

"English is not a language you can learn from a book": Finnish upper secondary school students'
views on how video games can be used in English language learning

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682320S Master's Thesis
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Spring 2020

Abstract

The use of technology has a growing importance in Finnish schools. Examples of this development are electronic learning materials and exams, among others. However, a versatile technological medium that is already familiar to many students, namely video games, is largely missing from schools, despite the evidence of their positive effects on learning. A justification for their use can also be found in the sociological and ecological views on learning, to which the current Finnish national core curricula are based on. Therefore, this master's thesis examines the use of video games in English language learning in Finnish schools, focusing on the following two research questions: 1) what kind of views are preventing and enabling the use of video games, and 2) what kind of affordances can video games offer for English language learning?

The data for this thesis was collected from an English language learning experiment that took place at an upper secondary school in northern Finland. The experiment consisted of a gaming session, in which four second-year students played two short chapters from the video game *Detroit: Become Human* (2018), and a group interview in Finnish. The recordings from the gaming session and interview were transcribed, and then analysed with content analysis.

This study revealed that although the participants were avid gamers and had noticed the video games' positive impact on their English skills, they viewed them as belonging primarily to the free time and named challenges for their use at school. These challenges included for example the distinction between free time activities and school, and technological and language skills required for playing. However, the participants saw also possibilities and potential for the use of video games, for example using them as a basis for a written assignment, or a part of a multidisciplinary module combining English with another subject. Affordances that became visible during the gaming session, were for example, the authentic language environment provided by the game, the participants' agency and active role during the gameplay and related discussions, and the opportunity to use English as a tool for working towards a common goal of completing the game.

Tiivistelmä

Teknologian käytöllä on kasvava merkitys suomalaisissa kouluissa. Esimerkkejä tästä kehityksestä ovat muun muassa sähköiset oppimateriaalit sekä kokeet. Siitä huolimatta monipuolinen, monille opiskelijoille entuudestaan tuttu media, nimittäin videopelit, puuttuu suurelta osin kouluista, vaikka niiden positiivisista vaikutuksista oppimiselle onkin todisteita. Oikeutus videopelien käytölle voidaan löytää myös sosiokulttuurisesta ja ekologisesta oppimiskäsityksestä, joihin Suomen kansalliset opetussuunnitelmat perustuvat. Siksi tämä pro gradu -tutkielma tarkasteleekin videopelien käyttöä englanninkielen opetuksessa suomalaisissa kouluissa, keskittyen seuraaviin kahteen tutkimuskysymykseen: 1) millaiset näkemykset estävät ja mahdollistavat videopelien käytön, ja 2) millaisia affordansseja eli tarjoumia videopelit voivat tarjota englanninkielen oppimiselle?

Tämän tutkielman aineisto kerättiin englanninkielen opetuskokeilusta, joka järjestettiin pohjoissuomalaisessa lukiossa. Kokeilu koostui pelituokiosta, jossa neljä toisen vuoden opiskelijaa pelasi kaksi lyhyttä lukua videopelistä *Detroit: Become Human* (2018), ja suomenkielisestä ryhmähaastattelusta. Pelituokion ja haastattelun nauhoitukset litteroitiin, ja sen jälkeen analysoitiin sisällönanalyysia käyttäen.

Tämä tutkimus osoitti, että vaikka osallistujat olivat innokkaita pelaajia ja olivat huomanneet videopelien positiiviset vaikutukset englanninkielen taidoilleen, he pitivät niitä lähinnä vapaa-ajalle kuuluvana aktiviteettina ja nimesivät haasteita niiden käytölle koulussa. Näihin haasteisiin kuuluivat esimerkiksi erottelu vapaa-ajan aktiviteettien ja koulun välillä, sekä teknologia- ja kielitaidot, joita pelaamiseen vaaditaan. Osallistujat näkivät kuitenkin myös mahdollisuuksia pelien käytölle koulussa, esimerkiksi pohjana kirjoitustehtävälle, tai osana monialaista oppimiskokonaisuutta, joka yhdistää englannin ja toisen oppiaineen. Affordansseja, joita tuli esille pelituokion aikana, olivat esimerkiksi pelin tarjoama autenttinen kieliympäristö, opiskelijoiden toimijuus ja aktiivinen rooli pelaamisessa ja siihen liittyvissä keskusteluissa, sekä mahdollisuus käyttää englantia välineenä yhteistä päämäärää, eli pelin läpäisemistä kohti työskentelyssä.

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1 Introduction

The use of technology has become an integral part of learning at Finnish schools, and it is emphasised in the current national core curricula (POPS 2014, LOPS 2015). Examples of how technology is used at schools are for instance books, learning materials, and exams in digital form. However, a technological medium that is already familiar and important to many students, and a motivating way to learn (see e.g., Ostenson, 2013; Mifsud, Vella & Camilleri, 2013; Beavis, 2014), is missing from schools; namely video games. A justification for their use can be found in the sociocultural and ecological view on learning, on which the current Finnish national core curricula are based. As a gamer myself, I have witnessed their immersive and educational power in my language learning, and as a future teacher, I would like to find ways to integrate them into my work. Therefore, this master's thesis will focus on the use of video games in English language learning. It is important to study the possibilities for the use of video games at school so that their learning potential that is now taking place in the students' free time and left mostly unrecognised can be harnessed and brought to school.

To provide data for this master's thesis, a learning experiment was conducted together with a student colleague Eveliina Pigg at an upper secondary school in northern Finland. The experiment consisted of a gaming session, in which four second-year students played two chapters from *Detroit: Become Human* (2018) on PlayStation 4, and a group interview in Finnish. The data from the learning experiment was analysed using content analysis. The research questions in this thesis are, based on the views and experiences of the participants, as well as previous research on video games, 1) what kind of views are there preventing and enabling the use of video games, and 2) what kind of affordances can video games offer for English language learning?

Section 2 will present the situated view on learning in the Finnish national core curricula, and the study of video games in education, by introducing different types of video games that can be used, and how they have been used in previous learning experiments. Section 3 will focus on methodology and research ethics, introducing the learning experiment and how the data from it was analysed. The analysis and findings will be presented in section 4.

2 Learning theories and video games in education

This section situates the study in the context of current learning theories and video game studies. In subsection 2.1, the sociocultural, ecological and situated views of learning, and the way in which they are applied in the Finnish national core curricula will be introduced. Subsection 2.2 further describes the wider backdrop on the role of video games in learning, introducing different types of video games that have been used in education, and two important video game theories; ludology and narratology.

2.1 Situated view on learning and its applications in the Finnish national core curricula

The current Finnish national curricula are based on sociocultural and ecological views on learning, which are the predominant views on learning today. These theories emphasise the importance of activity, interaction, and context in learning. According to Van Lier (2004), it is important to understand that all learning is in a way language learning: it is not only limited to the learning of first and foreign languages, since language is a defining quality of humanity. He reminds us that language is not one standardised, homogenous entity either, but rather a collection of dialects, codes and registers involving diverse cultures and social customs, and that this diversity should be presented to the language learner without fear of confusion. Even though it is difficult to offer an exhaustive definition of language, he warns against attempts of reducing it to either mere grammar or meaning, since both are needed to make sense of the way communicating with language works.

First, I will introduce the sociocultural theory, which according to Lantolf (2000), is based on the writings of Lev Vygotsky, who argued that the human mind is mediated, meaning that humans rely on both physical and symbolic, or psychological, tools to regulate the relationship with themselves and others. These tools he sees as cultural artifacts which have a historical aspect and are passed on from one generation to the next, and every generation modifies them according to their communal and individual needs. He gives examples of symbolic tools, mentioning numbers, music and first and foremost, language and argues that they are all in constant change as every generation modifies them. Liem, Walker and McInerney (2011) say that the sociocultural approach regards humans as both social and reflexive, and that the environment has an impact on their thoughts and behaviour and that without these notions, only an incomplete understanding of learning can be achieved. Foreign language learning in the sociocultural context should not, as argued by Vološinov (1973), be studied in a rigid way in which words are memorised with equivalents in the learner's native language, and grammatical forms with repetitive, routine exercises, since that leads to mere recognition and not

actual language learning. He summarises that language should not be studied as an abstract system of signals, but in the concrete sense of signs that form utterances.

Important concepts in the sociocultural theory are for example, *internalisation*, *private speech*, and *the zone of proximal development (ZPD)*. Lantolf (2000, pp. 13-15) explains that internalisation denotes the process in which cultural artifacts, especially linguistic ones such as conversations, metaphors, and narratives, merge with thinking, and thus the internal, psychological level creates external, goal-directed activity. He further clarifies that the source of human consciousness is connected with social activity, therefore having external origins and that with this process, the mental and physical activity can be regulated by means that other people use, and consequently the psychological functioning becomes under voluntary control. According to him, through internalisation, the actions that before needed material artefacts and other people to be completed, can then be accomplished without external assistance. He admits that mental activity is still mediated, although internally so, and in other words, a person who formerly needed the cues and help of external artifacts, such as mediating language of a more advanced individual, to complete an action, can after internalisation, visualise the action mentally, with internal mediation, before actual completion of the action and also ponder different possible outcomes for it.

Lantolf (2000, pp. 13-15) clarifies that the concept of private speech is closely connected to internalisation by saying that it is speech that has social origins but is used privately to regulate the completion of an action with the help of elliptical utterances, such as questions, answers, and instructions regarding the task at hand. He adds that with the development of cognitive functioning, private speech becomes language that is compressed into pure meaning: inner speech, which is the foundation for higher order mental processes to develop, and biological potential organises into a culturally mediated mind.

The third and final concept presented here concerning the sociocultural theory, is the zone of proximal development, the ZPD. In Vygotsky's (1978) words, the ZPD is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). Simply put, it is the difference between what a learner can do alone and with the help of a more experienced person. An attribute of ZPD that makes it so compelling as stated by Lantolf and Thorne (2006), is that unlike traditional testing which indicates only the learner's current level, the ZPD includes the forward-looking aspect of what the learner can presently do with

assistance, they can do independently in the future. As Lantolf (2000, pp. 17-18) mentions, the ZPD has mostly been viewed as the interaction between an expert and a novice, but now it is regarded to include a broader scope of interaction, such as interaction between the members of a group, where expertise emerges via collaborative action. He includes teaching situations as an example of novice/expert interaction but specifies that rather than merely copying the experts' competence, the novices transform it according to their own process of appropriation. In regard to the ZPD, he stresses that imitation needs to be differentiated from copying, which means the verbatim mimicking of the expert's action, whereas imitation is seen as a communicative process and crucial to learning. He laments that unfortunately, in school learning, copying instead of imitation is often insisted upon, and in those cases the learning is not operative or communicative even if the student manages to copy the offered model precisely. Aljaafreh and Lantolf (1994) also discuss the amount of mediation that the novice should receive, saying that it should be graduated, that is to say that no more help should be provided to the learner than is needed, since over-assistance can decrease the learner's process of becoming independent. However, they admit that enough guidance needs to be provided in order for the action to be completed and thus, continuous assessment of the learner's abilities is necessary so that the balance of the correct amount of mediation can be obtained.

Next, the ecological approach to learning will be introduced. Ecology is a part of sociocultural approach, and it means the study of relationships and interaction between organisms and their environment in physical, social, and symbolic levels (Van Lier, 2010, p. 4). Therefore, ecology looks at the whole consisting of the learner and their environment, and how the learner interacts with the different levels of the environment. Ecology can be approached in a shallow way, which focuses on fixing problems, or deep way, which attempts to solve the causes behind the problems, advocating changes based on critical analysis (Van Lier, 2004, p. 23). In ecology, the learning process is seen as a multi-layered network of interdependent processes in which the learner, the teacher and the setting are in interaction (Van Lier, 2010, p. 3). Ecological approach to learning can even be compared to the work carried out by for example geologists or biologists in complex ecosystems, since ecology examines "the full complexity of the entire process, over time and space, in order to capture the dynamic forces that are at work" (Van Lier, 2010, p. 5). In other words, ecology aims to capture the whole complex nature of learning in the 'ecosystem' in which it is taking place, and therefore, language and learning do not exist in a vacuum and they should not be studied in isolation. Ecology aims to discard the anthropocentric worldview and instead adopt a quality-based pedagogy in which the learner interacts with the environment (Van Lier, 2004, p. 22). In ecological terms, what it means

to know a language can be understood as not "having" or "possessing" the language in the learner's head, but rather being able to use the language and "to live in it" (Van Lier, 2000, p. 253).

Agency is one of the central terms in ecology. Defined by Van Lier (2010, pp. 4-5), it is literal or figurative movement, lack of it, or a change of state in order for an organism to live and grow. He says that as movement, agency can be understood for example the way a learner has to move their eyes to see, and their body to feel the rhythm of music but also figuratively to move their imagination, mind and emotions to understand a story. He mentions refusal to move is a part of agency as well; a learner can refuse to take part in a conversation and remain silent instead of speaking. He admits that agency as a more general term includes the related terms of autonomy, motivation and investment, which can be seen as products or manifestations of agency. However, he clarifies that there are different types of agency, such as individual or social, playful or serious, creative or routine, and so on, which should be taken into account in teaching by creating an environment which allows them all to flourish, which means that a learner can manifest their agency even when it differs from the form of agency expressed by someone else. However, he specifies that an obedient and compliant learner who employs their agency in order to learn only because it is required, will only pass the tests but not achieve lifelong learning with goals, unless the agency is self-directed. Therefore, he says that students who merely study for the tests without setting individual goals and objectives that stem from their own interest rather than a requirement at school, will not have as significant learning results as those who do have their own goals, and that schools should promote self-directed agency for better and longer-lasting learning results.

