



UNIVERSITETET I AGDER

Computer Games and ESL Learning

A scientific literature review with hypothetical classroom sessions

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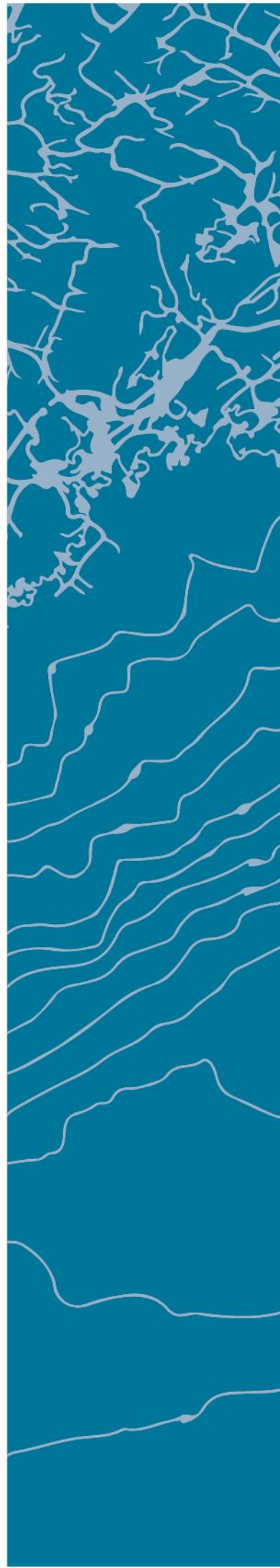
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Abstract

The aim of this thesis is to explore scientific literature on the use of computer games as a tool for second language learning, and to use reviewed literature to create hypothetical classrooms sessions in which computer games are used as a tool. Therefore, the thesis question is “What does scientific literature say about the improvement of ESL skills among gamers? Moreover, might this information be helpful in the Norwegian English language classroom?”

The work is structured as a three-part study, whereas the first is a literature review on studies related to computer games and language learning. The second part is about didactics; where relevant didactic principles are discussed and related to the studies reviewed in part one. The third part is a set of hypothetical classroom sessions based on the findings from part one and the didactic principles discussed in part two.

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1 Introduction

Computer games have always been a fascination of mine. One can always find something creative or fun in almost every single game. A computer game can appeal to so many different feelings and emotions, and can serve as entertainment like any other new media. My exposure to games started in the mid-1990's, coincidentally right when school started. While games developed at a rapid speed, gaming stayed a hobby throughout my education. However, computer games (with this shortened to game(s) if nothing else is specified) never had a place in the classroom. Of course, gaming in the classroom at my time of education might not have been reasonable, either. Firstly, games, as we know them today, were under-developed and under development, meaning they probably would not serve the same purpose they could do today. Secondly, teachers did not know games. Some teachers might have played computer games; however, there were no signs of transferring that interest into the classroom. Nevertheless, times have changed, and both games, teachers, and students have developed. I hope that someday soon, Norwegian schools are ready to take on computer games as a tool for learning English.

2 Methodology

In this master thesis, I intend to investigate gaming as a tool for learning English as a second language. While some simple games are being used in schools today (e.g. *Kahoot* and *Quizlet*), these will not be the focus point of this thesis. While *Kahoot* and similar game-like features in school do serve its purpose, as a game it presents itself as highly limited – both in interactivity and most likely for language learning. Hence, a question arises – can there be room for “real” computer games in Norwegian schools and the English classroom? My immediate answer is yes. Several other countries use games as a tool for English as a second language (with this ESL) learning today. By scouring the field of ESL learning, be it forums, articles or books, one can find both scientific literature and anecdotes about gaming as a tool for language learning. Therefore, there should be room for it in Norwegian schools as well. Considering this presumption, my main question for this thesis will be:

"What does scientific literature say about the improvement of ESL skills among gamers? Moreover, might this information be helpful in the Norwegian English language classroom?"

There could have been several different approaches to an investigation of improvement of ESL skills among online gamers. However, for this short thesis, a dive into the literature already written about the topic seems the most reasonable if not the most doable. Another approach could have been an experiment. This would have had to be something along the lines of taking a group of students out of class to instruct them in a game and do a pre-test in a specific field of the English language before they play the game for a set amount of sessions. After the sessions, the group would do the same test, and one could measure whether they did/did not improve and in what grade they improved. However, this approach is

problematic. One point is that there is a likelihood that one cannot establish the pre-requisites (ethics, instructions, et cetera) within the framework of a 45-credit thesis. Additionally, by doing a gaming experiment with students (teens), one of two things could happen - 1) "Established" gamers would join and could create a manipulated and subjective result. 2) Everyone wants to join because it is gaming (based on the presumption that children enjoy games). Considering both the opportunities, experimenting seems less informational than using the existent literature. There are other approaches one could have considered, e.g., observe and evaluate classes at Norwegian schools. However, based on the presumption that schools do not use games that much today, this approach falls into the same category as the experiment approach – not reasonable or not doable.

As for the structure of the thesis, the plan is to divide the thesis into three distinct parts. The first is the literature review, where prominent studies on computer games and language learning will be brought up and discussed. Also, some space will be used to explain terminology and computer games jargon as well.

Part two will consist of a review of relevant didactical principles. These principles will then be discussed with computer games as a tool for English second language learning and the studies from part one. And part three will be a set of hypothetical sessions to support the idea of using computer games as a tool for English language learning in the Norwegian English classroom.

3 Part one: Literature review

For a thesis that will revolve around scientific literature about computer games as a tool for ESL learning, the literature itself must be substantial. Luckily, there is considerable research on the subject. Therefore, my task will be to choose what literature best informs my thesis - literature that revolves around online gaming and ESL learning. Online gaming is a big field, with many new titles every year, but the most widely played is still *World of Warcraft* (with this WoW). Some of the literature will inevitably revolve around ESL learning through WoW, but to broaden the focus of the thesis, other titles will be discussed.

Additionally, the latter part of my thesis will be reserved for my own experience as a teacher in practice. In this segment, the intention is to see whether online gaming could have been used as a tool in the teaching to fluctuate the language learning positively. By combining theory and my own experience, the plan is to create a series of hypothetical lessons built around a specific online game in the Norwegian classroom.

As proposed in the introduction to this thesis, teachers did not (visibly) know games in the 1990s and early 2000s. There could be several reasons to support this; however, one of them is that the scientific literature about computer games and ESL learning were merely scarce until the introduction of mainstream Massively Multiplayer Online Role-Playing Games (MMORPG) like *World of Warcraft* (WoW) in the mid-2000s. Therefore, it seems reasonable to exclude literature on the subject pre-2004 (WoW released in November 2004). To support that decision, an argument can be made that articles from 2003 and earlier would revolve around games that cannot be played or just are not played today. However, there is plenty of research on computer-assisted language learning and an abundance of literature on narratives in games that were written before the emergence of MMORPGs and other modern games. Therefore, pieces of literature from older times could also make its appearance in the thesis to define terms or to draw something comparable to today.

3.1 Explaining MMO(RPG)s

As this thesis aims to find evidence, whether computer games can be used as a tool for second language learning, describing and explaining the most prominent genre within the field of education, feels mandatory. Firstly, the term "MMORPG" needs to be divided for an easier understanding. The first three letters, "MMO," is an abbreviation for Massively Multiplayer Online. The fact that a game is called an MMO means that a player base of some number is playing the same game on the same platform simultaneously. Typically, an MMO gives players the opportunity to "meet" each other online in a virtual world created by the game developer. Besides, if a game is an MMO, it requires the player to be connected to the internet (almost exclusively), since many of the elements in the game revolve around co-operating with other players. Players must also connect to a server, which is done through the internet.

The second part of the term "MMORPG" is not mandatory in many instances. "RPG" stands for Role Playing Game, and while many MMOs tend to be a role-playing game, it is not always the case. A role-playing game is by definition a game where players take the role of a fictionalized character. This character is usually called an "avatar," a term that will be discussed in later segments. The "RPG" of "MMO" is merely there to set the scene, e.g., *World of Warcraft* where the scene is a fictional world called "Azeroth," filled with humans, elves, orcs, and monsters, battling with and against each other. Role-playing games are usually heavily story-driven, where players and their characters play towards a goal set from the story. Another example is *Star Wars: The Old Republic*, an MMORPG set in the Star Wars universe.

Nevertheless, there are examples of MMOs that do not contain any RPG at all. The most prominent example is *Second Life*, a game in which the goal from the developer side is to create a virtual 3D world filled with players who can partake and create a second life. It is

important to note that the creators of *Second Life* do not consider their creation a game, but it certainly has many game-like features, and it does reflect many attributes of an MMO.

However, it does not contain any elements of role-playing, except for the fact that the player creates an avatar before entering the world. Other than that, *Second Life* has no goal or story; it is a world where everyone is free to do whatever he or she wants, e.g., talking to others through chat, go on trips or even opening businesses and buying real estate.

The MMORPG genre of games have been used extensively in several studies in and around education and language learning; hence it is essential to understand the term before going further in this thesis. While games like the ones explained in the last paragraphs are particular examples of a typical MMORPG and MMO in general, there are a plethora of games within the genre. Several segments of this thesis will talk about specific games that are not necessarily the major players in the field like *WoW* and the *Star Wars* franchise of MMO-games.

3.1.2 Explaining *World of Warcraft*

Since *World of Warcraft* is such a big part of both this thesis and computer games in general, this section is a description of what the goal of the game is, different terms from the game and so on.

World of Warcraft (WoW) is as previously mentioned an MMORPG. It is the biggest of its kind and has been the significant MMORPG since its release. When a player starts the game, he/she is asked to create a character. This character will be the player's personal avatar. He/she can choose to play as different races (humans, elves, orcs et cetera) and classes (warrior, priest, mage et cetera). When the character is created, the player is ready to enter the world.

In WoW, there are several different goals. The most primary goal is to reach the maximum level of experience. Experience is measured in levels, and every player starts at level 1. By completing different tasks, slaying monsters and finishing dungeons (more on dungeons later), the players gain a portion of experience that adds to their level until they reach the maximum level. Initially, the maximum level in WoW was level 60. These days, after several expansions of the game, players can reach level 110. The experience needed to reach a new level grows exponentially, so the first levels are much faster than the later levels. An average level takes about one to one and a half hour to complete.

As mentioned, players can earn experience by doing different tasks. One of the activities is called dungeons. These dungeons are a group activity which requires a minimum of five players, in which these players work together to finish the dungeon. In a dungeon, players will find monsters that they have to slay and possibly puzzles that they have to solve. A typical monster in a dungeon will be much more difficult to slay than a regular monster, hence the requirement of a group to complete.

The reason why reaching the maximum level of experience can be called the most primary goal of the game, is that many players will argue that a big part of the game starts when maximum level is reached. At maximum level, players concentrate on getting better equipment by slaying more monsters, finishing more dungeons and so on. By getting better swords, helms, and belts, players are more suited to take on more challenging tasks such as raids, which is a group activity of 10 to 25 players where the goal usually is to slay a boss.

World of Warcraft is a massive game with an immensely big world to discover. It takes years to master and is built so that it is never indeed completed. Therefore, a player can always log in to the game and have something to do. It is never-ending, but also time-consuming. In this thesis, most focus will be on small portions of the game that can be used as a tool for language learning.

3.2 Computer Assisted Language Learning

In this segment, emphasis will be put on terminology in and around computer-assisted language learning (CALL). Also, Massively Multiplayer Online Role-Playing Games will be introduced incoherence to ESL learning and CALL.

