Learning for pleasure:

A study of language learning, gaming, and game culture

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ENG4790: Master's Thesis in English, Secondary Teacher Training

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Abstract

Is there a positive correlation between English proficiency and gaming, as well as game culture, among Norwegian learners? The aim of the present study is to answer that question. Previous studies in other countries have revealed that there might be a positive correlation between language proficiency and gaming, but no such study has hitherto been undertaken in Norway. In the present study, which is made up of one quantitative and one qualitative component, data from a group of Norwegian tenth graders (N = 40, ages 15–16) was collected. The quantitative component is a partial replication of Sylvén and Sundqvist's (2012) Swedish study, and consists of data from a questionnaire, a language diary, two vocabulary tests, and one grammaticality judgement test. Surprisingly, the results show that there is indeed a correlation between English proficiency and time spent gaming, but it is negative rather than positive. Non-gamers (0 h/week) outperform moderate gamers (> 0 h/week, < 5 h/week) and frequent gamers (≥ 5 h/week) in terms of vocabulary and grammar. If we take game culture into account, however, frequent gamers who spend moderate time (> 0 h/week, < 5 h/week) on beyond-game activities are found to have the highest vocabulary scores in the study. Gender was also found to be an interesting variable in that the boys scored higher than the girls on the vocabulary tests. The qualitative component consists of interviews which explore four gamers' language learning experiences. These interviews show that dedicated gamers tend to see gaming and game culture as an integrated activity, and that they believe this activity is very effective in terms of language acquisition. However, gaming does not necessarily motivate players to improve their English.

Keywords: video games, gaming, beyond-game activities, game culture, English proficiency, second language acquisition, grammatical knowledge, vocabulary knowledge, gender, motivation, learner experiences

Acknowledgements

I planned to keep this section short and sweet, but I realized that I am just not cool enough for that. So here they are, my rather lengthy acknowledgements in all their sentimental glory:

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1 Introduction

"I want to talk about video games—yes, even violent video games—and say some positive things about them" reads the introductory sentence of Gee's (2007) book on learning, literacy, and gaming. The sentence implies that video games have a reputation of being violent, but that there are good things to be said about them regardless. Thus, it is also fitting in the introduction to the present study, a study on the potentially positive correlation between second language proficiency and gaming as well as game culture.

Much can be said about video games. As Gee implies, video games have a rather poor reputation in society. One does not have to delve deep into the Internet to find articles or commentaries on how violent video games may have a negative influence on players, or how some gamers fall out from society due to their extreme involvement in their games. However, video games are not first and foremost violent or problematically addictive; they are a beloved spare time activity for many. Through their hobby, gamers are able to explore large, fictional worlds that become bigger with every technological advancement. They can find and connect with players from other countries, and learn about cultures different from their own. Some video games are challenging, some relaxing—there is something for everyone regardless of age, gender, or other variables. And notably, video games are rich in language; they bind thousands of gamers together every day in an online arena where the English language reigns.

1.1 The present study

The main question of the present study is whether or not there is a positive correlation between English second language proficiency and gaming among Norwegian learners. As we shall see in the literature review, several previous studies on second language acquisition and gaming imply that a positive correlation exists. The research questions of the present study will be answered through two different studies, of which one is quantitative and one is qualitative. Put together, these components are designed to collect, analyze, and discuss data on English proficiency, gaming, and game culture.

This study is divided into seven chapters. Chapter 2 presents the theoretical background. It contains information about the English language in Norway, both in and out of school, as well as a literature review of second language learning and gaming, and some central theories on second language acquisition. In Chapter 3, the main question of this study is narrowed down

to more specific questions, along with certain important definitions and hypotheses. Chapter 4 contains the quantitative study, a partial replication of Sylvén and Sundqvist (2012). It aims to find out whether there is a positive, statistical correlation between language learning and gaming as well as game culture. The qualitative study is presented in Chapter 5; it aims to find out how gamers themselves experience language learning through their hobby. Chapter 6 further discusses certain topics that are touched on in the preceding chapters and suggests topics for further research. Finally, Chapter 7 rounds up the study with concluding remarks.

The present study is carried out in an attempt to add to existing knowledge of second language acquisition and gaming. It researches both the topic in general and Norwegian gamers and learners specifically, and it is the first study of this kind to focus on Norwegians. There are undoubtedly many things that can or should be studied on this topic. As we shall see, the research field is still relatively small. This study, then, aims to expand it further.

2 **Theoretical background**

2.1 **English in Norway**

The English language has traditionally been treated as *foreign* in Norway; it is primarily taught in school, and it is recognized as an important language for tourism, education, and business. This understanding of English, however, is changing, due to the increasing international role of the language. English has become a global language, arguably functioning as a *lingua franca*, and it is used extensively by non-native speakers (Rindal 2014: 8). Learning English, then, is in many ways necessary for a world citizen. In Scandinavia, the great prevalence of English has been dubbed a "success story"; in the beginning, it was a foreign language taught due to the need for a, globally speaking, larger language than the Scandinavian ones are. Today, however, it may be argued that English is becoming a second language rather than a foreign language (Simensen 2010: 475–476). It is found both in and out of school.

2.1.1 **English out of school**

English is not confined to the four walls of formal education in Norway. Many Norwegians are exposed to authentic English on a daily basis. For instance, dubbing of movies and television series is rare except for cases in which children are the target audience; original languages are usually retained, with Norwegian subtitles serving as translation. The Norwegian Media Barometer reported that on a normal day in 2015, 67% of the population between the ages of 9–79 watched television for 1.6 hours on average (Vaage 2016a: 51). While these numbers do not tell us whether English language programs are involved, it is fair to assume that—given the norm of keeping material undubbed, as mentioned above—Norwegians who watch television likely encounter English through the medium to some extent.

The Internet is also a significant source of English exposure. Access to the Internet also means access to various English language websites. Norwegians can access a great number of sites ranging from newspapers to forums, from social media to video-sharing. On an average day in 2015, use of the Internet far surpassed that of television; as much as 87% of the population between the ages of 9–79 went online for 2.1 hours on average (Vaage 2016a: 57). Having access to the Internet, then, is not unusual in Norway—for most citizens, English language websites are but a click away.

Another example of a source of authentic English in Norway is mainstream video games, which are often translated to multiple languages, but very rarely translated to

Norwegian. As of February 2017, for instance, the top ten games sold in the Nordic countries for the handheld *Nintendo 3DS* have the language options of English, French, German, Spanish, Italian, Portuguese, Dutch, and Russian (Nintendo Norge 2017). English, then, would be the natural language choice for Norwegian gamers in most cases. Statistically speaking, playing games is a particularly popular spare time activity among male youth; in 2015, 52% of males between the ages 9–15 and 54% of males between the ages 16–24 played console or computer games on an average day. In stark contrast, only 26% and 17%, respectively, of females between the same ages did the same (Vaage 2016b: 116). These numbers do not include smart phones and tablets—when such devices are counted, the numbers soar even higher (Vaage 2016b: 118).

In short, various media platforms such as television, the Internet, and video games are an established part of many Norwegians' everyday habits. It is very likely, then, that many encounter authentic English in their spare time one way or another.

2.1.2 **English in school**

Despite the possibilities of encountering English out of school, school is still the main arena for Norwegians to learn English. It is taught as a mandatory subject along with, for instance, Norwegian and mathematics. Notably, English is not grouped under "foreign languages" with the likes of French and German, but is its own category. Norwegian pupils go through 728 mandatory teaching hours worth of English over the course of eleven or twelve years (Udir 2017a), and those who wish can choose to learn even more English through elective subjects.

In the curriculum, English is defined as a "universal language", and its importance is credited to international communication. The curriculum states that English is not just about language learning, but about the English-speaking world as well as its citizens' lives and cultures. For Norwegian pupils, learning English encourages personal development, and it is a contribution to multilingualism (Udir 2017b). In school, then, Norwegian pupils are taught an understanding of English as something bigger than "just" a foreign language.

A recent study on reading proficiency among Norwegian pupils aged 16–17—that is, pupils in their final year of mandatory English instruction—shows that girls are significantly more proficient readers than boys in Norwegian. The gender difference is much smaller when the pupils read in English, however. Furthermore, the researchers found that among the pupils who read far better in English than in Norwegian, boys both outnumber and outperform girls (Brevik et al. 2016: 172, 176). In a series of interviews conducted by one of the researchers after the study, boys who score higher in English than in Norwegian explain that they spend a

lot of their spare time playing video games and using the Internet (Mellingsæter 2016: 6–7). These boys, then, acknowledge the possible effect of out-of-school activities in terms of language learning. This brings us to the main topic of the present study, namely the correlation between English language proficiency and gaming.

2.2 **Literature review: Second language learning and gaming**

Second language learning (henceforth L2 learning) and gaming is a relatively small, albeit growing, research field. In a review study, Cornillie et al. (2012) conducted a database search including keywords such as "gaming" and "second language learning". They found that, while the number of publications was low between the years 1984 and 2000, it increased considerably in the 2000s (2012: 250–252). Most studies in the field, then, are written post-2000, so they are fairly recent. It is also notable that the studies in the field tend to make reference to one another, which, certainly, may serve as a double-edged sword. On the one hand, this referencing tendency shows that the field has quite a strong, reliable core. On the other hand, if everyone largely agrees with everyone, there is little room for variation and discussion. As this is a growing research field, however, it is not unlikely that this issue may diminish with time.

As far as the present study is concerned, there have been no focused Norwegian studies on this particular topic. Thus, let us first turn our attention to studies done close to Norway—that is, in the Nordic countries. In her dissertation, Sundqvist (2009) examines the correlation between out-of-school English language activities and English L2 proficiency. Among Swedish ninth graders (ages 15–16), Sundqvist finds that time spent on out-of-school English language activities correlates positively with English oral proficiency and vocabulary size—especially the latter (2009: 204). In Sundqvist and Wikström (2015), the data from Sundqvist's dissertation is reused but narrowed down to gaming specifically. The researchers find that frequent gamers have the highest scores in both essay writing and vocabulary size (2015: 73). Sylvén and Sundqvist (2012) study the correlation between L2 proficiency and time spent gaming among Swedish fifth graders (ages 11–12). The researchers find a positive correlation between the two variables, although they note that there are quite a few possible confounding variables which were not examined (2012: 308–310, 314). All three of the studies mentioned in this paragraph made use of a quantitative method involving a questionnaire, a language diary measuring English activities, and English proficiency tests, albeit slightly differently in each of them.

In Finland, a study on gaming and language learning was conducted by Piirainen-Marsh and Tainio (2009). They present a Conversation Analysis done on two Finnish teenagers

playing through *Final Fantasy X*, a role-playing video game, together. The researchers note that the players have a habit of repeating game characters' lines as they play. Hence, Piirainen-Marsh and Tainio argue that repetition is good practice for gamers in terms of L2 learning; the two participants of the study are shown to repeat and imitate different accents and intonation, to anticipate and produce utterances heard earlier, and to recontextualize and expand on utterances they hear (2009: 159–165).

In a bigger geographical picture, there is a considerable number of noteworthy studies. Gee (2007) is recognized for his book on video games, learning, and literacy. In his book, Gee discusses language learning in general rather than L2 learning specifically, but his work should not go unmentioned. He defines thirty-six learning principles which he believes good video games encourage—several of which can be applied to L2 learning. For instance, the *Practice Principle* states that while learners spend time on gaming, they "get lots and lots of practice in a context where the practice is not boring" (Gee 2007: 68). The *Regime of Competence Principle* suggests that video games let learners "operate within, but at the outer edge of, his or her resources, so that at those points things are felt as challenging but not 'undoable'" (Gee 2007: 68). Video games, then, offer a space where L2 learners can practice language use in a challenging, but not insurmountable, environment.

Another contribution is Thorne et al. (2009). This article discusses L2 use and learning in not only online gaming, but also in interest communities on the Internet. Furthermore, it reviews existing literature on the topic. When it comes to gaming, the writers argue that *massively multiplayer online games* (henceforth MMOs) and virtual environments have potential in terms of language learning (2009: 808). In MMOs, for instance, players are often in need of assistance from other players, and gamers are thus "forced" to communicate with each other. The ways in which gamers communicate in game and game communities, however, has questionable transferability to out-of-game contexts—such as school—where specialized gamer language is difficult to use effectively (Thorne et al. 2009: 810–811).

There are also some studies on L2 learning and gaming in Asia. Reinders and Wattana (2011), for instance, conducted a study on Thai students. They studied the MMO *Ragnarok*'s effects on the quantity and quality of L2 interaction, and on the learners' willingness to communicate. Through recordings of gaming sessions and questionnaires, the researchers found that game play had positive effects on learners' quantity of L2 interaction and willingness to communicate. Over the course of three gaming sessions, the participants gradually spoke more quantitatively and comfortably. Interestingly, however, the quality of interaction did not

seem to improve considerably (2011: 14–23). Another example is Peterson (2012), a small-scale study done on intermediate English learners in Japan. Peterson studied learner interaction in the MMO *Wonderland* and found that the participants of his study showcased politeness as well as establishment and maintenance of intersubjectivity (2012: 368–375). Furthermore, the learners expressed that playing MMOs gave them an opportunity to practice fluency and to learn "a different type of English", for instance informal English not encountered in the classroom (2012: 376).

In addition to the correlation between gaming and the acquisition of English, the present study will also consider the significance of beyond-game activities; that is, gaming culture outside of games. Ryu (2013) studied non-native English speakers and their participation in the online game *Civilization* as well as its beyond-game culture—a fan-based website of the game. The participants of the study reported that they have learned English through *Civilization* and its beyond-game culture, and that the latter gives them an opportunity to practice English and learn from others (2013: 291–297). Ryu notes that since the participants would not be interested in the one without the other, they have learned English "through gaming culture that integrates these two sub-cultures" (2013: 297). The significance of online communities can also be found in a study conducted by Chik (2014), in which she, among other things, discusses how gamers tend to resort to discussion forums and blogs when in need of help. Online gaming communities can provide help with game strategies and with tips for language learning (Chik 2014: 92–93). Thus, beyond-game culture may prove to be significant in terms of English L2 learning.

What we see, then, is that many studies on L2 learning and gaming suggest that the latter may have a positive effect on the former. Video games are a way for learners to encounter authentic English or interact with others—which, in turn, may result in increased L2 proficiency. A question we may ask, however, is what exactly "learning English" means. As seen above, it could for instance mean vocabulary size or quantity of utterances. Different studies attempt to find out different things, but ultimately, they all research how or whether gamers "learn English". Before we move on to the present study, then, some theories on second language acquisition need to be addressed.

2.3 **Central theories: Second language acquisition**

Second language acquisition (henceforth SLA) is a large research field. As Garciá-Carbonell et al. (2001: 481–482) explain, the theories of SLA are numerous and far from universally agreed upon; they exist on a continuum, where one far side believes in innate mechanisms, and the

other in education and experience. These theories explain L2 acquisition differently, and there is no "right" and "wrong" answer. Thus, many theories may be applicable in research of gaming and English language proficiency, depending on what a researcher believes in.

