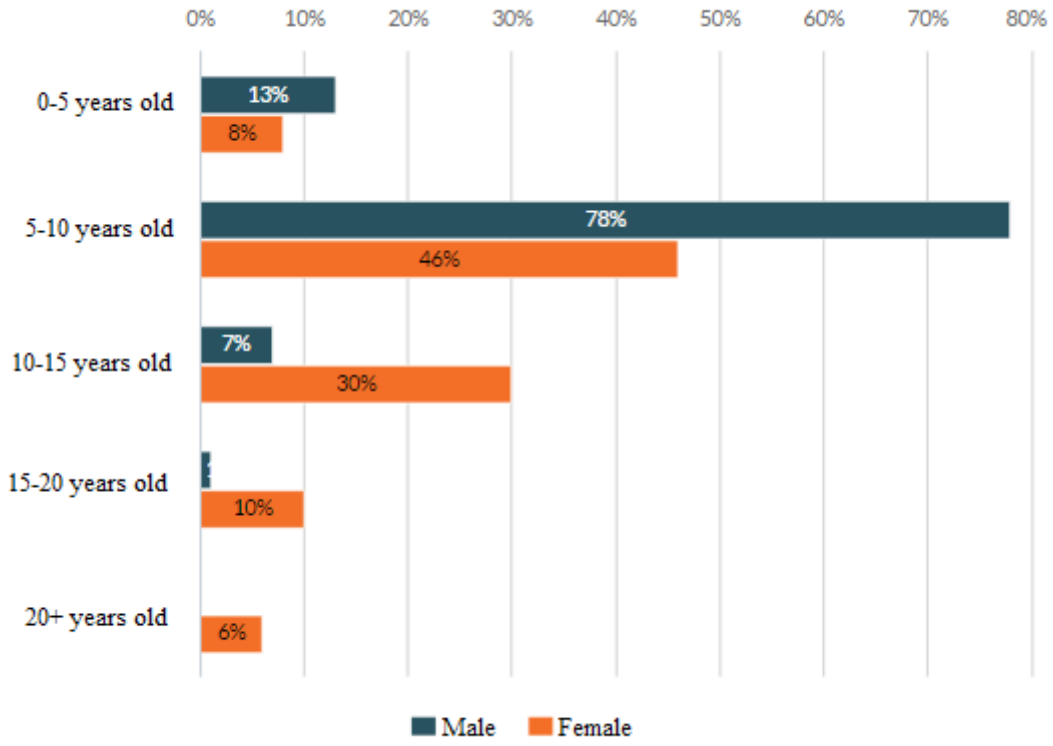
Table 2: Hours of gaming per week, male and female



When looking at the responses of the participants who play video games at least once a week, 24% of males and 42% of females state that they play video games 0 to 5 hours per week. 51% of males and 42% of females play 5 to 15 hours a week, and 25% of males and 17% of females play more than 15 hours per week. As induced earlier, male participants play video games more than female participants: they exceed the females both in regularity and amount of gaming. On average, male participants that play video games at least once a week play video games approximately 5 to 15 hours per week and female participants that play video games at least once a week play slightly over 5 hours per week.

The next question's aim was to acquire information on at which age the participants have started playing video games.

Table 3: The age at which the participants have started playing video games

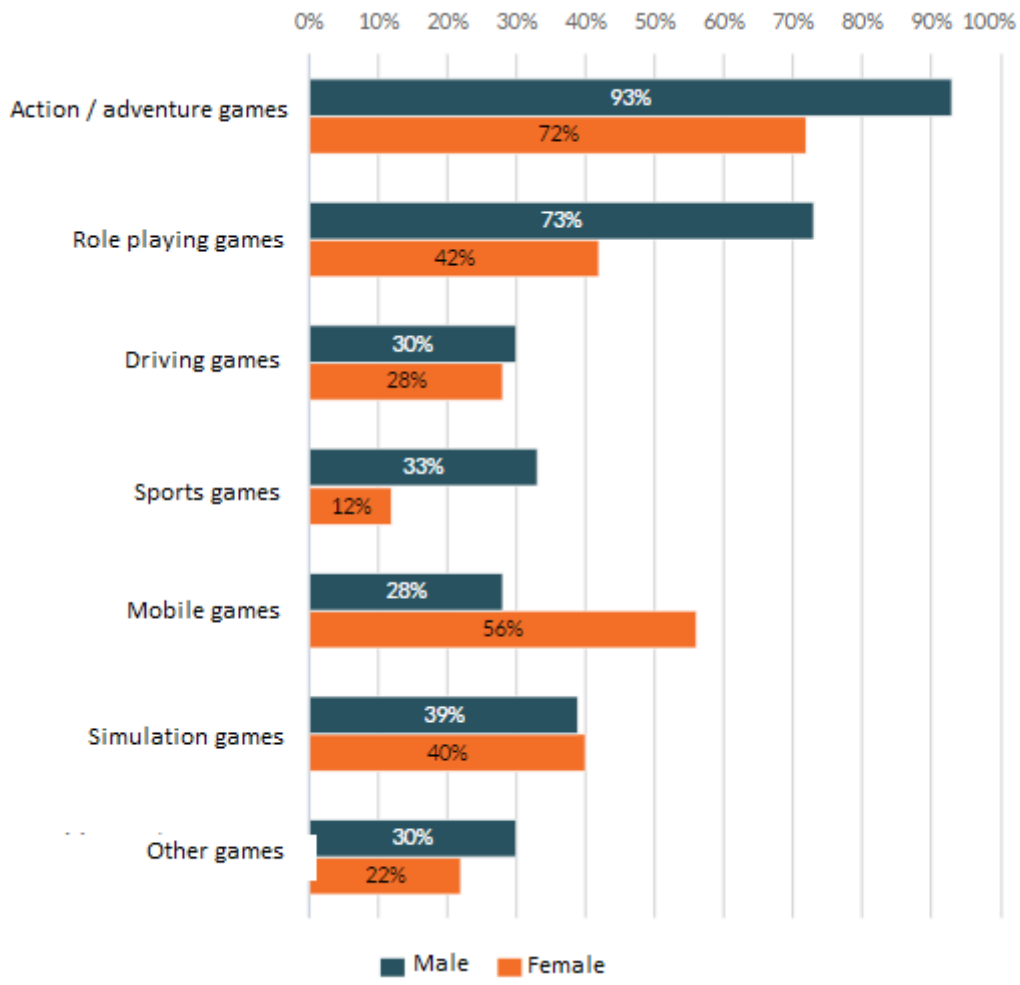


13% of male and 8% of female participants had started playing video games in their early childhood, between ages 0 to 5. The majority of the participants of both genders, 78% of males and 46% of females, had started playing video games between ages 5 and 10. 7% of males and 30% of females had started gaming at the age of 10 to 15, and 1% of males and 10% of females had started playing video games between ages 15 to 20. Lastly, 6% of female participants had started playing video games in their 20s.

The responses suggest that boys begin to experiment with video games earlier on than girls, but the majority of both genders start playing video games in their childhood years. The age at which playing video games did not affect the frequency of playing video games but followed a similar pattern as the results above with a maximum change of 9 percentage points, so it was not shown on the table.