3.2.1 Defining CALL, CASLA and other important terms/acronyms

To understand the concept of computer games as a tool for language learning, it is important to know from where it stems. Long before the computer was a household product, researchers were testing the field to see if the computer had this potential. Examples of CALL (Computer Assisted Language Learning) can be dated all the way back to the 1960s (Chapelle, 2001). These projects were the first to use computer equipment and software for learning a language. That said, the field of testing was not as full as it is today, much to the fact that computers as we know them today just were not designed yet. These people used large terminal computers that bear a resemblance to the ones we use today. However, they were limited and most probably designed for a specific purpose (e.g., library database). Hence, one can put the research done before the introduction of personal computers into another era, and not exactly relevant for my thesis. Nevertheless, CALL, which sprung out of these older computers, is relevant for what follows.

Language teachers did not get their hands on computers before the 1980s. This gave an opportunity for CALL to develop further, and some individuals became interested in fields like computer-assisted language testing (CALT) and computer-assisted second language research (CASLR). These terms might be relevant later in my thesis, and are introduced here as a part of this history "timeline." However, the main priority and activity were still CALL (Chapelle, 2001). Additionally, the subject of computer-assisted second language acquisition (CASLA) became relevant and worked with more extensively. As computers developed

rapidly through the 1980s and 90s, CALL and CASLA research became more prominent, too. While few of the experiments from the 1980s and 90s focused on gaming precisely, one can probably look back at the material and results found from early experiments and support, e.g., gaming and ESL learning experiments, since many of these experiments told something about the potential of learning language through the computer.

3.2.2 Massively Multiplayer Online Role-Playing Games and ESL learning

In the last 15 years, several researchers have raised questions about MMORPGs and their potential for second language learning. Mark Peterson is one of them in his article published out of Kyoto University in December 2010. Peterson mentions already in his introduction that the use of computer games in education has been a focus for researchers for a long time (Peterson, 2010). He continues to cite different researchers like Aldrich and Ang & Zaphiris, which will be discussed and worked with later in this thesis. However, unlike many other researchers who mainly focus on the phenomenon of CALL (Computer Assisted Language Learning) in general, Peterson focuses on the specifics of an MMORPG. This is interesting in many ways, and with the abundance of games available to everyone today, a form of narrowing in the shape of genre choice does concretize the literature and results for the reader.

Peterson characterizes MMORPGs as an incorporation of many of the features of earlier role-playing games (Peterson, 2010). Role-playing games itself is a significant term, though, considering one can role-play in so many different areas like tabletop (*Magic: The Gathering*), live action (LARP), and of course regular role-playing computer games like *BioShock* or *Fallout*. Nevertheless, Peterson probably regards any form of previous RPGs as an influence on the modern MMORPG. A typical example of a modern MMORPG is *World of Warcraft*, a game that “retain the use of fantasy themes based on character role-play, real-

time communication with other players, interaction with non-player characters and progression in the game through completion of tasks known as quests” (Peterson, 2010). In addition to this, MMORPGs are played online. Players are by default connected to a server, and they play with or against each other in an online environment.

There is nothing new about the necessity of communication between players to accomplish something in a role-playing game, however, in a modern MMORPG a player can communicate in different channels. A player can choose to speak through, e.g., the implemented in-game voice chat or third-party voice programs like *Skype*, *Ventrilo*, et cetera, or he can choose to write in order to communicate with other players. The difference between spoken and written language in games is something that will be focused on later in the thesis. Nevertheless, the factor of communication is high in an MMORPG. To quote Peterson, "MMORPGs appear as promising arenas for language learning" (Peterson, 2010, p. 431).

In his article, Peterson analyses three different studies done on the subject of language learning through computer games. One of them is a case study done by Thorne (2008) where a native speaker and a non-native speaker of English played *World of Warcraft*. This study focused its analysis on the subjects in the game and game-related interaction. As presented before, WoW is built on a concept where in-game interaction between players is possible and at times mandatory to succeed in the game. The participants played the game together for thirty minutes, and Thorne found that a range of activities involved in language learning was identified, and target (English) language dialogue with negotiation, self- and other-initiated correction was present. In reality, this means that the participants asked and answered questions related to the game in English. In addition, Thorne found that the participants, who had not played the game before, established a supportive relationship where they had to use target language collaboration in order to solve game-related tasks (Peterson, 2010). Through a

post-study interview, Thorne found that the participants claimed that "they found the game enjoyable and that their motivation for language study was enhanced." (Peterson, 2010).

The second study is one done by Rankin, Gold, and Gooch (2006). Here, a group of ESL learners played the MMORPG *Ever Quest II*, a game that shares many similarities to other games within the same genre. The goal of the research was to explore if participation in gameplay and real-time interaction with player and non-player characters (AIs) would increase the English proficiency of the participants (Peterson, 2010). Additionally, the researchers wanted to establish whether the game (*Ever Quest II*) provided adequate language learning support for ESL learning. Rankin et al. found that a majority of the participants had enhanced their English output and vocabulary understanding after four sessions of four-hour gameplay. However, in the group of participants, there were different levels of proficiency in English. The researchers found that the participants with a low-level proficiency experienced difficulties with the multiple competencies required (technological and language competency). Rankin et al. claimed that this suggests that *Ever Quest* as a game does not provide the learning support for ESL learning necessary for beginners and should be restricted to higher level students. Later in this thesis, different genres and platforms will be presented and discussed in support of this claim.

The third and last study Peterson analyses is another one done by Rankin and others (2009). This study investigated the in-game interaction between 18 native speakers of Mandarin and eight native speakers of English. The game in focus was *Ever Quest II*. All participants (both ESL learners/Mandarin speakers and native English) were based in the U.S. This study had a slightly more advanced analysis technique. A language instructor selected 12 low-frequency words that were utilized in non-player characters' speech to supply information on tasks during gameplay. The participants were randomly assigned into three groups after an initial orientation period to measure learner acquisition of the 12 words. Six of the ESL

learners attended three hours of regular classroom education; another six ESL learners played the game for four hours, and the last six were divided into three groups who played the game with three groups of native speakers for five hours. Analysis of a post-test and its scores showed that the group that played the game themselves and with the native speakers had a significantly higher understanding of the target vocabulary than the regular education group.

Typical for all three studies was that the researchers were focusing on chat interaction. Chat interaction in computer games can be divided into two main channels – text (written) and voice (spoken). Written interaction usually happens through chat windows, much like online chat forums, implemented into the game. A game like *World of Warcraft* even has an advanced channel system, separated personal messages, phrases one want to shout out to everyone and channels such as a general chat for a specific area in the game. Voice interaction, on the other hand, is more often than not reserved for third-party, voice communication programs such as *Skype*, *Ventrilo*, and *TeamSpeak*.

While two of the studies focused on in game-related dialogue precisely, the third was a study on specific words and vocabulary. Ultimately, Peterson concludes that the analysis he conducted draws attention to positive findings. He writes that the findings reported by Rankin et al. (2006b) and Thorne (2008) does show the beneficial effects of participation in network-based gaming regarding enhanced production of target language output (Peterson, 2010, p. 436).

However, one can discuss *how* the participants in these studies learned. Peterson writes in support of the positive findings:

"These studies emphasize that the communication context provided support social interaction based on the operation of collaborative interpersonal relationships. The positive learner feedback indicates that for a majority of subjects, inhibition was reduced, while enjoyment and motivation appeared to be enhanced by the game-based interaction. These studies contain evidence suggesting that interaction in an MMORPG facilitates situated learning involving collaborative dialogue, negotiation, and self-repair" (Peterson, 2010, p. 436)

This citation is a fair starting point for a discussion. In the first sentence, Peterson is saying that the communication context, gaming with others, support social interaction because it is needed. The game(s) that were played requires an amount of social interaction and/or communication for the players to succeed.

Peterson writes that for a majority of subjects, inhibition was reduced. This could mean that the participants felt welcome and safe in the environment. It might support the claim that computers can be a safe arena for language learning. This claim will be reviewed later. Furthermore, Peterson states that the findings indicate that enjoyment and motivation appeared to be enhanced by the game-based interaction. This statement might be self-explanatory since games are by default made for entertainment. Not to say that something made for entertainment cannot be used for educational purposes, which is precisely what Peterson suggests in his findings.

Finally, Peterson states that the studies he has looked at contain evidence that interaction in MMORPG facilitates situated learning involving dialogue, negotiation, and self-correction. This is a definite claim. Peterson is projecting an idea that the findings suggest that MMORPGs, computer games, facilitates important parts of language learning. He mentions collaborative dialogue, negotiation, and self-correction. This makes sense, though, as

collaborative dialogue merely is needed for progress in games such as MMORPGs.

Negotiation might be necessary for many situations, but especially in situations where players are co-operating and try to decide on where to go. For instance, players have to make arguments for why they think, e.g., going north in the game would make sense. Self-repair could also be necessary for MMORPGs. A player might have to adjust their statement towards other players, by switching words or say something completely different to make sense and carry meaning.

Overall, Peterson makes strong claims based on three studies towards positivity in using MMORPGs for language learning. However, what does not appear evident, is how the participants in the different studies are communicating. Whether they communicate through written chat or by voice chat/direct speech is unclear. However, based on the studies' layouts one could presume that the communication going on between participants were of an oral nature. It would be interesting also to do a study based on, e.g., written communication only or voice chat only, to see whether it would result in different findings regarding language learning.

3.2.3 More studies on MMO(RPG)s and Language learning

Even though Peterson brings up several prominent studies on MMORPGs and language learning, and one could probably support the idea of it just by looking at those studies, there is undoubtedly more research on the subject. To strengthen the support of using computer games as a tool for language learning, more studies will be brought up and reviewed in this section.

As briefly touched upon previously, there is evidence that language learning with computer games can be more effective than that of traditional classrooms. Zhang et al. (2017) note that:

"Applying MMORPGs to foreign language (FL) or second language (L2) learning has become a research focus in that, gamers/learners immersed in MMORPGs learning context are more relaxed and motivated to interact with peers or gaming instructions (Bytheway, 2014), and they outperform those attending traditional classrooms in terms of language skills." (Rankin et al., 2009; Suh et al., 2010; Kim et al., 2013)

While Zhang et al. (2017) relies on one of the studies that Peterson reviews as well (the Rankin study), they also bring up studies done by Suh et al. (2010) and Kim et al. (2013). Especially the study done by Suh et al. (2010) is ideal to bring up in this context. This study investigated the effectiveness of MMORPG-based instruction in elementary English education in South Korea. The effectiveness of this instruction was then compared with face-to-face instruction (Suh et al., 2010). They then examined independent variables like gender, prior knowledge, the motivation for learning, self-directed learning skills, computer skills et cetera to see how accurately achievement was predicted in MMORPG instruction. Suh et al. (2010) remark that:

“The results indicated that students studying English utilizing online role-playing games showed higher scores in areas of listening, reading, and writing than those who attended face-to-face instruction classes. It was also found that prior knowledge, motivation for learning [...] were factors affecting achievement in English learning. These findings suggest that MMORPGs can play an important role in improving English communicative skills.” (Suh et al., 2010)

An impressive result in Suh et al.'s study is that while many factors played in on the effectiveness of learning, the results showed that the computer's network speed was interpreted as more important than motivation for learning in contributing to English achievement (Suh et al., 2010). The study's results show the importance of a stable internet connection, good network speed and optimal computers for games.

