

Game-enhanced English teaching in upper secondary school

From Fortnite to Among the Sleep

Martin Myrliid Herfjord

EDID4009
30 credits

Department of Teacher Education and School Research
Faculty of Educational Sciences



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From *Fortnite* to *Among the Sleep*

Mastergradsavhandling ved Institutt for Læringsutdanning og
Skoleforskning

UNIVERSITETET I OSLO

Høsten 2022

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2022

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<http://www.duo.uio.no/>

Abstract

Video games have become a staple part of youth culture, but they are not really represented as such in classrooms in upper secondary schools today. There is great pedagogical potential in video games that can be exploited by teachers, given the right circumstances and processes. The aim of this study is to explore how English teachers can use video games as educational tools in upper secondary school, and how students react to such teaching. This form of teaching is in line with Reinhardt's (2019) term of *game-enhanced teaching*.

The over-arching research question of the study is: *How do two teachers use video games in English teaching in upper secondary school?* In order to answer this research question, this study has employed three methods of inquiry: (i) two semi-structured interviews with two English teachers in upper secondary school, (ii) two semi-structured group interviews with two groups of six students representing each English teacher's class, and (iii) classroom observation of the teaching regarding the use of video games.

The findings show how the two teachers successfully implement video games in their English teaching, by careful planning and execution, and how the students react positively to this teaching. There is a strong emphasis on the benefits of play, interaction, and learner agency, all of which the video games facilitate in the classrooms. This is underlined in the interviews and observations. However, video games – especially commercial ones – do not always make for a concentrated learning experience that fits the current curriculum. The teachers thus stress the importance of undertaking a thoughtful process when choosing video games that are to be utilised in education. This process includes considering learner fit, practicality, and matching the curriculum, amongst others. Further criteria and learning principles connected to using video games in education is explored through relevant research in the theory section. Lastly, this thesis presents to the reader a concrete lesson plan utilising the video game *Gone Home* (2013) for English teaching in upper secondary school. The pedagogical implications of this master thesis are that there are many benefits of using video games in English teaching in upper secondary school, although the execution must be manoeuvred carefully in order to secure that the intended learning activities are taking place.

Sammendrag

Dataspill har blitt en stor del av dagens ungdomskultur, men de er egentlig ikke representert på et tilsvarende nivå i undervisning på videregående skoler i dag. Det er et stort læringspotensial i dataspill som kan utnyttes av lærere hvis de benytter riktig fremgangsmåte. Målet med denne masteravhandlingen er å utforske hvordan engelsklærere kan bruke dataspill som undervisningsverktøy i videregående skole, og hvordan elever reagerer på denne type undervisning. Denne type undervisning er i tråd med begrepet *spill-forsterket undervisning* (egen oversettelse) av Reinhardt (2019).

Hovedproblemstillingen i dette studiet er: *Hvordan bruker to engelsklærere dataspill i videregående skole?* For å svare på problemstillingen, har jeg tatt i bruk tre metoder for å samle inn data: (i) to semistrukturerte intervjuer med to engelsklærere på videregående skoler, (ii) to semistrukturerte gruppeintervjuer med to grupper på seks elever som representerte hver sin klasse, og (iii) klasseromsobservasjon av læringen der dataspill ble tatt i bruk.

Funnene viser hvordan de to lærerne bruker dataspill i deres engelskundervisning med nøye planlegging og gjennomføring, og hvordan elevene reagerte positivt på denne undervisningen. Funnene legger vekt på fordelene ved lek, spill, interaksjon og elevdeltakelse, noe som dataspill muliggjør i klasserommene. Dette underbygges av intervjuene og observasjonene. På den andre siden, så er det ikke alltid slik at kommersielle dataspill legger opp til en konsentrert læringsopplevelse som passer med læreplanen. Dette gjør at lærerne presiserer viktigheten av å gå gjennom en grundig prosess når man skal velge dataspill som skal brukes i undervisning. Denne prosessen inkluderer blant annet elevtilpassing, praktiske hensyn, og at det må være relevant for læreplanen. Andre kriterier og læringsprinsipper tilknyttet dataspill for undervisning er utforsket gjennom relevant forskning i teoriseksjonen. Til slutt så presenterer dette studiet et eksempel på et undervisningsopplegg som benytter dataspillet *Gone Home* (2013) for engelskundervisning på videregående skole.

De pedagogiske implikasjonene for denne masteroppgaven er at det er mange fordeler ved å bruke dataspill i engelskundervisning på videregående skole, men at utførelsen må manøvreres grundig og gjennomtenkt for å sikre at den ønskede læringen skal ta sted.