In ecology, the focus is on language learning as approaches to how a better understanding of learners and their environment can be achieved. A crucial concept in ecology, *affordance*, stems from this understanding, and according to Van Lier (2004), it means the relationship between the learner and their environment which offers either an opportunity for or an inhibition of action. He says that affordances are possibilities for action, engagement and participation, which are provided by the context. Van Lier (2000) also clarifies that an affordance does not trigger a further action but makes it possible and adds that the same entity can without changing its properties offer different affordances to different users, depending on what the user needs and wants. As an example, he says that active and engaged language learners are able to perceive in their environment linguistic affordances that further their language learning.

Ecology regards language learning not as linear, but emergent, which produces the concept of *emergence*. Van Lier (2004) defines it as the combining of simple elements into a more complex system which is more than the sum of its parts and also of a different nature, having different meanings and functions than the parts from which it emerged. Van Lier (2000) also reminds us that it cannot be assumed that every phenomenon can be explained by reducing it to simpler components, and properties that emerge on every level of psychological development cannot be reduced to the properties of previous levels.

Learning is nowadays seen as a situated activity whose defining process is *legitimate peripheral participation*. Lave and Wenger (1991, pp. 29-55) explain that it means the process in which learners take part in communities of practice, moving from the position of a newcomer towards mastery of the skills and knowledge, towards full participation as an old-timer. They also say that it is not an educational form or a teaching technique, but a way of understanding learning from an analytical viewpoint. They explain that conventionally, learning has been viewed as internalisation of knowledge, which can harmfully be reduced to merely absorbing the given by transmission and assimilation, reducing the individual's active role in the process. This view they contrast by claiming that learning as an increasing participation in sociocultural communities does not diminish the learner's role but places it in the context of the whole world.

In addition, Lave and Wenger (1991) say that learning involves the whole person, with relation to activities and the community itself, which do not exist in isolation, but have a meaning inside the social community. They say that what learning makes possible, is for the learner to perform new tasks and functions and to master new understandings and therefore, to have new possibilities. Additionally, they regard the construction of new identities is also a major part that must not be overlooked in the process of learning as an evolving form of membership, and a constant renegotiating of this said membership. Rather than situating learning in the teacher/learner dyad, they propose learning as a diverse field of relationships in participation, where individuals can be relative masters to newcomers, while simultaneously being newcomers compared to some more experienced old-timers.

Next, I will discuss how these views on learning are visible in the current Finnish national core curricula for basic education (POPS 2014) and general upper secondary education (LOPS 2015). In both of the curricula, the learner is viewed as an active participant, and learning happens in interaction with other students, teachers and other communities. Learning is a process that is connected to the

theme being learnt, the time frame and the situation. The student's own values and interests guide the learning process and motivation. (POPS 2014, p. 17, LOPS 2015, p. 14) Interactive learning environments and learning outside the school should be utilised (POPS 2014, p. 19). Play, and game-like activity amongst other things promote the joy of learning, creative thinking and perception, and students should learn how to use technological and other tools in their studies (POPS 2014, p. 21).

In the curriculum for basic education, the whole consisting of knowledge, skills, values, attitudes and will is called transversal competences. There are seven entireties of transversal competences describing the development of a certain area of skills needed in today's world. Growing as a person, studying, working and acting as a citizen now and in the future require competence that transcends school subject boundaries. These seven entireties are 1) thinking and learning to learn, 2) cultural competence, interaction and expression, 3) taking care of oneself, and everyday skills, 4) multiliteracy, 5) information and communication technological competence, 6) working life skills and entrepreneurship, and 7) participation, influencing, and building a sustainable future. (POPS 2014, pp. 20-24) Of these, most relevant to my research are multiliteracy, and information and communication technological competence. Multiliteracy is based on a broad view on texts: they can be in verbal, visual, auditive, numerical, kinesthetic and digital form. Students should be able to practice their skills in learning environments which utilize both traditional tools and new technology (POPS 2014, p. 23). Information and communication technological competence is connected to multiliteracy and emphasises interaction with other students and technology in order to develop thinking and learning skills (POPS 2014, p. 23). New technology is used to advance and support learning in diverse learning environments (POPS 2014, p. 29).

Therefore, a justification for the use of video games in learning can be found in the latest Finnish core curricula. Technology is appreciated and its use is encouraged in many instances, for example concerning competence in multiliteracy and information technology. As discussed earlier, multiliteracy promotes the idea that texts can be in many forms, and thus video games can be considered as texts. The students' own interest should be taken into consideration at school. For many students, they can be video games. Learning should be interactive and not only limited to school, which could defend the utilisation of video games in interactive learning situations. By playing, students can learn technological skills, which is one of the goals that school is aiming to reach.

2.2 Studying video games in education

In this subsection, the methodological and theoretical frameworks of video games in education will be presented. First, some important concepts in video games and learning, such as game-based learning, and different types of games that can be used in learning will be clarified. Video games are studied in many fields outside of education, for example in literary research, film or media studies, departments of communication research, sociology, psychology and computer science (Mäyrä, 2008, p. 5). Two important branches of video game research, ludology and narratology, will be introduced, as well as an evaluation of some previous video game studies and the ways they justify video games in education. I will also discuss how these studies fit into the sociocultural and ecological frameworks.

One of the key terms in this research is game-based learning. According to Kirriemuir and McFarlane (2004), game-based learning is "activities that have a game at their core, either as the main activity or as a stimulus for other related activities and have learning as a desired or incidental outcome" (as cited in Denham et. al. 2016, p. 70). In turn, the emotional and creative side in game-based learning can be emphasised by viewing it as "a particular kind of designed experience, where players participate in ideological worlds, worlds designed to support a particular kind of reaction, feelings, emotions, and at times thoughts and identities, which game-based learning designers are leveraging for education and training" (Squire, 2013, p. 103). In these definitions, activity, or playing, has an important role in learning. The term *play* itself has been defined by for example Gilmore (1971), "Play refers to those activities, which are accompanied by a state of comparative pleasure, exhilaration, power, and the feeling of self-initiative" (as cited in Denham et. al. 2016, p. 70). Because game-based learning includes an activity which is assumed to be pleasant for the learner, and because the learner has agency in the learning outcome, it can be a motivating way to learn. Game-based learning does not specifically mean that the games used are video games, but they can be for example board games. This study, however, will focus on video games specifically.

There are several types of video games that can be used in learning. For example, Calvo-Ferrer (2018) defines *serious games* are video games that are developed for the purpose of learning and aimed at teaching a specific content, and *pure games*, or sometimes called conventional or commercial games, are video games that are not designed with learning in mind but are made purely for entertainment. (as cited in Casañ Pitarch, 2018, p. 4) Terms edutainment and eLearning were used in the early 2000s but are somewhat archaic today. Squire (2013) clarifies edutainment as a combination of entertainment and education, while eLearning is mostly the bringing of traditional learning materials

into digital form to be studied on the computer. Sandström (2019) explains that gamification means that learning tools borrow ideas and principles from how games work to increase motivation and learning potential, and an example of this is the *Duolingo* language learning application. She admits that it is not a game per se, but has many elements of a game, such as a score system, progression through levels and a possibility to compete with friends. Two other examples of gamification are *Kahoot* and *Quizlet*. *Kahoot* is an online game-based learning environment, where one can easily create quizzes about any subject. The students can play against each other and answer the questions with an application on their smartphone. *Quizlet* is a flashcard application made especially for learning foreign languages. Anyone can create and share vocabulary lists and track their learning progress. This kind of learning applications that utilise game-like elements, can be beneficial for learning, but interaction with other students is often missing in them. The interaction in them happens mostly online, though there is a possibility to use them with the whole class during a lesson. However, the learners can progress in their own pace, making them active and responsible of their own learning. Despite the lack of community in these applications and the fact that learning might be separated from a relevant context, they can provide affordances for learning and motivation for the student.

According to Mäyrä (2008), game studies is a rather young discipline, which all would not even grant the name of 'discipline' but would rather prefer to talk about a collection of research done on different fields, that all focus on games one way or another. Egenfeldt-Nielsen, Smith, J. and Tosca (2013, pp. 3-4) agree that game studies is a young field which has not been able to convincingly answer some questions regarding the nature and definition of a game, and why games exist. Despite that, Mäyrä (2008) says that game studies has been established as a scientific field with its own theories, methods and terminology, and it is also formally taught at universities.

There has been some disagreement about the nature of game studies by two branches which are ludology and narratology. Ludology is a term that Frasca (1999) suggested to be used when referring to the field that studies games as game and play activities, while narratology was invented to bring together research on narrative by different researchers (as cited in Mäyrä, 2008, p. 8). Mäyrä (2008) adds that despite these two differing ideas, there are no real schools of game studies, and so it continues to be rather multidisciplinary. He adds that researchers do not want to reduce games to either mere stories in narratology, or pure interaction and gameplay without the potential for storytelling as in ludology. However, he admits that an important contribution of this divide is the notion that games can be many things depending on the needs and interests of the researcher. In this study, video games are treated as having both interactive and narrative elements in learning.

Next, I will introduce some studies on video games and how the sociocultural and ecological views are visible in them. Some of the studies justify the use of video games in education based on the notion that because the young generation has grown amidst technology in a completely different way than the previous one, the use of technology is natural to them and needs to be incorporated into schools. For example, Prensky (2001) argues that the learners' brains are "rewired", i.e. due to brain plasticity they have changed according to the new stimuli when the learners have been growing up with information technology and computer games. He says that because the young generation thinks and learns in a different way, it may often seem as though they have short attention spans and cannot focus at school. Rather than blame the students, he suggests that teachers should invent new ways to teach to accommodate for the new learners' needs, for example by using video games. Gee (2003) also suggests video games as a way to accommodate the needs of the new kind of learners and says that students learn many things by playing video games, but video games and the things learnt from them are not appreciated enough. According to him, learning at school should resemble playing video games because they are challenging and progress in the way that learning should. Gee (2005a) promotes the use of video games because they contain attributes and learning principles such as challenge, risk-taking and decision-making that make video games beneficial for learning. Bogost (2005) criticises the way complacent and risk-averse school systems produce citizens who do not know how to think freely, but only how to obey, and that this needs to change. Although he thinks that there is potential in video games and they can help students become well-educated rather than well-schooled, gaming alone cannot change schools, and the kind of learning that students need is not even possible to be achieved in schools. Similarly, Prensky (2001) says that video games are enjoyed by students and can get them involved in learning and teach them things that are otherwise tedious to learn, but education does not utilise video games and is therefore uninteresting. Annetta (2008) claims that schools still use the same methods that have been in use for decades, instead of new technology, which is familiar to young learners, even though there is a growing selection of for example serious games that could be utilised.

However, the assumption that a whole generation is somehow different from the previous one and hence have a preference for different learning methods is not reasonable and has been challenged. For example, Bekebrede, Warmelink and Mayer (2011) found in their study of Dutch higher education students that regardless of the generation they belonged to, the respondents preferred collaborative and technology-rich learning and thought that video games are a valuable teaching method. Roodt (2017) conducted a survey to university students in South Africa and concluded that

students believe game-based learning can help them enhance their academic performance and that most students have a positive attitude and strong preference towards the use of game-based learning, regardless of the generation they belong to. Southgate et. al. (2017) question the grouping of a whole generation together and the perception that all young students will intuitively know how to use technology. Instead, they encourage teachers to accept that a diversity of skills and preferences exists within the students, thus requiring multiple methods. Adjusting to the changes in society is important, and for example Casañ Pitarch (2018) refers to the inevitable process of inventions changing from innovative to obsolete, and that education has always evolved along with the needs of society. Thus, he sees that education must embrace the new technology, such as video games, because it is a natural process which is always happening in society. Therefore, it cannot be assumed that video games are a suitable learning tool for every student, but for many they can provide a welcome change in language learning and a chance to utilise skills obtained by playing for entertainment at home.

Video games in education have been the subject of study because of the needs for teaching methods to change along with changes in society and the student population, and because they are a familiar medium for many students. In addition to studying the use of video games in English language learning, they have been used in for example training and working life. The games used there are often simulations made specifically for the field of work. For example, Squire (2005) describes game houses that are focused on simulations, such as Breakaway Games, which has made games aimed for military training. Gee (2005b) introduces *Full Spectrum Warrior*, a simulation game from 2004 with which real soldiers can learn army doctrine by commanding battalions in the video game, thus learning by playing instead of having to memorise the rules without context. Rooney and Whitton (2016) shed light on how a simulation game was used in undergraduate business education to provide the students with links between theoretical business concepts and decision-making to prepare the students for the working life. However, my study does not focus on simulation games or the working life, but English language learning at school. Video game studies and their links to the sociocultural and ecological views related to my thesis will be introduced next.

The use of video games for English language learning as a first or foreign language has been studied by for example Colby and Colby (2008), who conducted a learning experiment in which students played the massively multiplayer online game *World of Warcraft* throughout a term and composed writing projects based on the game for other players to see. They conclude that playing video games creates immersion and flow, which facilitates learning. Their study utilised emergent pedagogy, in which students pursue their own discovery process and create their own challenging assignments,

instead of traditional pedagogy of progression, where one assignment or reading leads to the next with little variety or exploration, and students have limited agency of the assignments and thus no immersion on the process. Therefore, they reached the conclusion that the students' agency was aided by allowing them to steer their own learning process, which is important in ecology. A pedagogy of play which emphasises active participation was also applied, fitting into the ecological approach. The researchers say that in many writing projects about video games, students do not have a chance to participate in the game's discourse and community, but in their study the students participated actively in the virtual community, creating and reading texts about the game. Their approach fits the sociocultural and ecological framework, because community is crucial to the game they used, and therefore promotes learning together in a community.

