Degree Thesis 1
Level: Bachelor’s
Second Language Development through Online Gaming

A Literature Study

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Subject/main field of study: Educational work / English
Course code: PG2051
Credits: 15 hp
Date of examination: 2017-06-09

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Abstract: English is a part of our lives from an early age, and it is important that pupils engage themselves in learning the language. Today many pupils have access to a computer and can play online games in collaboration with others from around the world. This study aims to examine how online gaming can help pupils develop their second language. By studying prior research and analysing the results, it was found that there are several factors which may have an effect on pupils’ second language development. Through online games, motivation increases. Also, the interaction with both native English speakers as well as other second language learners within the games, form immense language input from authentic communication. These findings show that there are possible benefits in playing online games. However, there is a need for much further research to get a clear overview over the possible affects online games have for pupils second language development.

Keywords: Extramural English (EE), Language Development, Second Language Learning, Elementary school, Online Gaming, Interaction
Table of Contents:
1. Introduction .............................................................................................................. 1
2. Background ............................................................................................................... 2
  2.1 The Curriculum of the Swedish Compulsory School ............................................. 2
  2.2 Formal and Informal Learning Environments .................................................... 2
  2.3 Language Development and Motivation ............................................................... 3
3. Theoretical perspective ............................................................................................. 4
4. Material and Method ................................................................................................. 5
  4.1 Database Search Results ...................................................................................... 6
  4.2 Method Discussion ............................................................................................... 7
5. Results ....................................................................................................................... 7
  5.1 Presentation of the Articles ................................................................................... 7
  5.2 Language Development Through Online Gaming ............................................... 8
6. Discussion .................................................................................................................. 9 
7. Conclusion ............................................................................................................... 11

References
Appendix 1

List of Tables
Table 1: Overview over Database Search Process ....................................................... 6
Table 2: Article Presentation ....................................................................................... 7
1. Introduction

In the Swedish curriculum (Skolverket, 2011, p. 9, 30) it is highlighted that school should contribute to pupils’ language development. It should encourage them to be curious and develop a desire to learn. Since language is the greatest tool for communication and learning, knowing multiple languages allows for new perspectives. Furthermore, the English language is widely used in the world, so it is important that the pupils have a chance to devote themselves to learning it.

Most children in Sweden today have access to computers and the internet, both at home and at school. This has been identified by Internetstiftelsen i Sverige (2016, pp. 16-17). In a study conducted in the year 2016, pupils state that they on average have 2.6 computers at home. In addition, 67 percent of the elementary pupils stated that they have their own computer. According to Pinter (2017, p 39), the computer is mostly used for playing games, often in English, which gives children a terrific opportunity to develop their language. Games hold pupils’ attention and keep them motivated to continue playing. Fast (2008, p. 95) says that in addition to keeping pupil’s motivation high, games stimulate listening and speaking. Diaz (2011, pp. 94-95) explains that there are innumerable online games. Part of them can be played as a single-player, multiplayer and MMORPG (Massively Multiplayer Online Role-Playing Game). The last two of them require that players communicate with one another, either by writing or orally. According to Pinter (2017, p. 39), if pupils play multiplayer games, they can ask others for help when they do not understand instructions and thus progress within the game.

Sundqvist (2009, pp. 190-191) defines extramural English (EE) as language activities that learners engage themselves in outside the classroom which is done in their spare time. Activities can, for example, be watching films or watching television, using the internet and playing computer games. In Sundqvist (2009, p. 200, 194) study, it was found that time spent on EE activities plays a role in pupils’ grades. However, it matters what type of activity the pupils engage in. Using the internet, reading and playing games are the activities that contribute the most. Sundqvist (2009, p. 198) claims that this depends on the fact that the pupils must trust their own language skills since there is nothing that offers a direct translation.

During my time at my work placement, I have discovered that many pupils have an interest in computer games, both games they can play in the classroom but also games they play at home. In addition, I personally enjoy playing computer games and have done so since I was in elementary school. Since then, games have evolved a lot. From games which you had to be in the same room to play together with others to a more global gaming environment where you can play with someone on the other side of the earth. Back then, all games where two-dimensional and most games where platform-based and pixelated. Today, the graphics are more realistic. In the old games, the player was not able to move around freely. Old games where also linear and the player had to get from the beginning to the end of the stage. There were a number of stages to complete a game and all of them had different obstacles but looked similar to the ones before. The objective of the game was to complete all the stages and defeat the final boss. These games could be finished in a few hours. Nowadays, gamers can play the same game for years without it ending. Since today’s games have a free-roaming option, which means that you can explore the entire world within the game and are able to do side quests separated from the main story. Gamers therefore have the option do whatever they feel like doing within the game and not be bound to stages. Games today are three-dimensional and there are several options in how you view your character. Gamers can view the game in first-person and third-person as well as changing the angles of the camera as they please. Unlike the old games, in new games it is easier to interact with objects within the game. Also, various games today offer
the option to develop the character, which means the player can increase chosen characteristics of the character. For example, you can increase a character’s skill in battle. This was not possible in old games. The objectives in new games is focused on developing the character to be able to engage in the entire world within the game.