Suh et al.'s findings only strengthen the results of previously mentioned studies. However, it is important to note that while previous studies such as the Rankin study was examined with older students, while the Suh et al. study based their findings on an experiment with elementary school children. Nevertheless, if one broaden his or her perspective, there are studies in all ages that support the idea that MMORPG games could work as a useful tool for English-language learning. Another remark is that the Suh et al. experiment was conducted with Korean children. However, one could argue that the same effect could be transferred in the Norwegian English classroom if second language acquisition is seen as a general term and not specific in its first language's nature.

Overall, most studies on computer games (and especially MMORPGs) show evidence that they can be efficiently used in a second language learning environment. The next sections will concentrate on literature related to specifics in MMO games and language learning. Additionally, a short segment on computer games addiction will be included.

3.2.4 MMOs as an arena for language learning

As presented in 3.1, there is a slight difference between MMORPGs and MMOs. While MMORPGs focus more on the role-playing part of a game, an MMO is strictly a Massively Multiplayer Online game. MMOs can be games that try to replicate the real world in a virtual world, especially illustrated in games like *Second Life*. That said, an MMO and an

MMORPG bear more resemblance than differences, as the player still enters a virtual world through an avatar. Whether a straight MMO leans more towards the game-play aspect of games or not, is a question that will be discussed later. Nevertheless, recent research suggests that MMOs/MMORPGs have educational potential (Delwiche, 2006).

An article by Aaron Delwiche (2006), discusses how gaming in the classroom can be a good way of learning. On the contrary to regular classroom teaching and learning, gaming can be placed into Lave and Wenger (1991) and the situated learning theory. By situated learning and gaming, Lave and Wenger mean, in the words of Delwiche:

“They argue that learning, thinking and knowing emerge from a world that is socially constructed. Meaning is contextual, and learning is what happens when individuals become increasingly involved as participants in social communities of practice.”

(Delwiche, 2006, p. 162)

By looking at classroom learning through the situated learning theory, gaming as a tool for learning seems reasonable. Games can engage, but what games by default do is to interact with and involve the user. Even if a game is poorly designed or little appealing, it may still involve the user in socially meaningful interaction. In that context, a well-designed MMO with challenging tasks could be used as a learning tool.

As previously mentioned, many MMOs take place in a massive virtual world. Players can usually move around freely in these worlds, without the restrictions that come with more linear games like regular role-playing games or other genres. Nevertheless, to move around in the world, players need a controllable unit. This is where an MMO usually obliges players to create personalized digital personas called "avatars" (Delwiche, 2006). Depending on the game, an avatar can be customized through several different variables, e.g., body size,

hairstyle, eye color, nose et cetera. The customizable character or avatar is in many cases unique to the individual player, which could give a sense of ownership to the character, but it also gives the player an opportunity to mask himself without revealing his or her real persona or identity.

Delwiche (2006) refers to Castranova when he defines the features of virtual worlds as interactivity, physicality, and persistence. Additionally, he adds a fourth characteristic. The virtual world is safe, in more than one way. The first and most obvious reason is that players, through their avatar in a game, can and probably will face multiple dangers within the game (monsters, jumps, criminals, et cetera). The fact that we are dealing with the fictionalized dangers in games, and that players are distanced from the dangers since they are experiencing them through the screen and not in real life, both add layers of safety. Studies have shown that games can be useful therapy against several phobias and anxiety-related disorders, e.g., agoraphobia, or arachnophobia, the fear of spiders (Vincelli et al., 2003). As Delwiche (2006) states, safety is crucial to any learning environment. In the classroom, a safe learning environment to improve and motivate learning can be found through games.

3.2.4 Computer games and addiction

It is important to note that while this thesis does not focus on gaming addiction, it is evident that there are problems related to computer games and addictive behavior. The idea of this thesis is to use computer games as a tool in the Norwegian English classroom, and not necessarily encourage free play. Therefore, the addiction aspect that most likely would be more prominent in a free play scenario is not as relevant since the teacher and the school can control and restrict the amount of playtime. Nevertheless, a short segment reviewing the literature on the subject should have its place here.

Computer games and especially MMORPGs have a history of bringing out some adverse effects such as excessive playing or gaming addiction (Zhang et al., 2017). In fact, computer gaming addiction has become so prominent that it earned its place in the DSM-5 (Diagnostic and Statistic Manual of Mental Disorder), published in 2013 (Petry & O'Brien, 2013). There have been many studies on the subject the last years, but familiar to most of them is that even though they find evidence of a probability of addiction, they also mention the positive effects of computer gaming. Aside from "problematic gameplay" (Sublette & Mullan, 2010), often leading to social isolation, increased aggression and negative academic and occupational consequences, many gamers find positive aspects to video gaming such as enjoyment, feelings of achievement, friendship and a sense of community.

Since this thesis does not concentrate on the addiction aspect of computer games, seeing, as it is not particularly relevant for the constructed scenarios purposed, later on, my intention is not to dive further into the studies done on such addiction. Nevertheless, it is probably important to note that there is an addiction aspect to computer games as with almost everything else.

3.3 Narrativity in computer games

Computer games usually tell a story. Whether it is deep, involving or engaging like an ambitious Role-playing game or an arcade-like game where the goal is to get from start to finish, it probably tells a story. This segment will explore games and their ability to tell stories.

3.3.1 Games and their storytelling: MUDs

As previously mentioned, computer games usually tell a story. Some might think that this is a new phenomenon with modern role-playing games and so on; however, history shows that games have told stories for a long time. Of course, there is little evidence of a clear story

in a game like *Tetris* (1984) or *Pacman* (1980), but alongside these arcade-titles, several games with a story to tell were developed as well. For example, in the 1970s and 80s, *Multiple User Dungeon* (MUD) games were popular. One can say that many modern day MMOs and RPGs found inspiration from and developed out of MUDs. These games are text-based, and they give players the opportunity to interact with each other through online chat. MUDs used elements from role-playing games and interactive fiction and created a virtual world out of text/descriptions. The term “MUD” needs to be further explained. It can be an abbreviation for *Multiple User Dungeon*, but it can also be short for *Multiple User Dimension* or even *Multiple User Dialogue*. However, a typical definition, whether it is seen as a dialogue, dimension or dungeon, is that a *MUD* is a computer program that users can log into and explore. Every player or user takes control of a digital avatar/character. The player can walk around, chat with other players, explore areas, solve puzzles and create (rooms, items, etc.) (Mudconnect, 2000). There were several different MUDs present through both the late 1970s and 80s, but familiar to them all were that they told a story to the players.

3.3.2 *Zork* – A special MUD

To illustrate what a MUD might look like, a good example would be *Zork* (1980). A game developed at MIT in 1977, *Zork* was initially made for the PDP-10 mainframe, a large and unobtainable computer system for the mainstream audience. However, after the game became popular at the Massachusetts Institute of Technology (MIT) campus, it was released in commercial versions during the 1980s and sold more than 800,000 copies (Woyke, 2017).

Zork is not unique in that it sold well, nor that it is a MUD that reached the mainstream audience either. In the game, the player enters a virtual world with his character and is faced with different tasks. There are no graphics and no pictures to illustrate what the scene looks like – it is purely text-based. The player is usually faced with a description of the

surroundings, e.g., the area, objects nearby etcetera. However, where *Zork* stands out from many other MUDs of the time is in its writing. The four MIT students that created and developed the game were liberal in their choice of words, to the point where they played with language just as they played with computers (Woyke, 2017).

```
Kitchen                               Score: 10   Moves: 5
West of House
This is an open field west of a white house, with a boarded front door.
There is a small mailbox here.
A rubber mat saying 'Welcome to Zork!' lies by the door.

>go north
North of House
You are facing the north side of a white house. There is no door here, and all the windows are barred.

>go east
Behind House
You are behind the white house. In one corner of the house there is a small window which is slightly ajar.

>open window
With great effort, you open the window far enough to allow entry.

>enter house
Kitchen
You are in the kitchen of the white house. A table seems to have been used recently for the preparation of
food. A passage leads to the west and a dark staircase can be seen leading upward. To the east is a small
window which is open.
On the table is an elongated brown sack, smelling of hot peppers.
A bottle is sitting on the table.
```

A screenshot of the first few steps of Zork I, as played by the author of this thesis.

Zork was and still is a unique game. As illustrated above, the player can type in simple commands such as "go north," "open window" and "enter house" much like other MUDs. However, since the game was available on ARPANET (Advanced Research Projects Agency Network) at the time it was released, a network which can be described as the precursor of today's internet, a vast interest across the U.S. established, and by overlooking what kind of commands players put into the game to make progress, the developers implemented frequently used commands. That way, the game became interactive in many ways.

3.3.3 MUDs and language learning

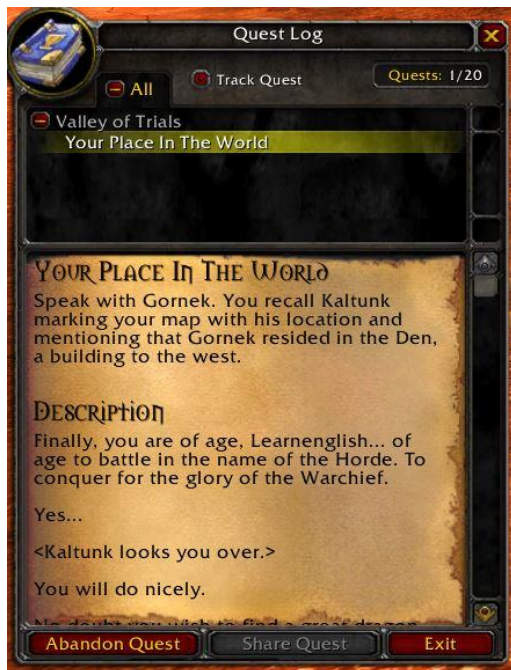
MUDs are important to this thesis in many ways. Firstly, it is the bright beginning of what later developed into MMOs, which is the focus of both computer games in the thesis and the studies related to computer games and language learning. Secondly, MUDs can still be played, and provide a text-based English gaming environment. Therefore, one could argue that it could be used with language learning, too. Before moving back to the modern computer games, it could be interesting to look at just that language learning potential. While there are many modern studies on MMO games and language learning, there are not too many recent studies on MUDs. However, according to several early 2000 studies on the subject, MUDs can also be used as a tool for second language learning. While MUDs will not be focused on further in this thesis, it could be of interest to know that the genre, which can be seen as an early developed kind of MMO, has been studied and used in a language learning environment. One could also argue that *Zork* and other MUDs contain some of the elements required in order to facilitate language learning, e.g. English text.

3.4 Quests in computer games

In 3.2.2, findings from Peterson's article about MMORPGs as arenas for second language learning were discussed. The findings suggested that the game-related communication between the participants of the studies had a positive effect on their second language learning. While it is suggested that the communication between the participants had a positive effect, the article does not necessarily focus on the general gameplay. A question that arises is; what if a game such as *World of Warcraft* is played alone. If a second language learner is playing the game by himself, with no support whatsoever (co-participants, etc.), what happens then? *World of Warcraft* is an immensely big and advanced game. However, if

we look at some of its core concepts, we might be able to discuss whether the game itself can facilitate language learning.

A player starts *World of Warcraft* by creating a character. This is merely a case of switching hairstyles, choosing a race, naming the character and so on. In this part of the game, there is probably not any language learning involved. However, when a player has finished creating his character, he is ready to enter the world. The absolute first object that meets a player inside the world is an NPC (Non-Player Character) that gives him a task. Tasks are called quests in *World of Warcraft*.