Next, the questionnaire focused on finding what kinds of video games the participants play in general. The different types of video games were listed by genre, and the participants could choose as many options as they wanted in order to acquire reliable data on how actively different game genres are played by the participants. Later on, the data from this question shall be compared to gaming activity and perceived vocabulary acquisition. Here, however, we can see what kinds of video games the participants play in percentages:

Table 4: What kinds of video games the participants play, male versus female



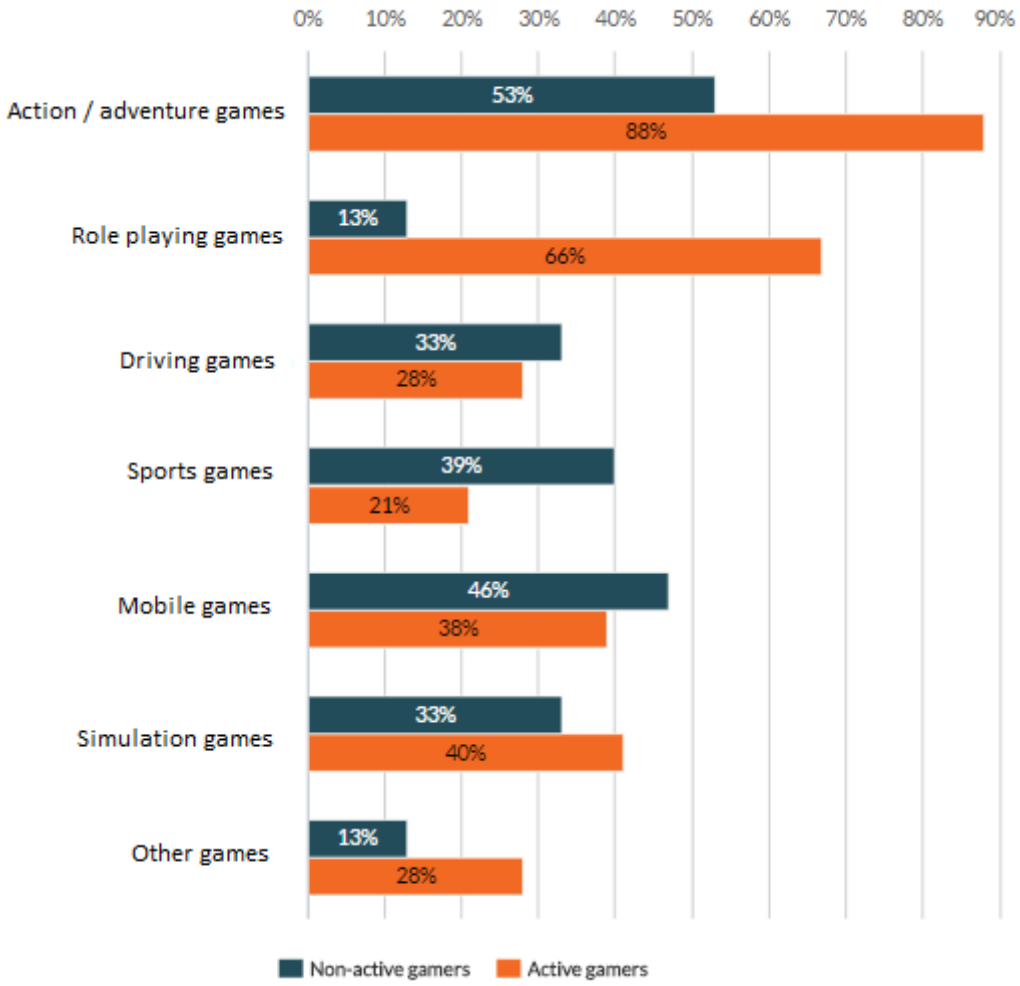
As seen in table 4, 97% of male and 72% of female participants played action and / or adventure games, which raises them as the most played game genres. 73% of male and 42% of female participants play role playing games. An example of such game is likely *World of Warcraft*, which in 2010, according to *Activision Blizzard*'s own estimates (https://www.statista.com/statistics/276601/number-of-world-of-warcraft-subscribers-by-quarter/), had 12 million subscribers worldwide. Advancing and acquiring better gear, such as items of armor, weapons, or pouches, in role playing games requires a high level of consistency in playing and participating. Thus, the high percentages of participants listing role playing games as one of their generally played game types is not surprising.

Furthermore, the list of the most popular game genres is also in accordance with Phan's (2011) findings: according to Phan 's (2011) results, the most frequently played game genres were strategy (47%), action (39%), and role playing (39%).

To continue with the table above, 30% of male and 28% of female participants play driving games: the difference in percentages between male and female participants is surprisingly low, which implies that both genders share a similar interest in driving games. The gender difference in the percentages of playing sports games is, however, noticeably higher: 33% of male participants and 12% of female participants listed sports games as a type of game they generally play. On the other hand, female participants exceed the percentage of male participants in playing mobile games: 28% of male participants and 56% of female participants state they play mobile games. The percentages of playing simulation games are rather similar in both genders: 39% of male and 40% of female participants play them.

When comparing the game genres played by active and non-active gamers, the pattern changes slightly:

Table 5: What kinds of video games the participants play, active vs non-active gamers



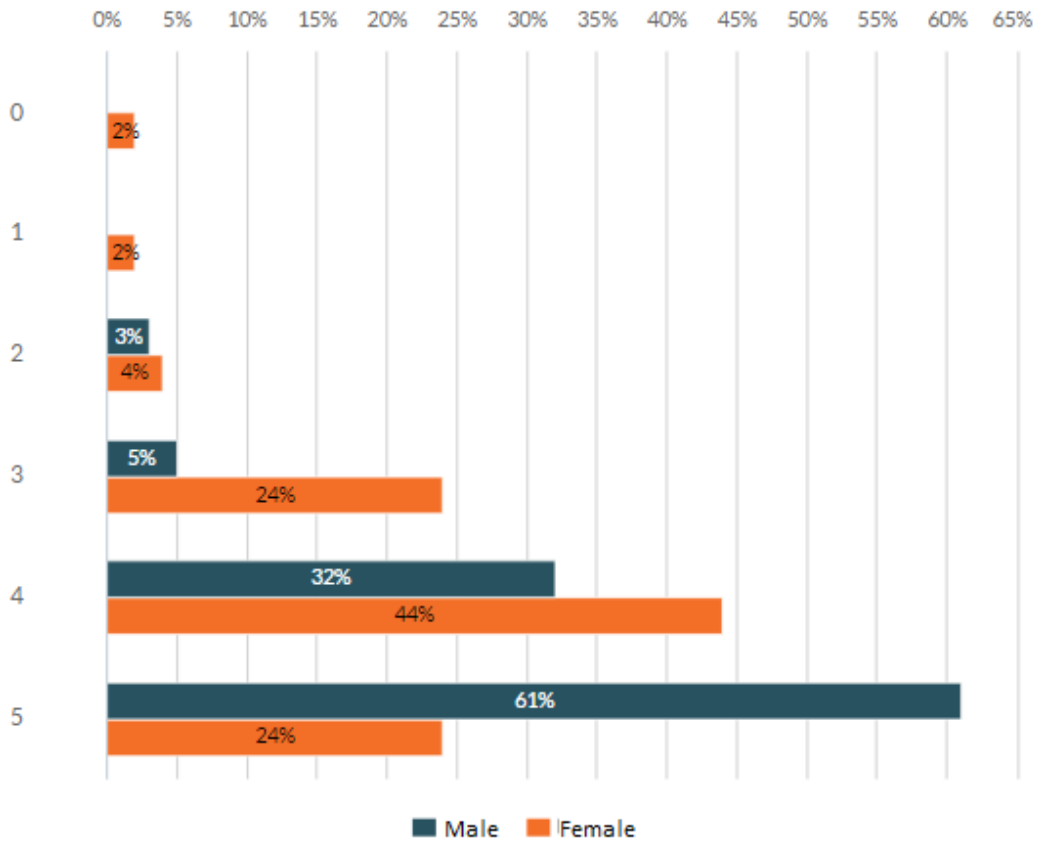
As we can see from table 8, the percentage of active gamers exceeds non-active gamers in action / adventure and role playing games by over 35 percentage points. They also slightly exceed non-gamers in simulation and other gamer, whereas non-gamers are more likely to play driving games, sports games, and mobile games.

After the listed game genres, the participants had the option to choose 'other' and list the kinds of games that were not included in the options. 30% of male and 22% of female participants listed 'other' as one of the game genres that they play. The only given example of 'other' games was strategy games, which was unfortunately omitted from the list of game genres.

4.3 Perceptions of language learning via playing video games

The participants were asked if they think that playing video games in English positively affects acquiring English vocabulary in general. The participants were provided a Likert scale from 0 to 5, 0 meaning no effect whatsoever and 5 meaning a great positive effect. Table 6 shows the perceptions in percentages:

Table 6: Participants' opinions on the effect of playing video games on English vocabulary acquisition



According to the results, 2% of female participants thought that playing video games had no positive effect on vocabulary acquisition. 2% of the females also saw a minimal (from a scale 0 to 5, 1) positive effect on vocabulary acquisition. 3% of male and 4% of female participants chose number 2 to depict their views on the relation between playing video games and

acquiring vocabulary, which implies they perceive a slight positive effect. 5% of male and 24% of female participants chose number 3, which means they saw a moderate positive connection between gaming and language learning.