Nowadays children have many opportunities to play games, which makes me wonder how games can affect language development. Are computer games something that can help pupils learn a second language? If so, what do computer games contribute to pupils’ progress? These questions have lead me to be interested in doing research on the topic. The aim of this thesis is therefore to examine the effects of online gaming on the language development of English as a second language in pupils ages 10-12.

- What does previous research say about how online gaming facilitates the development of English as a second language in pupils aged 10-12?

2. Background
In this section, the Swedish curriculum and what is stated in regard to language development will be presented. This section will also describe how the environment and motivation affects language learning.

2.1 The Curriculum of the Swedish Compulsory School
In the core content (Skolverket, 2011, p. 31) it is written that education should relate to the pupils’ everyday life and interests. Skolverket (2011, pp. 7-8, 18) points out that the school aims to offer pupils opportunities to develop and acquire knowledge and the ability to use computers. It should inspire pupils to continue to learn throughout their whole lives. Education should facilitate pupils’ overall development and aim to provide knowledge and skills so that the pupils can function in society. The English language is a big part of the society and Skolverket (2011, pp. 30-31), therefore, highlights the importance of having the opportunity to learn the language so pupils can partake in social environments where English is used. This means that the pupils need to develop their overall communicative skills and the ability to adapt their language to the different contexts.

2.2 Formal and Informal Learning Environments
There is a difference between formal and informal learning. In school, learning is mandatory and organized. Pupils are divided in classes and have a teacher present and the learning is explicit. This means that it occurs through assignments, homework, and is goal-oriented (Lundahl, 2012, p. 40). Folkestad (2006, p. 141) adds that formal learning needs a teacher to organize and carry out the planned activity. In addition to this, Pinter (2017, p. 29) highlights that learning in school depends on discussion in the classroom. For this to be productive, the discussions carried out by both the teacher as well as the pupils needs to be effective to matter. Furthermore, Folkestad (2006, p. 141-142) points out that formal learning also builds on the fact that it takes place in an institutional environment. This also includes the people who have made the decisions regarding what will be learned and, how, and to what degree.

In informal learning environments, people have a choice regarding what to do, when to do it and how it is done. Moreover, the experience of learning is often not something that is obvious, but is rather something that just occurs, i.e. it is implicit. Informal learning does not include a timeframe nor does it have goals to achieve (Lundahl, 2012, p. 40). Pupils encounter people, in school and outside of it, who can help their learning through scaffolding, which means that they are offered support to move on with the task if they get stuck. For example, a teacher or a parent can give support to a child who is learning to count by giving the next correct number or saying
the first sound of the number to help them to move on (Pinter, 2017, p. 28, 11). Lundahl (2012, p. 41) suggests that pupils’ everyday knowledge increases via social interaction and comes from diverse types of input, unlike in school, where the learning is more structured and is divided by subjects. Lundberg (2010, p. 23) state that the vocabulary pupils learn outside the classroom should be processed in school to further develop their language skills. Pupils do not learn the English language all by themselves. Consequently, the importance of extramural English cannot be disregarded.

In our globalized world, pupils encounter the English language everywhere, and it plays a significant role in their everyday life (Allström, 2010, p. 37). Lundahl (2012, p. 39), also confirms the English language’s position in the world. Moreover, Lundahl points out that pupils’ linguistic skills can correlate with all the extramural English pupils encounter. In Sundqvist’s (2009, pp. 191-192) study, it was found that pupils spend up to 21 hours a week on extramural English. The most time was spent on listening to music, followed by gaming. Diaz (2011, p. 103) argues that activities that pupils’ find appealing should be encouraged. If encouraged, it leads to pupils being more motivated and inspired to learn, especially if there is authentic communication in interaction with others.

2.3 Language Development and Motivation

Pinter (2017, p. 38-39) writes that learning is an active progression. Children are more engaged in an activity if they are interested and become more motivated to learn. Pupils learn through play, encounters and by discussing things with others. Pinter (2017, p. 45) adds that our first language comes naturally since it is a part of our lives from the start. However, when learning a second language, motivation becomes more important. In addition to this, the motivation for the second language needs to be maintained, otherwise pupils could develop a negative attitude and neglect it. Lundberg (2010, p. 23, 28) highlight that pupils’ linguistic self-confidence and willingness to learn are connected to how well the material correlates with their interests.