Mifsud, Vella and Camilleri (2013) conducted a learning experiment on literacy attainment on English as a second language in Malta. The game used was *The ClueFinders Reading Adventures: The Mystery of the Missing Amulet*, a commercial game that can be also be described as an edutainment software, developed by The Learning Company, The sample consisted of over a thousand students aged between 11 and 16 years at four Maltese schools, divided into two groups. The experimental group played a video game as a part of their English course, while the control group followed their regular programme. The aim was to investigate whether the experimental group obtained gains in English as a second language items compared to the control group, and also provide support and guidance for teachers in the use of video games in teaching ESL. The students, teachers and parents were also surveyed in their study, and the result was that their attitudes towards the use of video games were generally positive, possibly due to the positive changes in the students' literacy skills, such as vocabulary, and sentence structure. According to Van Lier (2004), ecological study is contextual, often presenting the need for non-traditional methods, however not prohibiting the use of conventional methods. Mifsud, Vella and Camilleri (2013) made use of the experimental and control group to gain quantitative data for their research, and even though these methods fit into ecology, they are not necessary for the purposes of my study.

English vocabulary learning of students aged between 10 and 12 years in Puerto Rican schools was studied by Vélez-Agosto and Rivas-Vélez (2013). In their study, the students played an English vocabulary game *My English Coach - Spanish Edition* daily for four weeks. The study used both the quantitative approach, measuring the learning of new vocabulary with pre- and post-testing, and the qualitative approach evaluating attitudes towards video games in learning with observation and semi-structured interviews. The findings of their study show that the use of video games in English

language learning is beneficial and meaningful for the students, and the results provide evidence to support the favourable outcomes. The theoretical framework used was Vygotsky's sociocultural theory. The researchers say that from the Vygotskian perspective, motivation is important for learning, and extrinsic motivators such as video games can support the students' learning process in accordance with ZPD by narrowing the gap between what the students can do alone, and with assistance. They also say that video games should be easy to integrate into the learning process, since they are an integral part of the students' social and cultural context today. However, the video game they used, is meant for individual vocabulary learning, thus not containing a community or promoting collaborative learning, which would be important for sociocultural and ecological approaches. Nonetheless, collaboration and peer support between the students was observed, as well as focus and immersion on the game, even though a proper communal aspect was missing from the game.

Furthermore, in Ostenson's (2013) learning experiment, upper secondary school students played video games belonging to the genres of simulations and interactive fiction, such as *Zork*, *Myst*, *Dear Esther*, and *The Sims*, during their EFL lessons. The students played one at a time, while other students commented on the gameplay. After playing, they discussed the narrative elements in the games and how the games' mechanics and graphics affect them. The aim was to learn more about the narrative elements, for instance conflict, characters, setting, and plot in the games, as well as deeper messages that can be embedded in games, such as consumerism in *The Sims*, which simulates human life. The conclusion was that video games are a good way for students to become familiar with different forms of storytelling, and exercise discussions between other students and the teacher about the contents and potentials of video games. When the students were asked to ponder why video games are a compelling form of storytelling, they concluded that participation increased the impact of the choices they made in the game because when playing, the player assumes the role of the playable character, and the fact that in video games there often are possibilities for choices and branching storylines, unlike in books. However, even though the students were able to make observations and discuss the games, not everyone had the chance to actually play, which limited their agency and participation. Still, the students recognised the potential of video games to act as affordances for learning about narrative and storytelling. What is interesting about this learning experiment, is that video games were integrated into the EFL classroom in the way that books and other traditional texts have, which fits into the idea of multiliteracy presented in the Finnish national core curricula as well. My study is about ESL, and therefore the language learning differs from Ostenson's (2013) study, since the students play video games in their first language. However, the games provide a genuine context for learning whether they are in the students' first or second language.

Lastly, Beavis (2014) describes a learning experiment in which students of an English-speaking Catholic boy school played a 2D game from 1992 called *Secret Agent: Mission One*. The goal was for the students to learn to critically examine choices they make in a video game, as well as design a game of their own based on their observations about the game they played. Another aim was for the researcher to develop a model of video games that teachers could use to assist in curriculum planning and assessment, thus making integration of video games into schools easier. The game was played during two lessons and after that they discussed the ethical decisions they made in the game. The teacher controlled the game based on the students' instructions that they were free to give at any point of the gameplay. Thus, the students did not have a chance to play themselves, therefore having limited agency, although they could impact the progression of the game by verbally participating in the decision-making and problem-solving processes. Discussions about the game allowed the students to collaborate amongst themselves, but the game itself did not contain communal elements. Based on their observations and discussions, the students were tasked with designing a concept for a game that teaches the player good moral and ethical decisions. Thus, a video game and the students' observations from it were used as a basis for the design process, helping them in learning and understanding the contents of the game. The conclusion of the study is that the students learnt to understand and produce different kinds of texts. The design process provided the students activity and agency, which is in line with the learning theories in my study.

Thus, video games have been studied because they as a form of new and evolving technology provide affordances for student who have grown amidst technology and will need technological knowledge to navigate in the developing society. Video game studies presented here utilise sociocultural and ecological approaches in differing measures. Some studies give the student both agency and community (Colby & Colby, 2008; Mifsud, Vella & Camilleri, 2013), one focusing on the ZPD and (Vélez-Agosto & Rivas-Vélez, 2013), while some focus on the development of individual thought processes aided by common discussion (Ostenson, 2013; Beavis, 2014).

3 Research ethics and methodology

This section describes the research approach applied in this study. The learning experiment and the data gathered from it and how it was analysed, will be introduced. For this master's thesis, I conducted a learning experiment together with my student colleague, Eveliina Pigg. We planned and conducted the experiment together but proceeded to analyse the data according to our own research questions and points of interest. We also conducted a similar experiment (Paananen & Pigg, 2018) for our pedagogical seminar in autumn 2018 while we were completing our teacher training. Experiences from it as well as ideas from previous video games studies were applied while planning the new experiment for this study.

The experiment for this study took place at an upper secondary school in northern Finland and it consisted of two parts: a gaming session and an interview. Our participants were four second-year students. We aimed the experiment to upper secondary school students because their level of English is suitable for the game we chose. Since we are not as interested in simple language learning, such as learning new vocabulary, but as English learning as a wider phenomenon, and the ability to discuss deeper themes, we thought upper secondary school students would be a logical choice. They can presumably understand the political and societal issues presented in the game and analyse them. They also have more experience at school than secondary school students, for example, and can therefore analyse the learning methods that they have so far experienced, and how video games could be a part of learning at school. The minimum age limit of the game is 18 years, and even though the chapters we chose to play did not include themes that would have required that limit, we wanted the students to be as close to it as possible.

The participants were given forms of informed consent before the experiment. With the form they were informed of the study's purpose, progression, and possible risks and benefits associated with it. The confidentiality and handling of data were disclosed in the form as well. Since the participants were more than 15 years old, they were able to sign the consent certificates without their parents. The participants also received a data protection form in accordance to EU's General Data Protection Regulation (GDPR), in which we further explained what kind of data is collected during the experiment, how it is stored and handled, and then destroyed in this study. The data that we collected during the experiment were the video of the gaming session, and the recording of the interview. We transcribed them using pseudonyms for the participants so that their real names are not revealed, and

they cannot be recognised from the finished theses. The data is only available to Eveliina, our instructor, and me, and is stored offline on a hard disk and will be destroyed after our theses are complete.

The game that we used was *Detroit: Become Human* for PlayStation 4. It is an adventure game published in April 2018 and was developed by the French game studio Quantic Dream. The game is set in the year 2038, in a time when technology has advanced significantly. An example of this progress are androids: human-resembling robots that follow their programming without free will. They are servants for the humans, used for mundane tasks such as cleaning and construction. The game has three playable characters, all of them androids. Two of them escape their programming and develop free will, and the third one is sent to investigate and hunt them down. In the game, the player can make choices, ranging from insignificant to crucial, which affect the storyline and the relationships between the characters, also determining which of them survive until the end of the story. The game presents many societal issues which could stem from advanced technology and automation, such as unemployment and lack of social interaction, and also raises the question of whether at some point artificial intelligence should be granted rights similar or equal to human rights.

Before playing, we showed the game's trailer from YouTube, and introduced the synopsis of the game briefly. After that, the students played two chapters, called *Shades of Color* and *The Painter* from the beginning of the game. These chapters introduce Markus, one of the main characters, who takes care of his master, an old artist called Carl. The students played one at a time so that everyone had a chance to play. While one of them played, the others watched and were free to comment on the game and the playing. Eveliina and I had prepared some helpful questions about the contents of the game that we asked while the students played, as Vélez-Agosto and Rivas-Vélez (2018) did in their study, encouraging the participants to make connections and learn. In their study, the use of English was encouraged throughout the experiment, and thus we spoke only English during the gaming session. All of our questions and instructions, as well as the students' comments and conversations were in English. We tried not to guide the students too much. Since all of them were familiar with video games before, they knew how to follow the game's instructions. We wanted the students to be able to make their own observations while guiding them as little as possible, thus applying the idea of Bottino et. al. (2007) and Tuzun et.al. (2007), that there should be a balance of giving the participants freedom and autonomy to explore in the game and providing clear instructions on how to progress. The participants guided each other and asked for help if they did not know where to go or which button to press. They also commented on each other's playing and had small conversations about the game.

Thus, they did not merely answer the questions Eveliina and I asked them but were active without us needing to urge them too much.

After the gaming session, we interviewed the participants in Finnish. The native language was chosen so that the participants could express themselves as accurately as possible and would not have to focus on producing English, since the purpose of the interview was not to assess their English skills. We had prepared six questions about their experiences with video games in their free-time and at school so far, their views on (English language) learning, and opinions about *Detroit*. We allowed them to describe their views and experiences quite freely, without limiting them to the questions we had prepared. This enabled them to reveal opinions that we had not expected. The interview was recorded and then transcribed. I translated the excerpts from the interview that I used in this thesis into English, focusing on conveying the meaning, instead of following the form of the Finnish transcript rigidly. The original Finnish excerpts will be presented before the English translation.

The data from the experiment, i.e. the transcripts of the gaming session and interview, were analysed with content analysis. The analysis will be presented in section 4. According to Busch et. al. (1994-2012), content analysis is a useful research tool for finding reoccurring concepts and themes in the data and can be used in analysing a broad variety of different texts, such as books and articles, among others. They say that the texts that are analysed do not all have to belong to the same category, but many types of texts can be analysed in the same study. They name the freedom it gives to the researcher in deciding the themes that will be examined as an advantage of content analysis and say that it can provide vision into the ways in which language and thought are used. Lichtman (2012) describes the steps in which content analysis proceeds. She says that the first step is to read through the texts carefully and to code the observations found in them. The coded notes are then scrutinized, and the observations are divided into different categories and subcategories. The relevance of the observations is assessed, and the findings are organized into concepts or themes, which are then presented.

4 Analysis

I analysed the transcripts from the gaming session and the interview with content analysis and organised them into two themes presented in this section. The first theme, presented in subsection 4.1, explores the participants' views towards the use of video games in language learning at school, while subsection 4.2 presents the second theme, which discusses the conceptions of learning and examines affordances that video games provide.

4.1 The views towards the use of video games in language learning

This subsection presents the first theme, namely the participants' current views on the use of video games in language learning. First, the role of video games in their lives is explored, and then the obstacles the participants see for the use of video games at school are presented. The participants reflect on school projects they have completed with video games and other media and consider the ways in which video games can help in assignments compared to traditional texts. The participants contemplate what they feel they have learnt from video games so far, also suggesting what kind of video games would in their opinion be suitable and why.

First, the role of video games in students' lives and what consequences it can have for the use of video games at school is discussed. All of our participants said that they are experienced gamers, although not necessarily on PlayStation. All but one also reported having excellent grades in English. Depending on the day, they might play for up to 12 hours or not at all. For them, playing video games is a hobby, and a refreshing counterbalance to schoolwork. The participants do not immediately associate video games with learning, because playing video games is a free-time activity for them, and something detached from schoolwork. For example, Jonna describes the role of video games for her as a way to relax after school:

(1) Jonna: Niin rentoutuminen just semmonen, että ku koulun jälkeen aivot kuollu pakko tehdä jot... haluaa tehdä jotain muuta, vähän semmonen.

Yes, relaxation and like, after school when your brain is dead, and you have to do some... you want to do something else, something like that.

Associating video games with free time and regarding them as a contrast to school is one of the obstacles hindering the use of video games in learning at school. For example, Kirriemuir and

McFarlane (2003) uncovered in their survey that some schools had PlayStation consoles for students to play with as a recreational activity or a reward for good behaviour. In their study, many teachers also recognised that games are important to students but were reluctant to use games in the classroom because they were regarded as merely "fun" and not suitable for learning. Therefore, not only students, but also some teachers consider video games as a counterbalance to schoolwork, which could lead to not using video games in learning.

Regarding the difference between learning at school and during free-time, Colby and Colby (2008, pp. 302-305) say that video games are not used at school abundantly because traditional views on work and play highlight the differences between classroom and game space as binary opposites, but that they need not be regarded as such. They point out similarities between game space and classroom, such as that they both have a reward system and are separated from the "real world". Bogost (2005, p. 123) mentions Will Wright, one of the founders of the video game company Maxis, and how he said that children educate themselves voluntarily at home playing video games, calling it invisible education. He thinks that video games should become a part of education, not just of the students' free time.

We also asked the participants whether they think that learning at school and at home are very far apart. Kalle said that of course they are separate. He used the learning of new vocabulary as an example and said how at school he can use a book to look up words and their meanings, associating school learning with books. Learning happening at home he associates with the Internet. He talks about how there someone might say a word that he does not know, and what he does to solve the problem.