Garciá-Carbonell et al. point out that video games potentially offer, for instance, a high amount and quality of language exposure as well as authentic conversations unlike those found in a classroom (2001: 485). This potential can be considered with SLA theories in mind. One central theory is the *Input Hypothesis*, which states that "humans acquire language in only one way—by understanding messages, or by receiving 'comprehensible input'" (Krashen 1985: 2). Krashen argues that learning happens when the input we receive is slightly beyond our linguistic competence. Comprehensible input can be written as *i+1*, in which *i* represents a learner's current level, and *+1* represents the next level (1985: 2). If video games expose gamers to comprehensible input, then, the notion that gamers can learn an L2 from their hobby does not seem like a far-fetched claim. Another example of a theory which may explain L2 learning through gaming is Swain's *Output Hypothesis* (2000: 99) which emphasizes *production* of language. Swain argues that in production, the learner is forced to *do* something, and that producing language might help learners in the process of increasing accuracy. Hence, in conversing with other gamers while playing, learners may acquire L2 through production.

The present study focuses on three aspects in terms of second language acquisition, namely vocabulary, grammar, and motivation, as discussed in subsections 2.3.1–3 below.

2.3.1 **Vocabulary**

As mentioned in section 2.2, some studies suggest that there is a positive correlation between gaming and vocabulary knowledge. Vocabulary is a vital part of any language, and assessing learners' vocabulary is a way of assessing one aspect of their language proficiency. Knowing *every* word in a language is impossible, but a learner's vocabulary knowledge can be indicative of their linguistic competence. Vocabularies can be viewed as "a series of levels based on frequency of occurrence" (Laufer and Nation 1999: 35). Each level contains 1,000 words, and can be divided into three groups: *high-frequency*, *mid-frequency*, and *low-frequency* words. High-frequency words are the first and second 1,000 words, whereas mid-frequency words cover the third to the ninth 1,000 words. Low-frequency words are on the 10,000 level, that is, beyond the first 9,000 words. Some words can also be referred to as *specialized vocabulary*, which contains, for instance, academic words (Nation 2013: 16–20).

One way of testing learners' vocabulary is through the use of the *Vocabulary Levels*

Tests, which can test both *receptive* and *productive* vocabulary. The former, designed by Nation (1983), provides information on a learner's word frequency levels and on where they should increase their vocabulary. Each task in the test consists of six words and three definitions, and learners are asked to combine them correctly (Nation 1983: 19), as shown below:

1.	business		
2.	clock	6	part of a house
3.	horse	3	animal with four legs
4.	pencil	4	something used for writing
5.	shoe		
6.	wall		

The latter, designed and validated by Laufer and Nation (1999), tests *controlled productive vocabulary*, that is, "the ability to use a word when compelled to do so by a teacher or researcher"—which differs from using a word by one's free will (1999: 37). In the test, learners are given a sentence which provides context, as well as a part of a word which needs to be completed (Laufer and Nation 1999: 46), as shown below:

He was riding a bi*cycle*_____.

Both tests contain words from the different groups of word frequency levels. These tests, then, can be used to make an assessment of a learner's frequency-based vocabulary knowledge. They are one way of collecting information of L2 learners' English language proficiency—the more proficient one is, the more words one knows (Laufer and Nation 1999: 38). Thus, the tests can be used to compare the vocabulary knowledge of those who game and those who do not, under the assumption that the former receive vocabulary input from their games.

2.3.2 **Grammar**

Grammatical knowledge is an important part of learning a language, as it affects our command of it. As with vocabulary, language proficiency and grammatical accuracy are related. In the field of SLA, there is no consensus on how learner language develops. Some researchers believe in an innate, basic grammar knowledge which may constrain acquisition, while others hypothesize that learning is enabled by general cognitive learning mechanisms (Ortega 2009: 110–112). Nevertheless, there is little doubt that grammar is a vital part of language acquisition and proficiency. How it is learned or what the restrictions are is not a focal point of the present

study, however; the study focuses on whether or not gamers are more grammatically proficient than non-gamers.

One way of testing grammatical knowledge is through the use of *Grammaticality Judgement Tests* (henceforth GJT). A typical GJT asks learners to make a judgement on whether a sentence is grammatically correct or not. Tests may vary, however; for instance, some ask the learner to point out what they judge to be ungrammatical, while some have more options than "correct" or "incorrect", for instance "I don't know" or different scales of grammaticality. Depending on how the test is designed, a GJT may also inform us about a learners' implicit or explicit knowledge. If a test is timed, learners have to rely on their implicit knowledge, while they have time to draw out their explicit knowledge in an untimed test (Ellis 2008: 914–915). The point of GJTs is to provide information on learners' grammatical intuition, and the use of a GJT is thus suitable to find the answers which the present study seeks.

2.3.3 **Motivation**

One individual difference which is often highlighted in the field of SLA is *motivation*. Motivation refers to "the desire to initiate L2 learning and the effort employed to sustain it" (Ortega 2009: 168); being motivated to learn an L2, for whatever reason, may be a deciding factor in how well someone learns it. One relatively recent theory, based on both psychology and SLA theory, is the *L2 Motivational Self System* (Dörnyei 2009). According to Dörnyei, a learner's level of motivation can be determined by three components. The *ideal L2 self* refers to the self that a learner visualizes him- or herself as; if the ideal self is better than the actual self in an L2, it may serve as an strong motivator to improve. The *ought-to L2 self* refers to the features a learner believes he or she needs to avoid anticipated negative outcomes. Finally, the *L2 learning experience* concerns the learning environment, such as teachers, peers, and curriculum (Dörnyei 2009: 29).

The L2 Motivational Self System can be useful when discussing gaming and language learning. Concerning the ideal L2 self, Sylvén and Sundqvist (2012: 307) suggest that "[i]n the context of digital gaming, this ideal L2 self can be translated into a player's wish and readiness to take on the role of an avatar, envisioning him-/herself ideally performing it". In other words, the player creates an ideal self in a virtual world, an ideal self that he or she "becomes" in game. Possibly, gamers could also be envisioning their ideal selves as better L2 speakers and thus become motivated to improve—perhaps to match their game avatar, or to communicate with other players. It may be interesting to attempt to find out whether gamers are motivated to

improve their English, and if they find video games to be a valuable learning tool. Since playing video games is a spare time activity, it is safe to assume that those who put in their time to play are motivated to do so. Their motivation to play video games in English, however, does not necessarily translate to motivation to learn the language.

2.4 **Summary**

This chapter has presented the theoretical background of the present study. It has discussed the status of English in Norway, existing literature on gaming and L2 learning, and SLA theory. To sum up, we see that Norwegians have access to many sources of authentic English today, both in and out of school. Video games are just one of many sources, though they are what this study focuses on. Previous studies show that spending time on video games may correlate positively with different aspects of English language proficiency, for instance essay writing skills or willingness to communicate. Learning through gaming may happen because some video games offer both input and output, which may result in, for instance, better vocabulary or grammatical knowledge. This, then, brings us to the present study.

3 Research questions and hypotheses

The aim of the present study is to further contribute to the field of L2 learning and gaming. This can be achieved by adding to the knowledge of Norwegian gamers and their English proficiency. As stated in the chapters above, the main question of this study is whether or not there is a positive correlation between L2 learning and gaming—which, as discussed in section 2.2, previous studies seem to imply. Whether this also applies to Norwegians, however, is yet to be answered. Thus, the present study aims to answer the following questions:

1. How much time do Norwegian teenagers spend on out-of-school activities in English?
    a. How much time do they spend on video games in particular?
    b. How much time do they spend on beyond-game activities?
    c. Are there gender differences?

2. Is there a positive correlation between English proficiency and gaming?
    a. How do Norwegian English language learners compare to Swedish ones?

3. Is there a positive correlation between English proficiency and beyond-game activities?

4. What do Norwegian gamers think of the value of video games?
    a. Can and do they learn English from them?
    b. Are they motivated to improve their English proficiency through playing?

As explained in section 2.3, the term 'English proficiency' has in this study been narrowed down to refer to productive and receptive vocabulary, as well as grammatical knowledge. This choice was made due to the study's limited scope, and due to the study being a partial replication. The term 'gaming' refers to playing video games, and the term 'video games' refers to games played on either a computer ('computer games') or a console ('console games') such as PlayStation, Xbox, or Nintendo. Mobile games—that is, games on tablets and smartphones—have not been considered (see section 4.1.5). The term 'beyond-game activities' refers to game-related activities which take place outside of the games themselves, such as participating in or browsing game forums, or using voice chat applications.

The first three research questions will be answered through a quantitative study, as outlined and presented in Chapter 4. This study hypothesizes that there is a positive correlation between English proficiency and gaming among Norwegian English learners. The hypothesis

is based on two assumptions. First, given the implications of previous studies on L2 learning and gaming—namely that there is a positive correlation between the two variables among English learners in other places in the world—there is no reason to think that Norwegians are different. In particular, Norwegians should not be remarkably different from their Swedish neighbors. Second, since gaming is a common spare-time activity, it is not unlikely that players gain considerable authentic English input from the games they play. Furthermore, the present study also hypothesizes that beyond-game activities—in addition to gaming—have a positive effect on L2 learning. Such activities offer possibilities to both gain input and produce output, written and spoken, and may thus be good tools for language learning.

The final research question will be answered through a small-scale qualitative study, which is outlined and presented in Chapter 5. This study expects that gamers will speak in favour of gaming and language learning. When it comes to motivation, however, the present study hypothesizes that gaming does not necessarily motivate players to learn English. Rather, learning English may "just" be an additional bonus on top playing for pleasure—having fun is likely the main reason to play video games in the first place.

4 Quantitative study: Correlation between gaming and English

4.1 Method, sample, and materials

The quantitative component of the present study is a *partial replication* of Sylvén and Sundqvist (2012). Partial replications are characterized by an aim to find out whether the results of a specific study are generalizable. They repeat an original study but require a change in one variable—for instance population, setting, or task (Abbuhl 2012: 298). In the present study, the population is different in that it studies Norwegian pupils rather than Swedish ones, and in that the Norwegian pupils are older than the Swedish ones are. The present study does not aim to research the generalizability of Sylvén and Sundqvist's study, however; it is a partial replication in that it borrows some of their methods. Thus, this study recognizes Sylvén and Sundqvist methods of researching the correlation between English vocabulary knowledge and gaming to be valid and replicable.

As mentioned briefly in the literature review, Sylvén and Sundqvist's materials consist of a questionnaire which mapped participants' out-of-school English activities and background information, a language diary which measured these activities over the course of one week, and one vocabulary test in three parts. Furthermore, the researchers collected their participants' results in the mandatory Swedish national test of English (2012: 308–310). In the present study, a questionnaire, a language diary, and two vocabulary tests were distributed (see subsections 4.1.2–3). The participants also took a grammar test (see subsection 4.1.4).

4.1.1 Participants

The participants of the present study are Norwegian tenth graders (ages 15–16) from two different schools located in neighbouring counties of Eastern Norway. They were recruited through contact with their English teachers, who were very positive about participating. Due to the participants being minors, their parents had to be informed first. Information letters (see Appendix A) and consent forms (see Appendix B) were sent out to the students' parents a few months prior to data collection. While the parents only received written information, the students themselves also received oral information. The aims of the study were presented, and the students were free to ask questions. They were told clearly that participation was voluntary, that they could drop out at any time for whatever reason, and that the data would be treated with great care in order to keep their identity anonymous.

To be counted as a participant, a student had to hand in a full set of data—that is, the questionnaire, the language diary, and the three tests. The form of consent also needed to be in order. In total, the present study consists of data from 40 tenth graders, of which 16 are male and 24 are female. The classes consisted of 52 students altogether, but not everyone participated. As mentioned above, participation was voluntary, and students could drop out of the study at any given time. Some chose to do exactly this, while others simply did not hand in the required components of data, for instance because they forgot despite multiple reminders. For these reasons, then, the present study is somewhat smaller than initially intended; this will be further discussed in subsection 4.3.4.

4.1.2 **Questionnaire and language diary**

After the consent form had been filled out by and collected from the parents, the participants were asked to answer a questionnaire. The questionnaire used in the present study (see Appendix C) sought background information on for instance mother tongue, international travel experience, and language behaviour, all of which could serve as confounding variables. It did not aim to map the participants' out-of-school English activities, as the language diary was deemed sufficient. The questionnaire is an abbreviated version of the one Sundqvist used in her dissertation (2009: 231–238). In the translation process, Norwegian was chosen over English because it is thought that questionnaires in respondents' mother tongue yield higher quality data than questionnaires in a second language do (Dörnyei and Csizér 2012: 79).

Upon completing the questionnaire, the participants were handed a language diary consisting of seven identical pages (see Appendix D). The language diary was one of the most important components in the present study, as it measured the time which participants spent on out-of-school English activities over the course of one week. The language diary is nearly identical to the one used in Sylvén and Sundqvist's study, which featured seven different activities—that is, reading books, reading newspapers and magazines, watching TV-series, watching films, playing video games, using the Internet, and listening to music—as well as an open category for other activities (2012: 308, 321). In addition, the present study added a section for beyond-game activities, with forums and voice chat programs featured as examples. This addition was, of course, made due to research questions 1b and 3 (see Chapter 3).

As Sylvén and Sundqvist note, using a language diary as method is not without flaws; the diaries rely on self-report and are thus prone to human error. They therefore suggest that such diaries should be incorporated into regular teaching to avoid problems (2012: 308–309).

Consequently, the teachers in the present study reminded the participants of the diary daily. Moreover, one of the teachers listed the diaries as in the pupils' homework schedule, while the other teacher gave the participants time to write in their diaries at school if they had forgotten to do so the night before. Both teachers had the impression that all the students who handed in a diary in the end—the deadline was extended several times due to forgetful pupils—truly wished to participate, and took the study seriously. Thus, the present study considers the data to be reliable, although one should remain cautious since the diaries undoubtedly contain human error regarding time estimates.

4.1.3 **Vocabulary tests**

The vocabulary tests were taken after the diaries had been submitted. Since the participants in the present study were older than those in Sylvén and Sundqvist's study, an identical test could not be used. While Sylvén and Sundqvist's participants were tested on the 1,000 and 2,000 vocabulary frequency levels (2012: 309), the participants in the present study were mainly tested on the 2,000 and 3,000 levels, though some words on the 5,000 level as well as academic words from the University Word List (henceforth UWL) were also included (see section 2.3.1).

The participants were given two Vocabulary Levels Tests, one on productive vocabulary and one on receptive vocabulary. Neither of the tests were timed, and all the participants finished taking them well within one hour. The tests were shortened versions of Nation's receptive test (1983: 19–24) and Laufer and Nation's productive test (1999: 46–48). On the 2,000 level, the test items were identical to those given in Sundqvist's study (2009: 250, 252). These test items are essentially identical to the original tests—that is, Nation's test, and Laufer and Nation's test—but are slightly modified to fit Swedish learners better. On the 3,000, 5,000, and UWL levels, a number of test items from the original tests were selected and used directly.

On the productive vocabulary test (see Appendix E), then, the test items and frequency levels were distributed as shown in Table 4.1 below.

Table 4.1. Test items, frequency levels, and points in the Productive Vocabulary Levels Test.