Schwienhorst (2002, p. 205) points out that online gaming is motivating for pupils since they participate in an environment where the interest is shared by others. In addition to this, pupils are engaged in a group activity that requires them to communicate to complete tasks. Pinter (2017, p. 39) also mentions that many games contain a multiplayer option which can be used to talk to and get help from others in order to progress in the game. Additionally, Schwienhorst (2002, p. 205) and Pinter (2017, p. 39) both say that the players in a game have a common language. This is used frequently and is valuable for language learning and development. Aside from this, Pinter (2017, p. 39) points out that there are other language inputs in games. Pupils can receive information from videos, animations and audio in the game.

Diaz (2011, pp. 93-94) explains that there are diverse types of games and that they can be played on different platforms. There are games that are played on a console, for example Xbox and PlayStation, and games which are played on a computer. However, today, most new games that come out are available for both. Diaz (2011, pp. 94-95) describes some categories of games. The first, casual games, are typically short games that do not require much energy or time to complete and are played alone. The second category of games, First Person Shooter (FPS), is one of the most popular game categories. This genre requires more time from the player, who has the option to play together with people worldwide as well as talking to them at the same time. Teams play together online to defeat real opponents within the game. Massively Multiplayer Online Role-Playing Games (MMORPG), are also included in this category, however, that is a sort of role-playing game where thousands of people from around the globe came play at the same time if connected to the same server.
Pinter (2017, p. 16) discusses the difference between learning on your own and learning in a group, and claims that collaboration is based on the impression that is more probable for a group to do better than the individual working alone. When working together, the second language is used more frequently. This may be because anxiety over speaking decreases in a smaller groups, as compared to, when speaking in front of the entire class. Also, pupils can learn from one another in a group. Schwienhorst (2002, p. 205) says gaming can help pupils reduce the affective filter regarding using the English language since this is related to their interest. Sundqvist (2009, p. 202) explains that pupils engaging in extramural English activities, such as online gaming, must be active during the activity and rely on their language skills. Diaz (2011, p. 270) hypothesized that pupils learn using games since their motivation increases. They also become more engaged if they play a role-play game and can see their character progressing.

3. Theoretical perspective
The theoretical perspective on which this thesis relies is the sociocultural theory of Russian philosopher and pedagogue Vygotsky, in which language, progress and learning occur in interaction with others. The social environment has been shown, in both the background reading as well as in this section, to have a significant role on learning. Since online games is a social activity and offer an environment where interaction is possible, Vygotsky’s theory is suitable as the theoretical perspective for this thesis. Also, the theory will be in focus when analyzing the primary sources.

Vygotsky (1978), claims that we learn cultural knowledge, such as language, through collaboration with other, more knowledgeable peers (Säljö, 2011, p. 177, 179). In addition to this, Vygotsky believed that people are constantly in development, both youth and adults. Learning is, thus, human nature (Säljö, 2012, p. 193). The theory also includes the idea that children actively take part in the process of learning, and the social environment is important for their development. Furthermore, Vygotsky proclaimed that all children are unique learners and everyone has learning potential (Pinter, 2017, p. 10).

There are some central parts of the sociocultural perspective that is connected to peoples learning. Two of them are appropriating- and mediating tools (Säljö, 2011, p. 177). Appropriating means that people encounter things and then learn to use them. For example, children learn language and how to use it, as well as writing and behavior through others. Mediating tools are cultural thing we use to think and learn. The alphabet and symbols are examples of linguistic tools, but there are also physical tools such as calculators and pencils (Säljö, 2012, p. 192).

There are two more concepts that are important to the sociocultural perspective. The first one is the zone of proximal development (ZPD). This has to do with the idea that learning is an ongoing process. When pupils have achieved a skill, they are on the verge of learning additional skills. For example, if a pupil has learned the arithmetic of addition, they soon can continue on to learn subtraction (Säljö, 2012, p. 193). Pinter (2017, p. 10) adds that a pupil’s current knowledge can increase with the help of a person, for example an adult, who possesses knowledge not yet known by the pupil. The ZPD builds on what current knowledge the pupil has and what they need help with to reach the next level. Säljö (2012, p. 194) writes about a concept which is connected to the ZPD called scaffolding. Scaffolding is done when a person

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1 The negative emotional variables regarding language development, low motivation, low self-confidence, and high anxiety can cause a mental blockage in the student. A decreased affective filter can facilitate language learning (IGI Global, 2017).
with greater knowledge helps and supports the one who is learning. During this time, the support can decrease as the learners’ knowledge increases and stop when the learner has mastered the skill.