(2) Kalle: Sää mietit kontekstia, mitä se tarkoittaa. Ja niinku että mitä muita sanoja se käyttää sen kanssa, -- tietysti siitä voi siitä samasta lauseesta voi niinku päätellä, että mitä sana se saattaa tarkoittaa. Sää voit käyttää kääntäjää, sieltä kattoo samalla niinku koulussa katotaan kirjasta.

You think about the context and what it means. And which other words they use with it -- of course you can infer from the same sentence what the word means. You can use a translator, look it up in the same way you can do from a book at school.

He sees the Internet at home as a real language environment, where context is key in learning new words, while at school the textbook is the source of information. The participants also recognise

different outcomes and uses of learning at school and during free time, saying that they have learnt vocabulary and gained ease to their speaking from outside school, and how to use correct language in situations such as a job interview at school. The separateness of these two environments becomes apparent from Antti's comment,

(3) Antti: Onko se paha, jos sanoo, että käytän mun kotona oppimaa englantia siihen, että mää saan koulussa hyviä numeroita, tai niinku että mää en opiskele periaatteessa mitään uutta enää, muuta ku sanoja?

Is it bad if I say that I use the English I've learnt at home to get good grades at school, or like I don't learn basically anything new except words anymore?

He feels that he does not learn anything new in English at school at this point, and wonders whether it is acceptable to utilise skills learnt outside school at school, which reveals that he views them as separate realms. This implies that most of the learning is taking place outside school, where the skills are merely tested. In her response to Antti, Jonna wonders whether one must learn a skill at school again, if one has already learnt the same thing at home. This shows that a skill is really learnt only then when it is studied at school, and how learning in these two environments is considered to be of different quality. Therefore, they might think that learning during their free time does not count as learning if it is not aimed at learning something they have to study for school. Connected to this topic, Chik (2014, p.91) mentions in her study a student who wanted to improve his law-related vocabulary before applying to law school and solved this by immersing himself into crime and court video games and TV shows, and after being accepted to law school, was surprised to note how he did not have to spend as much time memorizing the terminology since he had already learnt it during his free time. Therefore, purposefully playing a game to learn about a specific topic can facilitate the learning of it at school, and as Antti and Jonna had already noted, playing video games has helped them even when learning was not the goal of their playing. Because school-like English learning is not their intention when they play, they might see the possible learning results as incidental. However, from a sociocultural point of view, there is no incidental learning, because foreign language is used as a tool to reach concrete goals, which makes leaning goal-directed and meaningful activity (Lantolf, 2000, p. 214). For example, completing a game can be a goal, that the player reaches by using foreign language.

Next, I will move on to the challenges that the participants presented for the use of video games at school, connecting them to previous studies about the use of video games in learning. Some issues

include for example the difficulty of integrating video games into schools because it is challenging to find games that fit into the curriculum (see e.g., Denham et. al., 2016) and finding matching content with the lesson plans (see e.g., Vélez-Agosto & Rivas-Vélez, 2018). Our participants also discussed the suitability of a commercial video game such as *Detroit*.

(4) Jonna: Riippuu pelistä ja...

Depends on the game and...

Antti: Riippuu pelistä, mä en usko että sitä välttämättä saatas ite kouluympäristöön jotenki integroitua niin hyvin välttämättä niinku pelejä pelejä mutta --mää en jotenki nää sitä samallaista niinku... Se ei vaa jotenki tunnu toimivan välttämättä ehkä koulu-ympäristössä. -- Jos tehtäs oikein, nii se toimis tosi hyvin.

It depends on the game and I don't think that it could necessarily be integrated into school environment so well, like game games, but -- I don't think I see the same kind of... It just doesn't seem to work in a school environment. If it was done right, it would work well.

They brought up the fact that the choice of game is very important, and Antti continued by explaining that "game games", i.e. commercial games such as *Detroit*, might be difficult to integrate into the school environment and that they would not necessarily work there. He does admit that video games could be used, but it has to be done well. This shows that his immediate response to the use of video games at school is doubtful, but he can also find ways to make them work. Jonna and Antti continue discussing the suitability of *Detroit*, and although doubtful about it, begin to see opportunities in it.

(5) Jonna: Et just semmoset [kielenoppimisohjelmat] kyllä on auttanu mutta ne on just suunniteltu tämmöseen kielenopetukseen mutta just muuten just tuommoset tyyliin *Detroit*-tyylisestä pelistä oisko siitä miten?

Those kind of [language learning software] have helped, but they have been designed for this kind of language teaching, but something like Detroit, how would it work?

Antti: Mut emmää usko et *Detroitin* tyylinen peli nyt välttämättä opetustilanteessa ois niin hyvä.

But I don't think that a game like Detroit would be so good in a teaching situation.

Here Jonna and Antti question the appropriateness of *Detroit* for language learning since it is not designed for it, but next they suggested some possible uses:

(6) Jonna: Nii et ainoa mitä mä koen sit et just tuommonen keskustelutyylisesti mutta niinku siinä ois just just se et pitäs olla sitä pohjaa tietyllä tavalla ja ...

Yes, but the only thing I think is just like that kind of discussion, but then you need to have that foundation in a certain way and...

Antti: Mutta siinähan sitä vois niinku uusia sanoja ehkä, se vois toimia korkeammalla tasolla huomattavasti paremmin niinkö jossaki yläasteella iha ehottomasti.

But from it you could maybe learn new words, it could for sure work at a higher level much better than in secondary school, for example.

Thus, they suggest that discussions about the game could work, but for it the students should already know English quite well. However, as Antti suggested, the students could acquire new vocabulary in the process, and that discussions about a video game could work especially well at a higher level, perhaps because there the students' level of English is already quite high. They are in upper secondary school themselves, and Antti can perhaps see how that sort of discussions could work at their level.

However, the success of integrating video games at school does not only depend on the students' level of skills, but also on the teacher. Antti mentioned the importance of the teacher's knowledge about the material,

(7) Antti: Siinä on vaan semmonen ongelma, että jos tommosen haluais tehdä niin siihen pitäs tosiaanki tehdä se että pitää ite valita sieltä että mikä, mitkä näistä on niinku sitte ne mitä haluat ite alkaa tutkimaan siinä asiassa. Tai sitte se pitäs olla tosi pitkä, pitkä kurssi, siitä asiasta.

There's just the problem that if you'd like to do something like that, you should really make the choice of what to investigate further on the matter. Or, you'd have to have a really long course about it.

It means that the teacher should be familiar with the game in order to know how it can be used and what can be learnt from it, and which parts of the game are suitable for which themes. This requires extra effort from the teacher. Antti mentions the possibility of having an entire course where video games are used, showing how for him they are somehow detached from other learning at school, needing a course of their own, instead of being a part of something that is already done. However, it shows that he thinks there is enough content to be learnt from video games for an entire course. He

says that it would require a lot from the teacher, but if a course like that was organised, he would take part in it. Kirriemuir and McFarlane (2003) also mention this, saying that it is difficult to measure what exactly students learn from the video game, and Rice (2007) reports that teachers shun the use of video games because they feel there is not enough time for them in the curriculum. Valuable skills that are relevant to the student's future can be learnt from video games, as Gee (2008) reports, even though they are not defined by academic labels.

Even if a suitable video game was found, there is the possibility that some students do not feel comfortable playing it or discussing the game in a group situation. This was brought up by Jonna, and it is something that definitely needs to be considered when planning the use of video games in teaching.

(8) Jonna: Jos ois tämmösessä ryhmätilanteessa niin alkaako monet keskustelemaan, niinku et haluaako kaikki ees pelata...?

If it was in a group situation like this, would many start to discuss, like would everyone even want to play...?

For example, Whitton (2007, 2011) says that video games might not prove motivating for all students, since not all of them simply find them interesting, especially in higher education, and that is why video games should be used only when they can provide additional benefits. Anyaegbu, Ting and Li (2012) found in their study that the majority of their participants enjoyed playing an English language learning video game and it provided them many benefits, such as opportunities for collaboration and active participation, improved their problem-solving skills, and broadened their exposure to English. However, they admit that some of the participants did not like video games in general, and for that reason found it demotivating. Thus, even though there is evidence that playing video games can be beneficial, it is not for students who are not interested in them at all. DeHaan, Reed and Kuwada (2010) discovered that when students play offline with their friends watching, the situation can offer additional interaction that would not be achieved otherwise, possibly resulting in the observers learning even more vocabulary and language than the players themselves. This information is encouraging in terms of the effectiveness of gaming sessions such as in our experiment. Even though group discussions while playing might be fruitful for language learning, they can be intimidating to students with low self-confidence, and outright tedious to students who are not interested in video games.

Jonna mentions another problem, which is that even though in her opinion tasks involving conversation about the game would be beneficial, a certain acquired level of English is needed for them to be successful.

(9) Jonna: Ainoa mitä mää koen sit et just tuommonen keskustelutyylisesti mutta niinku siinä ois just just se et pitäs olla sitä pohjaa tietyllä tavalla.

The only thing I think is beneficial is with that kind of conversation, but there is the issue that you need to have a certain foundation already.

Thus, it should be ensured that everyone feels they have a chance to take part in the activity according to their level of skills, because one can have simple discussions even with limited language skills. Even if it sometimes feels difficult, the students could support each other while playing, and shy students who already enjoy playing, might gain more confidence when they can utilise their skills at school and discuss something that they are interested in. Reinders and Wattana (2015) conclude that playing video games can lower the students' affective barriers, i.e., anxiety, fear and frustration, towards learning, and thus making them more willing to communicate. Therefore, students who might otherwise feel too anxious to communicate in a classroom situation, might find it easier during a gaming session, and these benefits might then be seen in other classroom situations as well. However, they also say that some students do not enjoy the interaction during gameplay because they are unfamiliar with video games, found the game tasks too difficult, or the number of interlocutors too high to convey their message and that in these cases, the teacher should encourage students who might be reluctant to play, by for example offering a range of different tasks and ensuring that they have time to prepare for in-game. Our participants managed to discuss the game well. They are all experienced gamers, and even this particular game was familiar to some of them, although none of them had played it before. Therefore, it was possibly easier for them to focus on the contents of the game when they did not actually need to learn how to play.

To summarise so far, video games for our participants are a hobby and a way to relax and forget about school, not something they use specifically for English language learning. This distinction between free time and school learning has also been found in previous studies of the field. The participants expressed their concerns about the challenges of integrating commercial video games that are not made for language learning, into school environment, and that some students do not feel confident with their language or gaming skills to participate in a video game session and group discussions

about it. Using video games also causes extra work for the teachers. Despite these challenges, the participants found that video games can provide learning opportunities, which will be discussed next.

Next, the learning opportunities that the participants see in the use of video games will be examined. First, we asked them whether their teachers have used any video games in teaching so far. The participants responded that commercial video games have not been used, but game-like learning software such as *Kahoot* and *Quizlet* have been utilised. Learning software like these are not video games per se, but examples of gamification, which was defined in subsection 2.2. For example, Casañ Pitarch (2018) sees gamification as a tool for teachers to design lessons to introduce a range of game-like elements, which have a particular linearity in them. The participants contemplate the nature of *Kahoot* and *Quizlet*:

(10) Antti: Lasketaanko Kahootti, Quizizzi englanniksi, peliksi sillä tavalla...

Do Kahoot, Quizlet in English, count as games that way...

Jonna: No siis onhan ne kyllähän ne periaatteessa *Quizletit* ja nämä, kyllä ne niinku sanastoa ruotsissaki...

Well yes, they are essentially, Quizlets and such, they are vocabulary such as in Swedish...

Kalle: Ne on vähän niinku lautapelejä, vähemmän videopelejä.

They are a bit like board games, and less like video games.

Jonna: Siinä oppii kuitenkin.

You can still learn from them.

Antti: Mää pääsin ruottin kurssin läpi silleen.

I passed my Swedish course that way.

The participants wonder whether *Kahoot* and *Quizlet* count as games at all but admit that they can be helpful in language learning, and Antti even claims that he passed a Swedish course thanks to *Quizlet*. They mention Swedish, a language that for all of them is weaker than English, and how gamification has been useful in learning it. Perhaps they see the use of it as a tool to practise basic skills, which is something that they might need more in Swedish than in English. Although my study does not focus on gamification and this kind of learning software, participants can nevertheless see positive results of game-like elements to their own learning and I think it is important to recognise when moving on to discuss the benefits and uses they see for commercial video games in language learning.

To give the participants an idea of what can be done with video games in English learning, we briefly introduced our previous learning experiment (Paananen & Pigg, 2018), in which we studied how students were able to write a short assignment based on the contents of the game after a gaming session. We asked our current participants whether they could imagine it working. This seemed to give them some ideas on how games can be used, and they started to see some possibilities in them. Despite the initial challenges they found for the use of video games, after more discussion they started to see some opportunities as well. They were reminded of some projects they had completed at school, not necessarily with video games but also with other media. What was common in them, was that the projects were something different from usual schoolwork, possibly combining multiple subjects in different ways. For example, Antti recounts a project of his:

(11) Antti: Mutta jos mietitään sitä liittämistä johonki eri aineeseen nii mä en tiiä että lasketaanko esim. me ollaan tehty hauskoja lyhytelokuvia englannin niinkun jonku diaesityksen tai niinku jonku esseen kirjottamisen sijasta että siinä on niinku tullu vähä niinku media tai muita semmosta kursseja niinku siihen tilalle ja ehkä sitä englantia on käytetty niinku verukkeena siihen.

But if we think about the combining with a different subject, I don't know if this counts, but we have made for example funny short films for English, instead of a slide show or an essay so that there we've had sort of media or such courses instead, and maybe English was used as a pretext for it.