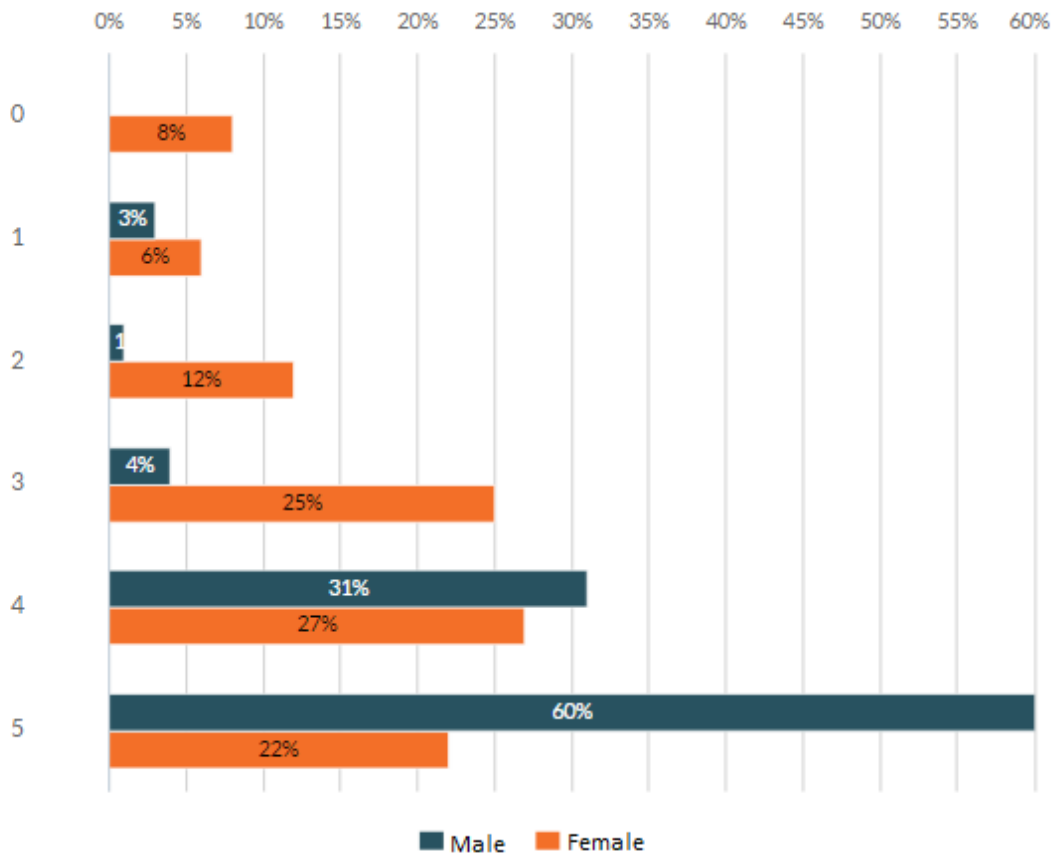
The majority of the answers focused on points 4 and 5: 32% of male and 44% of female participants found that gaming has a high positive impact on vocabulary acquisition in general. Furthermore, 61% of male and 24% of female participants chose the highest number (5) to depict their perceptions of the positive effect of playing video games on learning new vocabulary. The majority of the participants perceive that there is in fact a positive effect between playin video games and learning vocabulary.

The gender differences in the results of this question can maybe be explained by differences in personal experiences: compared to the male participants of the present study, the female participants had a significantly lower gaming activity and noticeably higher age of starting to play video games. Evidently, these two factors could result in female participants lacking personal experiences on acquiring vocabulary via playing video games: if they have not played video games at a young age, perhaps before starting to formally learn English at school, or at the early stages of learning a new language, they might not distinguish any positive effect. Instead, if a person has started playing video games at a relatively young age, say, between ages 5 to 10, and has actively and regularly played video games, they might be able to recall that playing video games has indeed had a positive effect on their language and vocabulary learning process. Furthermore, in a case like this, the person might even be able to recall which individual words they have learned while playing and from which game they have learned the words from. Acquiring new vocabulary is greatly affected by affective factors and repetition, which both are highly likely present when actively playing video games. When only playing video games occasionally, perhaps once a month or less, especially repetition is a much less present feature.

To continue with the personal experiences on language learning and video games, the next

question aimed at finding out if the participants themselves thought they had learned vocabulary via playing video games.

Table 7: The participants' personal experiences of learning vocabulary via playing video games



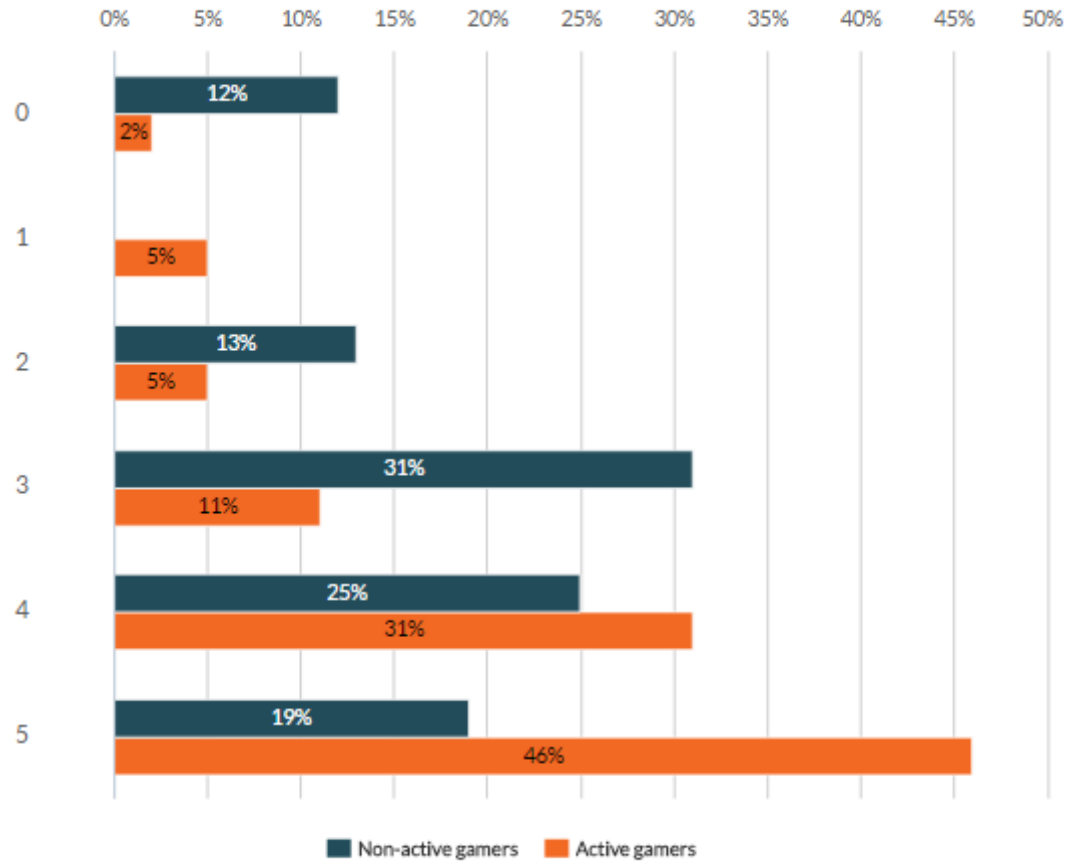
Again, the participants were given a Likert scale from 0 to 5 to measure their vocabulary acquisition via playing video games. The respondents who stated that they play video games less than once a year were also allowed to answer this question. 4% of females chose a 0 to indicate that they have not learned vocabulary through video games at all. 3% of males and 6% of females chose 1, which implies they feel have learned very little vocabulary through video games. 1% of male participants and 12% of female participants chose a 3, which indicates that they have acquired some vocabulary via playing video games.