4. Material and Method
This thesis is designed as a systematic literature study. Eriksson Barajas, Forsberg and Wengström (2013, p. 31) explains that a literature study’s aim is to search for literature, thereafter critically review it and later compile the findings. In addition to this, the articles need to be relevant and recent. Eriksson Barajas et al. (2013, pp. 26-27) also point out that it is necessary that previous research has been done and that it upholds a certain standard. Otherwise, no conclusions can be drawn. According to Torgerson, (cited in Eriksson Barajas et al. 2013, p. 28) a literature study includes a detailed description of its method.

The primary sources for this thesis were acquired from multiple search engines available through the University of Dalarna. Before the searches began, keywords were selected. However, since different authors use different definitions, the keywords changed during the search process with the help of ERIC’s thesaurus. Eriksson Barajas et al. (2013, p. 80) describe that the thesaurus, from the original keyword, gives subcategories. This enables new combinations of the keywords and can generate further hits. For example, the keyword extramural English did not work in the database ERIC, therefore other keywords were used (see Table 1).

The databases that were used for searching for primary sources were: Education, Google Scholar, ERIC, PsycINFO and Summon. The databases Education and ERIC contain English texts with a focus on education. In PsycINFO, texts related to pedagogy and psychology can be obtained. Summon is the database provided by the Dalarna University, and contains articles and texts that are available to the university. These databases offer the option of limiting the results to peer-reviewed articles as well as limiting the publication dates. The aim has been to have recent and relevant texts for this thesis. Google Scholar does contain scientific texts; however, it does not have the option of limiting to peer-reviewed texts. This means that texts retrieved from Google Scholar need to be examined thoroughly. All texts were, therefore, also checked on the website Ulrichsweb, which shows whether the journal has been refereed and if it is scientific.

For texts to be relevant and included in this thesis, they had to meet certain criteria. First, they had to be relevant to extramural activities, specifically computer games. Second, they had to focus on second language learners. Third, the articles had to be relatively recent. Therefore, only texts published from 2010 and onwards were deemed relevant. Finally, as seen above, all texts had to be refereed on Ulrichsweb.

The primary sources that this thesis have been built upon is completed by other researchers. Therefore, it is difficult to verify whether or not the research follows the Swedish Research Councils guidelines (Vetenskapsrådet, 2002). Thus, the requirements of the guidelines have been in mind throughout the process of writing this thesis. The Swedish Research Council puts forth four main requirements for the research. Firstly, participants shall be informed about the study’s purpose, which conditions apply and about their right to terminate the involvement (Vetenskapsrådet, 2002, p. 7). Secondly, the researcher needs the participants’ consent to take part in the study. If the participants want to terminate their participation, there cannot be any repercussions. Thirdly, the information collected should be kept in a place where no unauthorized person can get access. Lastly, researchers should not include information in the
study that allows individuals to be identified (Vetenskapsrådet, 2002, pp. 9-13). However, Barajas et al. (2013, p. 70) highlights ethical aspects that are related to literature studies. All the studies that are included in the thesis should be presented as well as presenting all results, which either strengthens or contradicts the hypothesis. Otherwise, the study would not be ethical and therefore deceptive.

4.1 Database Search Results
To find relevant texts the databases below have been searched. Extramural English was the main keyword in the initial searches. However, additional/other keywords had to be used to broaden the findings. Since there are several extramural English activities, the keywords online and gaming was used to minimize unrelated results. Table 1 shows the process followed and selections made in the database searches. For a more detailed overview of the articles, see Appendix 1. Operators are prominent with capital letters. As seen in Table 1, a number of sources were deemed relevant, but ultimately excluded since they did not relate to the subject after reading the full text. In addition, the search in Google scholar was cut short after the second page due to the number of articles.