Test item	Frequency level	Points (max 35)
1–17	2,000	17
18–28	3,000	11
29–33	5,000	5
34–35	UWL	2

When the tests were corrected, the participants were awarded one point for each correct answer. The main focus was on knowing the word; thus, minor spelling mistakes as well as grammatical mistakes were ignored (Laufer and Nation 1999: 39). In tasks where more than one word could be a plausible answer, such as *charm* and *charisma* or *entrance* and *entry*, participants were awarded one point regardless of which word they wrote.

On the receptive vocabulary test (see Appendix F), the test items and frequency levels were distributed as shown in Table 4.2 below.

Table 4.2. Test items, frequency levels, and points in the Receptive Vocabulary Levels Test.

Test item	Frequency level	Points (max 60)
1–10	2,000	30
11–15	3,000	15
16–19	5,000	12
20	UWL	3

In terms of correcting, this test was very simple. The participants were rewarded one point for each correct match, 60 points being the max score. In total, then, the participants could obtain as much as 95 points on the two vocabulary tests.

4.1.4 **Grammaticality judgement test**

In the planning of the present study, it was decided that grammar should also be considered. This decision was based on the understanding that grammatical knowledge is an important part of language learning (see section 2.3.2). Thus, a GJT was designed for the participants (see Appendix G). Like the vocabulary tests, it was not timed.

In the making of the GJT, the test categories were decided on after asking the participants' teachers about typical grammatical errors which their students make. The common answers included confusion between *it* and *there*, concord between subject and verbal, and confusion between adjectives and adverbs. These answers ended up being the three test categories. The first category is easy to explain; both *it* and *there* correspond to 'det' in Norwegian, so learners tend to confuse the two and overuse the former (Hasselgård et al. 2012: 307–308). As for concord, the second category, Norwegian learners must simply observe and learn the rules (Hasselgård et al. 2012: 266)—which, perhaps, they are not doing. Although the concord system is fairly simple in English, it is even more simple in Norwegian. For instance,

Norwegians inflect the verb ‘like’ as *liker* in the present tense, regardless of the subject. In the same tense in English, however, ‘like’ can be *like* or *likes* depending on the subject; the subject and verb need more work to agree. When it comes to the third category, English has a clearer distinction between adjectival and adverbial forms than Norwegian does, which may explain Norwegian learners’ confusion (Hasselgård et al. 2012: 238). The tasks of the GJT in the present study were very heavily inspired by the participants’ course book, *Crossroads 10B: Engelsk for ungdomstrinnet* (Heger and Wroldsen 2008: 132–133, 151–154, 159–162).

It was desirable that the GJT should not be too extensive, to ensure that relatively little school time was taken from the students—after all, they had to complete the vocabulary tests as well. The GJT, then, needed to be restricted in terms of length, though it needed to be extensive enough to give a correct picture of the students’ grammatical knowledge. With this in mind, two important decisions were made. First, while it is recommended to include at least four tokens per test category in a GJT (Ionin 2012: 41), the present study settled for three. Second, the test did not include fillers to distract the participants. In total, then, there were eighteen sentences to judge, the number of grammatical and ungrammatical sentences being equal. The categories were distributed as shown in Table 4.3 below.

Table 4.3. Categories, tokens and points in the Grammaticality Judgement Test.

Category	Tokens: Correct	Tokens: Incorrect	Points (max 27)
There/It	3	3	9
Concord	3	3	9
Adjectives/Adverbs	3	3	9

The students were awarded one point for judging a sentence correctly, and they were awarded one point for encircling a grammatical mistake correctly. In other words, if a sentence was incorrect, a participant could earn two points provided that it was flagged as incorrect and that the mistake was encircled. Thus, each participant could earn 27 points in the GJT.

4.1.5 **Analysis**

After the forty data sets were collected, everything was carefully typed into spreadsheets in Microsoft Excel. This application was also used for the statistics of the present study, for instance in the calculation of mean scores of the vocabulary and grammar tests. All data was double- or triple-checked, to ensure that the right values were calculated. For the analysis, the

present study relied on arithmetic mean and standard deviation (henceforth SD), which together form quite a strong statistical tool.

As mentioned earlier, the term ‘video games’ refers to computer and console games in this study. Note, however, that the language diary also listed mobile games as an example. In the analysis, mobile games were removed due to the quality of the data. Almost no one reported that they had played games on their phones or tablets, which—considering the number of persons playing on their phones one is likely to run into every day—is rather odd. The few who had listed mobile games, listed them as “just phone games” or “phone”. Thus, mobile games were omitted from the present study. Games which exist on mobile platforms in addition to computers or consoles, such as *Hearthstone*, however, count as ‘video games’, since the mobile version can be seen as an on-the-go alternative to the computer or console version.

With this, then, let us move on to the results of the quantitative study.

4.2 **Results**

4.2.1 **Out-of-school activities in English**

The participants of the present study reported having spent a considerable amount of time on out-of-school activities in English. On average, they spent 32.1 hours per week in total on such activities, ranging from 9.1 hours to an extreme 78 hours per week, which will be discussed further in the following paragraph. Individual variation was very large, the standard deviation being 17.3 hours. A summary of the participants’ reports is shown in Table 4.4 below.

Table 4.4. Time spent on out-of-school activities in English, as reported in the language diaries.

Activity	Mean (hours/week)	SD
Reading books	0.4	1.2
Reading newspapers, magazines, etc.	0.1	0.4
Watching TV-series	4.2	3.3
Watching films	2.2	3.1
Playing video games	5.3	8.6
Beyond-game culture	1.4	4.0
Using the Internet	7.5	6.8
Listening to music	9.3	7.8
Other activities	1.7	3.3
Total	32.1	17.3

The total mean is very high, and should not be taken at face value. As seen above, the participants reported that they listened to a lot of music—which certainly adds to the total mean. Most who listed music in their diaries, however, also specified that listening to music is a secondary activity—that is, it is done at the same time as something else, such as playing video games or taking a walk, with music on in the background. It is very rarely treated as an activity on its own right. Thus, if the activity of listening to music is removed under the assumption that it is a secondary activity which overlaps with other activities, the numbers look more realistic (Mean = 22.8 hours per week, SD = 13.9 hours per week). In the extreme case above where one participant reported having spent 78 hours on English out-of-school activities, 25 hours of music is included. If we do not count music as an own activity, this participant actually spent 53 hours on English out-of-school activities in the week that the diary was filled out. This number is still very high, but not impossible.

Regarding gender, the girls reported having spent slightly more time than the boys on out-of-school activities in English. Including music, the girls spent 32.6 hours per week on such activities (SD = 16.4 hours per week) on average, while the boys spent 31.2 hours per week on average, though there was more individual variation among the boys (SD = 18.6 hours per week). The girls spent more time than the boys did on most of the activities—especially on listening to music and on watching TV-series—but not on gaming and beyond-game culture, where the boys were far ahead. To be precise, the boys spent 9.4 hours per week playing video games, while the girls spent 2.6 hours per week doing so. Individual variation was large for both genders (SD = 8.6 hours per week for boys, SD = 7.4 hours per week for girls).

As seen in Table 4.4 above, gaming certainly seems to be one of the more popular spare time activities in English. The participants played from zero to thirty-five hours per week, and individual variation was also very large. In their diaries, the participants reported playing a great variety of games, though the three most frequent ones seem to be *League of Legends*, *Counter-Strike: Global Offensive*, and *Call of Duty: Black Ops 3*. These games were reported by both genders. As for beyond-game culture, this seems to be a primarily male-dominated arena; only one girl reported using voice chat while playing, while eight boys reported using voice chat as well as visiting forums or seeking out video game walkthroughs. Boys, then, are more involved than girls are with video games outside the games themselves. On the whole, however, beyond-game activities do not seem to be a particularly popular among Norwegian tenth graders, although individual variation is considerable (SD = 4.0 hours per week).

4.2.2 **English proficiency and gaming**

To replicate Sylvén and Sundqvist (2012: 311–312), the participants of the present study were divided into three different groups based on their time spent gaming, as they reported in their language diaries. This group division is summed up in Table 4.5 below.

Table 4.5. Participants of the study divided into groups based on gaming time.

Gamer group (boys + girls)	N	Time (hours/week) From	Time (hours/week) To	Mean (hours/week)	SD
Non-gamers (2 + 16)	18	0	0	0	0
Moderate gamers (4 + 5)	9	> 0	< 5	1.7	1.4
Frequent gamers (10 + 3)	13	≥ 5	≤ 35	15.1	9
Total (16 + 24)	40	≥ 0	≤ 35	5.3	8.6

The first group, tagged *non-gamers*, consists of those who did not play any games at all; in this group, there are two boys and sixteen girls. In the second group, the students who played more than nothing but less than five hours per week can be found. These *moderate gamers* consist of four boys and five girls. On average, the moderate gamers played 1.7 hours per week. Finally, the third group consists of the participants who reported having played more than five hours per week, tagged *frequent gamers*. This group ranges from gamers who play for five hours per week, to gamers who play for thirty-five hours per week. On average, they played 15.1 hours per week, which is a lot more than the moderate gamers reported. The frequent gamers consist of ten boys and three girls.

What we see, then, is that there are more gamers than not in the present study. The group consisting of moderate gamers is certainly the smallest, and individual variation in this group is relatively small. In contrast, individual variation among frequent gamers is considerable (SD = 9.0 hours per week). Due to this variation, the creation of an additional group consisting of "intense gamers" was considered. This idea was rejected, however, in order to stay true to Sylvén and Sundqvist's study (2012) as well as to keep the possibility of comparing Norwegian

and Swedish English L2 learners intact (see research question 2a and subsection 4.3.2).

The gamer group division presented in Table 4.5 was used when attempting to find out whether there is a positive correlation between English proficiency and gaming. In Tables 4.6, 4.7, and 4.8 below, the scores on the vocabulary and grammar tests across the three gamer groups are shown. Considering the hypotheses of the present study—namely that there is a positive correlation between time spent playing video games and English proficiency, as discussed in Chapter 3—the results are quite surprising.

Table 4.6 below shows the scores of each frequency level on the Productive Vocabulary Levels Test, as well as the total scores. The most striking finding is that with each gamer group, the total score declines—while the non-gamers have a mean score of 20.9 points, moderate and frequent gamers score 19.7 points and 18.5 points, respectively. Thus, with each gamer group, the total mean score declines by about one point. The non-gamers score consistently higher than the two other groups on the 2,000, 3,000, and 5,000 levels. Since there were only two words from the UWL, it is difficult to say anything about the numbers—but notably, the frequent gamers were the only ones who could not produce a single word on this level.

Table 4.6. Total scores on the Productive Vocabulary Levels Test for the three digital game groups.

Gamer group		2,000 (max 17)	3,000 (max 11)	5,000 (max 5)	UWL (max 2)	Total (max 35)
Non-gamers	Mean	13.4	5.8	1.5	0.2	20.9
N = 18	SD	2.9	2.5	1.6	0.4	6.1
Moderate	Mean	13.1	4.9	1.3	0.3	19.7
N = 9	SD	2.9	2.5	1.2	0.5	5.7
Frequent	Mean	12.9	4.4	1.3	0	18.5
N = 13	SD	3.9	2.2	1.4	0	6.7
Total	Mean	13.2	5.1	1.4	0.2	19.9
N = 40	SD	3.2	2.4	1.3	0.4	6.1

The scores of the Receptive Vocabulary Levels Test show the same trend—that is, that the total test score declines with each gamer group. On this test, the non-gamers have a mean score which is about two points above the moderate gamers, while the moderate gamers score about

one point above the frequent ones. The total scores of the receptive vocabulary test are shown in Table 4.7 below.

Table 4.7. Total scores on the Receptive Vocabulary Levels Test for the three digital game groups.

Gamer group		2,000 (max 30)	3,000 (max 15)	5,000 (max 12)	UWL (max 3)	Total (max 60)
Non-gamers	Mean	26.2	13.6	8.9	1.5	50.2
N = 18	SD	5.4	2.0	2.0	0.7	7.6
Moderate	Mean	26.3	12.6	7.9	1.3	48.1
N = 9	SD	3.0	1.9	2.1	0.9	6.4
Frequent	Mean	26.1	11.4	7.3	1.3	46.9
N = 13	SD	4.4	4.6	2.7	0.8	10.4
Total	Mean	26.2	12.6	8.2	1.4	48.4
N = 40	SD	4.5	3.1	2.3	0.7	8.4

When it comes to vocabulary, then, the results of this study suggest that the correlation between English proficiency and gaming is negative. The difference in vocabulary knowledge on the 2,000 level is very small for both tests, particularly on the receptive test where there is an almost non-existent .1-point difference between the groups. Diversity is more prominent on the 3,000 and 5,000 levels, however. Furthermore, we see that that on both tests, there is greater individual variation among the frequent gamers, particularly on the receptive test, where the standard deviation is as much as 10.4 points. Nevertheless, the trend seems to be that the more the participants play, the lower their English vocabulary test scores are.

The results of the grammar test match the results of the two vocabulary tests; in Table 4.8 below, we again see a trend where the total score declines with each gamer group. The table shows that the non-gamers' mean score is relatively far above the moderate and frequent gamers' scores, with 17.1 points versus 14.2 and 13.9 points, respectively. The non-gamers outperformed the gamers in all three test categories, though they were not very far ahead regarding the confusion between adjectives and adverbs. As for the moderate and frequent gamer groups, one seems to be better than the other in different test categories. There is very little difference between moderate and frequent gamers on this grammar test. On the whole,

however, the frequent gamers have the lowest grammar test scores and—notably—have the least individual variation.

Table 4.8. Total scores on the Grammaticality Judgement Test for the three digital game groups.

Gamer group		It/There (max 9)	Concord (max 9)	Adj./Adv. (max 9)	Total (max 27)
Non-gamers	Mean	5.8	6.6	4.7	17.1
N = 22	SD	2.2	2.1	2.5	5.4
Moderate	Mean	3.9	6.0	4.3	14.2
N = 9	SD	1.5	2.7	2.1	5.0
Frequent	Mean	4.5	5.0	4.5	13.9
N = 13	SD	2.5	1.5	1.5	4.7
Total	Mean	5.0	5.9	4.6	15.4
N = 40	SD	2.3	2.1	2.1	5.2

Based on the results of the three tests, then, we see that there is a visible trend where English proficiency declines with time spent gaming. The non-gamers of the present study outperform both moderate and frequent gamers in both vocabulary knowledge and grammatical knowledge. As has been noted, however, individual variation is large among gamers in terms of play time. Thus, there could very well be other variables than play time which correlate with English proficiency—for instance, beyond-game activities.

4.2.3 **English proficiency and beyond-game activities**

Whether beyond-game activities have an effect on English proficiency is another intriguing question. To study this potential correlation, the twenty-two *gamers*—that is, the moderate gamers and frequent gamers—of this study were divided into three groups (see Table 4.9 below). The gamers who do not spend time on beyond-game activities at all fall into the first group, called *non-users*. All nine moderate gamers are in this group, along with five frequent gamers. The remaining eight frequent gamers fall into the groups of *moderate users*—that is, more than zero but less than five hours of beyond-game activities per week—and *frequent users*, who spend more than five hours on such activities per week.