A player's first task in WoW. The screenshot is taken from within the game by the author of this thesis.

As illustrated above, the player is faced with a task given by the game. To complete the task, the player has to understand it. In this specific task, the player is asked to speak with a character called "Gornek." Furthermore, the task tells the player that Gornek's location is marked on a map and that he resides in a place called "the Den," a building to the west. To put this in the context of understanding sentences and their concepts, a player probably

understands "Speak with Gornek." However, the next sentence is describing Gornek's location in different ways. Firstly, it advises the player to look at the map for clues. Secondly, it states that Gornek resides in the Den. The player can observe the scenery and look for the Den if he knows the word. To support this, the task adds that the Den is a building to the west. If the player knows directions in English, he would probably be able to look to the west and find his goal.

Every quest/task in the game is probably not as intuitive as the one illustrated above. However, what it suggests is that while the player needs a basic understanding of the language in the game (English), it simplifies the language to a level where players of different levels of understanding might be able to complete the task.

3.4.1 More on *World of Warcraft*

World of Warcraft is not just quests, however. Other resources in the game work in concert with quests. Zheng et al. describe the in-game experience well when they say that:

"Players manipulate their avatars to perform actions such as attacking, healing, or taking the treasure from slain enemies. Quest and game logs explain what players must do to complete a quest and situate the quest within the larger lore of the game world. In addition, WoW's text chat box and system logs present important information to players. The system logs of players' actions display dynamic information from non-playing characters (NPCs) as in-game dialogue. The chat box allows sending and receiving messages visible to different groups of players. Players can take as much time as they need to construct messages, and other players tolerate errors in spelling or syntax, which is advantageous to language learners' in-game communicative competence." (Zheng et al., 2015, p. 774)

As Zheng et al. states, the chat box in WoW allows sending and receiving messages to other players. This chat box is not much different to other chat functions such as *Facebook Messenger*, *MSN Messenger*, and other more dedicated chat rooms online. However, where it differs, is in that this chat box is directly linked to an in-game environment. Players might have more incentive to write something, they might have more questions, and they might even have a higher motivation for answering questions (showing knowledge of the game). Additionally, as stated above, players can take as much time as they need to construct messages. Zheng et al. write that other players tolerate errors in spelling or syntax. Whether that is true in all situations is not proved, yet a chat box where the writer does not get the usual red underline when they make an error in spelling might be advantageous to the learner's communicative competence. Furthermore, the receiving end of the message (the other player) might tend to be more lenient and accept spelling mistakes due to the nature of the conversation. If the idea of the chat box is to make progress in the game, the primary goal must be for the players to understand each other and communicate on a level where they both feel competent. Whether that is with or without correct syntax, is not necessarily essential. Having said that, one could argue that a land of chatting where mistakes are 1) not corrected and 2) accepted, might not encourage progress in language learning. The chat box feature is something that will be looked at in a fictional session in part 2.

3.5 Other genres of computer games

While much of the emphasis in this thesis will be directed towards MMO games, other types of games should be discussed and involved, as well. This is not necessarily to widen the approach, but rather to emphasize that just because MMOs might strike as the most natural

component to language learning in the Norwegian English classroom, there are other types of games that could be a viable option, too.

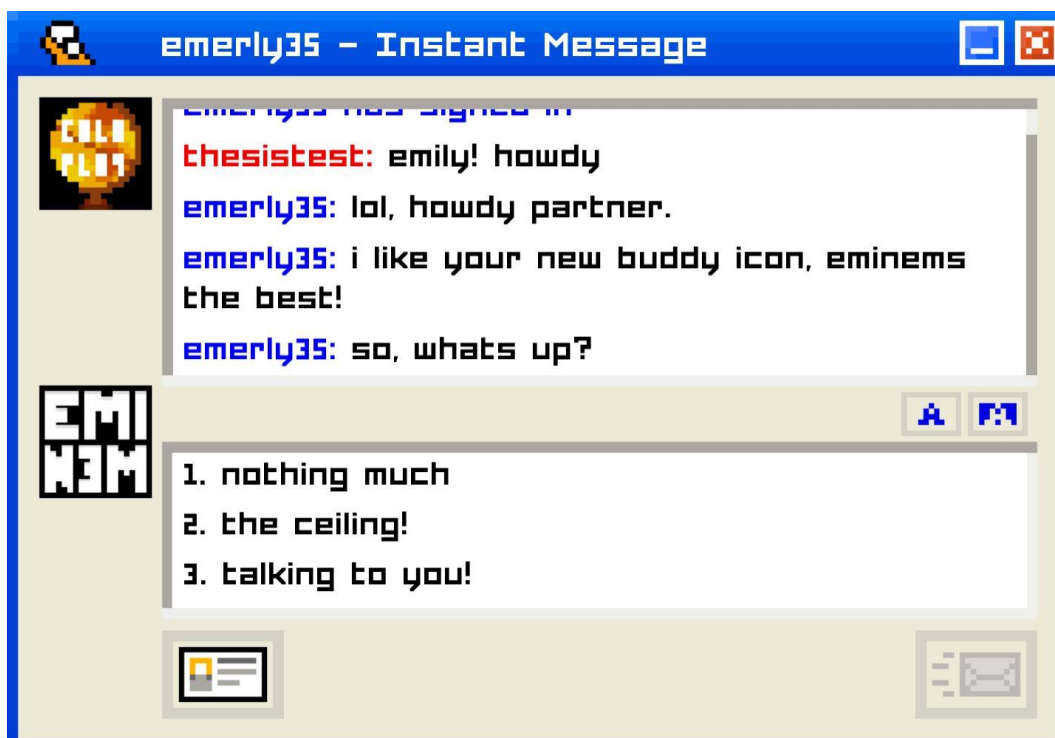
3.5.1 Visual novels: *Emily is Away*

One genre is visual novels. These games are usually set up with a linear story plot, where the player interacts, e.g., by choosing alternatives to drive the story forwards, causing different outcomes. A small, free-to-play game of this nature is *Emily is Away* (2015). In this game, the player creates a screen name and joins the mid-2000 computer life of Windows XP and MSN Messenger. The player talks to Emily, a fellow student at his high school, and experience the story of two teenagers through online chatting from early high school until the end of high school. How the player decides to respond to different messages and conversations with Emily, leads to different outcomes in the storyline.

While visual novels, and for the sake of argument *Emily is Away*, does not require the player to learn or grasp advanced controls or a deep lore to play the game correctly, it is still a computer game. The player only needs to be able to use a keyboard and have necessary writing skills. From what gathered earlier, there is little research on the subject of visual novels and language learning. However, one can argue that many of the arguments supporting MMOs and language learning, apply for visual novels, too. For example, if MMOs can function as a safe arena for learning, can visual novels do the same? Let us take *Emily is Away* as the example in this context. In this game, the player is not required to create an avatar but is given a pre-constructed one at the start of the game. Therefore, the player takes a role of a character. Similar to other games such as MMOs, the player enters a virtual world, even though this particular world might resemble a more real world than other different games. In this virtual world, the player gets the opportunity to talk to an AI, disguised as Emily, and makes progress in a virtual friendship. Consequently, one could say that a game

such as *Emily is Away* is giving support to a safe learning environment where the player is free to use both written language skills and social skills to make progress. If the player fails to make progress with Emily in the game, it does not affect friendships in real life.

As mentioned above, *Emily is Away* could support written language learning. However, the game does not require any oral skills. The game can be completed with no oral communication at all; with the reason being that the whole game is played within an MSN messenger-like program. Therefore, in a language learning environment, one could argue that this game can be seen as quite one-dimensional. Nevertheless, if the focus is to improve written language skills, one could support that *Emily is Away* (and other visual novels) can function as tools for improvement in written language skills.



The player's first interaction with «Emily», the title character of the game. Screenshot taken from the game by the author of this thesis.

When playing *Emily is Away*, one often faces SMS language. The messages are often short, without correct punctuation or punctuation at all, and abbreviated words such as "lol"

and so on. A discussion could be made whether an environment with this sort of language encourages a student/player to learn wrong spelling et cetera. However, as for making conversation in writing, *Emily is Away* provides just that.

3.5.2 Puzzle games: *Keep Talking and Nobody Explodes*

While some games do not require any co-operation with other players at all, like *Emily is Away* from above, there are games where the absolute main component is co-operation. In fact, some games cannot be played without working together as pairs or groups. One of these games *Keep Talking and Nobody Explodes*, provides a need for intense and continuous oral communication. *Keep Talking and Nobody Explodes* is a puzzle game where a minimum of two players work together to defuse a bomb. One player is the "bomb defuser," while the other player(s) work as "manual reader(s)". The game is presented in levels, where all levels give a timer (e.g., five minutes) and a set number of modules to figure out in order to defuse the bomb. Consequently, the bomb defuser and the manual reader has to work together to defuse the bomb. They have to solve the puzzles together through oral communication, as written communication just would not work in this context.



One of the bomb puzzles from "Keep Talking and Nobody Explodes", as seen from the bomb defuser's perspective. The screenshot is taken from actual gameplay by the author of this thesis.

What makes this game interesting in the context of language learning in the Norwegian English classroom is first because the game offers an opportunity and a necessity to be vocal. Here, the players need to use their oral language skills in a gaming environment. While it is not wholly free speech, as the topic of conversation (the bomb) is given, this game requires the players to explain modules and solutions from the manual in a way the other player understands. This oral communication could be helpful in improving English oral language skills. Furthermore, as the players have to understand each other, the game leads to adjustment and self-correction in one's speech.

"OKAY":	MIDDLE, NO, FIRST, YES, UHHH, NOTHING, WAIT, OKAY, LEFT, READY, BLANK, PRESS, WHAT, RIGHT
"WAIT":	UHHH, NO, BLANK, OKAY, YES, LEFT, FIRST, PRESS, WHAT, WAIT, NOTHING, READY, RIGHT, MIDDLE
"PRESS":	RIGHT, MIDDLE, YES, READY, PRESS, OKAY, NOTHING, UHHH, BLANK, LEFT, FIRST, WHAT, NO, WAIT
"YOU":	SURE, YOU ARE, YOUR, YOU'RE, NEXT, UH HUH, UR, HOLD, WHAT?, YOU, UH UH, LIKE, DONE, U
"YOU ARE":	YOUR, NEXT, LIKE, UH HUH, WHAT?, DONE, UH UH, HOLD, YOU, U, YOU'RE, SURE, UR, YOU ARE
"YOUR":	UH UH, YOU ARE, UH HUH, YOUR, NEXT, UR, SURE, U, YOU'RE, YOU, WHAT?, HOLD, LIKE, DONE
"YOU'RE":	YOU, YOU'RE, UR, NEXT, UH UH, YOU ARE, U, YOUR, WHAT?, UH HUH, SURE, DONE, LIKE, HOLD
"UR":	DONE, U, UR, UH HUH, WHAT?, SURE, YOUR, HOLD, YOU'RE, LIKE, NEXT, UH UH, YOU ARE, YOU
"U":	UH HUH, SURE, NEXT, WHAT?, YOU'RE, UR, UH UH, DONE, U, YOU, LIKE, HOLD, YOU ARE, YOUR
"UH HUH":	UH HUH, YOUR, YOU ARE, YOU, DONE, HOLD, UH UH, NEXT, SURE, LIKE, YOU'RE, UR, U, WHAT?
"UH UH":	UR, U, YOU ARE, YOU'RE, NEXT, UH UH, DONE, YOU, UH HUH, LIKE, YOUR, SURE, HOLD, WHAT?