Table 1. Overview over Database Search Process

<table>
<thead>
<tr>
<th>Database</th>
<th>Keyword(s)</th>
<th>Limits</th>
<th>Number of hits</th>
<th>Relevant text</th>
<th>Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERIC</td>
<td>Elementary school AND online AND game AND language AND development</td>
<td>Peer-reviewed, year 2010-2016</td>
<td>20</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Google Scholar</td>
<td>Extramural English AND online games</td>
<td></td>
<td>2140</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>PsycINFO</td>
<td>English AND online AND gaming AND extramural</td>
<td>Peer-reviewed</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Education Database</td>
<td>Extramural English</td>
<td>Peer-reviewed, last 12 months</td>
<td>12</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Summon (University of Dalarna)</td>
<td>Extramural English</td>
<td>Peer-reviewed, Full text, 2017</td>
<td>38</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Summon (University of Dalarna)</td>
<td>Gaming culture AND computer AND language development AND MMOG</td>
<td>Peer-reviewed, Full text, 2012-2016</td>
<td>53</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>PsycINFO</td>
<td>MMORPG AND language development</td>
<td>Peer-reviewed</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>ERIC</td>
<td>Online AND game AND second AND language AND development AND Interaction</td>
<td>Peer-reviewed, 2012-2016</td>
<td>11</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
4.2 Method Discussion
Due to the short time period given to complete this study, a total of ten weeks, there are definite limitations to the method in this thesis. Because of the limited time, the time to search for and analyse the primary sources was restricted which may have influenced the results. In addition to this, searches with the keyword Extramural English proved to be a challenge in regard to finding relevant text. Furthermore, there were limited studies on online gaming and elementary pupils. Because of the limited results from the searches on elementary pupils and online gaming, other age groups were included. Three of the studies found with other age groups (see Table 2) were included in the thesis, due to the fact that they were relevant to the subject. This may have affected the validity and reliability of the results. Barajas et al. (2013, p. 100) explains that validity refer to the credibility to the results and if the results can be generalised. Reliability refers to if the result will give the same indications if testing again.

5. Results
In this section, the results of the analysis of the chosen primary sources will be presented. The results have been divided into two sections. First, the articles chosen will be presented in form of a table (see Table 2), including a summary of the articles. Thereafter, the research questions, in relation to the articles, will be answered.

5.1 Presentation of the Articles
In Table 2, the seven articles that form this thesis are presented. The studies are organized in alphabetical order.

<table>
<thead>
<tr>
<th>Study</th>
<th>Author, year, country</th>
<th>Summary</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Jensen, S. H. (2017). Denmark.</td>
<td>This study examines the pupils contact with extramural English activities and how they correlate with vocabulary scores.</td>
<td>107 Danish pupils ages 8-10.</td>
</tr>
<tr>
<td>3.</td>
<td>Scholz, K. (2017). Germany.</td>
<td>This study examines second language learners who engage in extramural gaming with native speakers.</td>
<td>14 in total. 12 males and 2 females. Ages 15-37</td>
</tr>
<tr>
<td>4.</td>
<td>Suh, S., Kim, S. W., &amp; Kim, N. J. (2010). South Korea.</td>
<td>This study examines the efficiency of MMORPG in relation to face-to-face education for second language development.</td>
<td>220 pupils. 118 in treatment group and 102 in the control group. Grade 5th and 6th.</td>
</tr>
<tr>
<td>6.</td>
<td>Sylvén, L., Sundqvist, P. (2012). Sweden.</td>
<td>This study examines if MMORPG can provide a rich linguistic environment for second language learners, both in the game but also through interaction with others.</td>
<td>86 pupils, ages 11-12.</td>
</tr>
<tr>
<td>7.</td>
<td>Thorne, S. L., Fischer, I., &amp; Lu, X. (2012). Netherlands and America.</td>
<td>This study is an exploratory study, with focus on World of Warcraft’s environmental settings for second language development.</td>
<td>64 in total, 32 Americans and 32 Dutch students. Ages 26-33.</td>
</tr>
</tbody>
</table>
5.2 Language Development Through Online Gaming

This section provides a summary of the articles focused on language through online gaming. They will be presented one by one and will include the aim, method, and the findings.

Sylvén and Sundqvist (2012, pp. 311-312) conducted a study that examines how time spent playing MMORPG correlates with second language learning. Data was collected from questionnaires and a one-week language diary from 86 pupils. Thereafter, they were divided in different groups depending on how much time they spent on online gaming as an extramural activity. The frequent gamers claimed that they had learned English primarily outside of school and used the language more than the pupils who did not play to the same extent claimed. Sylvén and Sundqvist (2012, pp. 313-314) found that frequent gamers had larger vocabularies and better comprehension skills than the moderate- and non-gamers. These results were collected from a vocabulary test designed by the authors which was built on the 1,000 most frequent English words used. The results indicate, according to Sylvén and Sundqvist (2012, p. 315), that playing online games can facilitate language development, and also, that the amount of time pupils spend on online games can be an important factor for their second language learning.