Once again, the majority of answers focused on points 4 and 5: 31% of male and 27% of female participants chose a 4, which means that they have learned an abundance of vocabulary via playing video games. Furthermore, 60% of male and 22% of female participants chose a 5, which displays great vocabulary acquisition via video games.

91% of the male participants' votes and 49% of the female participants' votes go to points 4 and 5, which suggests that especially males learn English vocabulary via playing video games.

Next, the responses of active and non-active gamers were compared to each other:

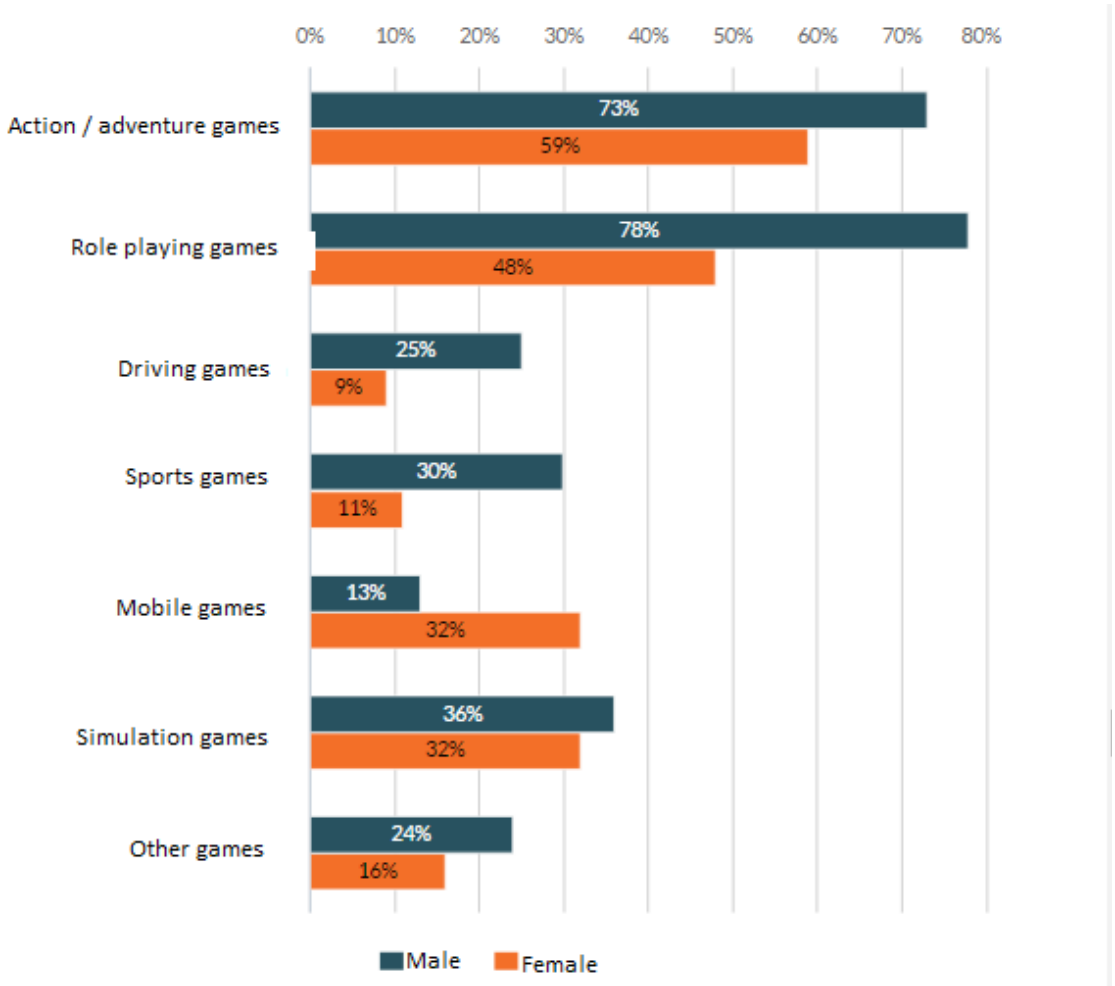
Table 8: Active and non-active gamers' personal experiences of learning vocabulary via playing video games



Surprisingly, differences in gaming activity (less than once a month or more) had no effect on the pattern. Instead, similar percentages were gotten from both active gamers and non-active gamers. The only clear difference between active and non-active gamers was number 5 on the scale: 19% of non-active and 46% of active gamers chose number 5 to depict their great vocabulary acquisition via video games.

Next, the participants were asked what kinds of games they have learned new English vocabulary from:

Table 9: What kinds of games the participants have learned English vocabulary from



The highest percentages of language learning fell on genres action and / or adventure, and role playing games: 73% of male and 59% of female participants stated they have learned vocabulary via action / adventure games, whereas 78% of male and 48% of female participants had learned vocabulary via role playing games.
25% of male and 9% of female participants had learned vocabulary via driving games, and 30% of male and 11% of female participants had learned vocabulary via sports games. 13% of male and 32% of female participants chose mobile games as a means of their vocabulary learning, and 36% of male and 32% of female participants perceived they had learned vocabulary via simulation games. Furthermore, 24% of male and 16% of female participants chose 'other' as the category of games they had learned vocabulary from. When asked to define these 'other' games, the participants mentioned strategy games and ”all kinds of games my children play”.

When compared the game genres through which vocabulary has been learned to the game genres the participants generally play, a similar pattern can be recognized. To clarify the differences in percentages, a table of the two components shall be provided below:

Table 10: Comparison of game genres: vocabulary learned from versus generally played

Game genre	Played (male / female)		Vocabulary learned (male / female)	
Action / adventure games	93,00%	72,00%	73,00%	59,00%
Role playing games	73,00%	42,00%	78,00%	48,00%
Driving games	30,00%	28,00%	25,00%	9,00%
Sports games	33,00%	12,00%	30,00%	11,00%
Mobile games	28,00%	56,00%	13,00%	32,00%
Simulation games	39,00%	40,00%	36,00%	32,00%
Other games	30,00%	22,00%	24,00%	16,00%

As seen above, the percentages of game genres played and game genres that vocabulary is learned from are quite similar. In general, the percentages of played game genres exceed those of genres vocabulary is learned from by less than 10 percentage points. There are, however, exceptions: the percentages to action / adventure games are rather high: 93% of male participants and 72% of female participants have played games that fall into that category. The percentages to language learning through these kinds of games are 73% for males and 59% for females, which means that there is a percentage point difference of 20 points to males and 13 points to females. The larger difference between these percentages can be related to the fact that the percentages to both vocabulary learning and playing are higher than any other percentages in the table. Furthermore, in role playing games, the percentage of language learning experienced by both male and female participants exceeded the percentage of playing them by 5 percentage points among males and by 6 percentage points among females. The female participants of the present srudy did not experience driving games as effective a means of language acquisition as other genres: only 9% of them listed driving games as a game

genre that they have learned new vocabulary from, even though 28% of them had played driving games. In addition, the results show that either of the two genders playing mobile games as an effective way of learning vocabulary: the difference between playing and learning experienced my males was 15 percentage points, whereas the difference experienced by females was 24 percentage points.

All in all, video games of every category were listed as genres the participants have acquired vocabulary from, but the game types that most vocabulary was learned from were action and adventure games and role playing games. When comparing the percentages of playing to learning, the participants of both genders perceived role playing games as the most effective game genre in learning new vocabulary. At the other end of the spectrum, when compared similarly, the least effective game genres in language learning were mobile games and driving games.

After finding out through which kinds of games vocabulary is acquired from, the participants were asked to express by their own words at which age they feel they have acquired the most vocabulary via playing video games. Since figuring out the exact age can prove difficult, the question form was open-ended in order to allow the participants to further explain their experiences and perceptions.