Table 4.9. Gamers divided into groups based on their time spent on beyond-game culture.

Beyond-game group (boys + girls)	N	Time (hours/week) From	Time (hours/week) To	Mean (hours/week)	SD
Non-users (7 + 7)	14	0	0	0	0
Moderate users (5 + 0)	5	> 0	< 5	1.6	1.5
Frequent users (2 + 1)	3	≥ 5	≤ 20	12.6	6.4
Total (14 + 8)	22	≥ 0	≤ 20	5.3	8.6

Moderate users are interesting because they make up a group consisting of boys exclusively, which might create a gender question. On average, they spend 1.6 hours per week on beyond-game activities, and individual variation is rather small. The last group is noteworthy because it only consists of three participants, and individual variation is large (SD = 6.4 hours per week). Given the sample sizes of moderate- and frequent users, then, the test scores presented below should not be taken at face value. One should be especially cautious about the frequent users, as they are three participants with large individual variation.

Studying the total scores of the tests across the three beyond-game groups is quite interesting. Let us first look at the two vocabulary tests in Tables 4.10 and 4.11 below. Regarding vocabulary knowledge and beyond-game activities, we see a clear trend—namely that those who spend moderate time on such activities score higher than those who do not spend time on them at all, and in turn, those who do not spend time on them at all, outperform those who do so frequently. The moderate group clearly stands out; the participants in this group score considerably higher than the two other groups, and individual variation is relatively small. In other words, it is a group which has high scores consistently. It is also worth pointing out that this group even outperforms the non-gamers, who, as seen in the previous section (Tables 4.6 and 4.7), had the mean scores of 20.9 and 50.2 points on the productive and receptive vocabulary tests respectively. If we only account for time spent playing, then non-gamers outperform everyone in the vocabulary tests. Take moderate time spent on beyond-game activities into consideration, however, and the picture changes.

Table 4.10. Total scores on the Productive Vocabulary Levels Test for the three beyond-game groups.

Beyond-game group		2,000 (max 17)	3,000 (max 11)	5,000 (max 5)	UWL (max 2)	Total (max 35)
Non-users	Mean	12.8	4.4	1.3	0.2	18.7
N = 14	SD	3.2	2.5	1.1	0.4	6.2
Moderate	Mean	15	5	1.6	0	21.6
N = 5	SD	1.6	0.7	1.8	0	3.2
Frequent	Mean	10.3	4.7	1.0	0	16.0
N = 3	SD	5.5	3.2	1.7	0	10.0
Total	Mean	13	4.6	1.3	0.1	19
N = 22	SD	3.4	2.3	1.3	0.4	6.2

Table 4.11. Total scores on the Receptive Vocabulary Levels Test for the three beyond-game groups.

Beyond-game group		2,000 (max 30)	3,000 (max 15)	5,000 (max 12)	UWL (max 3)	Total (max 60)
Non-users	Mean	25.6	12.1	7.6	1.2	46.6
N = 14	SD	3.6	2.4	2.1	0.8	7.4
Moderate	Mean	28.8	14.2	8.4	1.8	53.2
N = 5	SD	1.1	1.1	1.1	0.4	3.2
Frequent	Mean	24.3	7.0	5.7	1.0	38.0
N = 3	SD	6.7	7.5	4.9	1.0	15.1
Total	Mean	26.2	11.9	7.5	1.3	46.9
N = 22	SD	3.8	3.7	2.4	0.8	8.9

The non-user group and the frequent group both score lower than the moderate group. While the moderate group is very consistent in terms of individual variation, the two other groups are not. The frequent group is especially inconsistent on both tests (SD = 10.0 on the productive test, SD = 15.1 on the receptive test). Two of the three participants of this group were outliers

who either had very high or very low scores on the tests, which explains the large variation in this small group. Thus, this study has little actual data on English proficiency among gamers who dedicate large amounts of their spare time to beyond-game activities.

The vocabulary tests show that frequent gaming, coupled with at least moderate use of beyond-game media, may have a positive effect on English L2 learners' vocabulary. This trend, however, is not transferred to grammatical knowledge (see Table 4.12 below).

Table 4.12. Total scores on the Grammaticality Judgement Test for the three beyond-game groups.

Beyond-game group		It/There (max 9)	Concord (max 9)	Adj./Adv. (max 9)	Total (max 27)
Non-users	Mean	3.9	5.4	4.2	13.5
N = 14	SD	1.5	2.4	1.8	4.5
Moderate	Mean	4.8	5.2	4.8	14.8
N = 5	SD	3.1	1.9	1.5	5.8
Frequent	Mean	4.7	6.0	4.7	15.3
N = 3	SD	3.2	1.0	2.1	5.5
Total	Mean	4.2	5.4	4.4	14.0
N = 22	SD	2.1	2.1	1.7	4.7

In terms of grammatical knowledge, it appears that the total mean score improves with each beyond-game group, and that individual variation is considerable in all three groups. It should once again be stressed, however, that the third group only consists of three participants and is thus very difficult to draw conclusions from. Furthermore, none of the groups score higher than the non-gamers, who had a mean score of 17.1 points. In the present study, then, there does not seem to be a positive correlation between grammatical proficiency and gaming or gaming-related activities. Vocabulary, however, is another story, as we have seen.

4.3 **Discussion**

To sum up the results, we see that statistically, the evidence of this quantitative study does not support the hypothesis that there is a positive correlation between L2 English proficiency and gaming. If there is indeed a correlation between the two, it seems to be negative rather than

positive. This is evident in the total scores of both vocabulary tests as well as the grammaticality judgement test, all on which non-gamers systematically score higher than moderate and frequent gamers do. If one also considers beyond-game culture, however, it seems that moderate participation in such activities—coupled with frequent gaming—correlates positively with vocabulary levels. Notably, this correlation does not seem to apply to grammatical knowledge.

In subsections 4.3.1–4 below, confounding variables, beyond-game activities, and shortcomings of this study will be discussed. Naturally, Sylvén and Sundqvist's (2012) study will also be addressed, as the present study is a partial replication of it.

4.3.1 **English proficiency and gaming: Possible confounding variables**

The findings of this study are worth discussing because they contradict several previous studies—for instance the ones presented in section 2.2—in the field of L2 learning and gaming. Furthermore, the findings also disprove the hypotheses or assumptions of this study. One important thing that must be pointed out is that it is very simplistic to assume that gaming alone leads to higher English proficiency. If it were indeed easy to, or possible to, prove conclusively that English proficiency correlates positively with gaming, then surely, gaming would be more widely encouraged than it currently is, and perhaps more incorporated in education. Yet, it is curious that the results of present study are the way they are, namely a contradiction of other studies in the same field.

Sylvén and Sundqvist point out that a shortcoming in their study is the lack of control for variables "such as prior knowledge of English, aptitude, cognitive level or preferred learning style" (2012: 314). This lack of control also holds true for the present study, which makes a generalization difficult. Individual differences are hard to account for; everyone is different and finds themselves in different learning conditions. Have Sylvén and Sundqvist simply been "luckier"—or "unluckier" depending on one's point of view—than the present study, in that their particular sample trended towards a positive correlation between English proficiency and gaming? Is age, for instance, an important variable (see section 4.3.2 below)? Such is the nature of quantitative studies; it is impossible to include *everyone*, as well as control for all possible individual differences.

The questionnaire (see section 4.1.2) was meant to address possible confounding variables such as mother tongue and travel experience, but the collected information was not very telling. For instance, the majority of the participants have Norwegian as their mother tongue and speak Norwegian at home, although some had unique language backgrounds. One

participant—a non-gamer—is a native English speaker, but it is unlikely that one person alone tipped the scale in favour of the non-gamer group. The sample, then, was assessed as relatively homogenous language-wise. As for travel experience, the participants were asked how much they have travelled, and to which countries. The vast majority reported having travelled abroad five or more times the in past five years, including to native English-speaking countries. In other words, the participants are quite homogenous in this regard as well—they are well off and are likely accustomed to speaking English abroad. Thus, the answers to the questionnaire are difficult to use in addressing possible confounding variables.

Gender is interesting, and will also be further discussed in Chapter 6. As we have seen, the non-gamer group consisted almost exclusively of girls (two boys, sixteen girls), while the frequent gamer group had a majority of boys (ten boys, three girls). The non-gamer group scored higher than the frequent gamer group on all three tests. Given the gender distribution in the two groups, it is tempting to conclude that girls have higher English proficiency than boys. If the participants are divided into two groups based on gender, however, the boys surprisingly score higher than the girls on the vocabulary tests—the boys have mean scores of 21.3 and 49.1 points on the productive and receptive tests respectively, while the girls have mean scores of 18.9 and 48.0 points. On the GJT, the girls score a little bit higher, with 15.7 points against 15.0 points. One may wonder, then, where these differences come from—and whether there is something that causes them. Are boys more sensitive to vocabulary input? Due to this study's scope, the significance of other out-of-school activities aside from gaming has not been considered—but, as mentioned in section 4.2.1, girls spend *more* time than boys on such activities, *except* for playing video games. As there are few boys in the non-gamer group, and few girls in the frequent gamer group, however, the correlation between English proficiency, gaming, and gender cannot be reliably studied. The sample is simply too small for that.

Social background and school environment are also variables which are worth considering. The two classes in the present study come from two relatively different schools. One of the classes scored considerably higher than the other on all three tests. The first class had mean scores of 21.4, 50.6, and 17.0 points on the productive vocabulary, receptive vocabulary, and grammaticality judgement tests respectively, while the other class had mean scores of 18.1, 46.0, and 13.7 points. Although it may not be surprising that there are discrepancies between two different classes, these scores are interesting for two reasons. First, the class that scored higher consisted of fewer frequent gamers than the one that scored lower—which, once again, may speak in favour of non-gamers' superior English proficiency. Second,

the two classes seem to be quite aware of their relative proficiency. In the class with the higher scores, 48% of the students rated themselves as "very good" in English, whereas only 16% did so in the other class. In turn, only 10% rated themselves as "OK" in the higher-scoring class, while 36% did so in the other. The pattern seems to be that the class which scores higher, consists of fewer gamers as well as more confident learners. Thus, social background and school environment may very well have something to do with English proficiency.

There is undoubtedly more to the question of English proficiency and gaming than meets the eye. It is difficult to explain why the results in the present study are as they are. There could be several confounding factors which have not been studied further or discussed here. As we have seen, the answer could *possibly* be that there is no positive correlation between English proficiency and gaming, or even that such a correlation is negative. Many studies seem to suggest otherwise, however. Regardless of what the answer is, the results of this quantitative study show that such a correlation is negative—*at least* among the particular participants of the present study. How generalizable these findings are is difficult to say with certainty.

4.3.2 **Comparing Swedish and Norwegian English L2 learners**

The most puzzling finding in the present study—from a Norwegian point of view—is perhaps that the trends do not match up with the trends of Swedish research. As mentioned in Chapter 3, there should not be a marked difference between Norwegians and Swedes; they live in neighboring countries and have a lot in common. Yet, while the present study has found a trend where English proficiency declines with time spent gaming, Swedish studies have found the opposite. As mentioned earlier, Sylvén and Sundqvist find that Swedish 11–12-year-olds' total vocabulary test scores improve with each gamer group (2012: 313). Furthermore, Sundqvist and Wikström find that Swedish 15–16-year-olds—that is, Swedes the same age as the participants of this study—who spend more time playing video games also score higher on vocabulary tests (2015: 71). A question one may ask, then, is why there is such a difference.

The discrepancy between Norwegian and Swedish learners seems like a mystery. If one considers Sylvén and Sundqvist's (2012) study only, a variable that comes to mind is that of age. Their participants were fairly young, and one might wonder if video games perhaps have more influence on younger L2 English learners. In Sundqvist and Wikström's (2015) study, however, we see that Swedish 15–16-year-old gamers score higher than their non-gaming peers. It is difficult to tell why there is such a difference between Swedish and Norwegian learners of the same age. An important variable that comes to mind is that of sample size. Sylvén and

Sundqvist studied data from 86 students (2012: 308), and Sundqvist and Wikström studied data from 80 students (2015: 68). The present study, however, only had 40 participants. In other words, the Swedish studies had at least double the amount of data, and the findings in the present study may have been more similar to the Swedish ones had the sample been bigger.

The two Swedish studies, as well as the present study, are different from one another in terms of what they research as well. In addition to vocabulary tests, Sylvén and Sundqvist studied reading and listening comprehension, Sundqvist and Wikström studied vocabulary use in essays, and the present study, of course, looked into grammar. This, however, does not change the results of the vocabulary tests. Although the vocabulary tests in the Swedish studies are different from the ones in the present study—Sylvén and Sundqvist's (2012) is intended for younger learners, and Sundqvist and Wikström's (2015) has more test items—they all measure vocabulary. There is no doubt that the Norwegian non-gamers of the present study scored higher than moderate and frequent gamers did, and that this finding contradicts Swedish findings.

None of the studies account for possible confounding variables such as language aptitude or cognitive abilities, as discussed in subsection 4.3.1 above. For all we know, some variables may perhaps be more influential on Norwegian L2 English learners than on Swedish ones, or vice versa. This is very unlikely, however; as much as Norwegians and Swedes like to act as rivals, one can hardly deny that the two groups are very similar in many aspects.

In order to truly compare Norwegian and Swedish English L2 learners, then, it may be necessary to run two identical studies, with approximately similar samples, in the two countries. If the results of such an extensive project would suggest the same as the present study does—that is, that Norwegians somehow do not learn English through video games while Swedes do—an interesting topic for further research would surely emerge. Such a comparison is worth considering, in view of the finding that Norwegian non-gamers consistently have higher English proficiency than moderate and frequent gamers in the present study.

4.3.3 **The significance of beyond-game activities**

The results presented in section 4.2.3 show that there is some merit to the hypothesis that there is a positive correlation between English proficiency and beyond-game activities. As we have seen, the participants of this study who played video games frequently, *and* made moderate use of beyond-game media, scored higher than any other group of the study on the two vocabulary tests. With this finding, it is possible to suggest that a combination of gaming and beyond-game activities correlate positively with English proficiency—at least when it comes to vocabulary

frequency. This seems to be in line with Ryu's (2013: 297) understanding that English learning does not happen through either playing games or participation in beyond-game culture, but through an integration of the two. He suggests that gamers learn words and phrases through game play, and that they learn to use them correctly through beyond-game activities.

The group which performed very well on the two vocabulary tests is small; it consists of no more than five participants. Due to this sample size, the findings should not at all be overgeneralized. Nevertheless, the correlation between English proficiency, gaming, and beyond-game activities is definitely worth considering. The participants did not only score higher than any other group in the study, but individual variation within the group was relatively small (SD = 3.2 points on both vocabulary tests). It is very interesting that one group was this consistent, especially when no other group was.

Individual variation within the group that frequently spent time on beyond-game culture was very large (SD = 10.0 and 15.1 on the productive and receptive vocabulary tests respectively). This variation can be explained by the group size being very small. Furthermore, one of the students in this group scored remarkably high on all three tests, in addition to being frequently involved in both gaming and beyond-game activities—more so than most of the participants. Since the group only consists of three students, however, it is difficult to tell if this particular participant is just remarkable in terms of English proficiency, play time, and beyond-game activities, or if the participant is "usual".