A small part of the bomb manual, which the manual reader is given at the start of the game. The screenshot is taken from bombmanual.com, the manual readers' reference point.

While *Keep Talking and Nobody Explodes* can be enjoyed without a specific focus on language learning, it still contains elements that indirectly requires the players to understand the English language. One example is one of the modules called "On the Subject of Who's on First," which is also illustrated above. The bomb defuser sees a display box that shows a word, e.g., "UR," "UH HUH," "OKAY" et cetera. The manual reader then has to find that word in a list. Then, the manual reader reads a line of words like "right," "middle," "yes," "ready" and so on. On the display box, which only the bomb defuser can see, there are six additional words. To defuse this particular module, the bomb defuser has to click the first word that the manual reader says and that shows as one of the six words on the display box.

By only looking at the way the players find the solution to the module, by talking to each other back and forth, one can probably see a language learning potential. However, if one includes that this module also uses homophones (e.g., your, you're, ur), it further expands the potential for learning.

Keep Talking and Nobody Explodes is similar to the previously mentioned *Emily is Away* in that it does not require the players to be fluent with computer games. However, this is where the similarity stops. *Keep Talking and Nobody Explodes* does not require the players to write at all, but it does require them to be vocal and communicate with each other. Much like MMO games and as previously discussed helping each other to achieve a goal, *Keep Talking and Nobody Explodes* does this as well. Players can both correct each other and themselves, and with the help of each other, they might be able to reach the goal (defuse the bomb). A game like this can probably be used to improve oral English language skills specifically, but the way the game is set up also gives the opportunity for the player to learn English in general. Especially in the way that they use homophones, for example.

3.6 Communication

This short section will explain the term “VOIP”, before discussing communication in games. 3.6.2 will comment on the requirement of communication within certain games and genres, differentiating the aspect of oral communication and written chat.

3.6.1 VOIP

VOIP stands for "Voice over Internet Protocol." It can be used in many ways, but in the context of this thesis, VOIPs are programs designed to communicate orally with each other over the internet. There are a plethora of programs of this kind. One of the most used worldwide is a program called *Skype*. Many know *Skype* as an alternative to landline/cell

phones, as one can use it as a computer phone to reach, e.g., family living in a foreign country to avoid expensive calls abroad. However, *Skype* can also be used in a gaming environment, where one person can call another person's or a group's computers to create a group call online. Once the group call is established, participants are free to speak with each other while, e.g., playing a game.

In 2015, an application called *Discord* was released. With slogans such as "It's time to ditch Skype and TeamSpeak" and a description of an "All-in-one voice and text chat for gamers that's free, secure, and works on both your desktop and your phone"(discordapp.com) it indeed aimed to establish itself on the market. *Discord* became an immediate success, and many gamers now use it as their primary communication tool when playing games. *Discord* works differently than *Skype*. There are no calls to be made, but channels (much like chat rooms) to join. These channels are either voice or text channels or both. Everyone can create these rooms, and the creator decides whether everyone who wants to join can, or if he wants to have it password protected so that only a selected group can join in.

VoIP programs is a significant part of computer games these days. Although not exclusively made with gamers in mind (some are; *Discord*), they act as the perfect supplement for games, and gamers embrace the existence of programs such as *Skype* and *Discord* every day.

3.6.2 Communicating in games: oral and chat

As described above and earlier in the thesis, different games provide and require different opportunities for learning. While some games focus on the written part of the language (visual novels), other games cannot be played without oral communication (puzzle games, specifically *Keep Talking and Nobody Explodes* in this thesis). In addition, there are games that do both, while more or less requiring both elements of the language, as well. MMOs, as discussed earlier, does require the player to communicate with others in most

situations. Whether the player has the opportunity to or chooses to communicate orally or through written chat, is up to the player himself or the game's functions.

What could be interesting is to look at a game's potential to support oral or written language learning. In that context, MMO games could be the most suited, as they support a bit of both. For example, in *World of Warcraft*, the player *can* play by himself; only communicate with AI's, do tasks for himself and read tasks given. If the player chooses to play the game like this, he will not use or improve his oral language skills. However, by playing the game and doing different tasks and so on, he would probably improve in written and general English skills. Nevertheless, if a game like *World of Warcraft* is played to its fullest potential, the player communicates with other human beings on a daily basis. A player can choose to communicate through the chat boxes in the game or to use VoIP programs such as *Skype*, *Ventrilo* or *Discord*. By using the communication tools that are designed for games such as *World of Warcraft*, one could argue that the game supports improvement in both written *and* oral language skills and could be considered as a legit tool for such learning.

4 Part two: Didactics

Part one of this thesis includes and builds on strong suggestions that computer games can have a potential for second language learning. In this segment of the thesis, basic second language didactic principles will be brought up in order to support and discuss computer games' viability in second language learning. It will be structured in a way where we first look into second language learning as a term and different approaches to development in second language learners. Secondly, it will have a segment where these principles and approaches are discussed and measured against computer games. In this segment, some space will be reserved for the discussion between chat and oral English, as it might be important to split the two into separate parts of the second language, especially concerning computer games. Lastly, the material from the whole thesis will be used in order to create a set of teaching sessions using computer games as the primary tool.

4.1 Language learning

There are many different views on how languages are learned, and especially how they *should* be learned. This thesis does not have its primary focus on different approaches to language learning; however, it is important to establish an understanding of some of the more common beliefs in language learning and its processes. Therefore, 4.1.1 will introduce some of these beliefs as a supplement to later discussion and implementation in the thesis.

4.1.1 The process of language learning

As described above, this thesis does not focus on the process of language learning specifically. However, it is important to touch upon the topic to discover what studies have shown, both to understand the language process and to put it in context with computer games and language learning. One widespread discussion is the one between nature and nurture. On

the one side is the behavioristic Skinner, while we find Noam Chomsky on the opposite side. These two studied the process of language learning with different perspectives. Skinner, who believed that human learning came derived from social and cultural experiences that influence us, viewed language and language learning as:

"Language in all its essentials could be and was taught to the young child by the same mechanisms which he believed accounted for other types of learning. In Skinner's case, the mechanisms were those envisaged by general behaviourist learning theory – essentially, the shaping of "habits" through repeated trial, error and reward. From this point of view, language could be learned primarily by imitating caretakers' speech."
(Mitchell et al., 2013, p. 61)

In Skinner's view, humans (and any other species) have no innate ability to understand a language. Therefore, one can say that Skinner, and others akin, believe that language learning is a process solely based on nurture. Contrastively, we have the perspective of Noam Chomsky:

"Chomsky, on the other hand, has argued consistently for the view that human language is too complex to be learned in its entirety from the performance data actually available to the child; we must, therefore, have some innate predisposition to expect natural languages to be organized in particular ways and not other. For example, all natural languages have word classes such as nouns and verbs, and operations which apply to these word classes. It is this type of information which Chomsky doubts children could discover from scratch, in the speech they hear around them. Instead, he argues that there must be some innate core of abstract knowledge

about language form, which pre-specifies a framework for all natural human languages. This core of knowledge is currently known as Universal Grammar." (Mitchell et al., 2013, p. 61)

Chomsky's view represents that of an innatist perspective. According to the Chomskyan view, humans are born with an abstract knowledge of a language. There is still an ongoing discussion about which view is the most correct; however, child language specialists now generally accept the basic notion of an innate predisposition to language (Mitchell et al., 2013, p. 61). As for this thesis, the most important to note is that there are different views on how languages can be acquired, and these different views might be more or less suitable for computer games as a tool for language learning. Chomsky's belief that some part of the language is innate spawns the term Universal Grammar (with this UG). While the concept of UG might not directly affect the potential of computer games as a part of didactics, it does facilitate a thought that the exposure to a second language through computer games can be effective already from an early age. If some part of languages are innate, one could argue that exposure to second languages in games can affect and improve learning without the introduction to a language by e.g. a teacher.

Another concept of language learning is one developed by Lev Vygotsky. He worked with children with special needs in Russia in the 1920s and believed that children could co-construct learning within zones. Vygotsky called this concept "the zone of proximal development" (ZPD). Swain et al. write, "Vygotsky believed that children could co-construct their learning and their eventual development with the assistance of an "expert" and appropriate mediating artifacts. The difference between what an individual achieves by herself and what she might achieve when assisted is known as the zone of proximal development or the ZPD." (Swain et al., 2011, p. 16) The concept of ZPD is heavily based on

that of sociocultural theory, which differs from both Chomsky and Skinner in that it focuses on a child's ability to acquire a language or merely learn with the assistance of an expert. This expert is often an adult and/or a teacher; however, this is not necessarily always the case. The use of computer games as part of ZPD will be discussed in 4.2.

As introduced above, there are several different approaches to language learning and its processes. It is not of this thesis' interest to support or criticize any of them, but to establish a connection between didactics and computer games; it is important to see where the games would fit.

4.1.2 Different learners

Second language learning can start at any age. However, *when* the learning/acquisition starts might result in a different approach to it. Lightbown and Spada (2013) discuss this when they write, "young second language learners are often allowed to be silent until they are ready to speak. They may also practice their second language in songs and games that allow them to blend their voices with those of other children. Older second language learners are often forced to speak from the earliest of days of their learning, whether to meet the requirements of classroom instruction or to carry out everyday tasks such as shopping, medical visits or job interviews." (Lightbown & Spada, 2013, p. 38) This thesis revolves around children at the age of 12-16, which would probably put them in between young and old language learners if we were to use those terms. This might make sense since children at the ages of 12-16 can probably fit the description of being silent until they are ready to speak, but they might also during this period of four years be forced into situations where they *have* to speak. Another aspect of the differences in learners is that children between the ages of 12-16 might be at vastly different development stages, both in maturity and second language skill level.

Therefore, it must be important to approach the second language at an individual level, to give the children the best possibility of learning.

4.1.3 Conditions for learning

In part one; safe arenas for learning were brought up concerning MMO games. It has been thoroughly researched that children have a better opportunity of learning if they are faced with the correct conditions. One can discuss what these conditions are, but an excellent place to start this discussion is with Maslow's hierarchy of needs. A. H. Maslow, a psychologist prominent during the 1900s, wrote in 1943 about a hierarchy of needs, which included five motivational needs illustrated within a pyramid. The first level, physiological needs, revolves around being able to breathe, eat, drink water, wear clothes et cetera. This is the most basic level, and luckily, not something many are struggling with in Western countries (or Norway). The second level can be called the safety level. A child's health, family, and social stability come in at this level. It is still basic needs, and every child *should* have good health, a stable family, and positive social life. However, if the child does not experience safety at this level, they cannot move to the next levels, which are usually dubbed psychological needs.

The third level of Maslow's hierarchy revolves around love and belonging and builds on the aspects of the first two levels. To move on from here, a child must feel a sense of belonging, be it family or friends. If the third level is in order, one can move to the fourth level, which revolves around esteem. To move on from the esteem level, a person must have a good self-esteem, with confidence and not least respect of and by others. In the context of discussing these levels, it is natural to comment on them in relation to the games brought up in this thesis. For example, *World of Warcraft* is a game where the player can and in most situations do form supportive communities, which may directly support the levels presented

above. A player in the *World of Warcraft* universe may feel a sense of belonging through communicating with other players within the game. What is even more interesting, is that this sense of belonging and the forging of interpersonal links are forged primarily through language. In the case of second language learning, this only further supports the idea that a game such as *World of Warcraft* might be suited as a tool for such learning.