Table 11: Participants' age distribution in stages at which language is learned the most via playing video games

School grade / age	Male	Female	Total percentage of answers
Pre-school (0 – 6)	**5,00%**	**9,00%**	**6,00%**
Primary school: grades 1-3 (ages 7 – 9)	**39,00%**	**26,00%**	**34,00%**
Primary school: grades 4-6 (ages 10 – 12)	**53,00%**	**44,00%**	**49,00%**
Secondary school (ages 13 – 15)	**55,00%**	**41,00%**	**49,00%**
Upper secondary / vocational school (ages 16 – 18)	**19,00%**	**9,00%**	**25,00%**
Adult years (ages 18 →)	**11,00%**	**13,00%**	**12,00%**
Comprehensive school (ages 7 – 15)	**91,00%**	**67,00%**	**81,00%**
Learning at all ages	**8,00%**	**6,00%**	**8,00%**
No learning via playing video games	**0,00%**	**6,00%**	**4,00%**
Cannot say	**2,00%**	**4,00%**	**3,00%**
Unanalyzable data	**0,00%**	**4,00%**	**2,00%**

Since the question was open-ended, the participants could mention the age, stage, or grade in any form they wanted, including only giving a specific age, e.g. *14 years old*, or a broader stage or grade, such as *primary school*, *from age 10 to 13,* or *as an adult*.

The majority of both male and female participants experienced that they had learned the most vocabulary via playing video games from age 10 to 15: ages 10 to 12 were listed by 53% male and 44% female participants (49% in total), and ages 13 to 15 by 55% of male and 41% of female participants (49% in total). To sum up, most language learning via video games took place in the former three grades of primary school and in secondary school. Another age or stage that was almost as popular a mention as primary school grades 4 to 6 and secondary school that were frequent in the participants' responses were the first three grades of primary school (ages 7 to 9) were mentioned by 34% of the participants in total, 39% by male and 26% by female participants. All in all, all nine years of comprehensive school were mentioned by 81% of the participants altogether.

Furthermore, upper secondary or vocational school years (ages 16 to 18) were mentioned by 19% of male and 9% of female participants (25% in total) as the years they acquired the most vocabulary from video games. The adult years (18 onwards) were mentioned by 11% of male and 13% of female participants (12% in total). Equal amount of vocabulary acquisition via playing video games was mentioned by 8% of male and 6% of female students (8% in total), and vocabulary acquisition before going to school (ages 0 to 6) were mentioned by 5% of male and 9% of female participants (6% in total).

9% of female participants stated that they had not learned any vocabulary from video games, 2% of male and 4% of female participants (3% in total) could not say at which age they had learned vocabulary from video games the most, and 2 female participants' results were in a form that could not be analyzed: one of them stated that she had learned the most vocabulary from video games after she got her first smartphone, and the other one expressed that she has learned the most vocabulary when she has been obligated to use the language while playing video games. Neither of these participants declared their age or age-related stage when the most language acquisition had happened, so the data acquired from them was categorized as unanalyzable in the table.

In addition to the ages or grades the participants were in when felt they had acquired the most vocabulary via playing video games, some participants explained their language acquisiton-related video game experiences and perceptions further. One of the participants wrote that she had experienced more vocabulary via playing video games in her adult years, perhaps because with age, she had started to comprehend the language as a system better. In her own words, she now sees language differently from how she saw it when she was younger. A few other participants stated they had learned the most vocabulary before formally starting to study English. The reasons that were given to explain this were that the morivation to advance in a game was strong, and that before formally starting to learn English, figuring out meanings was 'all fun and games'. Nevertheless, some participants speculated that after starting to study English at school, acquiring new vocabulary was made easier since the basis was already

there. Some students even felt that they needed to have a mediocre language level in English in order to effectively acquire new vocabulary from the gaming experience.

In conclusion, there are stages at which more people experience they acquire vocabulary effectively, but individual differences play a great role in determining which age or stage is the best for extramural vocabulary acquisition.

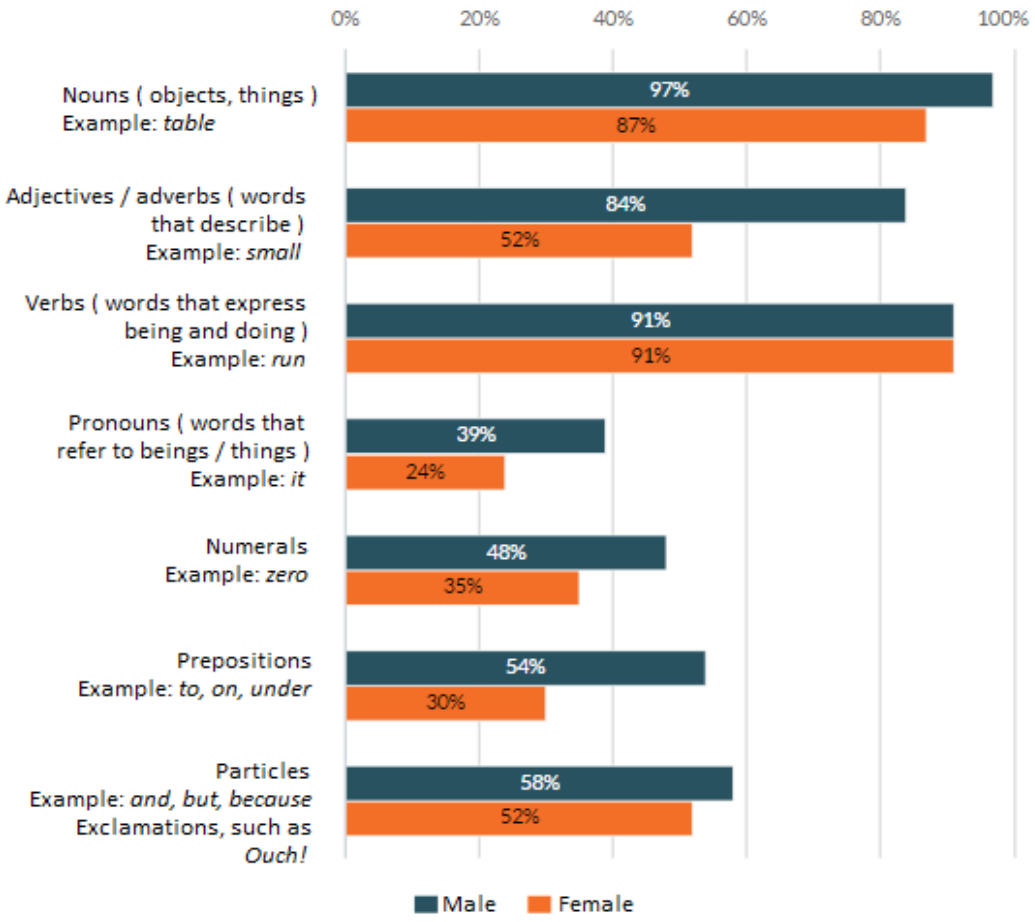
4.4 Perceptions of vocabulary learning via playing video games

After getting a general idea of the participants' perceptions of language learning through playing video games, it is time to shift the focus to what kind of vocabulary, according to students' perceptions, is learned while gaming.

The participants were given a list of parts of speech, e.g. Adjectives, verbs, nouns, and pronouns. They were instructed to tick the ones that the vocabulary they had acquired via playing video games fits – for example, if participants have learned the word 'witch' via a video game, they should choose 'nouns' as a category of words they have learned through gaming.

Categorizing acquired words into parts of speech requires recalling specific words that have been learned through this specific activity, but in general, the participants should be able to form a certain idea of the parts of speech that they have learned the most words from even without remembering specific utterances.

Table 12: The parts of speech the participants have acquired vocabulary from



According to the results, the majority of the vocabulary acquired by playing video games consists of nouns, adjectives / adverbs and verbs: 97% of male and 87% of female participants perceive they have acquired nouns, 84% of male and 52% of female participants state have acquired adjectives and / or adverbs, and 91% of both male and female participants recognize that they have acquired verbs. In addition to the highest percentages, 39% of male and 24% of female participants list that they have learned pronouns, whereas 48% of male and 35% of female participants report that they have learned numerals. 54% of male and 30% of female participants have perceived that they have learned prepositions, and 58% of male and 52% of female participants have learned particles.