Acknowledgments

I would like to express gratitude to my supervisor, Pia Sundqvist. Your insight, wisdom and patience has been paramount for the completion of this thesis. Your expertise on video games and language acquisition is truly inspirational, and has been a great resource to this process.

Additionally, I want to thank Ulrikke E. Rindal, who showed me what a dedicated researcher should look like. You really teach by example. I wonder what ILS would be without you.

I also want to thank Lisbeth M. Brevik for inspiring me and endearing me to do academic research on video games. You truly are a guiding star within the field.

Shout out to my fellow MA students in English didactics – Tollef, Christine, Sofie and Ollie – for comradeship, fellowship, guidance and *lots* of coffee. Praise Geesus.

Thank you, mom, dad, Tormod, Liv, Arne and Elin.

Since I started this study, I have also started a new full-time job, bought an apartment for the first time, moved, started renovating, and married the woman of my dreams. Thank you, Elisabeth, for enduring me and my shortcomings. The future is ours. Lastly, thanks, Leo, for a comforting paw in stressful times, and much needed walks when my head is overloaded.

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1. Introduction

Video games have become a staple part of youth culture in the last decades. Popular game titles like *Fortnite* (2017), *FIFA* (1993-), *Minecraft* (2011) or *Grand Theft Auto V* (abbreviated GTA, 2013) are common topics of an average schoolyard conversation, especially amongst boys.¹ However, the medium still carries a certain stigma, being accused of leading to violent behaviour, introversion, and addiction. In addition, it might be perceived as childish if a person admits to frequently play video games, especially if the person is more than thirty years old. Thus, video games have not yet acquired the same status as literature and film when it comes to being perceived as a medium that is well suited for educational use in classrooms. This thesis argues, however, that video games *can* be well suited for English teaching in upper secondary school. This study focuses on two teachers who actively use video games in their English teaching in upper secondary school, and some of the students in these classes. The students' experiences of playing video games in school are largely positive, as is reported through interviews and observations. Multiple studies report that playing video games outside of school is beneficial for English reading (e.g. Brevik, 2016) and expanding English vocabulary (e.g. Sundqvist & Sylvén, 2016). However, the shortage of studies who report on concrete use of video games in upper secondary school constitutes the main inspiration of this study. Additionally, there is not an abundance of examples of how to use video games in English teaching in upper secondary school. As such, this study aims to present some examples of how video games are used in English teaching in upper secondary school in Norway.

As a new medium is conceptualized, it might need time to develop before artists can express themes of maturity within it and create a catalogue of classics. The video game is a much younger medium than art, music, literature, and film, and as such is naturally considered the least mature of these media. However, recent years have presented us with video games that explore themes of great depth and maturity. These include the themes of childhood, trauma and alcoholism in the Norwegian-made *Among the Sleep* (2014), violence, loss and fatherhood in *God of War* (2018), and abuse, adolescence and empathy in the Norwegian-made *My Child Lebensborn* (2018). As video games as a medium have become mature, inspiring and a staple of youth culture, this thesis argues for its natural inclusion into teaching

¹ All games and their producers are presented separately after the list of references.

English in upper secondary school (section 1.1. Furthermore, video games are inherently designed pedagogically in and of themselves, as games teaches the player the mechanics that are required to master it (De Sousa, 2021, p. 41). Linguist and researcher James Paul Gee (2007) agrees with this sentiment, suggesting that the theory of learning in good video games fits better with the modern, high-tech, global world today's children and teenagers live in than do the theories and practices of learning that they otherwise see in school (p. 5).

1.1 The growing status of gaming in youth culture and in school

A recent report from the Norwegian Media Authority, *Barn og Medier 2022* – with roughly 3200 participants, shows that 76% of Norwegian adolescents between the age of 9 and 18 play video games, 92% boys and 59% girls (Medietilsynet, 2022). Further findings in this report are that three out of four who play video games feel that their English improves by gaming. Approximately half of the youth reported that they made new friends through gaming, and 63% said that gaming is social. 53% reported that gaming is a nice way to experience stories, and 53% also reported that they learn a lot through gaming. *The Guardian* goes so far as to name video games as the most important aspect of youth culture (Monohan, 2021), tributing the social factor of video games much of its success compared to that of music and film. Additionally, video games as an industry now generate a higher revenue worldwide than that of books, movies and music (Statista, 2021). With the recent rise in popularity of streaming-personalities who play video games live on public platforms like Twitch and YouTube, watching other people play games is also a growing activity in youth culture.