If the four levels above are fulfilled, a person (or in this context, a child) can move on to the top level of self-actualization. This is where a child can act with morality and creativity while knowing that they are loved, belong and have every aspect of physiological and psychological needs in order. Not to say that this is always achieved in Norwegian schools, and a teacher will probably meet difficulties at several of these levels. However, a country like Norway and the Norwegian school system probably makes up for conditions that could result in a child being at the upper level of the hierarchy of needs, in general.

Maslow's hierarchy of needs directly translates into the school in many ways. Although several of the levels must be fulfilled by other sources than just the school, teachers and other children, the school and the teacher have the opportunity to give the child the needs to be able to learn.

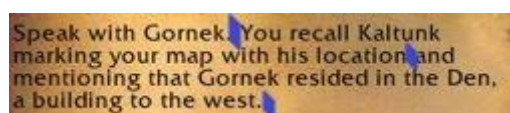
4.2 Computer games and didactics

In this section, emphasis will be put on connecting computer games with the didactics introduced above. Naturally, most of the focus will be on the computer games and genres that have been brought up in the thesis already.

4.2.1 The zone of proximal development and computer games

As presented above, the zone of proximal development (ZPD) is the zone in which a student or child can learn with guidance or aid. It is the proximal zone between what the

student can do without any help, and what he/she cannot do at all. A natural thought is to think of said guidance or aid as a teacher or a more educated person. However, this might not be a necessity. Let us put ZPD in the context of *World of Warcraft*, and establish what the game has to offer as aid or for guidance in the context of English second language learning in the Norwegian classroom. Firstly, *World of Warcraft* is a virtual world of English. Whatever the player may choose to do, he/she is faced with English interactions and directions. It is far from “home” for a second language learner in that one cannot look for clues in or translations to the first language. However, as mentioned earlier in the thesis, *World of Warcraft* moderates text to familiarize the player. E.g., if a player does not understand the first lines of a quest text, he/she can continue reading to either connect the dots through reference points (directions such as north or west and so on) or to look for a more thorough description with a more simplistic language (less words, shorter sentences). Naturally, not every second language learner in the Norwegian English classroom will be at the same level of development. However, a case can be made that the way quests in *World of Warcraft* are built supports a zone of proximal development for second language learners at almost every level.



Quest text in WoW presented in three «levels» marked with blue. The screenshot was taken by the author of this thesis from the game.

As illustrated above, a quest text can be divided into several parts. It is important to point out that wherever the learner reaches an understanding of his or her task, the game has assisted with other sources of guidance, for example, teachers. An advanced learner of English might be able to understand the task by reading the first sentence, "Speak with Gornek." The learner who understands the task at this level might have seen Gornek earlier in the game or heard mention of his name in some other dialogue. Another learner might go on

to read the second part of the text, "You recall Kaltunk marking your map with his location." This learner understands that the person that gave him the task (Kaltunk) has marked the location on a map. Therefore, this learner might be able to resolve this task by opening the map and realize that he should follow that mark. The third learner might read the whole quest text, and the final lines "and mentioning that Gornek resided in the Den, a building to the west." This learner might not necessarily understand that a location is marked on his map. However, directions such as "west" might be something that even the most basic learner understands, and a learner of this level might be able to connect the dots in the quest text to something along the lines of "Find Gornek. He is west". Nevertheless, the game's quest texts have the potential to assist in a way that one can support the idea that *World of Warcraft* can work in a zone of proximal development. On the other hand, one could also say that by looking at a game such as *World of Warcraft* through the definition of the zone of proximal development, only strengthens the argument made by Rankin as presented earlier in the thesis; that computer games might not facilitate learning for students or children at the absolute beginner level of their development. However, by looking at *World of Warcraft* in relation to ZPD, one could say that there are opportunities for a vast majority of English as second language learners.

World of Warcraft is not just quests and texts. When discussing and supporting the game as a tool for a zone of proximal development, one cannot avoid touching upon the communication aspect of the game. This subject has been briefly discussed earlier in the thesis; however, it is such a significant part of the game that it has to be thoroughly described and analyzed. As previously mentioned, players communicate with each other in different ways within the game. One, default way of communicating is through the in-game chat boxes. This is much like an online chat room, and what he or she that plays the game chooses to use this chat function, is up to every individual player. However, there are no restrictions on the

chat. The player can ask for help as much as he/she can ask what the weather is like in Austria at that given time. Whether another player chooses to help the player in question is of course also up to him or her. Luckily, the way *World of Warcraft* is built, it rewards players that choose to help others. For the ease of illustration, let us take the example of the quest described earlier that revolved around finding an individual called "Gornek." If a player for some reason cannot find Gornek, he/she can ask through the chat box. If a player responds and says he knows where to find Gornek, the two players can create a group. Then, both players get the task to find Gornek, and both get credit for completing the task. Therefore, there is always an incentive to help each other in a game like *World of Warcraft*.

Another source of communication does not necessarily derive from within the game of *World of Warcraft*. The game has a built-in VoIP feature (See VoIP, x.x), which allows players to talk to each other orally if they want to. However, third-party VoIP programs such as *Skype*, *Ventrilo*, and the more recent *Discord* are much more prominent than that of the built-in function. Why these programs are more used than the built-in function is not clear, but one reason could be that these programs were up-and-running way before the in-game voice function was established. Nevertheless, these programs are used in a similar way to the in-game chat boxes. Players join voice chat rooms instead of the in-game written chat rooms, in which they can help each other in the same way as they would do by communicating with text. This thesis is not concentrating on *how* players are communicating in these games, which means that it does not contain the answer to that question, but by discovering its opportunities, one can support the game's potential for such activity.

What is unique about *World of Warcraft* and other similar games in the context of ZPD, is that the guidance or assistance the learner seeks in the zone is given by a game or by other gamers. If the teacher is educated in the game(s), he/she can absolutely assist too, but it is not a necessity by default. Therefore, one could say that games, as a resource does not

require the teacher to know the game by first-hand. However, the teacher has to know what the game can do in relation to language learning, for example, that *World of Warcraft* can support language learning in that it encourages players to cooperate with each other to achieve goals and that quests/tasks are given in different levels of English. If the teacher knows these facts, he/she might be able to use this game in a classroom session where the goal is to improve cooperative skills in English.

4.2.2 Computer games and safe arenas for learning

In 3.2.3, MMOs were introduced as an arena for learning. Points were made that MMOs added several layers of safety in that even though a person indeed participates in something when playing a game, it is still a virtual world where the player can choose to hide behind an avatar or character. In addition, as previously discussed, games can be arenas where players can face their fears. In this section, this is further built on by incorporating Maslow's hierarchy of needs.

As previously discussed, children need certain conditions in order to facilitate learning. This is not an attempt to take away anything from live teaching or the real world in general, but more of a point towards computer games functioning as support towards those conditions. The most standout element in Maslow's hierarchy of needs is the level of love and belonging. While *World of Warcraft* has already been discussed in this context, one could also look to cooperative games such as *Keep Talking and Nobody Explodes*. In this game, the players take specific roles, and everyone becomes an important part of the puzzle. It does not matter if one is playing the defuser role or the manual reader, the other person(s) playing the game is dependent on your participation to complete anything in the game. Therefore, the game's features in itself support the idea of belonging in a way. A child might not feel a sense

belonging to everyday life, yet by entering a game such as *Keep Talking and Nobody Explodes* this feeling might be moderated slightly.

As Maslow's hierarchy of needs suggests, a child who is on the top of the hierarchy has a chance to work with self-actualization through creativity and so on. Therefore, one could suggest that games can be an arena where the child can act creatively to support further learning.

Lastly, gaming is never dangerous in itself. Playing games is by definition safe since it is all simulated. The fact that a child can enter the virtual world doing whatever he or she wants without any consequences in real life supports the idea of computer games acting like safe arenas for learning.

4.2.3 Different learners and computer games

While critical age theory was briefly discussed in 4.1.2 about different learners, what to discuss further in this segment is the part about different learners at the age of 12-16. While this thesis has focused on several games that support the idea of co-operation, it is important to note that games can also reach out to people at an individual level. As mentioned in 4.1.2, learners at the age of 12-16 are likely to be at very different levels of development of their second language. Going back to the part of the thesis that discusses quest text in *World of Warcraft*, this is an example of where different learners might find an opportunity of learning in the same place, even though they are at a very different level.

5 Part three: Hypothetical classroom sessions

In this section, five different hypothetical classroom sessions will be provided and discussed with English second language learning. All sessions will be introduced with prerequisites such as resources, how they relate to *Kunnskapsløftet* (LK06), what is required by the teacher and so on. The sessions will be built on what has been established earlier in the thesis, both from the perspective of the literature review and the computer games with didactics part.

The first three sessions revolve around *World of Warcraft*. While the game features are quite intuitive and give direction to the player as to what to do, it is most likely needed with an introduction to the game before placing the children at the computers. Not just because they might not figure out how to play the game, but also to indicate what is wanted in regards to language learning. Therefore, a clear, concise plan on what they are supposed to do, everything from where to start and end to what they must focus on should most likely be introduced beforehand. There could be some merit to let children play in a “free play” scenario, too, however, in this thesis the sessions revolve around constructed scenarios.

5.1 Gaining level 1-10 alone in *World of Warcraft* – hypothetical classroom session

This session takes on *World of Warcraft* in a solo perspective. The player/learner enters the world alone and completes a set amount of quests within the time limit. In this session, the player *can* use the in-game chat box to get assistance with quests but is not bound to use it. In this session, the player starts with a fresh avatar/character.

5.1.1 Prerequisites

This session is planned for 225 minutes, whereas 180 minutes will be four gaming sessions while the last 45 minutes will be a final talk about the sessions. The session is aimed at children aged 12-16. The competence goals from LK06 (Utdanningsdirektoratet, 2015) in focus is as follows:

- Use different situations, working methods, and learning strategies to develop one's English-language skills
- Comment on own work in learning English
- Understand and use a general vocabulary related to different topics
- Read, understand and evaluate different types of texts of varying length about different topics

5.1.2 Content

First, the player will have to create a character in *World of Warcraft*. The player should already know how this works through an introductory course to the game. When in the screen for creating a character, the player chooses his/her class, race, name and features. For this session, the player is asked to create a human with a class of his/her choosing. After this, the player is ready to enter the world.



The character creation screen in WoW. The screenshot is taken from the game by the author of this thesis.

The idea of the session is that the player follows the game's directions to gain levels from 1 to 10. A rough calculation of these first, relatively short levels gives an indication that the players will be occupied for everything between 120 to 180 minutes. The first levels are much shorter than later levels. Since all players are asked to play humans, they start in the same area called "Northridge Valley." Here, there are plenty of tasks for players to gain the levels needed. Players *can* use the in-game chat function but are not required to do so. From this point onwards, it is up to the players to choose their way towards the goal of the session, reaching level 10.

The teacher might participate in the session with helping out if there are any problematic words that lead to misunderstanding or not understanding at all. Other than that, the game should give directions in a way that children aged 12 to 16 should be able to carry on by themselves.

After four gaming sessions of 45 minutes each, it might be that not every player has completed the task of reaching level 10. However, that is not necessarily the point. Even though some might not complete the task, the teacher can still summarize what the children have done. There are at least 6-7 quests per level, meaning that the children have read a lot of

English. Here, an idea can be for the teacher to use words from the game (requires the teacher to play the game) and discuss these with the class.

5.1.2 Session goals and discussion

While this session sets up for much free play and leaves much of the learning to the children, it is also constructed in a way since the scenario is set. Every participant starts at the same place with the same goal. How they decide to reach the goal is up to them. It is individual in form and practice, with the opportunity of getting assistance both through the game's visual aids like task givers, maps, and environment and through the in-game chat function.