The highest percentages of perceived learning in nouns, verbs, and words that describe, are highly likely related to them being the words that carry maybe the most meaning in a sentence. For example, in a game, the player can often figure out the meaning of a sentence by understanding the nouns. Furthermore, when trying to recall what kinds of words one has learned through playing video games, one is likely to first list the possible games, then their themes, and by that, induce individual words they have presumably acquired via that specific game. This thought process could result in words that carry the most meaning in a video game, for example verbs and nouns.

Next, the participants were asked to describe the themes of which they have acquired vocabulary from. Due to the subject of themes being highly versatile and plentiful, the question was open-ended. The answers were categorized into larger themes and calculated by gender.

Table 13: Acquired vocabulary by themes

Theme	Male (n = 56)	Female (n = 44)
	Number of occurrences	**Number of occurrences**
Society and economy	6	5
History	7	1
Technology, science, and cars	14	4
War and battle	22	8
Basic vocabulary	32	25
Fantasy	12	10
Nature and space	5	5
Sports	9	7
Menu-related vocabulary	3	8
Cannot say	3	1
Swear words and colloquial expressions	2	2
Home and food	1	7
Music	1	1
Law enforcement	2	1
Character and horoscope	0	3

This open-ended question received 110 responses, 56 of which were by male and 44 of which were by female participants. As we can see above, both genders showed vocabulary acquisition in similar themes. The theme that had the most occurrences in the responses was basic vocabulary, meaning words and phrases that are used in everyday situations, such as conversations. This particular theme included responses that were related to parts of speech, e.g. Words that describe, and subjects that could be counted as everyday situations. Out of 110 respondents, 32 male and 25 female participants listed basic vocabulary as one of the themes they have learned vocabulary from.

The popularity of games that involve violent conflict between characters was evident from the results of both genders: 22 male and 8 female participants listed war and battle vocabulary as

their acquired vocabulary themes. Furthermore, other popular game types, such as fantasy, sports, and driving games, were also present in the data. 14 male and 4 female participants listed technology, science and / or car vocabulary, 12 male and 10 female mentioned fantasy-related themes, and 9 male and 7 female respondents reported they had acquired sports-related vocabulary through video games.

Themes that also got a number of hits from both genders were society and economy, which was listed by 6 male and 5 female participants; nature and space, listed by 5 male and 5 female participants; menu-related words (e.g. *Start, menu, game over*), listed by 3 males and 8 females; swear words and colloquial expressions, listed by 2 males and 2 females; law enforcement, listed by 2 males and 1 female; and lastly, music-related vocabulary, which was listed by 1 male and 1 female participant. Lastly, 3 of the male and 1 of the female participants' responses only included 'cannot say'.

Themes of which vocabulary was only acquired among one of the genders were history (7 male, 1 female), home and food (1 male, 7 female), and character and horoscope (0 male, 3 female), which also refers to differences in interest towards games that involve certain themes.

The differences in the number of occurrences per theme display, to a degree, traditional gender roles: the male participants were more likely to list technology, science, cars, battle, and war-related words or themes, whereas the female participants exceeded the number of male participants in menu, home and food, and character and horoscope-related vocabulary. Some of the participants mentioned video games they have acquired vocabulary from by name: the male participants mentioned *Formula* (1), *Doom* (1), *The Elder Scrolls* series (4), *Fallout 2* (1), *Mass Effect* series (1), *Ghost Recon* (1), *Brothers in Arms* (1), *Age of Empires* (2), *Empire Earth* (1), *Civilization* (1), *Total War* (1), *Warcraft III, NHL* series (1), whereas the female participants mentioned *The Sims* (mentioned by 8 participants), *Harry Potter* (1), *Harvest Moon* (1), *Animal Crossing* (1), *City Skylines* (1), *NintenDogs* (1), *Sim City* (1), *Witcher* (1), *The Elder Scrolls* series (1), *Final Fantasy* series (1), and *Grand Theft Auto* series

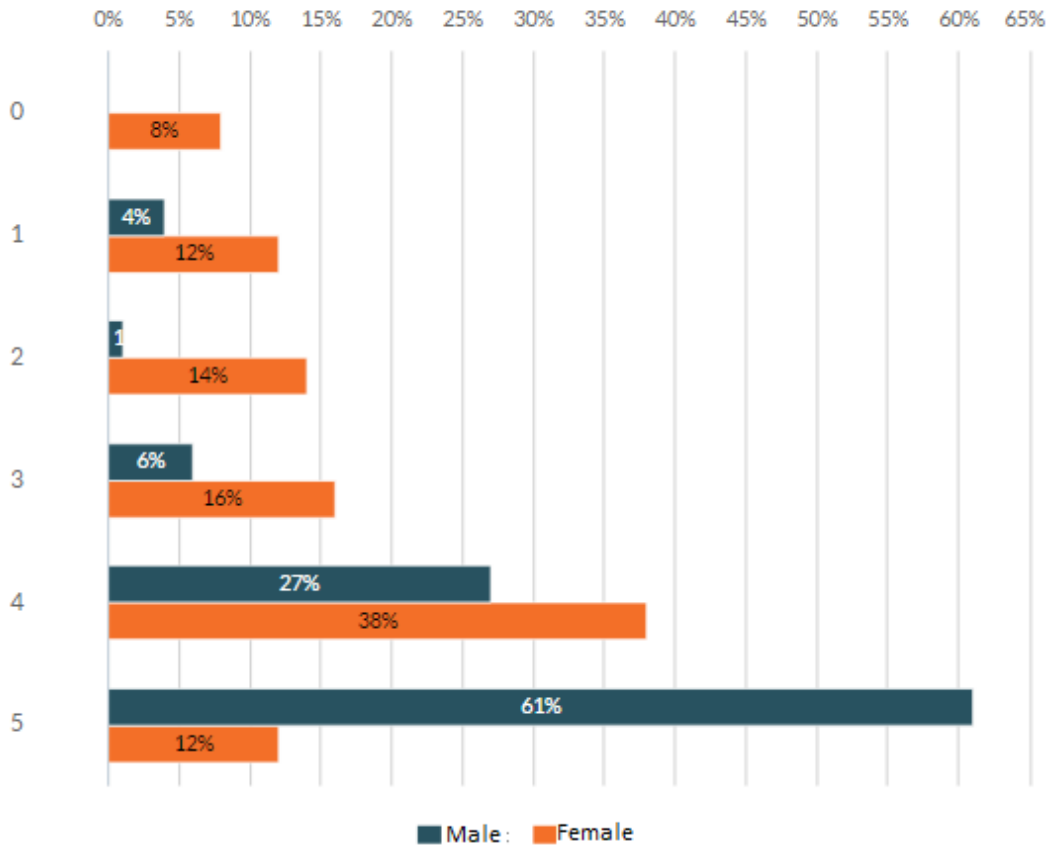
(1). This suggests that the participants feel they have acquired the most vocabulary from are *The Sims* and *The Elder Scrolls* series.

When comparing the responses of the participants who played video games less than once a month to active gamers, no noticeable changes in the numbers occurred. Thus, the data was omitted from the table.

4.5 The usefulness of the vocabulary acquired via playing video games

The students were asked how valuable and useful they feel the vocabulary they have learned from video games is. Once again, they were given a Likert scale from 0 to 5, 0 being not useful at all and 5 being extremely useful.