The possible correlation between English proficiency and beyond-game activities, then, is undoubtedly worth studying further. In the present study, the number of gamers who spend time on beyond-game activities was very low—particularly in the group of frequent participants. As we have seen, however, the findings in this study seem to imply that there might be a positive correlation between English proficiency, gaming, and beyond-game culture. The sample was small to be sure, but the test scores in question were either so consistent or so remarkable that the findings should probably not be brushed off as sheer coincidence.

4.3.4 **Other shortcomings**

Regarding the shortcomings of the present study, there are a few things which need to be addressed. The generalizability is questionable. First, as the present study has stressed several times already, there were only forty participants in the study, which is a relatively small number. Furthermore, the gender distribution is uneven, both in the total sample as well as in the group divisions used. Due to the low number of participants, as well as the uneven gender

distribution, readers should be careful not to overgeneralize the findings. While the results show a clear trend, it is difficult to tell whether such trend applies to a bigger population, or whether it only applies to the two participant classes.

Second, the present study only tested vocabulary and grammar. Moreover, the tests themselves—particularly the GJT—were not particularly extensive. This does not make the tests invalid, but they undoubtedly cover less ground. Furthermore, as 'English proficiency' was narrowed down to vocabulary and grammar, there are quite a few things that are not studied. For instance, Norwegian gamers' reading and listening comprehension (Sylvén and Sundqvist 2012), willingness to communicate (Reinders and Wattana 2011), or politeness (Peterson 2012) in English could also be considered. Additionally, collecting the participants' school grades and national test results, and looking at those in relation to gaming time, may also have provided more information on their general English proficiency.

Third, the present study does not consider game genres and types of beyond-game activities. The initial intention was to include game genres, as there are many video games out there, and some may have more impact on English L2 learning than others. For instance, multiplayer games in which players are more or less "forced" to communicate with others offer both opportunities for input and output—whereas single-player games may only offer input. In the present study, there were twenty-two gamers who reported playing a total of twenty-seven different games. It was difficult, if not impossible, to divide gamers and games into groups and categories that could reliably be compared. Thus, a study of genres was omitted. As for beyond-game activities, we have seen that the number of participants spending time on such activities was quite low (N = 8). Studying their types of activities, then, was also deemed unlikely to yield valuable data to study.

4.4 **Summary**

There is more to English proficiency and gaming than play time. This quantitative study has looked at students' vocabulary and grammar test scores in relation to their time spent playing and time spent on beyond-game activities. Surprisingly, the correlation between English proficiency and time spent playing seems to be negative. The less the participants play, the higher they score on the tests. This contradicts the results of several previous studies. There could be many reasons for this, for instance shortcomings such as sample size and a narrow definition of 'English proficiency'. The correlation between English proficiency and time spent

on beyond-game activities, however, is possibly positive. Frequent gamers who spend moderate time on such activities score have the highest test scores in the study.

Due to the scope of this study, there were many possibly confounding variables which could not be controlled, such as language aptitude and learning style. In an attempt to gain knowledge on some individual differences—like gamers' opinions and motivation—a small-scale qualitative study has also been conducted. This study also looks more into beyond-game activities. We now move on to this in the following chapter.

5 Qualitative study: Gamers' language learning experience

5.1 Sample, material, and method

Although a qualitative component was planned as part of this study from the beginning, the present chapter became more important with the results presented and discussed in Chapter 4. As the previous chapter demonstrated, gamers in this study are less proficient in English than non-gamers are—unless they also spend moderate time on beyond-game activities. A question one may ask, then, is what gamers themselves feel about gaming and English proficiency. The qualitative component of the present study aims to answer the fourth research question raised in Chapter 3. Through interviews, it attempts to explore gamers' opinions on video games, beyond-game culture, and L2 learning, as well as motivation.

This qualitative component can be perceived as an expansion of the quantitative component; because of the quantitative findings, this study is very interested in how gamers experience their hobby. Qualitative studies are, by nature, meant to be open-minded and not conducted based on hypotheses. They are "approached in the spirit of open inquiry" (Friedman 2012: 181). The qualitative component in the present study, however, is based on hypotheses. As seen in Chapter 3, the present study hypothesizes that gamers will speak in favour of gaming, and that they are not necessarily motivated to learn English because of their games. In the planning of interviews in this qualitative study, then, it was important to stay focused on forming questions that were not leading (see subsection 5.1.2 below). This was to ensure that the interviews remained an open inquiry despite the study's hypotheses and quantitative results.

5.1.1 Participants

The participants were recruited through *purposive sampling*, that is, sampling "in which the site and participants are selected in accordance with specified criteria" (Friedman 2012: 185–186). For this study, four participants were picked from the sample of the quantitative study presented in the previous chapter. There were two criteria. As the topic explored is gaming and L2 learning, a participant had to be a gamer. Furthermore, it was desirable that the participant also spent time on beyond-game culture. Thus, four frequent gamers (play time ≥ 5 hours per week), all boys, were recruited for interviews. Two of them were moderate users of beyond-game media (> 0, < 5 hours per week), while the two other were frequent users (≥ 5 hours per week).

Parental consent was ensured through the information letter—in which "interviews" were mentioned—that was distributed before the whole project started. Prior to the interviews,

the participants were contacted through their English teachers. They were informed that the interviews were to be audio recorded, and that these recordings would be deleted after transcription. Their anonymity was treated with care; during the interviews, the participants' names, schools, or any other information which could be identifiable on the basis of their voices were avoided. The focus was strictly on gaming, beyond-game culture, and English L2 learning throughout the interviews.

5.1.2 **Interview guides**

The interviews followed a *semi-structured* format, meaning that a set of questions was prepared beforehand, though these were not treated as a strict checklist (Friedman 2012: 188). A general interview guide (see Appendix H) was thus designed prior to the interviews. This guide was not particularly exhaustive; many additional *hows* and *whys* were asked as the interviews progressed. Thus, the guide simply functioned as something to fall back on when a topic was explored extensively enough. Throughout the interviews, the questions were kept as open-ended, non-leading, simple, and comprehensible as possible (Friedman 2012: 188). Keeping the questions non-leading was especially important. It was crucial that the interviewees could state their opinions and talk about their experiences truthfully, without taking this study's hypotheses and findings into consideration. Questions deviating from the interview guide were only asked if they built on what the interviewees said.

In addition to the general interview guide, individual guides were also prepared for each of the participants. These questions were formed based on the questionnaire and language diary used in the quantitative study (see section 4.1.2). For instance, three of the interviewees—who had answered that they mostly learn English in their spare time and little at school—were asked what the difference between learning through gaming and learning through school is. The individual interview guides, then, aimed to dig deeper into the gamers' experiences. Other examples include whether they played more games than those listed in the language diary, how they participated in the specific beyond-game activities they had listed, and why they did or did not want to improve their English.

5.1.3 **Interviews**

The interviews were conducted a few weeks after the quantitative study was completed. Each interview lasted between eleven and seventeen minutes, depending on how much the gamers had to say or how fast they spoke. Windows Voice Recorder was used to collect audio

recordings. The interviews were conducted in Norwegian, under the assumption that if questionnaires yield higher quality data when answered in a first language (see section 4.1.2), then surely this also applies to interviews, perhaps even more so. It was desirable that the gamers could express themselves optimally, and Norwegian seemed like the natural choice.

In the transcription process, the focus was on what the interviewees said rather than how they said it—meaning before style. Thus, things like long pauses and laughter were not transcribed. As for the translation process, the present study has attempted to stay true to the interviewees' answers, though readers should be aware that the participants would perhaps have worded their utterances differently in English.

Before the interviews, the four participants were not given any information about the results of the quantitative study. This was to ensure that the answers given in the interviews were not influenced by these results; they could not, for instance, be defensive about them. Rather, the participants were told afterwards. All four were surprised by the results and offered some interesting thoughts on them. These reactions, however, were not recorded and will therefore not be discussed further in the present study.

5.2 **Findings and discussion**

The following subsections aim to present and discuss the participants' language learning experiences and opinions, as explained by them. Three topics are especially important, namely gaming, beyond-game culture, and motivation. As a reminder, the interview excerpts below are translated to English from Norwegian and are therefore not verbatim (for the original answers in Norwegian, see Appendix I).

The four interviewees, tagged as A, B, C, and D below, are a homogeneous group in that they are all avid gamers who are very confident in their English proficiency. They have played console games for a long time, and transitioned to frequently playing PC games around the time they started attending lower secondary school. Though the four seemed to share a common belief that one can learn English through gaming and beyond-game culture, everyone approached the subject differently, and some were naturally more talkative than others.

5.2.1 **Learning English through playing video games**

The four interviewees were very clear regarding their belief that one can learn English through playing video games. Upon being asked what their thoughts on the topic are, they stated that:

A: You sort of learn because you play every day. It's a constant process rather than learning for a few hours a week. At school, you get the name for the colour "blue". But in video games, you get whole sentences, and no one is going to explain what anything means to you.

B: I learn more English in my spare time than I do at school. I think the reason is that the advanced words, which I am now starting to learn at school, I have already learned long ago through gaming.

C: I learn a lot of English from playing, and it doesn't have to be through multiplayer games. If you're interested in a single-player game plot, you'll learn a lot from reading it. … If I am interested in a game, I try to listen and figure out what the characters say. In that case, I can sit and think "what did he mean by that word?".

D: The way I see it is that you can learn through playing video games. For example, when you're little, you deal with game start menus and read tips on how to play on the Internet.

These answers are interesting for two reasons in particular. First, we see that the participants view learning through gaming as quite an independent way of learning. They encounter words, phrases, and sentences in their games which they do not know and have to figure out on their own. These linguistic bits can be seen as comprehensible input (see section 2.3), which the participants are able to understand through, for instance, context or previously acquired linguistic knowledge (Krashen 1985: 2). As we can see from their answers, the participants have encountered and learned from such input from an early age. Second—although only two of the answers above reflect the notion—the participants emphasized the difference between learning at school and learning through gaming. The time which the interviewees spend on gaming far exceeds the number of English classes they are offered at school. Upon being asked about school versus gaming specifically, the participants stated that:

B: When you learn through video games, you find it to be a lot of fun. … At school, learning is pretty boring, it's all about memorizing stuff.

C: In school, I learn a few words I've never heard before. But those are words I never use, and I never hear anyone use them. It could be something really special, like "indigenous people".

D: The difference may be that in school, we are more bound to a syllabus, so we go through and learn the same things again and again.

Gaming and school, then, teach different things, and some gamers do not see the significance of the school syllabus. It is important to stress, however, that some of the participants also emphasized the importance of school. For instance, they explained that:

A: You start thinking "this probably means that". And you figure out sentences—with help from the basics learned at school.

D: I think the English you learn at school is useful to a certain extent, although I don't think I could make do with school English only.

What we see, then, is that even though the participants speak highly of learning through gaming, basic knowledge from school matters to them. In the context of gaming, the English which gamers learn at school may serve as previously acquired linguistic competence, which gamers can use to make sense of and learn from the comprehensible input that video games offer.

The interviewees are avid multiplayer gamers, with *Counter-Strike: Global Offensive* being the perhaps most popular game. The most important aspect of multiplayer games is—as the term suggests—that gamers play with other gamers, either as team mates or as enemies. Communication is vital, and most multiplayer games have a built-in function that lets you communicate with strangers. *Counter-Strike*, for instance, has a voice function, while *League of Legends* only relies on text-based communication. When the participants were asked whether they used these game functions, the general consensus seemed to be that use of such functions was rather limited—"I use it to give information and stuff"—and that they instead preferred to use external voice applications developed for gamers, such as Discord or TeamSpeak, to talk with friends while playing. In other words, for the four participants, video games alone offer few opportunities for producing output; beyond-game culture matters.

An interesting finding in these interviews is that the four participants did not really distinguish 'gaming' from 'beyond-game activities'. The interviewees gave the impression that the two variables are one integrated activity which go hand in hand, and that it is this integrated activity which teaches them English. This is in line with Ryu's (2013) understanding of learning an L2 through gaming and beyond-game activities, as discussed before. Whenever the participants talked about learning English through gaming, they would eventually emphasize the importance of interacting with other players through Discord or of watching Let's Play videos—that is, videos of gamers playing through games. Such videos tend to include the gamers' commentary. One participant was particularly adamant in his conviction that beyond-

game activities are important:

A: I'd say that it's eighty percent language learning through beyond-game activities. If you only play video games, and don't do anything else, I don't think you get the same learning effect. Sure, the games are in English and you can hear the characters talk, and you can probably learn the words they are saying. But you don't learn to use them in an everyday situation. … I think that if you spend time on YouTube, for example, you learn how to use words in sentences and how to put sentences together. Then you may be interested in joining TeamSpeak, where you can practice using it.

It is apparent that receiving input from playing video games—or producing limited output using in-game functions—is not enough in terms of improving English proficiency. With this, then, we move on to our next concern, namely the integration of gaming and beyond-game culture.

5.2.2 **Learning English through gaming and participation in beyond-game activities**

The present study has repeatedly emphasized the significance of beyond-game culture, and as we have seen in Chapter 4, there is statistical merit to the argument that spending time on activities related to gaming correlates positively with English proficiency. As seen above, we also have qualitative evidence that such activities matter. While only one out of four participants stressed the importance of spending time on them, all four ended up talking about them, one way or another. For instance, the three others seem to have people they talk with while gaming:

B: When I play, I play a lot with this guy from England, so I speak English all the time. … Gaming and Discord kind of go together.

C: I know some people from England, the USA, Russia and stuff, so I speak English often. … I am member of a forum group where we have one crucial rule: English only. Break it and you get kicked out. So I kind of get forced to practice.

D: I don't really like playing alone, I prefer playing with friends. When I play with friends, I speak with them in English, even if they're Norwegian.

The participants partake in their own respective online communities. Voice applications such as Discord and TeamSpeak allow users to make private servers where one needs an invitation to join. In the servers, users can talk to each other using a voice function or a message function. This creates opportunities for users to produce output, both spoken and written, in a safe environment; they can practice English regularly by interacting with people they know. These

are people they know from real life, or people whom they have met through online gaming. An interesting finding is that two of the interviewees reported that they speak English with their Norwegian friends while gaming as well, their reasoning being that it feels "better" or "right"—for them, English is the language that belongs to gaming. Another interviewee explained that he speaks Norwegian with his Norwegian friends, but switches to English if he plays with Danish people. This switch is quite interesting, since speakers of the Scandinavian languages are generally capable of understanding each other—at least in theory.

One of the participants expressed that he and his friends tend to correct one another if someone says or writes anything incorrectly in English. He stated that:

C: The community is friendly, so we just correct and accept each other. We don't kick people for being bad at English. … If I type a word I don't use often, or confuse English and Norwegian, I definitely get corrected. I'm careful with correcting others though, unless I'm very confident. If I'm wrong, I risk having a grammar snob arguing with me.