Firstly, it requires the children to read, understand and evaluate different types of text of varying length about different topics. When given a quest, the first thing the player has to do is to evaluate. He/she has to figure out what to do, where to go and how to do it. The quests vary in length and detail, and some might be more difficult to evaluate for some of the participants. However, the introductory levels of *World of Warcraft* are mostly basic and easy to understand. Nevertheless, it requires the children to evaluate the texts given. On the topic of quests, players are required to understand a general vocabulary related to different topics.

Secondly, the children might use different situations and working methods to develop one's English-language skills. Since quests are written in a way that they can be understandable for children at different levels, most participants will understand them. However, how they understand them might vary. In *World of Warcraft*, many elements can be used to reach an understanding. For example, a player might get a quest for helping someone to harvest his or her pumpkin farm. An advanced player might already understand which pumpkin farm this quest giver is talking about since he/she saw the farm when walking around earlier. Therefore, they can use their memory as a working method on their way to

their goal. In regards to developing one's English-language skills, players must remember or know what that said pumpkin farm is called, and where it is located, to find it and harvest the pumpkins. Therefore, there is an element of English language learning in fulfilling relevant tasks.

Lastly, through the final talk about the sessions, the children will be able to comment on their own work in learning English. What the teacher makes or can make out of this session, depends slightly on whether the teacher has played through the same scenario as the children. It is highly recommended, as this allows the teacher to refer to the game and have a group talk with the children in the end where they discuss the elements of the game.

This session is made with English language development in mind. However the player might approach the game, he/she *will* be faced with the English language. To progress, the player must *understand* the words and sentences in the game. Therefore, one could argue that it is very much up to the player how much he/she gets out of the session on the matter of ESL learning. Additionally, even though quest texts are adjusted to be readable for people at different levels of English-language skills, some players might not understand it. Nevertheless, if the player/child completes the goal of reaching level 10, there is no doubt that he/she will have read English and that learning might occur. It is probably advisable to use the final talk as a tool of measurement of how much the children got out of the English aspect of the game. How this is measured is up to the teacher, but an idea could be referential questions based on the game and tasks from the scenario they just played through. If the children played through level 1 to 10, they should have no problem answering the questions about the quests, either.

To conclude on this session, an argument could be made that this session is easy to execute for the teacher and the children. As long as the resources are in place (computers suited for games and internet), it only requires a basic introduction to *World of Warcraft* as a

game, and the sessions can start. However, one cannot advise using this session without some first-hand knowledge, and the teacher should probably play parts of the game beforehand.

5.2 Questing in a group of three in *World of Warcraft* – hypothetical classroom session

This session takes on *World of Warcraft* from a cooperative perspective. Here, players are asked to form a group of three within the game and will communicate with each other in English through VoIP (either in-game function or *Discord*). In this session, players start with new avatars/characters.

5.2.1 Prerequisites

This session is planned for 180 minutes, whereas 120 minutes will be a dedicated gaming session, while the remaining 60 minutes will be reserved for group presentations. This session is aimed at children aged 12-14. The competence goals (from LK06) in focus is as follows:

- Choose and use different listening and speaking strategies that are suitable for the purpose
- Understand and use a general vocabulary related to different topics
- Express and justify own opinions about different topics

5.2.2 Content

It is required that every participant has his or her own individual computer for this session. The teacher should start by dividing the class into groups of three. These groups will work together and play *World of Warcraft*. As for pre-work, the class should have had the same introductory course described in 5.1.2, so that they know what they are playing and how to play it. In this session, the idea is that the trios should group up within the game, connect to *Discord* with a headset and microphone, and play through the first couple of levels while in a cooperative environment and communicate by speaking English. Therefore, the teacher

should ask the group to create a new character of their own, but it is crucial that every member of the group of three choose the same race, so that they start in the same area. What race they choose is up to the group, but if they cannot agree on a specific one, the teacher may interfere and choose for them.

Once started, the group shall play the game in a group of three for 120 minutes. They might not get very far at all, and they might end up not being able to get many levels. However, the point of the session is to both encourage talking in English and co-operation in a gaming environment. The group will not be able to continue if one of the group members are too far behind in progress, for example. Therefore, they must make a collective effort to make progress. Teachers should be advised to emphasize on the cooperation part of this task.

When the group has played for 120 minutes, they will be asked to present their journey into *World of Warcraft*. What race they chose, what quests they completed, what was difficult, what went well et cetera. Since the experience is so fresh in mind, the group should be able to present something of substance in front of the rest of the class.

5.2.3 Session goals and discussion

Again, this session sets up for much free play. Maybe even more free play than that of the first session presented. However, it also encourages cooperation. The gaming (and learning) experience should be very different to that of the first session. In this session, participants must choose and use different listening and speaking strategies that are suitable for the purpose, for example when explaining to their peers how they think a task should be completed. However, before they get to that point, they must understand the vocabulary presented to them within the game. On the contrary to the first session presented, the participants here are not left alone with quest texts. Here, they can talk and discuss with their

peers and find a solution they all understand in the end. This session might support the idea that some participants will help others on the way.

Another goal of this session is to express and justify own opinions about what they just experienced. Again, as they are in a group environment, they most likely have a shared experience they can talk about and present to the class, and a group presentation like the one presented in this session might seem less frightening than a regular presentation. At the same time, it encourages oral communication skills development and English-language learning.

A discussion point to be made about this session is again that it is a group activity. In the first session, the participants' motivation around completing the activity is only limited to their own individual encouragement. However, in a group activity like this, they must work together to get anything out of it. It might be that a part of the group does not find the activity motivating, and this might hamper any learning involved in the session. If one falls out and stays inactive, the rest will be at a standstill as well. Therefore, it might be necessary for a teacher who wants to use this session to make sure that everyone in a group is motivated to complete such activity so that productive gaming and learning can occur. On the other hand, a participant/child might find it motivating to play a game like *World of Warcraft* with a group rather than alone, based on the presumption that he/she might find some of the language or maybe even the technicality of the game challenging. The technicality of computer games is something that will be discussed in the concluding part of the thesis.

5.3 Completing a dungeon in *World of Warcraft* - hypothetical classroom session

This session takes on *World of Warcraft* from a cooperative perspective. Here, players are asked to form a group of five within the game and will communicate with each other in English through VoIP (either in-game function or *Discord*). In this session, players continue with previously created characters in the game.

5.3.1 Prerequisites

This session is planned for 90 minutes. While the other sessions in this thesis can be done with little to no pre-work, this one would need the students (and the teacher) to be involved in a more extended period of playing *World of Warcraft*. This session, which involves players grouping up in a party of five to do the challenging task of completing a dungeon, requires the players to have played *World of Warcraft* from level 1 to around 16. Roughly calculated, it would mean that they would have had to have played the game for about 7 to 8 hours with active sessions beforehand. That said, it could be a motivating and exciting task for the students, and it is aimed at children aged 12-16. The competence goals from LK06 (Utdanningsdirektoratet, 2015) in focus is as follows:

- Choose and use different listening and speaking strategies that are suitable for the purpose
- Understand and use a general vocabulary related to different topics
- Express oneself fluently and coherently, suited to the purpose and situation
- Demonstrate the ability to distinguish positively and negatively loaded expressions referring to individuals and groups

5.3.2 Content

As the participants in this session should already be very familiar with the game, the teacher should ask them to log onto their *World of Warcraft* character and enter the world, and put on headsets with microphones and log onto *Discord*. Then, the teacher should ask the students to create groups of five and go into a group channel on the VoIP program. When the groups are created and ready, they should head to the first dungeon of the game, namely “the Deadmines.” This dungeon should take 60-75 minutes to complete, depending on the group's skill and speed.

The teacher's role in this session is to encourage English communication on *Discord*. A dungeon is challenging, and the group would have to help each other to find success (peel off monsters, aid companions in battle with healing powers et cetera). Therefore, good communication is critical. It should also be remarked that every group member must be active for this to work.

5.3.3 Session goals and discussion

This session is without a doubt more advanced than the others hypothesized in this thesis. In many ways, it requires a steady focus and high motivation from both students and teacher(s) for it to work at all. However, if it succeeds, a group activity like this could be a great exercise in English oral communication. Much like role-play, students take their roles as characters in the game to defeat a common goal. They must choose and use different listening and speaking strategies suitable for the group's purpose while expressing their opinions on where to go next or how to complete a task or slay a monster. It is also essential that the students can carry a fluent and coherent conversation with each other, as that would make the group dynamic in a dungeon gaming environment much more effective.

Another goal of this session is for students to demonstrate the ability to distinguish positively and negatively loaded expressions referring to individuals and groups. In dungeons, there are usually plenty of bosses. A boss is a challenging monster, which requires strategy and skill to defeat. A group would have to call out different parts of a boss fight to succeed. Examples on this could be “Watch out! The boss is slamming the ground behind you!” or “Take care of party member 2! He has low health!”. Therefore, as mentioned, this activity both encourages dialogue and could support oral language skills development.



WoW's interface when doing a dungeon boss fight in a group of five. The screenshot is taken from actual gameplay by the author of this thesis.

An activity like this is probably not something that would be doable in every class or group. It might even be too advanced for a whole class. Getting several groups of five to do such a technical activity in a computer game would undoubtedly be a hard task. Therefore, one could argue that a session like this would be suited for a smaller group of children, or possibly as an extra activity for students that have completed previous sessions ahead of schedule. That said, the activity in itself should be considered a possibly effective one since the supposed learning potential is high. This session is included in the thesis mostly to

highlight the opportunities in *World of Warcraft* if a teacher/class choose to take a more advanced grasp of the game.

5.4 Completing part one in *Emily is Away* – hypothetical classroom session

This session takes on *Emily is Away*. Here, players are asked to start the game, follow the instructions on the screen, and start typing. This game might be suitable to use in correlation with teaching netiquette, as it deals with different approaches to people online, only that this is simulated/fictional.

5.4.1 Prerequisites

This session is planned for 45 minutes; however as mentioned in the previous segment, it might suit a class who are working with netiquette and how to behave online. Therefore, some pre-work around social media, communicating online et cetera might be something to consider before working with a game like *Emily is Away*. The game itself centers around friendship and relationships, but since some themes might be more suitable for later teenagers (like finishing school, serious relationships et cetera), this session is aimed at children aged 14-16. The competence goals from LK06 (Utdanningsdirektoratet, 2015) is as follows:

- Understand and use a general vocabulary related to different topics
- Understand the main content and details of texts one has chosen
- Use digital tools and formal requirements for information processing, text production, and communication

5.4.2 Content

To make the most of this session, participants should have their own individual computer. *Emily is Away* is a visual novel meant to be experienced alone, not to be interfered with other people's opinions and expressions. In other words, this is an individual session. The game itself is very straightforward as previously mentioned. Therefore, participants should be

advised to simply open the game, click “start game” and type in their desired nickname. From there on, it is the participants' responsibility to work themselves through part 1 of the game. One important note for the teacher here is that there is no specific goal of the game. Players do not complete the game by accomplishing specific goals, obtaining specific friendships or similar. Every outcome of the game is as good as another. This is probably vital to carry out to the participants so that they know that whatever text they choose to write, they will make progress in the game.

Part 1 of *Emily is Away* is short, and should not take more than 25-30 minutes to complete. Bearing in mind that it might take some time to set the game up and so on, the length of part 1 seems reasonable for a 45-minute session. After the participants are done with the game, an idea could be to gather the group to discuss what they experienced in the game, as it is certain that almost everyone has different outcomes. Even the smallest difference in choices can lead to an entirely different path in the game.