A study performed in Denmark, by Jensen (2017, p. 8), examined what kind of gaming activities pupils were engaged in, and how these activities correlated with their vocabulary skills. A total of 107 pupils took part in the study. The majority of pupils used game settings that meant that both oral and written language within the game was in English. Tests on vocabulary skills were conducted at the beginning and at the end of a week during which pupils filled in their extramural activities in a diary. The score for pupils who played online games had increased significantly more than the pupils who did not play at all. This shows, according to Jensen (2017, p. 13), a correlation between language development and online gaming. The author also claims that this can be in relation to the pupils’ motivation to understand tasks in the game. Understanding the language in the game can help them make progress and thus motivates them to learn.

In a study done by Sundqvist and Sylvén (2014, p. 10), data was collected from questionnaires and language diaries filled in by 76 Swedish pupils. The results showed that pupils where fonder of playing games in English than in Swedish. The results from the collected data also showed that frequent gamers perceived themselves, in contrast to the moderate and non-gamers, to be good at the English language. Sundqvist and Sylvén (2014, p. 15) discuss that the hours pupils spend on online gaming can affect their second language development. The authors also claim that language development through online gaming can be strongly related to the interaction between players in MMORPGs.

Suh, Kim and Kim (2010, pp. 375-376) conducted a survey and tests on 220 pupils, divided into two groups, to compare English language learning through MMORPGs and face-to-face lessons. However, they did not find any significant evidence that the two methods differed in how well pupils learn English. Noteworthy, though, is that the group who played games outperformed the pupils in face-to-face lessons in the post-tests on listening, writing and reading comprehension. However, the authors concluded that playing games can be a useful tool for pupils learning English as a second language. The results also showed that the most prominent variables for second language learning through MMORPG was motivation, prior knowledge and internet speed.
Scholz (2017, p. 44) examined the effects of extramural gameplay with pupils who had German as their second language, as they interacted with German speakers. A total of 14 pupils completed the study. The data were collected from questionnaires, in-game communication logs, and interviews. The results from the study (2012, p. 52) showed that the environment in the MMORPG gave the pupils a number of opportunities to communicate, as well as giving them a lot of language input. Scholz (2017, p. 53) claims that prior knowledge of the game itself is an important key to successfully developing a second language through online gaming. Otherwise the focus may be on the game itself and the tasks at hand, not the interaction with other players. Scholz (2017, p. 54) highlights that pupils who engage in online games where they encounter like-minded people with common interests can benefit from it in their language development.

Ryu (2017, p. 288-289) examined how six, non-native English speakers and online gamers took part in language learning within the game as well as beyond the game (communities, chats etc.). The data were collected from observations and interviews with the participants. In the study, Ryu (2017, p. 292) found that second language development takes place via the context of the game. Nevertheless, focus on learning the language was set aside to complete tasks, when no interaction occurred. Ryu means that merely gameplay does not help advanced learners in developing a language, but can be a tool for beginners. Ryu (2017, p. 293) states that frustration over the game leads players to seek others with whom to discuss problems. Since the players have a common experiences and interests, it is easier to interact in English. Even though players’ focus is on progressing within the game, the interaction facilitates their language development.

Thorne, Fisher and Lu (2012, p. 290) examined the linguistic environment of MMORPGs, specifically World of Warcraft. They found that there can be both simple and more complex language within a game. In their study, Thorne et al. (2012, p. 292), collected data from 64 players in the form of questionnaires and interviews. The answers given showed that the majority of players used external sources to help them progress with the game. On websites that discuss the game, players could search for, and were able to ask questions to gain information on how to act to complete quests. Thorne et al. (2017, p. 297) claimed that language development comes from an exposure to language that feels meaningful to the learner. Moreover, there also needs to be opportunities for communication since this immensely facilitates language development. In addition, Thorne et al. (2017, p. 298) adds that interaction through online gaming helps language learners to come in contact with authentic language, which also can be a crucial part of motivating pupils to learn a second language.

6. Discussion
In this section, the method of this thesis will be discussed. Also, the results will be compared and discussed in relations to the aim of the thesis, which was to examine what previous research says about how pupils can benefit from engaging in online gaming in regards to second language development. Also, the theoretical background of the sociocultural perspective will be compared to the findings.

The results show that there can be a correlation between language development, in pupils ages 10-12, using online games. However, the results are in disagreement over what is the largest contributing factor for language learning through the games.
The reasons why motivation occurs are disputed in the findings of the studies included in this thesis. Both Sylvén and Sundqvist (2012) and Jensen (2017) pointed out that language development was facilitated through frequent online gaming, since the pupils were engaged in the game and were eager to complete the tasks given and continue the game. Suh et al. (2010) also stated that motivation had an important part in pupils’ language learning. This factor was also prominent in the background reading. Pinter (2017, p. 45) illuminated that, to learn a second language, motivation played a huge role. Lundberg (2010, p. 28) concurred and added that it was of great importance that the material used for learning appealed to the pupils’ interests. However, Scholz (2017) claimed that the level of motivation was because of the interaction between the players. When players interacted, they used a mutual language which was linked to the game and the tasks at hand. The impression from the theoretical background reading as well as these findings is, that it is important that pupils take part in something that they are interested in, and do so in interplay with others. Common experiences that bring joy to the participants, are possibly easier to absorb and can become useful knowledge.