This finding is interesting because we see that in addition to producing output, some gamers also receive feedback. Furthermore, they correct others. Surely, this means that some game communities are attentive when it comes to language, and that they work together to improve. These tendencies can be seen as collaborative dialogue, in which learners have "opportunities to use language, and opportunities to reflect on their own language use" (Swain 2000: 111). From the interviewee's answer, we also see that gamers accept one another regardless of proficiency. This notion was also supported by the other interviewees, who did not actively correct others:

A: I don't think I've ever really corrected anyone. There have been times where native speakers have corrected me. But for the most part, everyone just thinks "well, English isn't your first language", so they let it slide. You just kind of accept it.

D: It's about being understood. I don't think I've corrected anyone lately at least, nor has anyone I've played with done it.

Thus, we see that there is variation among gamers. Some are part of communities where participants correct one another—which, in turn, may give more room for L2 learning. Others do not. Regardless, there seems to be a common understanding that everyone cannot be a fluent user of English.

Another important beyond-game activity, as mentioned by the interviewees, is watching Let's Play videos. This is something the interviewees all did to some extent—some a lot, some just a little. The two who spent the most time watching such videos, stated that:

A: I watched a lot of YouTube videos about games in English, because I thought English videos were the best. They were my first introduction to English outside of school.

D: You can learn through watching Let's Play videos. You're really interested in finding out what they are talking about, maybe you're looking up to them, maybe you just want to learn their language. … The point of Let's Plays is to listen to commentary, and when you listen more and more to that, you start talking more like they do.

Watching Let's Plays, then, is a way of learning through listening to other gamers speaking English. The interviewees emphasized that listening to such videos is a great way to improve fluency and syntax; because they watch them frequently, they are exposed to a considerable amount of authentic English which they may try to replicate.

As mentioned in Chapter 2, one concern raised in previous research—for instance in Thorne et al. (2009: 811)—is that the language which is used between gamers in online communities may have limited transferability out of its context. Even if one assumes that gamers learn English through playing video games and spending time on beyond-game activities, one may wonder how useful that type of English is. Thus, the interviewees were asked about their thoughts on the transferability of "gaming English" and replied as follows:

A: I think that unless I speak with someone who plays the same games that I do, game-specific language is difficult to use. I know enough English not to rely on "gaming English", though, since one also learns "normal English" through gaming.

B: I don't feel that the English I use with my English friend is very different from any other English. The way I talk with him, I would talk the same way with my teacher, or with you for that matter. My English can be used anywhere. It doesn't belong to gaming.

C: I'm not sure I could use "gaming English" outside of gaming. Maybe when texting. But really, you can't go downtown and use certain words you use when you're gaming—that just doesn't work.

D: It depends. Some tactical words used in games may be difficult to use in daily situations.

From these answers, we see two interesting things. First, we see that most of the interviewees acknowledge that some of their jargon has limited transferability to other contexts; it is mostly useful when it used in game or in conversations about gaming. This is not at all unexpected. While some studies have shown that video games can contain lexical and syntactic complexity (Thorne et al. 2012), other studies show that game discourse can be very difficult to understand for outsiders (Steinkuehler 2006). Second, we see that some of the interviewees argue that they also learn a less contextual English which they can rely on. The second answer stands out—this participant sees English as a language that does not "belong" anywhere. Gaming and beyond-game culture may offer opportunities to learn both context-based language and "universal" language, and gamers have different experiences of learning English through such activities.

The four gamers all speak highly of the opportunity to learn English through gaming and beyond-game culture as an integrated activity. On the whole, it seems that they have had a positive learning experience through their spare time hobby. From their answers presented above, however, it is clear that the interviewees are different from one another. Individual differences are an important factor in L2 learning, and this leads us to the next concern of this paper: motivation.

5.2.3 **Gamers, motivation, and the L2 self**

In the theoretical background, motivation was mentioned as a factor which may determine L2 acquisition. Having a drive to learn is important, and a question one may ask is whether gamers are motivated by encountering English in game. In the interviews, the participants were never asked explicitly whether they were "motivated to learn through gaming"—because motivation can mean different things to different people, and the word is not very telling on its own. Being "motivated" could, for instance, mean that a learner wants to improve simply because he likes English, or because he fears not knowing it. The questions asked in the interviews, then, were designed to reveal the kind of motivation that the participants felt, and were meant to correspond to Dörnyei's L2 Motivational Self System (see section 2.3.3).

One thing became quite clear in the course of the four interviews: in terms of motivation, there was considerable variation among the four interviewees. Two of them seemed to have quite strong images of their L2 self. One of these two gave the impression that he has this motivation due to the people he games with:

C: The more I learn, the more comfortable I am with communicating with other people.

> For example, if I were to forget a word—there could be several synonyms for it—I wouldn't need to try and explain the word, I could just use another. … Right now, the people I game with are my motivation to improve.

This interviewee expressed a desire to improve his English so he could communicate with more ease. He was able to visualize himself as an L2 speaker that does not struggle with finding synonyms when talking with other gamers. Thus, we see that he has an ideal L2 self, acquired through a game community, which motivates him. This, however, is certainly not the case for all gamers. The other interviewee with a clear L2 self image stated that:

A: I am pretty interested in, for example, politics, and political language is honestly really advanced. So I need to improve my vocabulary if I want to talk with people about it. When it comes to school, we've been doing more oral stuff recently and will continue to do so, so English has become a little more difficult. I want to keep up, so that drives me to work harder.

This participant may perhaps both visualize an ideal L2 self, and an ought-to L2 self. On the one hand, he can visualize himself being a better English speaker so that he can discuss politics with others—an ideal L2 self. On the other hand, he considers the oral proficiency he ought to have to succeed in school—an ought-to L2 self. Unlike the first participant, this one is motivated by his interest in politics and school. Regardless, both have very clear, ideal pictures of themselves as L2 users. This does not apply to the two other participants:

B: I feel that when it comes to written English, I'm not very good at reading English texts. Spoken English is my strongest point, what I do best in school—because I do it all the time, every day. So if we're talking about written English, I think I can improve.

D: I don't feel that I need to improve my English. I'm more or less happy with my current level. It is good enough for what I use English for, and I haven't had problems abroad either.

The second answer is remarkable because it shows high confidence in the participant's own abilities, but also low motivation for improving. If anything, he seems to have achieved the level of his current ideal L2 self. The first answer partly reflects the same thing, namely that the interviewee has arrived at his envisioned, ideal L2 self in terms of spoken English. However, he acknowledges that he struggles with and can improve his written English. This

acknowledgement seems to stem from what he ought to know for school, not from gaming. Thus, the four participants' answers show that motivation is undoubtedly very individual.

What this section shows, is that motivation to play video games—which the participants likely have, considering the amount of time they pour into the activity—does not necessarily translate to motivation to learn and improve L2 proficiency. Only one of the participants was motivated by his game community; the three others were not. In addition to the ideal L2 self and the ought-to-self, the L2 Motivational Self System also considers the L2 Learning Experience, for instance "the impact of the teacher, the curriculum, the peer group, the experience of success" (Dörnyei 2009: 29). This component has, to some extent, already been visited in the subsections above. According to their answers, the interviewees find learning through gaming to be a fun, continuous process, which perhaps is a motivational factor. Yet, it is not enough to necessarily create a strong ideal L2 self among gamers.

5.2.4 **Shortcomings**

There are some shortcomings in this qualitative component that are worth considering in future research. In the present study, some types of gamers are unrepresented. Participants were recruited based on two criteria: that they were gamers, and that they spent time on beyond-game activities. Gamers who do *not* spend time on such activities, however, have not been interviewed. It would have been interesting to research how gamers who do not involve themselves in beyond-game culture experience learning. Since statistical differences—that is, that gamers who do not spend time on beyond-game activities score lower on the tests than gamers who do and non-gamers—were found in the quantitative component of this study, we can perhaps hypothesize that such gamers approach gaming and L2 English learning differently than the interviewees do.

Another shortcoming is related to gender. The sample in this qualitative study is very homogenous in terms of gender, as it consists of boys only. This is perhaps not very surprising; in the quantitative study, we saw that the vast majority of gamers who also spend time on beyond-game activities is male. Not interviewing a girl was not a conscious choice; there were no gender criteria in the recruitment of interviewees, so no one was picked on the basis of being a boy or a girl. In hindsight, it might have been interesting to deliberately include a girl, particularly to see if girls' learning experience is different from that of boys' learning experience. As discussed in Chapter 4, there are definitely statistical differences between boys and girls in terms of both gaming, beyond-game activities, and English proficiency.

Finally, a shortcoming which should be discussed is that of other individual differences besides motivation. For the qualitative component, motivation was a focal point. There are, however, other individual differences than motivation which affect second language learning, such as foreign language aptitude, learning strategies, and personality. As we have seen, the four participants all argued that gaming and beyond-game culture have been important for their English L2 development. Yet, they were quite different in terms of motivation—there was no common ground. Other individual differences besides motivation, then, may also account for gamers' L2 learning experience.

5.3 **Summary**

This qualitative study has aimed to explore four gamers' language learning experience through gaming and beyond-game activities. In Chapter 3, this study hypothesized that gamers would speak in favour of language learning through gaming. Furthermore, it hypothesized that gamers are not necessarily motivated to learn English because they play video games—rather, it is possible that language learning may just be a positive side effect to gaming.

To sum up the qualitative component, we see that the findings match the hypotheses. The four gamers speak highly of learning English through gaming. In their answers, the interviewees have shown that learning through gaming is an independent way of learning; they are thrown into an English-speaking universe and "forced to" practice and learn. Interestingly, the gamers expressed that beyond-game activities are an integrated part of gaming. As we have seen, the gamers spend time in online communities that allow them to improve their English proficiency. When it comes to motivation, however, the gamers' motivation to play games and partake in beyond-game culture does not necessarily translate to motivation to learn. There are also other variables which account for motivation or lack thereof. In short, there is more to learning through gaming than meets the eye.

6 **Further discussion**

Unlike several previous studies on SLA and gaming, the present study shows that gaming does not necessarily correlate positively with L2 English proficiency. Rather, the correlation between the two variables is negative among the participants of the present study. A positive correlation can be found, however, if we also consider moderate participation in beyond-game activities. The present chapter further discuss two topics which proved to be especially interesting in the preceding chapters, namely gender (see section 4.3.1) and beyond-game culture (see sections 4.3.3 and 5.2). The aim is to pave the way for future research.

6.1 **Gender**

6.1.1 **Why gender matters**

In the planning process of the present study, the necessity of adding a gender dimension was questioned. On the one hand, gaming is a gender-neutral spare time activity, so whether one is male or female should not matter. On the other hand, the numbers of males and females that play video games are not equal. Statistics show that—at least in Norway—males spend considerably more time on video games than females do (see section 2.1.1). These statistics are supported by the present study; we have seen that out of twenty-two gamers, fourteen are male and eight are female. In other words, even though the sample is small, there is a considerable difference between males and females in terms of gaming. Although gaming is a gender-neutral activity, there is no doubt that it is an activity in which females are under-represented.

The uneven male-to-female ratio of gamers is not enough to justify a gender dimension in this study. Although the quantity of boys who play video games is greater than that of girls who play, the activity itself is still gender-neutral—there is no reason to think that boys and girls who play video games turn out different from one another because of their gender. The results of the quantitative component, however, show why gender needs to be addressed. On average, the boys scored higher than the girls on the two Vocabulary Levels Tests. In the Grammaticality Judgement Test, however, the boys scored slightly lower than the girls (see section 4.3.1). These findings are interesting because there seems to be a difference in English proficiency between the two genders in this study. Moreover, the majority of non-gamers in the study are female, while the majority of frequent gamers are male. In short, there are more boys than girls who are dedicated to gaming in this study, and the boys score higher than the girls in

terms of vocabulary. Thus, there is something about gaming, English proficiency, and gender which needs to be explored further.

6.1.2 **Gaming, L2 English proficiency, and gender**

One topic which was explored briefly in section 4.3.1 is whether there is a difference in English proficiency between, for instance, frequent gamers that are male and frequent gamers that are female. Do boys who play video games become more proficient than girls who play video games? Because of the small sample size, as well as the uneven gender distribution in the non- and frequent gamer groups, this study cannot reliably check for differences between the genders and answer this question. The moderate gamer group is fairly even in terms of gender distribution, however, although it is small (four boys, five girls). Table 6.1 below shows a comparison of test scores in this group, divided by gender:

Table 6.1. Total scores on the vocabulary tests and the grammar test for the moderate gamer group.

Moderate gamer group		Productive (max 35)	Receptive (max 60)	Grammar (max 27)
Boys	Mean	22.5	49.3	13.3
N = 4	SD	7.1	8.2	7.4
Girls	Mean	17.4	47.2	15.0
N = 5	SD	3.6	5.2	2.7

If we compare the genders of moderate gamers in this study, we see that boys score higher than girls in terms of vocabulary—particularly in terms of productive vocabulary—but lower when it comes to grammar. The girls are far more consistent than the boys, who have a rather large individual variation. While these numbers are not conclusive, since the sample is small, there is a potential trend: Boys who play video games are somehow more proficient in English vocabulary but less proficient in English grammar than girls who spend the same amount of time on video games. There is no way to tell whether these results are caused by gaming; there could very well be other variables, such as various individual differences, which influence them. It is hard to believe that individual differences are gender-specific, however. Can we really say that boys, for instance, have a higher or lower foreign language aptitude than girls? Rather, we should consider variables that could be gender specific, such as, for instance, game genre.

The present study could not include an extensive discussion of genre, because the relatively low number of participants played a relatively high number of games (see section 4.3.4). Genre may be significant when it comes to gender, however. In her study, Sundqvist (2009: 30) found that "the boys preferred *World of Warcraft* and *Counter-Strike*, whereas girls preferred *The Sims* and *The Sims 2*". In other words, she found that boys and girls clearly have different game preferences. As discussed before, multiplayer games such as *Counter-Strike* offer opportunities for receiving input and producing output, whereas single-player games such as *The Sims* only offer the former. It is therefore not unlikely that playing multiplayer games improves English proficiency more. If boys and girls prefer different game genres, such preferences might explain the discrepancy between boys and girls—perhaps boys are more prone to learning vocabulary because they also produce it. They simply get more practice. This, however, does not explain why they score lower in terms of grammar.

When it comes to gender and beyond-game activities, Chapters 4 and 5 show that these activities are very male-dominated—at least in this study's sample. The group which had the highest vocabulary test scores in the entire study, consisting of those who play video games frequently and spend moderate time on beyond-game activities, was exclusively male. Moreover, all interviewees in Chapter 5 were also male. This does not necessarily mean that girls do not spend time on beyond-game activities, but that the girls in this particular study do not. Therefore, this study has no data on how girls participate in beyond-game culture or whether they experience it in the same ways that boys do. That kind of data could perhaps also provide an understanding of why boys and girls score differently in proficiency tests. Girls and beyond-game activities, then, could potentially be very interesting to discuss, as this study shows that gender is an interesting variable in terms of SLA and gaming, and that beyond-game culture is important for language learning through gaming.

6.2 **Why beyond-game culture matters**

The significance of beyond-game culture has been stressed several times throughout the present study, and the more the topic is explored, the more apparent it becomes that the topic is worth pursuing further. In this study, we have seen that statistically, if one only accounts for time spent gaming, participants who did *not* game scored higher than those who did. If one also accounts for time spent on beyond-game activities, however, the picture is different. Frequent gamers who spend moderate time on voice chat applications, forums, and watching YouTube videos, score higher than anyone else.