5.4.3 Session aims and discussion

In this session, the participants work individually. Also, there is no oral communication in the game. Therefore, the aim of the session must be focused on goals that revolve around written language skills. Firstly, participants must understand and use a general vocabulary related to the topics in the game. The players will most certainly meet situations where they have to utter their opinions on for example music and literature, but also situations where they have to choose the correct (in their minds) vocabulary for a greeting or a farewell. A tie-in to this is the necessity of understanding the main content and details of texts one has chosen. *Emily is Away* works in two different ways. There are parts that revolve around free writing and responding, and there are parts that revolve around choosing an answer through multiple choice. The multiple-choice parts are the most prominent, and in these parts, the

player must understand the main content of the message he/she is about to send to gain anything out of it.

Emily is Away is a game that takes the player on a journey, only the player decides the direction the journey takes. As with many and most visual novels, this game is of course scripted, but with a vast difference in outcomes, depending on the player's decisions within the game. Therefore, one could suggest that *Emily is Away* supports English-language written communication skills, but also general social skills. Therefore, one could say that another goal of this session is to use digital tools for text production and communication. This part is probably self-explanatory, yet important since it is such a big part of the game. It is an opportunity for the player to get to know netiquette and online chatting.

As mentioned in the introduction, this game might be suitable for use when a class is working with netiquette and how to behave online. While the game does not necessarily follow the mainstream idea of "good behavior" (up to the player), it does reward the player if he/she acts in the general social norm.

5.5 Working together in *Keep Talking and Nobody Explodes* - hypothetical classroom session

This session takes on *Keep Talking and Nobody Explodes*. Here, players are asked to sit in groups of three and read the handout printed from www.bombmanual.com. When comfortable with the material given, one person in the group takes the role of the bomb defuser while the two others take the role of manual readers.

5.5.1 Prerequisites

This session is planned for 90 minutes, whereas the first 20 minutes will be an introduction to the game and the bomb manual, while the last 70 minutes will consist of a gaming session where the group rotates on the roles of bomb defuser and manual reader(s).

The session is aimed at children aged 15-16. The competence goals from LK06

(Utdanningsdirektoratet, 2015) is as follows:

- Choose and use different listening and speaking strategies that are suitable for the purpose
- Understand and use a general vocabulary related to different topics
- Understand the main content and details of different types of oral texts on different topics
- Express oneself fluently and coherently, suited to the purpose and situation
- Introduce, maintain and terminate conversations on different topics by asking questions and following up on input
- Understand and use different numerical expressions and other kinds of data in communication

5.5.2 Content

First, the class or group is divided into groups of three. They are given a printout of a manual found on www.bombmanual.com, which they are asked to look at, read and discuss. After getting familiar with the manual, the groups are asked to decide on a bomb defuser, while the other two shall work as manual readers. Continually, the bomb defuser starts *Keep Talking and Nobody Explodes* on a computer, while the two manual readers sit out of eyesight, but within hearing distance of the defuser (an easy solution to this is to sit with the backs to each other). It is important that the manual readers do not see the bomb on the computer screen and vice versa, if the purpose of the game is not to fall through.

Now, all is set up to defuse virtual bombs. *Keep Talking and Nobody Explodes* is divided into levels, and everyone has to start at level 1. Some groups might not get past the first levels, but no one will finish the 400-500 levels in the game within the time limit of 70 minutes. One level takes from everything between 2 to 10 minutes. After a group succeeds or fails a disarming, they rotate so that everyone gets to be the defuser and the reader(s). It is important that the group communicate in English, emphasize this as there is no time to translate the information before the bomb goes off.

After 70 minutes of gameplay, every member of the group should have had their shot at both defusing and reading, and most groups should have been able to make some progress through the first levels.

5.5.3 Session goals and discussion

This session is packed with oral communication. The participants have to talk *a lot*, meaning they will have to use their English language skills to communicate with each other. All group members get the opportunity to read, interpret, calculate and question each other. It is vital that everyone participates unless the participants want the bomb to explode. This is a

session that requires both skill and motivation from the participants, but one could also argue that the rewards in both language learning and entertainment could be significant.

There are many goals with this session with several of them overlapping. However, in this session, it is imperative that the participants choose and use different listening and speaking strategies that are suitable for the purpose. If the participants do well at listening to each other, while speaking in a way that both parts understand, they will find success in the game. On the other hand, if the participants do not adjust to each other in the way they speak and listen, they will not be able to defuse the bomb. It is easy to suggest that only based on the above-mentioned argument; this session can support learning in English-language communicative skills.

Another aspect of this game is the ability to understand the main content of the message delivered. For example, the manual reader(s) might ask, “Is there a red wire on the bomb?” The bomb defuser will look at the bomb and see that there is, in fact, a red wire on the bomb, but it is on a module together with several other wires, whereas one of them is red while the others are blue, black and white. The bomb defuser then has to decide whether he should tell the manual readers immediately that there is, in fact, a red wire, but also three other wires, in a module that totals four wires. *Keep Talking and Nobody Explodes* encourages the players to think quickly, but when playing this game as a second language learner, one also has to consider how to deliver the main message in a way that the recipient will understand. With that in mind, one could say that the game directly involves the goal of introducing, maintaining and terminating conversation on different topics by asking questions and following up on input, e.g., “How many wires are there?” -> “Four” -> “Ok, four wires. What colors are they?” and so on. This aspect also involves another goal of the session, namely that the participants should be able to express themselves coherently and fluently, suited to the purpose and situation.

Lastly, another goal of the session is to understand and use different numerical expressions and other kinds of data in communication. This happens all the time in *Keep Talking and Nobody Explodes*. One example is the subject of wires, as the participants have to conclude on the number of wires, and which wire to cut (the fourth, the fifth et cetera). However, other modules in the game also include numerical expressions, ranging from having to click a blue button when the timer has a "5" in it, to instructions like "click the word in the third row to the left if the serial number on the bomb ends with an odd number."

Overall, *Keep Talking and Nobody Explodes* appears to be a great supplement to English-language oral communication skills development. However, it requires the participants to be on a level of English, to begin with. If the participants do not know the words in the manual, for example, it might be hard to resolve the task at all. For this reason, the session is set up with three people, whereas two people can support each other as readers to understand the sentences and instructions in the manual. From there, it is the manual readers' responsibility to create a message that gives meaning to the bomb defuser. Nevertheless, if all three participants in the group are at the same level of English, they might not be able to support each other in a way that leads them to make progress in the game. Therefore, the game might not be suited for children at the lower levels of development, and probably should be used when children are in or around year 10. At year 10, the general child should at least be able to understand the first 7-8 levels of the game, and a group of three should probably be able to resolve the task together.

Lastly, *Keep Talking and Nobody Explodes* requires no "technical" ability, neither of the participants nor the teacher. Apart from being able to click with a computer mouse, the only other technical abilities needed are reading and talking. The teacher could familiarize with the game beforehand. However, it is probably not necessary to create a productive

session for the children. On the other hand, the teacher does have to print out/provide the pdf.-
file from www.bombmanual.com, and will probably be adequately familiarized through that.

6 Final thoughts

This thesis aims to highlight the possibility and support the validity of using computer games as a tool for second language learning in the Norwegian English classroom, based on the thesis question: What does scientific literature say about the improvement of ESL skills among gamers? Moreover, might this information be helpful in the Norwegian English language classroom? Through the literature review in part one, it has been brought to attention that many studies suggest that such interaction with computer games can be both effective, motivational and encouraging. Some studies even suggest that to use computer games as a tool for second language learning can be more effective than a regular face-to-face classroom activity. That said, the literature is only a small scope in a vast field of studies on language learning and computer games. From my perspective, the tendency in most studies on the subject is that computer games in the classroom are generally a positive and useful tool.

Part two of the thesis revolves around didactic principles and how they may fit into computer games. In this part, my intention was to look for relevant tie-ins to include moving forward to the hypothetical classroom sessions. Even though this part touches upon both motivation and facilitation of learning, it does not look towards the technical aspect of computer games. It is common knowledge that computer games have a skill ceiling. Most games require players to be able to control game elements with a keyboard and a mouse. Children might not be able to use this equipment to the extent that is required to play the game at a competent level. This might lead to discouragement and a lack of motivation, and a teacher will probably have a hard time completing a session in which the participants do not manage to handle the resources. Nevertheless, it is important to remember that children in 2018 have a close relationship with technology and computer games in general. This thesis does not focus on this relationship, but it quickly is forgotten that children usually excel at handling new technology. Therefore, one could argue that the technological and technical

aspect of computer games, in general, would not create problems in regards to the execution of the sessions introduced in this thesis.

Something that has not been brought up in this thesis is how and what games are designed for. There are many examples of "serious" games, where its design is made so that it is suited for educational and learning purposes. These games have been deliberately excluded, as there is an abundance of literature on the subject of regular games, anyway. Hence, this thesis focuses how games *can be used* for educational purposes rather than looking at games *designed for* the same purpose. It might be that research results would have been different if the thesis looked at these serious games. However, my motivation lies with regular games and their potential, and evident through the results shown in the studies reviewed, regular games can be very effective for such purpose.

As the hypothetical classroom sessions suggest, there are several different possibilities for using computer games as a tool for second language learning. However, in this small segment of five sessions, one does not cover all possibilities of language learning in computer games (limited by game genre, type et cetera) nor does one cover all competence aims from English subject curriculum. Nevertheless, it is plausible to believe that the sessions show that computer games in such a narrow scope of three games can cover many of the competence aims established in the subject curriculum.

As briefly discussed in different parts of the thesis, using computer games as a tool for language learning might require some technical competency in the teacher. However, in 2018 it is probably required that a teacher knows how to use a computer anyway since so much information and education for that matter is based on digital resources. Therefore, the competence the teacher would have to acquire to use computer games in the classroom is not necessarily too significant. However, what might stop a teacher from being able to use it effectively, is the need to invest some time into the games personally. Games like *World of*

Warcraft are big and time-consuming games, and for a constructed scenario such as those described in the sessions, the teacher would have to carefully select a portion of the game that would fit for the educational purpose. Whether or not this investment would be deemed too big for a regular teacher to spend their time on, is unclear. It is probably safe to assume that using big games such as *World of Warcraft* in the classroom requires the teacher to have some level of educational or personal interest in the game. Nevertheless, smaller titles such as *Emily is Away* and more intuitive puzzle games like *Keep Talking and Nobody Explodes* probably allows the teacher to use computer games with less preparation than that of bigger MMO games.

Overall, the literature review combined with the didactic principles from part two offered an opportunity to create classroom sessions that can be substantiated by both positive and stable literature. However, to fully establish an overview and a better evaluation of how computer games would work in the Norwegian English classroom, it would be interesting either to try the sessions in practice in a classroom environment or to conduct some sort of experiment based on the literature reviewed. Moving forward, transferring the theory from this thesis into practice through experimental studies or practicing it in a classroom would be something to pursue with high interest and motivation. If there were more time and room, another part of this thesis involving practical examples or studies might have been implemented to create a complete overview. Nevertheless, my hope is that this thesis will contribute to further establish a connection between computer games and education, especially in the Norwegian English classroom. While computer games and language learning still can be researched further, one can argue that it is time to try it in Norwegian schools based on findings in several studies. With the correct conditions, be it teacher, class, technical equipment and so on, studies show that it can make for effective and motivating language learning.

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