Table 14: Perceptions of video game vocabulary's positive effect in language learning



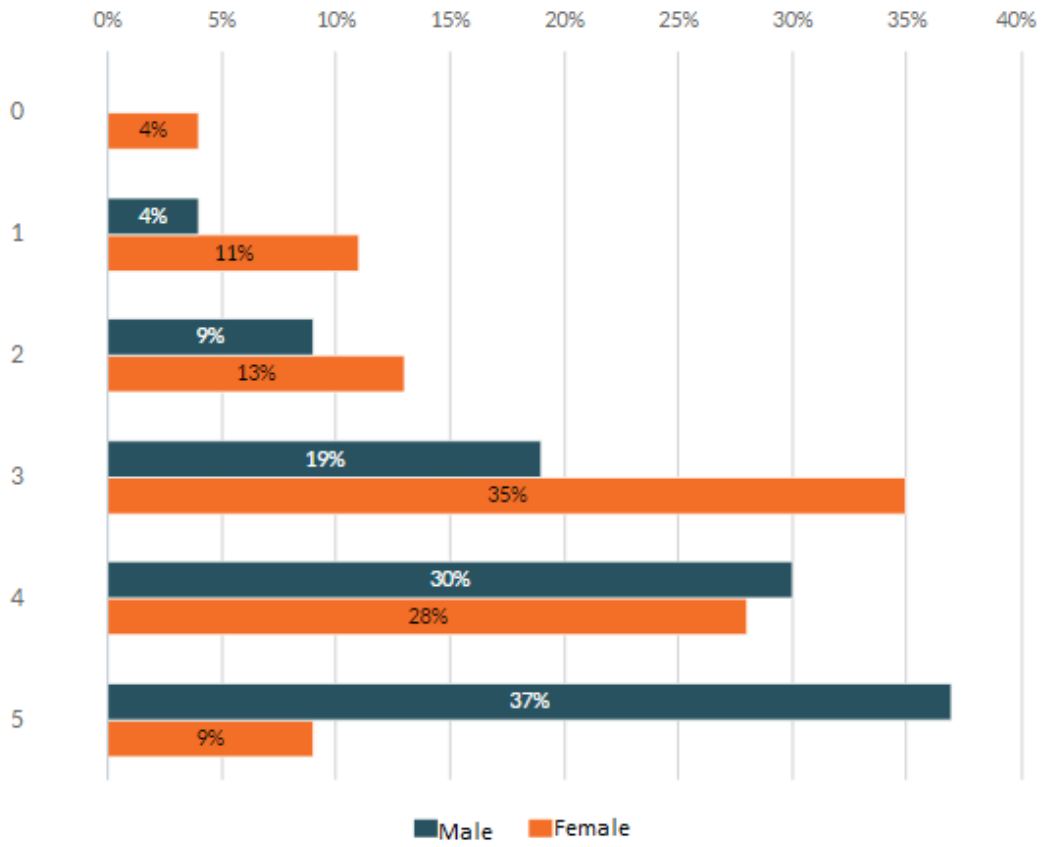
8% of female participants perceive the usefulness of video game vocabulary in language learning as a 0, as in no use at all. 4% of male and 12% of female participants gave video game vocabulary a 1, which indicates a slight usefulness in language learning. 1% of male and 14% of female participants ticked their video game-based vocabulary a 2, and 6% of male and 16% of female participants chose that their vocabulary learned from video games is moderately useful in language learning, indicated by number 3 on the scale. 27% of male and 38% of female participants perceived their vocabulary that was acquired via playing video games highly useful in language learning, indicated by number 4 on the scale, and lastly, 61% of male and 12% of female participants perceived their video game vocabulary extremely useful in learning English, indicated by 5.

All in all, the vocabulary that was learned through playing video games was perceived quite

useful in learning the English language by the participants. Only 8% of female participants perceived that the vocabulary they had learned while playing video games had no importance at all. The male participants' perceptions were much more positive than those of the female participants, the best example of this being the staggering 61% of males categorizing their video game vocabulary as extremely useful in language learning. In comparison, only 12% of female participants listed their game-based vocabulary extremely useful. Again, the gender differences can be directly linked to gaming activity: male participants played more regularly and more in hours per week, and they have started playing video games at younger age. Thus, they have acquired more vocabulary, and therefore find it more useful in real life situations and their formal language studies, such as school or language courses.

Furthermore, the participants were also asked how useful they feel their video game-based vocabulary is in practice:

Table 15: Students' perceptions of vocabulary usefulness



4% of female participants did not find the vocabulary useful. 4% of male and 11% of female participants only found the vocabulary slightly useful (1 on the scale), and 9% of male and 13% of female participants found the vocabulary somewhat useful (2 on the scale). The bigger percentages in usefulness fell on scale 3 to 5: 19% of male and 35% of female participants found the vocabulary moderately useful (3), 30% of male and 28% of female participants found it highly useful, and lastly, 37% of male and 9% of female participants found it extremely useful.

When compared to the previous table (table 10), the percentages follow a similar pattern. The

highest percentages of the participants found the vocabulary at least moderately useful in both language learning and in general. Even though the percentages fall in a similar pattern, the percentages gotten from male participants do, however, differ quite greatly in the higher end of the usefulness scale: for example, 61% of male participants perceive their video game vocabulary extremely useful in language learning, but only 37% of them find it extremely useful in general. It is intriguing that the male participants perceive language learning and language use as entirely different processes and only see their vocabulary extremely useful in a learning situation.

Furthermore, an another significant difference occurs in perceived moderate usefulness (number 3 on the scale): both genders perceive the vocabulary they have acquired via playing video games more useful in general than in language learning. The male participants show an increase of 10 percentage points from usefulness in language learning to usefulness in general, whereas the female participants show an increase of 16 percentage points. Other than the differences mentioned above, no major differences in vocabulary usefulness in language learning or language in general occurred.

4.6 Participants' further perceptions of English vocabulary learning and video games

At the end of the questionnaire, the participants were given a chance to further describe their thoughts on English vocabulary learning and video games, and more specifically, their thoughts on the relationship of those two things. If they wanted, they could add thoughts to the questions that occurred earlier in the questionnaire, or add completely new information that they felt like sharing. A total of 58 out of 120 participants took part in sharing their views in more detail. Two of the responses only included a message with the idea 'nothing to add', which led to them being omitted. All in all, 56 participants, 32 male and 24 female, shared their views. The responses only involved a few reoccurring themes, which is why no table of the responses was made.

All in all, when only looking at highly positive comments on language learning through playing video games, 28 male and 19 female participants explained that they sense that playing video games in a foreign langugage is highly beneficial to language learning. Even the participants that did not sense the positive effect on themselves (one male and one female), either due to not playing video games or learning better in a different manner, stated that they believe that gaming facilitates vocabulary and language acquisition. Both of them had perceived a positive effect on their peers.

Some of the participants had especially positive experiences in language learning through video games: 7 male and 5 female participants submitted comments that involved video games being a great, or even their best English teacher, their main motivator for learning English, and the reason they are now so fluent in English. One of the participants even stated that they are certain they would not be studying in a university if they did not play video games.

Two male and four female participants remarked that playing video games is a way to acquire a language without conscious effort and without even noticing the learning process itself, only the results. One of the participants wrote the following:

Example 1: A participant's view of vocabulary learning via playing video games

> ”It was all fun and games. You wanted to play and you had to learn how to use the menus, follow orders and use the controls. After that came the names of the objects and other shorter things, and finally even following the storyline and the dialogue. You kind of learned words slapdash”.

A recent trend to translate video games and their menus in different languages, such as Finnish, was something the participants had opinions on. Three male and two female participants stated that they are against video game translating because it diminishes language

acquisition. Two of the participants even stated that parents should encourage their children to play video games in a foreign language instead of their mother tongue.

The only negative comments (two male, three female) suggested that playing video games is not that highly beneficial for language learning. For two participants, other activities that involve extramural English, for example watching television, have been more important for their language learning. Three comments questioned the usefulness of the acquired vocabulary and stated that the vocabulary used in video games is often quite specific.

To summarize, it seems that the large majority of the participants saw a positive connection between language learning and playing video games and moreover, had personal positive experiences on the matter. In addition, many of the participants shared their positive personal experiences – one of the participants even thanked me for allowing him to reminisce a great phase of his life.

5 DISCUSSION AND CONCLUSION

The present study aimed at discovering Finnish university students' perceptions of video games and language acquisition by collecting data by a questionnaire. First, the present study aimed at uncovering their gaming habits and later on, comparing these habits to their perceptions. Earlier studies made on the subject have shown gender differences at varying degrees, which led to a gender-based comparison in the present study as well.

According to the results, Finnish university students mostly perceive that playing video games is an effective way of acquiring English vocabulary. Only 8% of the female participants had

experienced no vocabulary acquisition from playing video games. The same percentage of the female participants stated that they never play video games. On a scale 0 to 5, 93% of male and 68% of female participants chose numbers 4 or 5 to depict how much they think playing video games affects language acquisition in general. When asked about their personal experiences on the matter with a similar scale, 91% of male and 49% of female participants chose numbers 4 or 5. Later on in the open-ended questions, especially female participants mentioned not having much experience on the matter themselves, but that they have noticed their (mostly) male friends having great language skills due to active gaming.