A reflection of the growing status of gaming in school is represented in a competence aim in the curriculum for English in upper secondary school, which states that the pupil is expected to be able to “discuss and reflect on form, content and language features and literary devices in different cultural forms of expression from different media in the English-language world, including music, film and gaming” (UDIR, 2022a). In this recent curriculum, video games (gaming) are mentioned on equal grounds as music, and film – although one might argue that literature and art also should be mentioned here. An essential point of this competence aim is to make students critical thinkers of the media that they are being exposed to. As 76% of adolescents play video games (Medietilsynet, 2022), it is thus part of upper secondary schools' responsibility to make students able to discuss form, content, language features and literary devices in video games. Furthermore, to enable these discussions, students should be

exposed to playing video games in school, within the limits and possibilities of English classes. Another part of the Norwegian school system's responsibilities is the all-round development of the students (*bildung*), and to make students participate in society (UDIR, 2022c). This includes giving students the opportunity to learn and develop their skills and abilities. According to UDIR (2022c), this process occurs "when the pupils acquire knowledge about and insight into nature and the environment, language and history, society and working life, art and culture, and religion and worldviews". As video games are part of art and culture, and may evoke students' skills and abilities, it is thus arguably further reason to implement them in school.

1.2 A brief history of video games

Video games as a medium has seen a steady growth since its conception in the 1950s, and has always been in tandem with technological advancement. What is considered to be the first publicly demonstrated electronic game, *Bertie the Brain*, was created in 1950. This was an arcade game of tic-tac-toe, built by Josef Kates for the 1950 Canadian National Exhibition, to demonstrate the possibilities of large computers. The first recognized video game that enjoyed wider distribution is considered to be *Spacewar!* from 1961, where two players can simulate a space war between two spaceships on the same screen, albeit with simple graphics. It was not until the 1970s that arcade video games and home consoles became accessible. Arcade video games evolved from the already existing arcade game industry, designed around requiring coins to play games. The first successful arcade video game is considered to be *Pong*, made in the USA by Atari in 1972, where two people can play against each other simulating table tennis. The success of *Pong* furthermore prompted Atari to develop a home console so that families could play *Pong* in their homes. This resulted in Atari's first home console, the Atari Video Computer System (Atari VCS), being released in 1975. Partnerships between American and Japanese tech-corporations led to the arcade game market being dominant in these two countries. As the technology became more established, so grew the quality of games, and demand thereof, which led to the golden age of arcade games spanning from 1978 to 1982 that saw the rise of famous games like *Space Invaders* (1978), *Pac-Man* (1980), *Galaga* (1981) and *Donkey Kong* (1981). An enormous rise in revenue from the video game market resulted however in an oversaturation of game developers that made games of low quality, prompting the video game crash of 1983. This market crash in the USA saw Japan take the leading role in game development, with successful companies like Nintendo (*Donkey Kong*)

and Namco (*Pac-Man*). Nintendo released their first home console in 1983, the Nintendo Entertainment System (NES), which with its 8-bit technology became the platform of iconic, still-going game franchises like *Super Mario Bros.* (1985), *The Legend of Zelda* (1986), *Metroid* (1986), *Final Fantasy* (1987) and *Yoshi* (1991). This paved the way for longer, more complex games with a profound story, as home consoles did not rely on the coin-system of arcade games. The main competitor to Nintendo in the late 80s and early 90s was the Japanese company Sega, which made success with its home consoles Master System (1985) and Genesis (1988) and games like *Alex Kidd* (1986) and *Sonic the Hedgehog* (1991). Initially starting as a collaboration, a dispute between Nintendo and Sony saw the latter develop their own gaming console released in 1994; the PlayStation. This new generation of home consoles, the Sony's PlayStation, Nintendo 64 (1996), and the Sega Saturn (1998) saw the introduction and establishment of 3D-games, with instant hit games like *Super Mario 64* (1996, Nintendo 64), *Crash Bandicoot* (PlayStation, 1996) and *Final Fantasy 7* (1997, PlayStation). To this day, Nintendo and Sony are still the main manufacturers in the home console market, with their respective consoles Nintendo Switch (2017) and PlayStation 5 (2020). Sega as the third party lost pace in the market competition in the 2000s, to be replaced by Microsoft, who released their first home console Xbox in 2001. Since then, Microsoft have contended Sony and PlayStation in the home console market with their latest home console being Xbox Series X, released in 2020.