The impact online gaming had on increasing vocabulary skills emerged in some of the findings. Jensen (2017) highlighted this result from a vocabulary tests conducted in the study, and stated that pupils who played games had higher scores than the pupils who did not engage in this activity. Sylvén and Sundqvist’s (2012) tests also showed an increase in frequent players’ vocabulary scores. In contrast, Suh et al. (2010) claimed that there was no difference between pupils who played games and the pupils who had regular classroom activities, regarding language development in general. However, Suh et al. declared that online gamers in fact scored better in the listening, writing, and reading posts-tests than the non-gamers. This means that online games can be useful in developing comprehension skills and to some extent facilitate pupils’ vocabulary. Though, there is not consensus among the results, online games do have an impact on language development.

Skolverket (2011, p. 30-31) stated that pupils’ language development depends on the fact that they are given occasions where they can practice. Thorne et al. (2012) agreed, and stated that opportunities to engage in communication are a central part in language learning. Sundqvist and Sylvén (2014) mentioned that the time pupils spend on online gaming gives them numerous chances to interact and develop their language. Similarly, Ryu (2017) also pointed out that online games offer players a lot of language input. Both within the game itself, but also in the communities that discuss the game and strategies to use to progress. Players who are stuck in the game can, as seen from the sociocultural perspective (Säljö, 2012, p. 192), use the forums as a mediating tool and appropriate more experienced players’ ideas to continue their own game. Ryu (2017) states that the common interest makes it easier for the players struggling to seek contact and interact in English. The development of language in this interaction can, according to Sundqvist (2009, p. 198), be that pupils rely on their own language skills to communicate with others to understand what to do next within the game. From what these authors discuss, it is clear that opportunities to communicate are one of the most crucial parts of language development. It is hard to learn a language just by reading. There need to be occasions where you can actually interact with someone else and practice the language in a real social context. Online games, with the option to talk to others, are a terrific way to practice a second language.

Vygotsky’s (1978) sociocultural perspective built on the idea that learning occurs via interaction with other people (Säljö, 2011, p. 177). This seems to be something that several authors presented in this thesis agree upon. In the background reading, both Pinter (2017, p. 39) and Diaz (2011, pp. 94-95) stated that online games offers opportunities for players to
interact. In addition, Lundahl (2012, p. 41) and Schwienhorst (2002, p. 205) mentioned that social contacts within groups increases linguistic skills. In the primary sources, the importance of interaction is prominent in Sundqvist and Sylvén’s (2014) study as well as in the study conducted by Thorne et al. (2012), which also claimed that the authentic language present in online game interaction facilitated language development. Similarly, Ryu (2017) stated that focus shifts from language learning to the game itself if there are no opportunities to interact within the game.

Other findings also emerged in the analysis in this thesis. For example, Ryu (2017) found that online gaming is not as important to already skilled second language learners as to the beginners. Moreover, Suh et al. (2010) say that games can be a great tool for introducing pupils to a second language. In addition to this, both Scholz (2017 and Suh et al. (2010), claimed that the language development derived from prior knowledge of the game. Internet speed was also a factor mentioned for language development through online games in the study conducted by Suh et al. (2010). This result was important because of the effect it had on motivation. The authors drew the conclusion that players became frustrated if there were problems with the internet since it disrupted the communication with other players. This response is, very likely, easily recognisable by many of us.

7. Conclusion
To conclude, this literature study has found answers to the research question. Facilitating pupils’ language development in their second language learning through online gaming is possible according to the findings in the primary sources. However, there is room for improvement regarding strengthening this result. Greater validity and reliability could be achieved if more time would have been given to examine various primary sources more thoroughly. The results have highlighted some important factors for facilitating second language learning, but they are not consistent in what factors contribute the most.