While the results in Chapter 4 are by no means conclusive due to the sample size, they are certainly food for thought. There is more to SLA and gaming than time spent playing. As argued in section 4.3.1, every L2 English learner would surely be advised to play video games if it was possible to prove conclusively that gaming alone improves language proficiency under all circumstances. Playing video games would have been encouraged and perhaps used more in education. This, however, is not the case. There are many other variables which can affect learning. It would be odd if learners "had to" play video games in order to improve their English proficiency. As we have seen from the non-gamers in the present study, it is possible to become proficient through other means. In the present study, we see that gaming, as a stand-alone activity, is perhaps not enough to improve L2 English. Gaming must be integrated with beyond-game activities to do potentially do so. This notion is not only supported by quantitative evidence, but also by the interviewees in the qualitative component (see sections 5.2.1–2).

As seen in Chapter 5, the four interviewees in the present study all had positive things to say about spending time on beyond-game activities. Hence, the qualitative data in this study is vital in a discussion on why beyond-game culture matters. Gamers who spend a considerable amount of time gaming do not clearly distinguish gaming from beyond-game activities—the two go hand in hand (see section 5.2.2). These gamers are very involved in their hobby. In a way, gaming can be seen as more than a hobby for them; it is an arena where they spend an excessive amount of time, and where they have social networks. Not only do they have fun, but they also encounter many opportunities to improve their English proficiency through, for instance, interactions with other players.

Frequent gamers who are involved in a beyond-game culture are exposed to and practice English for many hours every day—they listen, write, read, and speak. They encounter both native and non-native English language users in a familiar environment where everyone shares the same hobby, namely gaming. Studying beyond-game culture further, then, may give us more insight and a better understanding of how gamers acquire second language knowledge.

6.3 **Suggestions of future research**

Throughout the present study, many potential topics for further research have been suggested and discussed. The two most intriguing topics are naturally those discussed in the present chapter, namely gender and beyond-game activities. These topics can be pursued on their own, but a study on English proficiency, beyond-game activities, and gender combined may prove to be especially interesting. As we have seen in this chapter, the present study lacks data on

how boys and girls who spend the same amount of time gaming perform in English language tests. Furthermore, it lacks data on how girls participate in beyond-game culture. Although gaming and beyond-game activities are gender-neutral, we see that there is merit to adding a gender dimension to studies of gaming, beyond-game culture, and SLA.

Another topic which calls for more research is Norwegian English language learners. The present study is the first in-depth study of how Norwegian gamers learn English through gaming. The sample is small, however, so more extensive studies about Norwegian English learners are called for. Moreover, an interesting finding in the present study is that, unlike Swedish gamers, Norwegian gamers are not more proficient in English than their non-gaming peers, which is strange (see section 4.3.2). More exact comparisons between Norwegian and Swedish learners, then, are welcome.

One topic which may be interesting to pursue further, is gamers with learning disorders. In the interviews in the qualitative component, two of the interviewees mentioned that they are diagnosed with dyslexia—a variable which was not discussed in Chapter 5. This avoidance was a conscious choice because SLA, gaming, and learning disorders is possibly a very interesting yet enormous topic which deserves more space than a paragraph or two in a broader study. It would be interesting to carry out an in-depth study of how gamers with learning disorders experience language learning through gaming.

Finally, other topics for further research that have been mentioned in this study are individual differences, game genres, and other linguistic elements than vocabulary and grammar. There are many things that merit further investigation. The present study has contributed to the knowledge of L2 learning, gaming, and beyond-game activities, particularly among Norwegian learners and gamers, but there is still much ground to cover.

7 Conclusion

This study has attempted to find out whether or not there is a positive correlation between gaming and English proficiency among Norwegian learners. To answer the research questions, two studies were conducted on Norwegian tenth graders, one of which was quantitative and one of which was qualitative. This final chapter will first sum up the answers to the research questions before it presents some concluding remarks.

7.1 Answers to the research questions

The research questions of the present study (see Chapter 3) were divided into four categories: time spent on out-of-school English activities, the correlation between English proficiency and gaming, the correlation between English proficiency and beyond-game activities, and gamers' perspectives. While the first three categories were addressed in the quantitative study, the last was explored in the qualitative one. The findings can be summed up as follows:

1. Through the use of language diaries, this study found that Norwegian 15–16-year-olds spend quite some time on English out-of-school activities; on average 22.8 hours per week, which excludes time spent on listening to music (see section 4.2.1). Gaming is one of the more popular activities, with 5.3 hours spent per week. Beyond-game activities, however, are rather unpopular; on average, the participants reported having spent 1.4 hours on such activities. Regarding gender, girls reported spending slightly more time than boys did on all out-of-school activities except for gaming and beyond-game activities, which seem to be more male-dominated hobbies.

2. In the quantitative study, the participants were divided into three groups based on time spent playing video games. These groups were called *non-gamers*, *moderate gamers*, and *frequent gamers*. In the two Vocabulary Levels Tests, as well as the Grammaticality Judgement Test, we saw a clear trend where the test scores declined with each gamer group—that is, non-gamers outperformed moderate gamers, while moderate gamers in turn outperformed frequent gamers. Thus, if there is indeed a correlation between English proficiency and gaming, it is actually negative, at least among the participants in the present study. This finding contradicts findings in Sweden, which is strange, since learning conditions should be the similar in the two countries.

3. The moderate and frequent gamers were further divided into three groups based on their time spent participating in beyond-game culture. These groups were called *non-users*, *moderate users*, and *frequent users*. This study found that frequent gamers who spend moderate time on beyond-game activities not only score higher in vocabulary knowledge than the two other user groups, but higher than the non-gamers as well. In terms of grammar, however, the non-gamers were not outperformed. Regardless, we see that there might be a positive correlation between second language acquisition, gaming, and beyond-game culture.

4. In the qualitative study, four participants who were frequent gamers and who spent at least moderate time on beyond-game activities were interviewed. The interviewees were mainly asked about second language learning and motivation in relation to gaming and beyond-game activities. Throughout the interviews, it became apparent that the four spoke very highly about their hobby. They saw gaming and beyond-game activities as an integrated activity, and they believed that learning English through that integrated activity is certainly possible. As they spend a lot of time on gaming, they are exposed to a considerable amount of language, and they also practice speaking, writing, and reading. Improving their English, however, seems to be more of a positive side effect than a motivational factor when they play video games.

7.2 **Concluding remarks**

In the introduction to this study, it was implied that there are positive things to be said about video games despite their somewhat negative reputation. This study set out to answer whether there is a positive correlation between English L2 proficiency and gaming among Norwegians. The quantitative findings were rather surprising: The correlation between English proficiency and gaming is negative if we only take play time into account, but if we also consider beyond-game activities, the picture changes. Thus, this study has found other variables than time spent playing which are worth pursuing further.

It is important to realize that the results of this study are not a “universal” answer; they do not prove conclusively that non-gamers generally outperform moderate and frequent gamers in vocabulary and grammar knowledge on average. The study does not invalidate previous research, but rather adds more variation and new perspectives to the research field, and suggests

future avenues of research. Furthermore, we must not forget that the interviewees in the study all spoke in favour of learning through gaming, drawing on experiences of their own. They also emphasized the significance of beyond-game activities. These gamers' answers should be treated seriously and perhaps used for further research (see section 6.3)—the gamers are, after all, those who experience gaming every day. As one of the interviewees explained:

> C: I like to play, and I know how gaming is more negative for people who are sportier and active and don't play—they think everything about gaming is negative. And because of that, I try to find positive things.

Gaming is important to many people, and it is an activity that welcomes anyone—young or old, male or female. While the present study does not provide statistical proof that time spent playing improves gamers' English, the qualitative data seems to suggest otherwise. As long as there are gamers who speak positively of learning through their hobby, we should research gaming with a positive outlook. Some video games may indeed be violent or addictive, but as we have seen in this study's interviews, video games are primarily fun, social, and potentially effective for learning when integrated with gaming culture.

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Appendices

Appendix A: **Information letter to the parents**

[contact information] [dd.mm.yy]

Kjære foresatte i klasse [x],

Mitt navn er Thanh Thi, og jeg er student på Lektorprogrammet ved Universitetet i Oslo. Jeg er nå på mitt femte år, og fordyper meg i engelsk lingvistikk. I forbindelse med min masteroppgave, veiledet av Kristin Bech, trenger jeg hjelp av elevene i klasse [x]. Jeg ønsker å gjennomføre en studie med mål om å finne ut hvorvidt elevers dataspillvaner har en positiv effekt på deres engelsklæring. Til dette trenger jeg at elevene fyller ut en dagbok der de fører opp deres daglige engelskspråklige aktiviteter i en uke. I tillegg vil jeg be dem om å fylle ut et spørreskjema og om å ta noen tester i skoletiden. Videre håper jeg at et par av elevene er villige til å la seg bli intervjuet angående deres spillevaner.

Denne studien skjer selvsagt med samtykke fra [y], elevenes engelsklærer. Jeg skriver dette brevet til dere foresatte da jeg også trenger deres samtykke for å gjennomføre denne studien. Vedlagt ligger et svarskjema som jeg håper dere vil ta dere tid til å fylle ut og sende tilbake til meg via elevene. Jeg vil vektlegge at all data som jeg samler inn vil anonymiseres. Det skal ikke være mulig å identifisere elevene slik de presenteres i oppgaven min. Dette er selvfølgelig noe jeg tar svært seriøst.

Dersom det skulle være noen spørsmål angående dette, ta kontakt. Jeg svarer mer enn gjerne!

Med vennlig hilsen

Thanh Thi Nguyen

Appendix B: **Consent forms to the parents**

(Attached to the information letter)

Svarskjema

Elevens for- og etternavn:

Klasse:

Skole:

Kryss av:

☐ Jeg gir herved samtykke til at eleven deltar i denne studien.

☐ Jeg ønsker ikke at eleven deltar i denne studien.

_____ _____

Foresattes underskrift Sted og dato

Appendix C: **Questionnaire**

Spørreundersøkelse

For- og etternavn:

Skole:

*Denne spørreundersøkelsen består av to deler. Den første delen spør deg om din språkbakgrunn, mens den andre spør deg om ditt forhold til engelsk. Prøv å være så presis som mulig, og spør gjerne dersom det er noe du ikke forstår. Husk at det ikke finnes noen "rette" og "gale" svar—**bare vær ærlig**!*

Del A: **Din språkbakgrunn**

1. a) Hva er morsmålet ditt? _____

   b) Hvilke(t) språk bruker du hjemme med familien din? _____

2. a) Har du **bodd i** et engelsktalende land?
   - ☐ Ja
   - ☐ Nei

   b) Hvis ja, hvilke(t) land? _____

   c) Hvis ja, hvor lenge sammenlagt? (Svar i måneder.) _____

3. a) Har du **besøkt** et engelsktalende land?
   - ☐ Ja
   - ☐ Nei

   b) Hvis ja, hvilke(t) land? _____

   c) Hvis ja, hvor lenge sammenlagt? (Svar i uker.) _____

4. Hvor mange ganger har du vært utenlands de siste fem årene? (Sett ett kryss.)
   - ☐ 1-2 ganger
   - ☐ 3-4 ganger
   - ☐ Mer enn 5 ganger
   - ☐ Har ikke vært utenlands de siste fem årene

5. a) Snakker du jevnlig med noen personer på engelsk?

☐ Ja
☐ Nei

b) Hvis ja, hvem? _____

c) Hvis ja, hvor ofte? (Sett ett kryss.)

☐ Daglig
☐ En eller flere ganger i uken
☐ En eller flere ganger i måneden
☐ En eller flere ganger i året

Del B: **Deg og ditt forhold til engelsk**

6. Hvor enig er du i de følgende utsagnene? **Sett én ring rundt det svaret som passer best for deg**. Prøv å være presis!

a) Jeg synes engelskfaget er interessant.

1	2	3	4	5
Svært uenig				Svært enig

b) Det er gøy å lære engelsk.

1	2	3	4	5
Svært uenig				Svært enig

c) Jeg er komfortabel med å snakke engelsk.

1	2	3	4	5
Svært uenig				Svært enig

d) Jeg har lyst til å forbedre engelskferdighetene mine.

1	2	3	4	5
Svært uenig				Svært enig

e) Jeg synes det er nødvendig for nordmenn å lære engelsk.

1	2	3	4	5
Svært uenig				Svært enig

f) Jeg lærer mest engelsk i skoletimene.

1	2	3	4	5
Svært uenig				Svært enig

g) Jeg lærer mest engelsk gjennom lekser og annet skolearbeid.

1	2	3	4	5
Svært uenig				Svært enig

h) Jeg lærer mest engelsk i fritiden min.

1	2	3	4	5
Svært uenig				Svært enig

7. Hvor god er du i engelsk? (Sett ett kryss.)
   - ☐ Veldig god
   - ☐ God
   - ☐ OK
   - ☐ Ikke veldig god

8. Hvor god har du lyst til å være i engelsk? (Sett ett kryss.)
   - ☐ Veldig god
   - ☐ God
   - ☐ OK
   - ☐ Ikke veldig god
   - ☐ Jeg bryr meg ikke så lenge jeg kan kommunisere

9. Hva gjør du dersom du ikke kommer på hva du vil si på engelsk? (Kryss av de alternativene som passer.)
   - ☐ Jeg gjør ingenting
   - ☐ Jeg bruker kroppsspråk
   - ☐ Jeg bruker andre ord eller uttrykk på engelsk
   - ☐ Jeg ber personen jeg snakker med om hjelp
   - ☐ Annet:

   _____

10. Hva gjør du dersom du ikke forstår hva noen sier til deg på engelsk? (Kryss av de alternativene som passer.)
    - ☐ Jeg gjør ingenting
    - ☐ Jeg ber om hjelp
    - ☐ Jeg slår det opp i en ordbok på internett
    - ☐ Jeg ber personen om å gjenta seg selv
    - ☐ Jeg ber personen om å forklare eller omformulere det som ble sagt
    - ☐ Annet:

    _____

Appendix D: **Language diary**

Språkdagbok: _____dag

Navn og klasse:

Dato:

Hvilke engelskspråklige aktiviteter har du brukt *fritiden* din på i dag?

Aktivitet		**Tidsbruk – svar i minutter**
Lese bøker	Boktittel:	
Lese aviser og/eller magasiner	Navn:	
Se på TV-serier (på en TV eller en PC)	Serienavn:	
Se film (kino, TV, DVD, PC, og så videre)	Filmnavn:	
Spille videospill (PC, konsoll, mobil, nettbrett, og så videre)	Spillnavn:	
Andre spillrelaterte aktiviteter (forum, taletjenester som for eksempel TeamSpeak, og så videre)	Aktivitet:	
Bruk av internett	Nettsider:	
Lytte til musikk	Eksempler:	
Andre engelskspråklige aktiviteter	Aktivitet:	

Appendix E: **Productive Vocabulary Levels Test**

Vocabulary Levels Test: **Production**

For- og etternavn:

Skole:

In this task, you are asked to complete the underlined words. See the example below.