The highest perceived effect of vocabulary acquisition happened through role-playing (chosen by 78% males and 48% females) games and action / adventure games (chosen by 73% males and 59% females). The highest perceived vocabulary acquisition percentage falling on role-playing games can perhaps be traced back to the high level of personality that the role-playing games require: the player must, first of all, create a character, which often includes choosing its race (e.g. human, elf, orc), editing its appearance, clothing and armor, weaponry, skills, and other necessary features. A player spends a remarkable amount of time, even hundreds or thousands of hours, developing the character and upgrading its gear. After such a process, it is likely that a player is quite fond of their character. Acquiring better gear or new abilities to a character they feel passionate about creates positive experiences, which are important in boosting language acquisition. Furthermore, the high amount of time spent on a single video game results evidently in vocabulary repetition and regularity of authentic input, which are also important when learning a language.

Other popular genres that the participants perceived they had learned language from were simulation, sports, and mobile games. The female participants perceived the third and fourth most acquisition from mobile games and simulations, whereas the third and fourth options for males were sports and simulation games. The popularity of mobile games among female participants might be related to them playing less on other devices and thus, having more time and interest in playing mobile games. Since smartphones are almost a necessity in today's

society, mobile games are also extremely easy to access, which also positively affects their popularity.

Reportedly, the most acquired type of words were words of meaning: that is, nouns (97% of males, 87% of females), verbs (91% of males, 91% of females, and describing words (84% of males, 52% of females). When considering which words were learned, words that carry the most meaning are likely the ones that are remembered first. Personally, if asked what kind of vocabulary I have acquired from video games, I would start the thinking process from the games that I have played, and would likely remember theme or event-based words that are indeed words of meaning. The participants' thought process might have certain similarities to mine.

When asked about their perceived most effective age of learning language through video games, the participants' responses landed on ages 10 to 15. As some participant stated, at that age, formally studying English at school had already begun and thus, gave a foundation on which to build. Since the requirement for language acquisition is an input level that is only slightly above the learner language, having some English background when playing video games is beneficial for learning.

The results show a clear gender difference in gaming habits and, later on, in perceptions of the relationship between language acquisition and playing video games. Male students play video games more actively than female students: 78% of male students play at least several times a week, whereas only 34% of female students play as much. Even active gamers who play video games at least once a week showed gender differences in hours spent gaming per week (15+h / week: 25% males, 17% females; 5-15h / week: 51% males, 42% females). Males also start playing video games at younger age. As mentioned above, male students also saw that playing video games had a noticeably more positive effect on language learning both in general and to them personally. Seeing a positive effect on language acquisition via gaming is highly likely related to the amount of gaming: male students play more video games than female students, and thus, have more experience on learning language from video games.

The present study has its weaknesses: the data analysis was conducted rather vaguely, without statistical analysis, mainly due to a tight schedule and poor planning. It leaves room for future research on the subject of perceived vocabulary acquisition via playing video games. Furthermore, as a Master's thesis, the present study is quite small-scale, which means that the results cannot really be generalized to apply to a broader group of people. The present study gives a certain idea of Finnish university students' and their acquaintances' perceptions of vocabulary acquisition via playing video games, but leaves much room for future research on the subject.

All in all, since the results clearly show that video games are perceived as an effective means of language acquisition, and for some participants, even their 'number one language teacher', video games have remarkable potential in the field of learning and teaching languages, and should be utilized in teaching. Using video games as learning material can, however, have its challenges: finding age-appropriate games that are suitable for school environment and that are interesting to the students takes time and effort. Furthermore, video games often cost, and since the current trend is to cut educational budgets, acquiring them becomes more and more difficult. Their potential as a learning tool, however, cannot be denied. There is indeed room for future research: to further investigate the subject, a broader sample of varying age groups is needed.

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APPENDIX 1: QUESTIONNAIRE

Englannin sanaston oppiminen videopelien kautta

Tämä kysely pyrkii selvittämään yliopisto-opiskelijoiden kokemuksia ja käsityksiä englanninkielen sanastonoppimisen ja videopelaamisen välisestä yhteydestä. Kyselyn tarkoituksena on kerätä dataa Pro Gradu-tutkielmaa varten. Vastauksia käsitellään anonyymisti ja yhteystietoja ei yhdistetä vastauksiin.Vastaaminen vie noin 10 minuuttia.

Huom! Termillä 'videopelit' tarkoitetaan kaikenlaista elektronisen laitteen kautta tapahtuvaa pelaamista, kutenesimerkiksi tietokoneella, konsolilla, tabletilla tai puhelimella tapahtuvaa pelaamista.

1. Ikä?

_____

2. Sukupuoli?

Mies

Nainen

3. Kuinka usein keskimäärin pelaat videopelejä?

En koskaan

Harvemmin kuin kerran vuodessa

Muutaman kerran vuodessa

Kerran kuussa

Kerran viikossa

Useita kertoja viikossa

Vähintään kerran päivässä

5. Minkä ikäisenä olet aloittanut englanninkielisten videopelien pelaamisen?

0-5-vuotiaana

5-10-vuotiaana

10-15-vuotiaana

15-20-vuotiaana

Yli 20-vuotiaana

6. Millaisia videopelejä pelaat?

Toiminta- / seikkailupelejä

Roolipelejä

Ajopelejä

Urheilupelejä

Mobiilipelejä

Simulaatiopelejä

Muita pelejä: kirjoita, millaisia?

8. Koetko, että videopelaaminen edistää englannin kielen sanojen oppimista? (0 = ei lainkaan, 5 = erittäin paljon)

0

1

2

3

4

5

9. Koetko itse oppineesi englannin kielen sanastoa videopelaamisen kautta? (0 = enlainkaan, 5 = erittäin paljon)

0

1

2

3

4

5

10. Millaisten pelien kautta koet oppineesi englannin kielen sanastoa?

Toiminta- / seikkailupeleistä

Roolipeleistä

Ajopeleistä

Urheilupeleistä

Mobiilipeleistä

Simulaatiopeleistä

Muista peleistä: kirjoita, millaisista?

11. Missä vaiheessa / iässä koet oppineesi eniten sanastoa videopelien kautta?

_____

_____

_____

12. Minkä sanaluokkien sanoja koet oppineesi videopelaamisen kautta?

Substantiiveja (esineet, asiat; esim. *pöytä / table*)

Adjektiiveja / adverbejä (kuvailevat sanat; esim. *pieni / small*)

Verbejä (tekemistä ja olemista ilmaisevat sanat; esim. *juosta* / run)

Pronomineja (henkilöihin / asioihin viittaavat sanat; esim. *se / it*)

Numeraaleja (lukusanat; esim. *zero*)

Prepositioita (esim. *to, on, under*)

Partikkeleita (esim. *and, but, because*; huudahdukset, esim. *Ouch*!)

13. Minkä teemojen tai aihepiirien sanastoa koet oppineesi videopelaamisen kautta? Annaesimerkkejä.

_____

15. Koetko videopelaamisen auttaneen sinua englannin kielen oppimisessa? (0 = ei lainkaan,5 = erittäin paljon)

0

1

2

3

4

5

16. Koetko videopelien kautta oppineesi sanaston hyödyllisenä? (0 = ei lainkaan hyödyllistä,5 = erittäin hyödyllistä)

0

1

2

3

4

5

17. Onko jotain, mitä haluaisit lisätä videopeleistä ja englannin sanaston oppimisesta?

APPENDIX 2: EXAMPLE 1

”Se oli leikkiä, sitä halusi saada pelata ja oli pakko opetella käyttämään valikoita, ohjeita ja kontrolleja. Sitten tuli joidenkin esineiden nimet ja muut lyhyemmat, lopuksi jopa tarinan ja dialogin seuraaminen. Sitä oppi aika paljon sanoja puolihuolimattomasti. ”

”It was all fun and games. You wanted to play and you had to learn how to use the menus, follow orders and use the controls. After that came the names of the objects and other shorter things, and finally even following the storyline and the dialogue. You kind of learned words slapdash ”.