Thus, he was able to combine media studies with English. The idea for it came from the teacher, and it sounds that the whole class had the same assignment of making a short film. They were able to do something different like this because they could still learn English while doing it. About the use of a video game, however, Kalle has an example:

(12) Kalle: Ite tein äidinkielessä oli tuota, piti tehdä kirjasta essee, niin tuota minä olin sitte pelannu semmosen pelin joka oli tehty siitä kirjasta ja mä kirjoitin siitä. Sitte mä siitä sain sitte sen. En jääny kiinni. -- Jos saan sanoa nii mää vaan keksin sen kirjan päästä.

We had to write an essay about a book for our Finnish class, and I had played a game that was based on the book and wrote about it. I did it that way. I didn't get caught. -- If I may say, I just made up the book myself.

Here, the different way to complete a task was not suggested by the teacher, but Kalle came up with it himself, although it was not exactly allowed. He made up a book and wrote about a video game instead. For him, a game that he already knew was probably more motivating and convenient to write about than a book. However, the essay was for a Finnish class and not English. Albeit neither of these two examples that the participants remembered, are not about video games with English language learning, they show that tasks that somehow differ from the conventional methods with for example different use of technology, whether it was required by the teacher or not, were something that the participants still remembered and thought were rewarding. The gist of these activities was that the participants were able to bring their free-time knowledge and skills to school to help them complete assignments. Antti used his English skills in filmmaking, possibly being able to draw from personal experiences with films from outside school, and Kalle discovered a way to combine his interest in video games with having to write an essay. Bringing video games into English language learning is also a good way to offer students the opportunity to use the skills they have acquired outside school, such as knowledge about video games or game-related vocabulary, in completing school assignments and learn English.

The audiovisuality and interactivity of video games can help with making observations about the contents of the game. For example, in our previous learning experiment (Paananen & Pigg, 2018), the students were able to notice themes and details from the chapters they played and discuss them in a short, written assignment quite well. The importance of interactivity arose when Jonna said that is more interesting to play the game and see what happens and to be able to explore the environment, than to have someone simply explain the events. We also asked them whether they would have enjoyed watching a video of someone else playing the game, or a so-called play-through, and they answered that of course it would have been different, because they could not have made their own decisions, and therefore could have been frustrated with the player's choices and possible lack of exploration. The way that video games require the player to make decisions in order to move on and react to these decisions by giving feedback and new problems, is what Gee (2005a) thinks separates them from books, which are passive and do not create dialogue with the player. Antti mentioned that what activates him in video games is the freedom to investigate the game world and find new quests and details. Gee (2005a) calls this beneficial attitude lateral thinking; exploring thoroughly and assessing one's goals before moving on in a linear direction.

When thinking of the use of a video game as a base for an English assignment, Kalle said that it would be a possibility, and Antti said that it could be even better than giving a text about a topic, because a

video game feels a lot more activating. Owston et. al. (2009) even discovered that playing video games can help students improve their writing skills in plot development and description of main characters, as well as in sentence and question structures, and basic literacy skills. Antti describes the different way one can gather information from a video game compared to for example an email:

(13) Antti: Kyllä mä sanoisin että siinä saahaan ainaki huomattavasti enemmän informaatiota ja pystys... Jotenki peli on niin isompi niinku mediana kun joku sähköposti jossa lukee että "Sallalla on kauppa. Salla myy maalia. Mitä Salla tekee vuonna 2038 kun droidit on vallannu universumin?" -- Siinäki sää pystyt sää pystyt kirjottaa siitä niin paljon enemmän ku sä huomaat siinä niitä ongelmia paljon paremmin.

I would say that you can gather significantly more information and could... Somehow a video game as a medium is so much bigger than an email that says, "Salla has a store. Salla sells paint. What does Salla do in 2038 when droids have taken over the universe?" -- In that situation you can write so much more about it when you notice the problems much better.

He is referring to the part in the game where Markus fetches an order of paint from a small store. The character of "Salla" Antti invented himself for this example. In the paint store scene, there are no humans, but only Markus and a cashier android present. Markus identifies himself by placing his hand on a scanner. Then the cashier takes the order from a shelf, and Markus pays via contactless payment. The only evidence that a transaction is taking place, is the blinking of the androids' LED lights on their temples. The androids exchange a few robotic words with a blank stare instead of proper eye contact. Jonna agrees with Antti and continues:

(14) Jonna: Justiisa silleen niinku että jaa ne vaihtaa rahhaa tuolla tavalla nii ei sitä tulis ensimmäisenä mieleen jos sannoo just sillee et "kuvaile tuommosta tulevaisuutta" justiisa nii ei sitä välttämättä vois ajatella että ne maksaa -- lähimaksulla, ne kävelee sillee kasuaalisti ja ostaa pari patukkaa sit siitä vierestä ja lähtee kotiin silleen niinku... Kyl siit saa enemmän irti.

Exactly, like they pay that way, and it wouldn't be the first thing to come to my mind if someone asked me to describe a future like that. I wouldn't think that they pay -- contactless and then casually buy some snacks from there and go home like... You can get more from it.

She also feels that a video game is a good tool to help visualise events that otherwise would be difficult to simply imagine on their own. In a similar way to Antti, she adds new elements to the existing scene in the game as well, imagining how Markus would purchase snacks after retrieving the order of paint. The scene was able to affect their imagination and made them create new elements on top of the actual scene. Along with ideas for a creative topic, Jonna says that from a game one can gather vocabulary one would not otherwise know to use:

(15) Jonna: Joo ja sitte esimerkiksi sitte tossaki tulee niinku esimerkiksi jotain sanastoa mitä ei välttämättä tajuais ees käyttää, niinku ku tuota kuuntelee vaikka jotain peliä niin se sanoo siihen asiaan liittyviä sanoja, mitä ei välttämättä tajuais ite googlettaa vaikka ku tekee sitä esseetä niinku kääntäjällä ja sitte kattoo jotain. Niin niin, vois sit siinä yhteydessä että hei tuohan on muuten tosi hyvä sana, mitähän se tarkoittaa. Ai jaa, se tarkoittaa tuota, no sehän sopii tähän mun esseeseen.

And for example, there is some vocabulary you wouldn't even realise to use, when you listen to that game and they say words related to the topic, that I wouldn't even know to google while writing an essay and using a translator, looking up words. In that context you would notice a word and learn what it means and that it is suitable for your essay.

Therefore, video games can be useful resources when writing essays, since they provide vocabulary in the context to which it is connected. Learning specific vocabulary can even be intentional, as Chik (2014) reports in her study, in which some participants approached video games in the same way as learning material at school to learn vocabulary about a topic of their interest, because they felt that they could not learn it at school. They used same methods to learn new vocabulary from games that their teachers had taught them at school. Thus, their learning was intentional and autonomous.

To summarise, the participants can see how playing a video game helps them notice details and issues that they otherwise would not think about, and perhaps would not get in the same way from a text. A lot can happen in just a short part of a video game, which can help with writing an assignment, by for example providing useful vocabulary. The audiovisuality of a video game and the opportunity for immersion can be good ways to provoke thoughts since it is not merely a text where one has to make conclusions. For instance, in *Detroit*, the player can explore the environment quite freely, and thus notice details that are not always directly connected to the ongoing mission in the game but reveal something about the wider setting of the game's story and world and perceive the social and political situation in which the game is set. In *Detroit*, the player can even decide whether to be pacifistic or

aggressive, and whether to capture the androids or join them, and each of these decisions lead to completely different outcomes for the game, motivating the player to explore different solutions and try and find different story branches. Vélez-Agosto and Rivas-Vélez (2018) also note that video games are motivating to students because as a result of the work/play distinction, they see them as entertainment instead of assignments. Further, Chik (2014) mentions how some participants in her study had to improve their English skills in order to play video games that were not yet translated to their native languages, and they were surprised how motivating learning was this way, and found pleasure in the game texts that they did not find when reading literary texts at school.

The discussion reached the multidisciplinary modules, which combine multiple school subjects in exploration of a topic from different angles. We asked the participants whether they could see *Detroit* working in a multidisciplinary module, and which themes would they emphasise and with which subject. Jonna began by saying that the game could be combined with social studies. Antti admits that someone could claim that it is not useful to play *Detroit* in a Finnish social study class because it does not depict the Finnish society, but he defends it by saying that students can nevertheless learn about their own world by comparing it to the fictional setting in the game, and analysing which events could lead to the dystopia becoming true. However, Jonna said that they already sometimes watch videos in English on their social studies and religion classes, and the problem she mentioned earlier is also present. Namely, that a certain level of English is necessary to understand the video, especially when it handles a complicated topic. She says that many teachers assume that upper secondary school students already know English so well that they can easily follow videos in English and learn from them. She says that some students are not as interested or skilled in English, and compares it to if she was shown a video in Swedish:

(16) Jonna: Et se ois vähä semmonen et jos me nyt yhtäkkiä yhteiskuntaopin tunnilla katotaan ruotsinkielinen video, "te varmaan ymmärrätte ku te ootte opiskellu ruotsia kuus vuotta kohta tässä jo. Kyllä se varmaan nyt jo menee." Ja sit oot silleen "häh". Et ei sitä voi, sitä ei voi ehkä silleen jos siihen yhistäis yhtäkkiä nii ei sitä, ku se on vähä vaikee tietyssä kohassa niinku tietyille ikäryhmälle olettaa ku sitä ei oo aiemmin vaadittu. Nii vähä tyhmä silleen olettaa että te osaatte nytten.

It would be a bit like if we now suddenly in social studies watched a video in Swedish, "you maybe understand since you have studied it for almost six years. It should be alright by now". And then you're like "what". It couldn't suddenly be brought to a

certain age group because it hasn't been required before. So, it's a bit stupid to assume that we will understand.

She could see how there are themes in *Detroit* that would be suitable to be combined with other subjects, but the need for good enough English skills persist. She has strong skills in English, so for her, such situations are easy to follow. Her Swedish, however, is not as strong, and she can imagine how she would struggle if it was suddenly used instead of English. When combining English with other subjects and possibly complicated topics, teachers should provide support and make sure that all students will be able to follow the video game and the consequent discussion, for example by providing helpful vocabulary and translating the most important parts together.

In addition to the participants remembering how they have used video games and other media in their language learning so far, and imagining how they could be helpful, they also stated how video games have helped them in specifically English language learning so far. For example, Antti says that he feels he has acquired most of his English skills by playing video games at home. Jonna continues about the different roles of learning at home and at school:

(17) Jonna: Et sää voi vaa niinku hypätä johonki englanninkieliseen keskusteluun ja olla sillee “yes yes” mut niinku et pohjahan se tulee aina koulusta mutta kyllä mää sanosin et 90 prosenttia mitä mää puhun on tullu just YouTubesta, puhelimen niinku netistä ja sitte peleistä.

You can't just jump into an English conversation and be like “yes, yes” but like the foundation of course comes from school but I would say that 90 percent of what I speak has come from YouTube, Internet and video games.

She sees how school learning is necessary, but also recognises the benefits that can be gained from free-time activities, especially for spoken and everyday language, attributing most of her spoken skills to out-of-school learning. Kalle recounted his English language learning experiences with *Growtopia*, an online game where the player can create almost anything and chat with other players from all over the world. In video games, there is often the possibility to chat with other players with both voice and text.

(18) Kalle: En seiskaan asti en oikeesti osannu englantia paljo yhtään. Sitte tota minä alkoin pellaamaan *Growtopiaa* ja opin siinä englantia. Ja sen jälkeen mulla on ollu ysiä ja kymppiä.

Until secondary school I didn't really know much English. Then I started playing Growtopia, and after that I've had excellent grades.

He associates his improved grades with playing the game, not better methods or motivation. He also suggested that perhaps a game with a chat would work better in English language learning than one without chat. He had noticed the positive effects of a game in which chatting is a major element, to his English learning. The benefits of chat have been investigated by for example Compton (2004), whose study revealed that video game chatting helped students feel more confident with their English language skills and hence participate more actively in class discussions. In his study, especially students who had limited oral English skills and low communicative self-confidence, admitted that chatting helped them organise their ideas before speaking and make them feel more prepared, resulting in improved perception of their communicative competence. Chatting with other players from all over the world is a good way to learn for example colloquial expressions typical to different countries and language environments. The participants can attribute their English learning to video games and even pinpoint a certain game that has been crucial for their development, but at the same time in the beginning of the interview struggled to see how they could successfully be brought to school. The learning from commercial games outside school for them has happened as a side effect, without conscious effort towards the goal of language learning, but the results are visible, and they are aware of them.

4.2 Conceptions of learning, and affordances provided by video games

In this subsection, the participants' opinions and experiences about the current teaching methods will be presented. The effects of their experiences to their communicative confidence is explored, as well as suggestions on how to improve English teaching. Then, the ways in which video games can improve teaching methods will be discussed, and later in this subsection, the affordances that video games can provide for English learning will be examined.

During the interview, the participants criticised some methods and attitudes in English language teaching in Finland, which became apparent when we asked about their current level and strengths and weaknesses in English. One of them defended a weaker student by saying that they can probably

speak well, but it is not acknowledged because the teaching is focused on theory. For example, so far, they have only had one oral exam, and they wonder whether the situation is similar in other upper secondary schools as well. It seems that there is a disconnection between the skills the participants have learnt at school, and what they have used outside of school. For example, Casañ Pitarch (2018) says that it is imperative in foreign language learning that the students attain not only knowledge of grammar and vocabulary, but communicative competence as well, by rehearsing and experiencing the target language. Jonna mentions the focus on grammar and correct language instead of successful communication, which discourages students from speaking because of the fear of making mistakes. Stevick (1976) describes this as *lathophobic aphasia*, or a fear of making mistakes which causes the person to be reluctant to speak.