As affordable home computers became accessible in the late 1970s, with the Commodore PET and Apple II both releasing in 1977, so grew the market for games on computers as well. With the limited technology on these early home computers, early stand out games are heavily text based. The famous home computer game *Zork* (1977) is in fact entirely text-based, with no pictures or graphics to help with the emersion of the interactive fictional story. However, only a decade later, the 8-bit technology saw the rise of graphical impressive point-and-click adventure games like *Maniac Mansion* (1987) and *Zak McKracken and the Alien Mindbenders* (1988) by Lucasfilm Games for the Commodore 64. Other dominant genres from this era include role-playing games like *Ultima* (1981) and *Wizardry* (1981), puzzle games like *Lemmings* (1991), racing, sport, fighting, strategy, platform, and so on. With the mainstream introduction of internet in the 1990s, one of the first games to use internet connection to enable multiplayer functionalities, was *Doom* (1993). Going forward, new technology made new genres of games possible, like open world, first-person shooters, massive multiplayer online games (MMOs), battle royals, amongst others. Due to the higher

precision and key-binding solutions of that of mouse and keyboard on PC compared to the sticks and buttons on the controller of consoles, the PC is the predominant gaming machine that is used for modern e-sports, with some of the most popular e-sports being *Counter Strike*, *League of Legends* and *Fortnite*.

1.3 Video game genres

As this thesis revolves around in-depth use of video games, this section will clarify and elaborate on video game genres that are relevant to this thesis.

1.3.1 Simulation games

Simulation games are mostly designed around recreating realistic processes that have to do with real life, and often focus on realism, game mechanics and resource management (Rogers, 2010). Within this genre are many sub-genres, such as life simulation like the *The Sims*-series, (2000-), sport simulation like the *Football Manager*-series (2005-), or city simulation like *Sim City* (1989). Simulation games mentioned in this thesis are *Pong* (1972) simulating table-tennis, and *Win the White House* (2016) simulating the U.S. election.

1.3.2 Adventure games

Adventure games are generally designed around exploring and puzzle-solving (Rogers, 2010). The player's point of view is often that of the first-person perspective, being encouraged to interact with an area, objects and characters to progress the narrative or solve mysteries. Adventure games mentioned in this thesis are the text-adventure game *Zork* (1977), the action-adventure game *The Legend of Zelda* (1986), the point-and-click adventures *Maniac Mansion* (1987) and *Zak McKracken and the Alien Mindbenders* (1988), *The Walking Dead* (2012), *Among the Sleep* (2014) *Gone Home* (2016) and *Orwell's Animal Farm* (2020).

1.3.3 Role-playing games

In role-playing games, commonly abbreviated as RPGs, the player assumes the role of a character that is usually the protagonist in a fictional story (Rogers, 2010). The setting in these games is often fantastical, as the roots of the genre sprang out of the analog role-playing game *Dungeons and Dragons* (abbreviated D&D, 1974), which again is inspired by J.R.R. Tolkien's literature. In D&D, the players first create their own characters, choosing between races such as elves, dwarves and orcs. After the characters' race and origin is determined, the

players select a class for their characters, choosing between classes such as wizard, fighter or bard. Character growth is gained by experience (abbreviated xp) measured by parameters such as strength, stamina, and intellect. These elements are also prominent in most role-playing video games. Role-playing video games that are mentioned in this thesis are *Ultima* (1981), *Wizardry* (1981), and *Final Fantasy VII* (1997).

1.3.4 Action games

Action games emphasize high tempo and physical challenges, often rewarding good reaction-time and hand-eye coordination (Rogers, 2010). Sub-genres of action games include fighting games like the *Tekken*-series (1994-), shooter games like the *Call of Duty*-series (2003-) and platform games like *Mega Man* (1987). Action games mentioned in this thesis are *Spacewar!* (1961), *Space Invaders* (1978), *Pac-Man* (1980), *Galaga* (1981), *Donkey Kong* (1981), *Super Mario Bros.* (1985), *Metroid* (1986), *Yoshi* (1991), *Alex Kidd* (1986), *Sonic the Hedgehog* (1991), *Crash Bandicoot* (1996), *Doom* (1993), *Counter-Strike* (2000) and *Assassin's Creed II* (2009).

1.3.5 MOBA games

The 2000s saw an establishment of stable internet connection in many people's homes. This meant that video games could be designed with this premise, opening for video genres where people play with or against each other online. MOBA stands for multiplayer online battle arena, where two teams – with typically five players on each team – compete against each other on a predefined battlefield. As in basketball, each team member is usually assigned a tactical role to fulfil. These games emphasize tactical depth and team strategy, boasting a roster of over hundred characters for selection, each with individual strengths and weaknesses. MOBA games mentioned in this thesis are *League of Legends* (often abbreviated *LOL*, released 2009) and *Dota 2* (2013). These are two of the most popular esports today, boasting prize pools of 32 million USD (*Dota 2*) and 13 million USD (*LOL*) so far in 2022 (easportsearnings.com, 2022).