Motivation is by far, in my opinion, the most important key to learning a second language. The majority of the results from the primary sources also indicate this. Pupils who have an interest in online gaming can therefore become highly motivated by playing. To share an interest with others, and to be able to discuss this with people from around the globe, gives pupils a great opportunity to interact with authentic language. I also believe that the common interests make it significantly easier to speak in comparison to being in a classroom. Nevertheless, it is clear that further research needs to be done to truly determine the long-term effects online gaming has on language development. Additionally, there are few studies on younger pupils and how they could benefit from online games. The longitudinal studies could confirm, or contradict, previous findings and thus be useful when forming future revisions of the Swedish curriculum. Further research could also, possibly, contribute to helping parents to become more involved in this activity as well as helping teachers to incorporate this interest in the classroom. With the findings in this thesis, teachers may open their minds and feel more confident in bringing online games into the lessons. However, it is important that teachers familiarize themselves with the games and comes to term with how they can be used in their classrooms.
References


## Appendix 1

<table>
<thead>
<tr>
<th>Articles</th>
<th>Theory used</th>
<th>Main concepts</th>
<th>methods of data collection</th>
<th>analysis methods</th>
<th>main findings</th>
<th>quality?</th>
<th>strengths</th>
<th>Weaknesses/limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Sylvén, L., Sundqvist, P. (2012)</td>
<td>Second language acquisition (SLA)</td>
<td>Extramural English, L2 proficiency, SLA, digital games.</td>
<td>Piloting of tools? Questionnaire, one-week language dairy</td>
<td>Quantitatively, using statistical software</td>
<td>Gaming can be important for L2, frequent gamers excel more than moderate and they outperform non-gamers.</td>
<td>Diary and questioners corroborated, before and after- a vocabulary test.</td>
<td>Homogenous group (4 had other L1)</td>
<td>Self-reporting, remembering how many hours spent. 86 pupils</td>
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<td>2) Sundqvist, P., Sylvén, L, K. (2014)</td>
<td>Second language acquisition (SLA), computer-assisted language learning (CALL)</td>
<td>Computer games, English language learning, ESL</td>
<td>Data collected from a pilot study from 2012, Questionnaire, one-week language dairy</td>
<td>Quantitatively, using statistical software</td>
<td>More gaming in English than Swedish, popularity of different extramural activities, involved in extramural activities, gender differences,</td>
<td>Reliability – ok, more girls than boys.</td>
<td>Medium-sized town, in city, outskirt, countryside</td>
<td>Filling in the diary, pupils forgot. But had time to do that in school. Only 76 participants</td>
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<td>3) Suh, S., Kim, S. W., &amp; Kim, N. J. (2010)</td>
<td>Language learning, online game, massive multiplayer online role-playing game (MMORPG), elementary students</td>
<td>Two groups. Treatment group was playing MMORPG the control group had face-to-face classroom.</td>
<td>Multivariate analysis of variance</td>
<td>no significant difference between the treatment and the control groups in English learning achievement. MMORPG outperformed control group in listening, reading and writing.</td>
<td>Classes conducted by a researcher. Same content but different ways. Survey and tests with high reliability.</td>
<td>High numbers regarding participants, 118 in treatment group, 102 in control group</td>
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<td></td>
<td>Author and Year</td>
<td>Study Overview</td>
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<td>4)</td>
<td>Hannibal Jensen, S. (2017)</td>
<td>Extramural English, young learners (8-10), second language vocabulary learning, SLA. Language diary. Coding input in excel. Data analysis done with Stata 14.0. Most time spent on gaming, music and television. Gaming with oral and written input enhance the vocabulary skills. A vocabulary test was done before and after this study. Reliability-ok. It was done during a specific week, but the pupils filled in the diary well. Pupils did not have that much in English in school before the study (1 hour/week). Five different schools participated.</td>
<td>112 participants. Only done over a specific week.</td>
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<td>5)</td>
<td>Scholz, K. (2017)</td>
<td>Digital game-based language learning, complex adaptive systems. Participants play ten hours/week. Questionnaire before starting. Transcription of the conversation done in the game. Questionnaire after as well as an interview. Heatley and Nation’s RANGE. Text parsing web-based software. The environment of gaming can help L2 learners with their language development. Includes tables. Reliability is okay, it is done over four months. The author has done preparatory work and follow ups after. Done over four months. Good tables to follow the research. Many hours spent on the study by the participants.</td>
<td>Only 14 participants. 12 males and 2 females. The study is on non-German learning German.</td>
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<td>6)</td>
<td>Ryu, D. (2013)</td>
<td>Activity theory. Gaming culture, beyond-game culture, activity theories. Computer-mediated communication. Observation, interview via email, self-reporting. CMDA. Gaming facilitates language development, both words and phrases. More fluent language. Reliability, good. It is hard to observe but the self-reporting helped with that. However, the results cannot be generalized. Because of the small number of participants, the research could examine the language learning on a deeper level.</td>
<td>Only six participants.</td>
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### Appendix 1

|   |   |   | Texts, read or written, influences engagement in the game. |   |   |   |