(19) Jonna: Mun mielestä Suomessa englannin opetuksessa aina on ollu se ongelma, että siinä painotetaan kielioppiin niin paljon että se on aina sitä, vaikka sä sanoisit esimerkiksi että "I'm sitting on the sofa" ois oikein, mut sä sanot siihen "in" ja opettaja on silleen "ei oo se on 'on' eikä 'in'", vaikka sillä ei ois silleen periaatteessa mitään väliä. Niin sit siinä tulee sit vähän semmonen, että ei halua puhua ku ei se mee kuitenkaan oikeen ja sit siinä on aina sit se justiinsa ku se pittää olla niin täydellisesti oikein ja muuta niin esimerkiksi vaikka kuin moni mun kaveriki ossais niin ei ne kehtaa puhua vaan ku niistä tuntuu että ne ei ossaa mut niinku tommosestaki [pelien käytöstä] vois olla tietyllä tavalla hyvä.

I think that there has always been the problem in English teaching in Finland that grammar is stressed so much that it's always like if you said that "I'm sitting on the sofa" was correct but you say "in" and the teacher is like "no, it's 'on', not 'in'" even though it doesn't really matter. So then you feel a bit like you don't want to speak because it won't be correct anyway and there's always that when it has to be so perfectly correct, for example many of my friends could speak but they don't dare because they feel like they can't, but that [use of games] could in a sense be good.

Perhaps she meant that because video games do not focus on grammar the way traditional learning at school does, it encourages students to speak more and communicate with each other while playing. This was discovered by Reinders and Wattana (2015), who say that students in their study felt less anxious about mistakes and eased their fear of evaluation during gameplay because the immediate interaction while playing required fluency, not accuracy. Antti continued about the same topic, and

how differently grammar mistakes are scrutinised at school compared to outside of school when communicating with native English speakers:

(20) Antti: Justiinsa niinku nopeessa puhumisessa justiisa joku lauseen järjestyshommeli mutta sitä jos ne on semmosia asioita mitä ei jos puhut vaikka jenkkien kanssa ni ne on vaa sillee et no iha sama ei kiin... ei ees hoksaa välttämättä mut niinku sit onhan ne miinuspisteitä kokkeessa mutta nii.

Like in fast speech some sentence word order thing, if they are things that when you speak with for example Americans and they are like "whatever" and might not even notice, but they cause minus points in the exam.

In his opinion, there seems to be a discrepancy between what is required at school, and what works in real-life situations, since in his experience, native speakers do not care if one makes some mistakes while speaking, and they may not always even notice. By mentioning the exams, he brings up his opinion that at school the purpose of learning a language seems to be to pass exams, not to survive real-life communication situations. Jonna has similar experiences and says that for example article mistakes have not mattered so far when she has spoken with native speakers, or at least none of them mentioned them to her. This differs from the situation at school, where the students are more easily reminded of the mistakes they make because the goal is to produce correct language. Similar experiences were reported in Reinders and Wattana's (2015) study, in which they found out that while playing video games, students took more risks in their English use, by for example attempting to use complex, linguistic elements they had not used before, and were also more willing to guess. They say that the students were also more tolerant towards mistakes during gameplay than classroom learning. Perhaps our participants would like to have this kind of tolerance for small mistakes that they have encountered in real-life conversations, at school as well, for example in the form of video games.

The focus on correct language and correction of mistakes seems to cause the participants to doubt their English skills. For example, when we ask them what they feel is most difficult for them in English, Antti responded:

(21) Antti: No siinä vaiheessa... Mää en oikeen tiiä että mikä englannissa ois niin vaikeaa sinänsä mutta siinä vaiheessa ku lentoemäntä tullee sulle sanomaan että sulla on hyvä englanti ja sää ite mietit että mää en osaa ees puhua tätä yhtään nii se on semmonen... ehkä se luottamus siihen ommaan tai sitä ei niinkun jotenkin koulussa sitä ei... miten sen sanos?

I don't know what would be so difficult in English, but when a flight attendant compliments your English and you think that you can't even speak at all it's like... Maybe the trust in your own [skills] isn't, or it's not somehow, at school it isn't... How to put it.

He might be trying to say that school does not help a student build confidence in their own competence because they so often hear about the mistakes they make, even though they have good English skills. What follows, is that even when they hear compliments of their speech, they do not fully believe it. Jonna and Antti discuss the matter:

(22) Jonna: Nii et vaikka opettaja sanoo et hyvä hyvin puhut mutta se on jotenki justiisa niinku mää sannoin että sitä on sitä pikkutarkkuutta koko ajan vaan sanotaan niin on vähä...
Even if a teacher says that you speak well, but it's just like I said that there is too much nit-picking all the time so there is a bit of a..."

Antti: On vähän pieni diskonnektio siinä välissä.
There is a small disconnection there.

Thus, even students who have excellent English skills according to school grades and the feedback they have received from strangers, they can still be unsure about their competence, and feel that school is not really encouraging them, but diminishing their confidence by pointing out every little mistake. We asked the participants whether they have any suggestions of what kind of methods would help them feel more confident to speak English. Antti recounts how they spoke only English during their English lessons in primary school, and Finnish was reserved only for "emergencies", as he puts it. He feels that this was beneficial for his learning and made the group more active. Kalle expresses the opposite; that they spoke very little English during their lessons, and the focus was on theory and vocabulary, which is the reason why they could not speak or pronounce properly. He says that it did not matter whether they pronounced everything incorrectly, as long as the words they used were correct. Although they did not learn correct pronunciation, he regards it as a positive thing since they did not have to be afraid of incorrect pronunciation but could develop their skills from their own level. Jonna also reveals her experiences with different methods of English teaching,

(23) Jonna: Joo ja sitte ehkä se että justiinsa se jos puhutaan nyt rallienglantityylisesti, että ku meillä oli aika, emmä sano et heikkoo se enkun opetus mutta niinku se oli just sitä opettajan sitä että "näin järjestät lauseen oikein" ja sitte oltiin vaan silleen "okei" ja

kirjotettiin vähän tehtäviä. Niin jos se ois niinku, jos sitä kuulis enemmän nii tietäis ehkä miten lausua. Tietenki on just näitä että kuunnellaan sanastoja ja lausutaan perässä.

And maybe if we speak 'rally English', that we had quite, I wouldn't say weak, English teaching but it was just that the teacher told us how to form a sentence correctly and then we did some exercises. So, if we heard it more we would know how to pronounce. Of course, there's this listening to and repeating vocabulary lists.

Kalle: Se on vaan yksittäinen sana.

It's just an isolated word.

With "rally English", Jonna refers to the stereotypical Finnish accent, whose name comes from many Finnish rally drivers' way of speaking in interviews. From Jonna's experience, correct pronunciation was not expected of them before upper secondary school. The focus was on forming sentences and written exercises and she feels they did not really hear English. She admits that they did repeat vocabulary lists and received examples of pronunciation from them, but Kalle comments that they are just isolated words. Merely repeating them out of context is not as efficient as hearing the language in a real setting. From what the participants told us, it seems that speaking and hearing as much English as possible is important for learning and gaining confidence to speak. An individual student's pronunciation should not be scrutinised, but the students should hear English so that they have examples of how it should sound like. García-Carbonell et. al. (2001) agree that authentic registers such as informal talk and argumentation in the target language should be heard as much as possible, but often this is not the case due to the predominance of the teacher's role as the one who determines the topic as well as who will talk and when, which results in lack of genuine conversational language. They propose that introducing video games in the classroom enable the students to hear real language and versatile registers and to communicate with each other without the teacher-student asymmetry of the conventional classroom.

Because of the importance of hearing English as much as possible, English teaching should not be focused on merely learning vocabulary lists and how to form sentences, but to use the language and speak. For example, Gee (2005a) says that learning vocabulary merely from textbooks is inefficient, because there the words are often out of context and therefore difficult to learn. He says that in video games, however, new vocabulary is introduced when the player needs it, and is situated with actions, images and dialogues associated with them, instead of offering isolated words. He suggests that learning at school should also work according to these principles. Jonna expresses her views on

studying English to pass tests and courses using only the learning materials that school provides, compared to having a genuine interest in the language outside school as well,

(24) Jonna: Niinku se on siellä sanakoelistassa ja oot silleen "LOL kyl mäa varmaan pääsen läpi, ku ei sitä kuitenkaan kysytä." -- Joo ja siis monesti mitä monet, jotka lukee just vaan kirjasta, niin sitte ne sanoo just että en "mäa ossaa mitään muuta ku nämä mitä kirjassa on nämä tietyt sanat." Et se ei ehkä oo se most effective juttu. -- Nii et ne, joita kiinnostaa nii ne on oikeesti hyviä mut sitte ku jotku haluaa vaan käyä tunneilla ja päästä läpi nii ei ne... Ku ei kuule...

It's in the word quiz list and you're like "LOL I think I'll pass because it won't be asked anyway." -- And often many people who just read from a book, then they say, "I don't know anything else than these specific words in the book." So that it's perhaps not the most effective thing. -- Those who are interested are actually good but then some only want to attend the classes and pass, so they don't... When they don't hear...

She feels that studying words merely for a quiz is not as effective as learning them in a meaningful context. She has noticed how studying only the materials school provides, i.e., the textbook, does not mean that one can reach good and versatile skills in English, compared to if one hears the language in other contexts as well, and has an interest for it. Using the language outside school seems important, as Jonna illustrated with the difference between students who really have an interest and motivation to learn and those whose only goal is to pass the course and do not hear the language outside school. Kalle even says that he thinks English is not a language one can learn from a book. In line with this, Sylvén and Sundqvist (2012) discovered that students who played video games frequently, achieved higher scores in vocabulary tests compared to their peers who played less or not at all, suggesting that there is a positive correlation between L2 gaming and learning, possibly due to exposure to in-game texts. This shows again how video games as a free time activity can be helpful in school learning as well and bring versatility to the materials and methods currently offered in schools. In a similar fashion, Antti explains the difference between studying for a test and learning in a meaningful context of video game dialogue:

(25) Antti: No, ei se tartte olla ees mitenkään mielenkiintosta jos se vaan liittyy vaikka johonki keskusteluun niin tottakai sää haluat tietää, mistä puhutaan, ennemmin ku se, että sulla on justinsa joku 20-30 sanan lista ja sää vaan pänttää sitä ja sää oot silleen ei se nyt niin kova homma oo.

It doesn't even have to be that interesting if it's related to a conversation, then of course you want to know what they're talking about, rather than when you have a list of 20-30 words that you just cram and you're like it's not that big a deal.

This shows how a real need creates a motivation to learn, rather than studying a list of words out of context for a test. Video games for him represent a real language context and create a motivation to learn English, but he admits that this is not the case for everyone, and some students lack a need and a motivation for learning. He thinks that a need for learning outside school should be created to make it more meaningful and motivating.

The participants mentioned the role of grammar when they learn and speak the language. Antti says that merely learning grammar rules does not work, but one learns by speaking. Therefore, there seems to be a separation between what they see as learning the rules and learning how to use the language. This divide has already been proposed by Krashen (1982), who suggested that there is a difference between language acquisition and language learning, the former describing a subconscious process which takes place outside the school environment in an informal setting, while the latter is the conscious knowledge of the language's rules to be discussed but internalised for natural production. However, Jonna reminds them that the level of English in Finland is high for example in upper secondary school matriculation exams, and therefore it is not only a negative thing that there is such a focus on grammar and correct language. Kalle agrees and says that he read somewhere that some Finns even know English, specifically grammar, better than some native speakers. Antti said that he can speak well despite the lack of grammatical knowledge,

(26) Antti: Mää en ossaa yhtään minkään kielen kielioppia mutta mä ossaan puhua suht hyvin.
--Ku en mä tiä niille nimityksiä, ku jos mä mietin jotain kielioppia silleen nii en mä tiä sille nimitystä, mutta sitte mä vaan tajuan jossain vaiheessa nii että aa me käydään tätä, joo niinhän se meneekin. -- Se kieli vaan tulee automaattisesti ainaki mulla. Mä, en mä mieti sitä.

I don't know the grammar of any language, but I can speak quite well. -- Because I don't know the terms for them, if I think about grammar like, I don't know the name, but then I realise at some point that "oh we are practising this, and this is the way it goes." -- The language just comes automatically, at least for me. I don't think about it.

He knows English so well that he does not have to rely on grammar rules and terms whose names he does not remember. He has achieved fluency to be able to speak so that "the language comes automatically", as he expressed it. This is in line with Krashen (1981), who says that acquirers of a foreign language often do not have a conscious awareness of the rules they possess and use the feel of grammaticality as a basis for self-correction. Similarly, Kalle says that for him, English has almost become a second language spoken at home, which reveals how important the language is to him. Their English skills are strong enough that they can speak fluently without knowing the rules behind the language. Video games support learning without necessarily having an explicit understanding of the phenomenon, such as the example of *Portal* given by Gee (2008). He explains that in *Portal*, the player learns to apply physics-related rules such as conservation of momentum to solve problems, without explicitly understanding the laws behind the actions, which is what school often requires. He continues that from video games the player learns tacit knowledge, transfer of knowledge and progressive problem solving, which in schools may be shadowed by the requirement of explicit learning. Similarly, our participants can speak English, and therefore apply grammar rules they cannot explicitly name and articulate.