Example: He was riding a bi***cycle***_____.

1) I'm glad we had this opp_____ to talk.

2) There are a do_____ eggs in the basket.

3) The pirates buried the trea_____ on a desert island.

4) Her beauty and ch_____ had a powerful effect on men.

5) La_____ of rain led to a shortage of water in the city.

6) He takes cr_____ and sugar in his coffee.

7) The rich man died and left all his we_____ to his son.

8) Pu_____ must hand in their homework by the end of the week.

9) The sweater is too tight. It needs to be stret_____.

10) Anna intro_____ her boyfriend to her mother.

11) Teenagers often adm_____ and worship pop singers.

12) If you blow up that balloon any more it will bu_____.

13) In order to be accepted into university, he had to impr_____ his grades.

14) The package was deli_____ two hours after it had been sent.

15) We try to go abr_____ at least once a year.

16) The dress you're wearing is lov_____.

17) He was not very go_____ when he was a teenager, but he has many friends now.

18) I found the book deeply distu_____.

19) She wore a beautiful green go_____ to the ball.

20) The government tried to protect the country's industry by reducing the imp_____ of cheap goods.

21) He was on his knees, ple_____ for mercy.

22) He perc_____ a light at the end of the tunnel.

23) Sudden noises at night sca_____ me a lot.

24) Children are not independent. They are att_____ to their parents.

25) France was proc_____ a republic in the 18th century.

26) Many people are inj_____ in road accidents every year.

27) Suddenly he was thru_____ into the dark room.

28) She showed off her sle_____ figure in a long narrow dress.

29) The thieves have forced an ent_____ into the building.

30) The management held a secret meeting. The issues discussed were not disc_____ to the workers.

31) The voter placed the ball_____ in the box.

32) The boss got angry with the secretary and it took a lot of tact to soo_____ him.

33) We do not have adeq_____ information to make a decision.

34) According to communist doc_____, workers should rule the world.

35) The story tells about a crime and subs_____ punishment.

TOTAL SCORE: _____

Appendix F: **Receptive Vocabulary Levels Test**

Vocabulary Levels Test: **Reception**

For- og etternavn:

Skole:

In this task, you are asked to match words and meaning. Write the number of each word next to its meaning. See the example below.

Example:

1.	business		
2.	clock	__6__	part of a house
3.	horse	__3__	animal with four legs
4.	pencil	__4__	something used for writing
5.	shoe		
6.	wall		

1)

1.	copy		
2.	event	_____	end of highest point
3.	motor	_____	this moves a car
4.	pity	_____	thing made like another
5.	profit		
6.	tip		

2)

1.	accident		
2.	debt	_____	loud deep sound
3.	fortune	_____	something you must pay
4.	pride	_____	a high opinion of yourself
5.	roar		
6.	thread		

3)

1.	birth		
2.	dust	_____	game
3.	operation	_____	winning
4.	row	_____	being born
5.	sport		
6.	victory		

4)

1. clerk
2. frame
3. noise
4. respect
5. theater
6. wine

_____ a drink
_____ office worker
_____ unwanted sound

5)

1. dozen
2. empire
3. gift
4. opportunity
5. relief
6. tax

_____ chance
_____ twelve
_____ money to the government

6)

1. admire
2. complain
3. fix
4. hire
5. introduce
6. stretch

_____ make wider or longer
_____ bring in for the first time
_____ a high opinion of someone

7)

1. arrange
2. develop
3. loan
4. owe
5. prefer
6. seize

_____ grow
_____ put in order
_____ like more than another

8)

1. blame
2. elect
3. jump
4. manufacture
5. melt
6. threaten

_____ make
_____ choose by voting
_____ become like water

9)

1. brave
2. electric
3. firm
4. hungry
5. local
6. usual

_____ commonly done
_____ wanting food
_____ having no fear

10)

1. bitter
2. independent
3. lovely
4. merry
5. popular
6. slight

_____ beautiful
_____ small
_____ liked by many people

11)

1. coach
2. darling
3. echo
4. interior
5. opera
6. slice

_____ thin, flat piece cut from something
_____ person who is loved very much
_____ sound reflected back to you

12)

1. discharge
2. encounter
3. illustrate
4. knit
5. prevail
6. toss

_____ use examples to show meaning
_____ meet
_____ throw up into the air

13)

1. bench
2. charity
3. fort
4. jar
5. mirror
6. province

_____ part of a country
_____ help to the poor
_____ long seat

14)

1. marble
2. palm
3. ridge
4. scheme
5. statue
6. thrill

_____ inner surface of your hand
_____ excited feeling
_____ plan

15)

1. annual
2. blank
3. brilliant
4. concealed
5. definite
6. savage

_____ happening once a year
_____ certain
_____ wild

16)

1. circus
2. jungle
3. nomination
4. sermon
5. stool
6. trumpet

_____ speech given by a priest in church
_____ seat without a back or arms
_____ musical instrument

17)

1. desolate
2. fragrant
3. gloomy
4. profound
5. radical
6. wholesome

_____ good for your health
_____ sweet-smelling
_____ dark or sad

18)

1. alcohol
2. apron
3. lure
4. mess
5. phase
6. Plank

_____ worn in front to protect your clothes
_____ stage of development
_____ state of untidiness or dirtiness

19)

1. blend
2. devise
3. embroider
4. hug
5. imply
6. paste

_____ hold tightly in your arms
_____ plan or invent
_____ mix

20)

1. configuration
2. intersection
3. partisan
4. hypothesis
5. propensity
6. discourse

_____ shape
_____ speech
_____ theory

TOTAL SCORE: _____

Appendix G: **Grammaticality judgement test**

Grammaticality judgement test

For- og etternavn:

Skole:

Read the sentences below and judge whether they are grammatically correct or not. Check "Correct" or "Incorrect" based on your judgement. If a sentence is incorrect, encircle the mistake. See the example below.

Example: I would like (a) apple, please. ☐ Correct ☒ Incorrect

1.	The man acted aggressive when he saw her.	☐ Correct	☐ Incorrect
2.	It is raining outside.	☐ Correct	☐ Incorrect
3.	Everything is going to be all right.	☐ Correct	☐ Incorrect
4.	There was too cold to play outside last week.	☐ Correct	☐ Incorrect
5.	John is a very busy man.	☐ Correct	☐ Incorrect
6.	Are anyone going to remember this?	☐ Correct	☐ Incorrect
7.	There was a lot of food left after dinner.	☐ Correct	☐ Incorrect
8.	Betty and Billy are older than me.	☐ Correct	☐ Incorrect

9.	He speaks English very good.	☐ Correct	☐ Incorrect
10.	There is a monkey in the tree.	☐ Correct	☐ Incorrect
11.	Robin and I am going to the movies.	☐ Correct	☐ Incorrect
12.	Daniel likes to laugh loudly.	☐ Correct	☐ Incorrect
13.	I think it is enough room for all of us.	☐ Correct	☐ Incorrect
14.	She sang beautiful.	☐ Correct	☐ Incorrect
15.	Nobody dances like Sarah does.	☐ Correct	☐ Incorrect
16.	It was a bug in my food yesterday!	☐ Correct	☐ Incorrect
17.	Elizabeth always listens quietly.	☐ Correct	☐ Incorrect
18.	My sisters enjoys cooking food.	☐ Correct	☐ Incorrect

TOTAL SCORE: _____

Appendix H: **General interview guide**

General interview guide

Generelt

- Hvor lenge har du spilt videospill?
- Hvor lenge har du holdt på med spillrelaterte aktiviteter?
- Er du generelt en single-player eller multiplayer?

Læring

- Hva tenker du om å lære engelsk gjennom spilling?
- Hva tenker du om å lære gjennom spillrelaterte aktiviteter?
- Er språk en aktiv del av spillingen?
- Hva gjør du dersom du ikke forstår noe?
- Er språket overførbart utenfor spillingen?

Motivasjon

- Er du komfortabel med å bruke engelsk (snakke, lese, skrive)?
- Hva gjør du dersom engelsken ikke strekker til?
- Hvordan er engelsken i spillene (og spillkulturen) nivåmessig?

Appendix I: **Interviewees' original answers in Norwegian**

Transkripsjoner

A

Det er litt det at man gjør det hver eneste dag. Man lærer seg liksom et nytt språk hele tiden, istedenfor at det er to eller tre timer i uka. På skolen sitter man liksom og "ja, her er fargen blå". Men i spill, da sier de en hel setning, de forklarer ikke hva de sier, du bare hører det.

Man begynner kanskje å tenke at "ja, det her er kanskje det"—med hjelp av den basisen man har lært på skolen.

Jeg tror det er åtti prosent av greia. Altså, hvis man bare sitter og spiller videospill, ikke gjør noe annet, så tror jeg ikke man får samme effekt. Spillet er på engelsk og det er helt greit, man hører liksom figurene snakke, og man hører ord. Og da lærer man kanskje de ordene. Men man lærer liksom ikke ord sagt i en hverdagssituasjon. … Det jeg tror er at om du bruker tid på YouTube eller liknende plattformer, da lærer du deg liksom hvordan språket skal settes i setninger og liknende. Og deretter blir du kanskje interessert i TeamSpeak, der du kan bruke språket ditt med andre.

Jeg tror jeg aldri rettet på noen egentlig. Hvis jeg ikke—altså, jeg kan huske at engelske folk kan ha rettet på meg innimellom. Alle tenker for det meste liksom "ja, engelsk er ikke ditt førstespråk", så da går det bra. Man aksepterer det.

Jeg så veldig mye på videoer på YouTube, og de så jeg ofte på engelsk, fordi de var best, tenkte jeg. Og da fikk jeg liksom min første introduksjon til engelsk annet enn skole.

Jeg vil tro at med mindre jeg snakker med noen som spiller spillet, så er det ikke så enkelt å bruke det. … Jeg lærer nok til å ikke trenge det. For man lærer jo språket rundt også.

Jeg er også ganske interessert i for eksempel politikk, og der brukes det ofte veldig avansert språk, mange av dem. Så da må man jo nesten forbedre vokabular hvis man vil snakke med folk. Når det kommer til skole, så har vi prata en del på skolen, nå og framover. Siden det nå er litt vanskeligere enn før, så trenger jeg å jobbe mer med det, og da trenger jeg den driften.

B

Jeg lærer mest i fritiden. Jeg tror kanskje grunnen til det er at de, liksom, avanserte ordene da, som jeg begynner å lære nå i ungdomsskolen, de har jeg allerede lært via videospill.

Det er egentlig det at når man gjør det gjennom videospill, så synes man det er veldig gøy. … Men i skolen så er det liksom kjedelig, for det handler om å pugge til det.

Når jeg spiller, så spiller jeg ganske mye med en fyr fra England, og da prater jeg engelsk hele tiden. … Multiplayer hører på en måte sammen med Discord.

For hvis jeg liksom—jeg føler ikke at det er så annerledes, jeg snakker liksom engelsk med kameraten min, akkurat som jeg ville gjort med læreren min, eller deg for den saks skyld. Så jeg tror egentlig jeg kunne brukt engelsken min hvor som helst. Den hører ikke til spillingen.

Altså jeg føler at når det kommer til skriftlig, så er liksom engelske tekster—det er jeg ikke noe god på. Men muntlig, det er liksom—det er noe av det sterkeste, liksom, det jeg er best til da, når det kommer til skole. Fordi jeg gjør det jo hele tiden, hver dag. Så jeg tror kanskje at hvis det er skriftlig det er prat om, så tror jeg kanskje at jeg kan bli bedre.

C

Jeg lærer ganske mye engelsk fra spill, og det er ikke bare at man må spille multiplayer for å lære. Hvis du er ganske interessert i historien, så lærer du ganske mye derfra. … Hvis jeg er interessert i å gjøre forskjellige ting i spillet, så prøver jeg å høre hva de sier. Da kan jeg sitte og prøve å tenke "hva mente han med det ordet?".

Eller i skolen, hvis det er noen få ord jeg ikke har hørt, så lærer jeg det her. Men jeg bruker aldri de ordene nesten, hører aldri noen bruke dem. Det kan være noe sånt skikkelig spesielt, for eksempel "indigenous people".

Jeg kjenner noen folk fra England, USA og fra Russland og alt det der, så jeg snakker engelsk ganske ofte. … Jeg er med på en gruppe der er det crucial å snakke engelsk, og det er en av reglene, ellers blir man kicka ut. Så der er man nødt til å snakke engelsk.

Det er en friendly community, så man bare retter og aksepterer. Det er ikke sånn "han er skikkelig dårlig så han blir kasta ut". … Jeg blir retta om jeg skriver et ord som jeg vanligvis ikke skriver, eller ikke bruker ofte, og noen ganger så blander jeg norsk og engelsk. Jeg retter andre, men bare hvis jeg er skikkelig komfortabel med at jeg kan det, for hvis det jeg sier er feil når jeg retter dem, litt feil, så kan det komme en annen grammar snob som vil krangle.

Jeg er ikke sikker. Kanskje i teksting. Men egentlig, så kan man ikke gå ned i byen og bare snakke og bruke enkelte ord, det funker ikke.

Jo mer jeg lærer meg, jo mer komfortabel blir jeg med å communicate med andre folk. Som for eksempel hvis jeg glemmer et ord—det kan finnes masse forskjellige versjoner av ordet—så trenger jeg ikke bare å prøve og forklare hva ordet betyr eller er, jeg kan bare bruke et annet ord. … Så akkurat nå er motivasjonen min dem jeg gamer med.

Jeg liker å spille, og jeg vet hvordan det er mer negativt for folk som er mer sporty og aktive og ikke spiller så mye, og de tror at alt er negativt. Og på grunn av det så prøver jeg å finne positive ting.

D

Sånn jeg ser det, da, så lærer man gjennom spilling. For eksempel, når man er liten, så driver man med startmenyen og leser tips på nettet om hvordan man spiller.

Forskjellen er kanskje at vi bruker mer pensum, at det er ting som vi gjennomgår mye da, så vi har—vi lærer på en måte det samme om og om igjen.

Til en viss grad. Jeg tror ikke jeg hadde klart meg på bare skoleengelsken da.

Jeg liker helst ikke å spille alene. Spiller helst med venner. Og da snakker jeg også mest med de vennene, på engelsk, selv om de også er norske.

Det handler om å gjøre seg forstått. Jeg kan ikke huske at jeg har rettet noen i det siste i alle fall, eller at noen jeg har spilt med har gjort det.

Man kan lære ved å se på YouTube Let's Plays—man er veldig interessert i å finne ut hva de snakker om, man ser kanskje opp til dem, har lyst til å lære, være interessert. … Litt av poenget med Let's Plays er at man hører på hva de kommenterer underveis, sånn at, når man hører mer og mer på det, så blir språket—man snakker mer som de snakker.

Det kommer veldig an på. For eksempel sånne taktiske, taktiske ord da, de er litt vanskelig å bruke i daglige situasjoner.

Jeg føler ikke at jeg trenger å forbedre meg. Jeg er stort sett fornøyd med nivået mitt. Det holder til det jeg driver med, og jeg har hatt problemer utenlands heller.