Moving on from discussing their knowledge of English grammar, the participants' mentioned Swedish, which for all of them is a weaker language. Jonna contrasts her knowledge of grammar and the "feel" for these languages:

(27) Jonna: Siis justiinsa tämä, ku sanoit että mikä on lauseen subjekti niin ohan se mikä, mikä, mutta kun sanot että se on tämä, niin oon silleen "jaa, okei no oisin mää sen kuitenkin laittanu tossa lauseessa tohon ensimmäiseksi, vaikka mää en tiä mitä se oikeesti tämä asia tarkoittaa." Ja ku ruotsissa ku on just näitä jotain predikaatti-subjekti -juttuja, niin on silleen ei mitään niinku, menee ihan ohi. Et siinä sen hoksaa ehkä sen eron et sitä ruotsiakaan ei käytetä.

Exactly this, when you ask what the subject of a sentence is and I'm like "what", but when you tell me what it is, I'm like "well okay, I would've put it first in the sentence even though I don't know what this thing really means." And when in Swedish there are these predicate-subject-things and I'm like, they go right over my head. So that's when you realise the difference that Swedish isn't used.

This shows how in English she does not have to know and think about the rules, but in Swedish she has to rely on them to form sentences, without properly knowing what the grammatical terms mean.

With lack of exposure to Swedish, the sense for the language is more difficult to acquire. For Swedish, the participants do not have a similar automation that they have in English. However, in upper secondary school it is not enough to be able to speak; one must know the rules behind the choices. Merely a sense for the language is not enough if one wants to master English. This might be frustrating for the students, since they know how to speak, but school requires them to know the grammar rules in order to do well in exams.

Related to the motivation towards foreign languages, Gardner et. al. (1976, p. 200) discovered that the willingness to study a language and good results in it are not solely dependent on the student's aptitude, but more crucial is the so-called integrative motivation, which means the aspiration to integrate oneself into the foreign language community. Most of our participants have good skills in English and therefore have indicated that they can learn a foreign language, but the skills in one language do not automatically translate to another one, as proven by their weaker competence in Swedish. The participants' differing competences in English and Swedish can be related to the fact that English, not Swedish, is the language of the video game community they immerse themselves in during their free time, and for Swedish they do not have a similar community they could aspire to integrate into, which makes learning the language separated from the needs of their life outside of school. Antti says that what irritates him most in learning Swedish is the fact that it is compulsory, to which Jonna points out that English is compulsory as well. Antti, however, says that what matters most to him, is how much the language is used outside school and that he would probably hear enough English to learn it if it was optional and he did not choose to study it. He also demonstrates the difference between learning English words from a video game compared to learning Swedish at school, using *Witcher 3*, an action role-playing game from 2015 as an example:

(28) Antti: Vaikka Witcher 3, joo. On olemassa nyt vaan tällanen peli ja siinä on joku sana mitä mä en tiiä niin mulla ei oo heti semmonen niinkun, vähä niinku jossain ruottin kielessä, että ei sillä oo niin väliä. Mä oon tunnilla ja että ei sillä oo niin väliä, ei se yks sana niin paljoa haittaa. Ku mä pelaan sitä peliä, niin mä haluan tietää, mitä se sana tarkoittaa, ihan vaan sen takia, koska mulla jää joku osa siitä niinku, mulla puuttuu siitä tekstistä jotaki, joka voi olla vaikka, tärkeä lauseessa, jonka joku tietty hahmo sanoo siinä pelissä. Niin, mä katon kääntäjästä tai jostaki synonyymipaikasta sen sanan ja oon silleen että "ahaa se tarkoittaa tätä" ja sitte mä opin sen siinä niinkun tilanteessa paljon paremmin, ku mulla on joku tarve oppia se sana.

For example, Witcher 3, yes. There is this game and in it a word I don't know but I don't feel immediately like with Swedish that it doesn't matter. I'm at class and it doesn't matter, just one word doesn't make a difference. When I play that game, I want to know what that word means, just because I will miss a part of the text, something that might be important in a sentence that a certain character says in the game. -- So, I search the word from a dictionary or a synonym place and I'm like "oh it means this" and then I learn it in that situation much better because I have a need to learn it.

The video game is a context for the language that creates a need to find out the meaning of unfamiliar words in a completely different way than during a lesson at school, especially in a language that is weaker for him. In Swedish he does not mind as much if there are unfamiliar words. As mentioned by Gee (2008), students can cope well with complex language in a popular culture environment that they have a passion for. Therefore, unfamiliar words are not obstacles in video games for passionate gamers as they are in a language that they do not have a strong motivation for. This creates a cycle; the gaming community mostly use English, so one hears it from there and learns, which motivates to also learn at school, which makes it easier to use in the free time. However, one does not hear Swedish as much outside school, and does not feel that there is a need for it, which makes it more difficult to find motivation to it at school. The difference in learning outcomes is therefore not result of the absolute difficulty of the language, but factors such as exposure and both overall motivation and integrative motivation, in which video games play a major role.

Now I will move on to discuss the affordances that video games can provide for English language learning, by analysing the interaction between us and the participants during the gaming session, as well as their observations from the game. During the gaming session, Eveliina and I asked the participants questions about the events in the game and guided their attention to important details. Instead of steering them too much, we tried to leave space for their own comments and exploration. These categories were for example, the language environment provided by video games for verbal exercise such as discussion and repetition, and the video game as a thought-provoking element as a basis for moral speculation and analysis.

First, I will give examples of the different ways the participants were able to practise their English skills in interaction with us, each other, and the game. The types of interaction found were for example the participants answering our and each other's questions, making small conversations, and commenting on the events of the game. They also repeated our and each other's utterances, either

identically or with small alterations. We guided their attention to important details and wanted to hear their opinions about what is happening in the game. Equally interesting with their answers to us, were their short dialogues where they continued each other's answers by adding their own views and opinions. Therefore, the interaction was not merely us asking and the participants answering, but they took an active role in developing their thoughts. This is regarded as especially useful for foreign language acquisition by Hatch (1983), who argues that the most beneficial type of interaction between students are conversations whose outcome and results are negotiated by the students themselves, and not the teacher or others. This kind of conversations were present in our experiment, sometimes starting with our question, but then the participants continued on their own. For example, when Antti answered Eveliina's question first, and then Jonna provided her own view, and finally Kalle finished her sentence, albeit choosing a word Jonna was not going to originally use.

(29) Eveliina: Do you think it's funny that Carl said, "One day I'm not here, I won't be here to take care of you anymore"?

Antti: Well, not in a sense because there are automation systems and then there's people to take care of those systems. The systems cannot indefinitely take care of themselves.

Jonna: I think he mostly meant that there might, he might have to go to different house to take care of someone else who might not be as ni...

Kalle: As kind as Carl.

While Antti was thinking more about the physical side of an android needing maintenance provided by the humans, Jonna approached the question from a different perspective, thinking about the social aspect of Markus's life if he had to move to a different household. This way, the participants were able to express their own opinions and interpretations about the game's characters and their actions. Another instance was when we asked their thoughts regarding Markus and Carl's relationship. First, Kalle, Jonna and Antti gave their individual answers:

(30) Eveliina: Okay, so what is your first impression of the relationship between Markus and Carl?

Kalle: I mean they are friends.

Jonna: Yeah, Carl seems to be really empathic and... I dunno.

Antti: I mean, he's kind of dependent on Markus.

Then they commented on each other's answers:

- (31) Jonna: Yeah, so he has to be nice.
Antti: Well, I don't think he has to be nice but...
Kalle: He could be like a slaver.
Antti: Yeah, he could be like a... Well, we have seen already like...

This dialogue shows how the participants are able to think of different possibilities for the relationship between the two game characters. Antti connects the speculation to what they had seen in the game so far, namely that androids are not always treated with respect as Carl does, but they can be regarded as slaves. Therefore, the game provides them with a starting point for speculation and conversation, and they are able to refine each other's ideas and reflect them on their experiences so far.

The participants also voiced their comments and observations about the game without us prompting them. In the following example, Antti gives his opinion about Markus administering Carl his daily medicine, and Jonna presents her own thoughts.

- (32) Antti: I would be kinda scared when he took the medicine because there's a possibility for harm there.
Jonna: I mean if it's programmed to do that, it's then lesser of a clusterfuck.

This shows that they felt comfortable to freely add their own comments instead of waiting for us to ask them questions and controlling the conversation. Therefore, they had an active role in making sense of the game world. They also helped and instructed each other with the game's objectives, by providing their own presumptions on what to do next. Thus, they were not reliant on the instructions we provided them, but they worked together towards the common objective in the game. According to Lantolf (2000), this kind of language use to reach goals reflects the tool function of the language. He says that for example, looking up words to understand a text is probably not the most effective way to learn, since reading the text is not normally the primary goal, but only a sub goal on the learner's path towards the higher goal, such as to pass a test or to survive in a real-world situation. Therefore, the participants use English as a tool to understand the game, and to proceed towards finishing the chapters; not merely to understand new words in isolation. For example, when Antti does not know where to proceed next in the game, Jonna helps him,

- (33) Antti: Where are we supposed to go?
Jonna: Probably the door there.

Although Jonna's answer is more a guess than an absolute answer, she takes initiative rather than relying on us to explain the objective. In another instance, when Antti expressed that he missed the choices for the current objective of playing chess with Carl, Jonna repeats them to him: "It's win, lose or draw". Further, when Jonna has a question about the game, Kalle provides his interpretation, which similar to Jonna's answer in extract 33, is not an absolute answer, but rather a guess:

(34) Jonna: Why is Markus's that head thing glows yellow, but the other ones are blue ones?

Kalle: Maybe he's waiting?

Therefore, the participants who are observing the game, join the player in solving the objective, providing their thoughts and interpretations of how to proceed instead of watching passively. They also took responsibility in advancing the gaming session by deciding on the playing order when it was time to change the player:

(35) Eveliina: You can then maybe change the player.

Jonna: Are we going in order?

Antti: Yeah, let's go in order.

Here, when we did not provide them with a definite instruction, they made the decision themselves, not expecting us to dictate everything that happens. The participants had agency in the gaming situation, being able to make decisions and take responsibility. Gee (2005a) sees this agency and ownership that playing video games provides as something that is unfortunately rare at school.

Furthermore, an affordance that the gaming session provided the participants, was that they used English to guide themselves, wording their progression in the game. These utterances were not intended as a discussion or a dialogue, but rather an externalization of their inner monologue and immediate reactions to the activity. For example, when it was Jonna's turn to play, she narrated her actions and thought processes, asking herself questions such as: "What is that? I don't know" and "Did I do...?", therefore using English to react to and regulate her actions while exploring the game. She also gave herself instructions, regarding herself and the playable character as a team: "Let's not go there". These simple utterances can be a good way to practise spoken skills and immediate reactions, as a video game offers a rich environment for it with opportunities for exploration, interactivity and unfolding events.

Not only did the participants have agency in the situation by guiding themselves and each other; they were also able to relate to the playable character, Markus. This is seen as especially beneficial for learning by Gee (2005a), who says that games require the player to take on a new identity which makes them commit to the game world and learn new skills. Relating to the playable character, Markus, and assuming his identity, was visible for example when it was Antti's turn to play and he had to make Markus push a wheelchair. He said, "I can handle this". Although the text quote does not capture it, it was apparent in the gaming situation that Antti related to the playable character and meant that the character is able to do it. Likewise, Jonna assumed Markus's identity in several occasions, by addressing other characters in the game as if she was Markus. She talked to Carl, for example, "Let's go Carl" and "What's going on, Carl?". In another instance, Jonna assumes the identity of Carl's son Leo, who is introduced in the later part of the chapter, by saying "Dad, can you borrow me money?", inventing a line for a non-playable character. Also, when Markus loses the game of chess on purpose, Carl teaches him about the consequences of his actions, and Jonna asks, "Will I remember that?". She is speaking as Markus, and at the same time thinking about the character's accumulation of knowledge during the game's story, and whether this event has an impact later. Furthermore, Gee (2005a) views this process where the player estimates the relationships and consequences of their actions, as one of the ways video games can teach valuable skills that are needed in the working life, for example.

Repetition is another way to practice a language. For example, in situations in which we instructed the participants with the game's controls, Antti repeated Eveliina's sentence partially, modifying it to fit his perspective as the player.

(36) Eveliina: If you press R1, you can, R2, you can see some yellow like, markers. There's something for you to do.

Antti: All right. There's something for me to do.

Similarly, when there was confusion about an action in the game that was apparently skipped, Eveliina said to Antti what she thought had happened, and Jonna repeated her sentence with slightly different words. Then Antti continued the same theme.

(37) Eveliina: Maybe you, maybe you pressed something.

Jonna: You uh... probably accidentally pressed something.

Antti: No, I haven't pressed anything.

These examples show how the gaming session afforded the participants a chance to practice speaking by imitating and altering what someone else said, using a template to add words and to change the perspective. In a gaming session, there is room for everyone's comments, be they relevant to the discussion at hand or not, but it gives the students a chance to practise speaking without the attention being on them all the time.

Repetition was also used for a humorous effect, when the participants repeated each other's short sentences connected to the game. For example, they notice a chess game that Markus can play with Carl. Jonna asks about it and then Antti and Kalle start repeating,

(38) Jonna: Chess... Is it even chess?

Antti: Seems like a chess.

Kalle: Watch that chess.

Jonna: (laughing) Watch that chess.

Antti: Expensive chess.

Here, repeating the same idea creates humour, but the participants do not merely repeat arbitrary sentences; they also connect their observations about the game to the real world by referring to memes. Merriam-Webster defines a meme as "an amusing or interesting item (such as a captioned picture or video) or genre of items that is spread widely online especially through social media" (n.d.). For example, when the participants encounter a robot bird in a cage, Jonna contemplates the nature of having robotic pets, saying that one can just turn them off. Kalle catches this and repeats Jonna's idea, adding a humorous element, "Okay, Google, turn off birds", which Jonna expands by saying "turn off the dog". The phrase "Okay, Google" as a meme is based on the playful idea that one can ask Google Assistant to do basically anything. Another such situation occurs when the participants see a skeleton of a large aquatic dinosaur. Jonna looks at it and says "dead". Kalle comments by saying "it's a dead", which Jonna repeats twice, laughing. Then, Antti connects the phrase to a meme from the original *Star Trek* series from the 1960's, "It's dead, Jim". The humour of the phrase stems from its repeated use in the series in situations where the viewer can easily infer someone's demise even without the doctor announcing it. None of the participants had played *Detroit* before, but what they did know about the game, was a meme based on the part in the game in which Carl tells Markus to paint something he has never seen before and does not exist. Carl is impressed by Markus's painting

and comments, "oh my god". The scene became a meme when people started to replace the painting with humorous pictures or text to which Carl reacts. The participants were visibly excited when they were nearing the scene where it appears. Kalle said, "Is this the 'oh my god' moment, the meme one?", to which Antti said, "Oh, it's the meme. -- It's the meme, like actually", and when Carl delivers the anticipated line, Kalle repeats it. For example, García-Carbonell et. al. (2001) say that video games are often designed to create a low-anxiety environment which affords the players to experiment with new behavioural patterns without excessive stress, therefore having a positive effect on learning. In our experiment, the participants' use of humour reinforced the relaxed atmosphere of the gaming session. Playing the game enabled the participants to feel comfortable enough to make jokes and refer to memes and offered them a chance to connect informal English phrases and phenomena to the events in the game.

Along with connecting humorous elements and popular culture references to the game, the participants were able to discuss and analyse deeper themes and issues and draw parallels into the real world. A reason why we chose *Detroit* for our experiment was the thought-provoking themes in it, which we suspected would create discussion and make the participants analyse the events and draw parallels to world's situation today. For example, we asked whether the participants think the future portrayed in the game could one day become reality:

(39) Kalle: It would be possible, but I see it's unlikely to happen.

Antti: I don't think this kind of society would happen. In Finland at least. I don't think it's possible. I really do see some of these things happening in China, for example.

In this example, Antti thinks about the possibility of the game's society taking place in two different countries based on his experiences, saying that he has already observed similar things in China. Later, he connects the game to Finland's situation, when we ask their thoughts about the elderly care system in the game. Antti says that in the game it is better than in real life, because there is always someone taking care of the people, unlike in real life where there are not enough caretakers.

Another theme that the participants connected to the real world, was how the humans treated androids in the game, associating it with racism. For example, when they observed a preacher warning about androids and comparing them to demons, Jonna said, "Wow, that's racist". When Markus travels at the back of the bus with the other androids in an "android compartment", I asked the participants whether it reminded them of something. Kalle simply said, "I think that reminds of something", and

although he did explicitly state it, from his tone it could be inferred that he was thinking of racism in our world. Later, Jonna mentioned the same theme in the interview and wondered if the treatment of androids in the game will become the next question of racism and equality. Antti mentions that the android compartment reminds him of the segregation in our world, but says that the androids are still only machines, which should be considered. The participants also encountered a situation where unemployed demonstrators attack Markus, who merely stays passive, and a police officer comes to calm the demonstrators. Then, we asked about their reactions to it,

(40) Anniina: And do you feel anything for Markus? Because he was attacked and fell down.

Kalle: I'm not... I mean he's just a robot.

Jonna: But I mean, the police had literally no reaction to that whatsoever.

Eveliina: And the policeman only said "I'm gonna fine you if you damage it"

Jonna: That's a key word, "it".

Here we see that Kalle does not empathise with Markus, who is not a human. Jonna mentions the way the police officer barely reacted to him being attacked and used the word "it" when talking about Markus, treating him as inferior to humans. This issue emerged also in the interview, and Antti wondered when is it that artificial intelligence crosses the boundary that people begin to regard it as a human. Jonna also contemplates how a player reacts to the scene by saying that if the characters are indifferent to their treatment, the player does not bother feeling bad for them either. Then, we asked them whether they think the demonstrators were right in attacking Markus,

(41) Eveliina: So, do you think those reactions of the unemployed, are they justified?

Antti: Where people see inequality, there's always like aggression there as well. It's kind of a natural thing to say that of course it's not justified.

Thus, Antti connected the issue to inequality in general, not merely in the case of the demonstrators versus Markus. At the end of the final chapter we played, Antti and Jonna further discussed the androids and the society that the game portrays,

(42) Antti: It definitely is some dystopian future that, it is possible. I would say it is totally possible, but I wouldn't see a reason for the androids being so lifelike.

Jonna: Yeah, I think it's interesting in this game, when they make it to look like humans, so you actually feel and if it's just a robot or whatever. -- If we make androids let's make them ugly so you don't feel anything.

Antti: So, when the uprising comes, we can just destroy them.

They think that the androids' appearance does have an effect on how people respond to them, but that there is no other reason to make them resemble humans in such detail. They even joke that if the androids are ugly and therefore do not elicit empathy, they are easier to destroy if the need arises. Therefore, Antti and Jonna are able to assess the consequences of making the androids look like they do in the game and imagine a scenario of how the situation could develop in real life. This, as well as the extracts above (39-42) show that a video game can function as an affordance offering an environment and basis for discussion and critical thinking in English.

5 Discussion and conclusion

In this final section, the results of this study will be discussed and summarised. First, I will discuss the ways in which this experiment differed from our previous one (Paananen & Pigg, 2018) and how we managed to develop it. Then, I will conclude the results of this study, and finally discuss ways how it could be developed further.

The purpose of this study was to shed light on what kind of obstacles hinder the use of video games in English language learning, and on the other hand, how they can be used and what kind of affordances they offer. These questions were examined by conducting a learning experiment consisting of a gaming session and an interview at an upper secondary school in northern Finland. This study was situated in the wider context of video game research, not studying video games themselves, but their use in English language learning. The results and the participants' experiences were located in the framework of sociocultural and ecological learning theories, which are the prevalent theories on learning today, and the basis for the current Finnish national core curricula. By mapping the reasons that pose challenges to integrating video games into school learning, and ways in which students themselves feel they are useful, the learning potential of video games can be better harnessed, and the versatile skills that students have acquired in their free time can be utilised at school.

Some ideas for planning the learning experiment for this study stemmed from our earlier, stage one experiment (Paananen & Pigg, 2018). Next, I will examine some ways in which this new experiment differed from stage one, and what we had learnt from it. In the previous experiment, we had around 20 participants, which meant that not all of them had time to play during the gaming session. Due to the number of participants, there was less discussion with the whole group together, but they formed small groups and had quiet conversations with each other, not necessarily having anything to do with the game itself. In the new experiment, we wanted to make sure that everyone felt included and had time to play, and a small group made that possible. It made the gaming session relaxed and not feeling as much as a lesson. The students felt free to comment, discuss, and make jokes, although in differing levels of activity.

The use of technology was easier in this experiment. In stage one, we showed the game on a smart screen at the front of the classroom. The connection between the screen and the PlayStation 4 console was not optimal, which caused the image to flash at times, interrupting the immersion and focus on

the game. In stage two we were able to bring our own set up (the console and a computer monitor) which worked well. With only four participants, a smaller screen was enough for them to see the game, and it was a more seamless experience overall.

In stage one, we realised afterwards that we did not introduce the game enough for the students to grasp what it was about. Now, we summarised the idea of the game in English, and then showed the trailer from YouTube. That way we tried to make sure that the students understood the context in which the chapters we played were set. In stage one, the gaming session was not fully in English, which was counterintuitive, since we wanted it to be an English language learning moment. We wanted to make sure that everyone understood the instructions, realising only afterwards that English could have very well been used. We were intentionally more in the background and wanted to guide the students as little as possible in order to see what choices and observations they would make on their own in stage one, whereas in the new experiment we asked the students more questions during gameplay, guiding them to notice details about the game environment. I think we managed to find a better balance between guidance and freedom in the new experiment. The participants were allowed to freely comment on the game and discuss among themselves without us controlling them too much. We did ask them how certain events in the game made them feel and what kind of thoughts did they invoked in them, without limiting their opportunities to make their own observations and comments. They also took responsibility for progressing in the chapters, and guided themselves through them, cooperating with each other instead of relying solely on our instructions.

The survey with which we collected the students' thoughts and opinions about the gaming session and the use of video games in teaching in stage one, was now replaced with an interview. In it, the students were able to express their thoughts in their own words, and by talking with us and each other, possibly came to conclusions they would not have thought of alone. The fact that our new participants were all avid gamers, became apparent not only when we asked them directly whether they have played before, but also in the language they used during the gaming session and interview. They used words such as "haptic feedback" and "glitch", and commented on the detailed graphics, wonky physics and fickle controls of the game, and their expectations about how a video game usually works and proceeds. After playing, we asked the students how they found the two chapters we played. The chapters being more tutorial-like than action-packed, left some of the stage one participants bored, which was reflected on their answers in the survey. However, the stage two participants reported that they enjoyed the chapters and found them interesting. Perhaps students who have more experience with games can find interesting things also from a part of a game that progresses in a slower pace

than those who do not. We had also shown them the trailer of the game which revealed that there is much action to be expected from the later chapters, something we did not do in stage one.

Now I will move on to the results of this study. The first research question was to find out what challenges there are to the use of video games according to the participants. Their own experiences revealed that they considered video games as a free time activity that is separate from schoolwork and thought that integrating commercial games into school is challenging because they are not designed for English learning. This requires extra effort from the teacher, who has to be familiar with the game and know how it can be connected to the lesson. These findings are in line with previous research on video games, which have also concluded that video games are regarded as a leisure activity and therefore as something that does not belong to school.

Another challenge that the participants mentioned, was that playing video games during lessons requires the students to already know enough English so that they can understand the game and discuss it. Some students may be reluctant to take part in the playing or discussions about the game if they feel their language and gaming skills are not sufficient, or they do not simply have a motivation towards it. This is not unique to video games, however, but similar problems can arise with other types of activities as well. Combining English-language video games with other subjects such as social studies, also requires the students to have a good enough foundation for their English skills to be able to follow the lesson. This can be overcome with sufficient preparation and support from the teacher.

Although the participants named challenges for the use of video games, they recognised how playing outside school has advanced their English, claiming that they have learnt most of their English by playing at home. The benefits they reported were a more extensive vocabulary than what they would if they had merely studied from the textbook and a "feel" for the language, since they hear and use it outside school as well. They compared it to Swedish, which all of them study but do not use in their free time and therefore do not have a similar motivation towards it. Swedish is not the language of the global gaming community in the way English is, and thus does not provide the participants with a motivation to integrate into the language community as well. They said that studying for a word quiz either in English or Swedish is not as motivating and effective as learning new words from a video game, because there the words are in a real context instead of being isolated.

The analysis of the gaming session and the interview revealed several affordances that playing a video game can offer in a setting such as in this study. For example, it offered the participants a versatile environment to practice English; they listened to the dialogue and simultaneously read the subtitles, as well as in other occasions game texts guiding their progress and giving clues about the game world. The participants discussed with Eveliina and me, and with each other. They also guided themselves and asked themselves questions. In some instances, they assumed the role of the playable character, and spoke as him, taking on another identity. All of these are useful ways to practice the language, and something the participants felt is often missing from school learning, which they have experienced to focus on theory and grammar, instead of spoken skills and hearing the language in a real context. The game as an authentic language environment and context also enlivened their language use by providing ideas that the participants connected to the real world, such as memes and jokes, creating a relaxed atmosphere. They found deeper themes as well, for example inequality and elderly care, and were able to discuss them.

The participants also discussed what makes video games compelling and motivating, and one aspect is their interactivity compared to books, for example. In games, the player is in control of the pacing of how the story progresses and can make choices on how to proceed. Exploring the game world gives opportunities to notice details that might otherwise be missed. A video game as a basis for an assignment is more versatile than a traditional text, a film, or even a video of someone else playing because of the player's involvement in the story. The participants said that from a game, they can find and learn useful vocabulary that they would not come up with on their own.

The goal of this study was not to pinpoint whether the participants learnt specific, measurable language elements, but to examine how a video game enables the use and consequent learning of English. In the gaming session, English was used as a tool to reach goals such as understanding where to go next, and to eventually complete the chapters. The focus was not on correct language or correcting errors; it was to progress through the game with English as a medium. Therefore, the participants were able to use the language without fear of making mistakes, because the importance was on the communication and getting the message across, not perfect grammar or pronunciation. The participants said that because correct language is so emphasised at school and every mistake is scrutinised, it is easy to lose confidence to speak because of the fear of making mistakes. They have noticed that in real life situations when communicating with native speakers, small mistakes do not matter if the overall message is conveyed, which creates a discrepancy between what is required at school and what works in real-life communication. This had caused them to doubt their language

skills. The authentic language environment that video games offer, make practicing English possible without focusing on the language itself, but the events in the game.

During the analysis, some ideas on how to develop and expand this study further came to mind. For example, it would be interesting to gather the students' views and opinions about video games and their applications in English language learning before the gaming session, for example in the form of a brief survey or a discussion. In stage one, the participants filled the survey after playing, and in the new one, the interview was after the gaming session as well. By collecting their thoughts and expectations about video games before playing, some different observations could perhaps be made. In these two experiments we have focused on the students, but it would also be fascinating to hear from the teachers and whether they see similar or different challenges to the use of video games, and if they feel they could have benefits for the students' English learning at school.

In this study, all four participants were experienced gamers, so it would be interesting to have some volunteers that are not as familiar with video games to see whether their experiences and observations are drastically different, and if they feel video games could be useful in English learning despite playing only a little or not at all outside of school. This would help with providing ideas and solutions to using video games with a group where not all students have a similar amount of gaming experience and reveal whether non-gamers see potential in a medium that they do not use.

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