1.3.6 Battle royale games

Continuing the trend of making games for the online competitive scene, the last-man-standing battle royale genre started as alternative game modes, *mods*, in the early 2010s. The concept of these games is to survive as the lone player out of a hundred combatants, where everyone

else are eliminated. The player typically starts with little or no equipment, having to explore and scavenge for weapons, armour, or other items. A common feature in these games is also that the map of the battlefield shrinks as time goes by, creating a growing sense of impending doom, as players left outside the map are eliminated. Battle royale games mentioned in this thesis are *Fortnite* (2017) and *PLAYERUNKNOWN'S BATTLEGROUNDS* (PUBG, released 2017). These games are also massively popular, boasting price pools of 23 million USD (PUBG) and 13 million USD (*Fortnite*).

1.4 Aims and research questions

This MA study investigates how two teachers use video games in English education in upper secondary school, and how the two respective groups of students react to the teaching. The data is acquired through following the execution of the two teachers' lesson plan, first observing the classes, second interviewing the students, and third interviewing the teachers. Furthermore, this data is compared to recognised research within the field of educational application of video games and technology, mainly the learning principles of Gee (2007) and the six criteria for computer-assisted language learning (CALL) by Chapelle (2001). The medium of video games is in constant change, as it is closely connected to an ever-rapid technological advancement. This study thus sets out to examine how video games can be applied to the current curriculum (UDIR, 2022a). Based upon the contextualisation above, my overarching research question is: *How do two teachers use video games in English teaching in upper secondary school?* To answer this overarching research question (RQ), I have formulated three sub-questions:

RQ1: *How do the teachers plan when setting out to utilise video games in English teaching in upper secondary school?*

RQ2: *How do the teachers execute their respective lesson plans?*

RQ3: *How do the students react to this teaching?*

The methods I have deployed to answer the main research question and the three sub-questions are (i) two qualitative teacher interviews to answer RQ1, (ii) classroom observation data to answer RQ2 and partly RQ3, and (iii) qualitative student group interviews in order to

answer RQ3. The participants in my study are two English teachers, and respectively two student groups of six students each. The two classes are both in the first grade of upper secondary school, but one school is located in Eastern Norway and the other in Western Norway. After collecting forms of consent, the teachers were asked to select an average and balanced group of students that would represent the class as a whole, with both genders represented, regarding the student group interviews. This is a small data sample of which the findings have restricted relevance in the English didactics field. However, as there are few scientific guidelines for the use of video games in education, this study contributes to the field by exploring its practice with the current curriculum.

2. Theory and prior research

In this chapter, the theoretical framework for my study and review of relevant prior research will be presented. As video games in teaching is a relatively new field of research, there is not much focused research on *how* video games can be used to cover different competence aims in the English subject in upper secondary school. There is, however, evidence of pedagogical benefits in using video games (e.g. Gee 2007, 2017; Reinhardt, 2019; De Sousa, 2021). The theoretical foundation that this thesis is built upon, can largely be summarized in three different statements. First, is that *play* is an advantageous form of teaching, as it generally fosters a high level of engagement among students (section 2.1). This engagement again often leads students to become more susceptible to learning, as educational content is presented in a way that makes it seem more important or “in your face” compared to the same content being presented in more traditional forms. These theories of play and learning are developed by Vygotsky (1978/2016), Caillois (1961), Gee (2007, 2017) and Barab et al. (2010). Second, is the statement that video games are particularly effective at facilitating *play*, and that they thus are well suited for learning through play (section 2.2). The central researchers are here Gee (2007, 2017) and Reinhardt (2019). Third, is that video games can, through careful management and mediation, be successfully applied in education to cover different competence aims (section 2.3). This is argued by Reinhardt (2019), De Sousa (2021) and Skaug et al. (2020).

2.1. The characteristics of play and its role in learning

Firstly, The Norwegian Directorate for Education and Training (UDIR, 2022b) state in their core values of the education and training (section 1.4) the importance of play regarding the well-being and development of students, as well as creative and meaningful learning. Indeed, this whole section emphasises the value of play through interactivity. As such, this section is at the core of this study:

School shall allow the pupils to experience the joy of creating, engagement and the urge to explore, and allow them to experience seeing opportunities and transforming ideas into practical actions. Children and young people are curious and want to discover and create. The teaching and training must give the pupils rich opportunities to become engaged and develop the urge to explore. The ability to ask questions, explore and experiment are important for in-depth learning. The school must respect and nurture different ways of exploring and creating. The pupils must learn and develop through sensory perceptions and thinking, aesthetic forms of expressions and practical activities. For the youngest children in school, playing is necessary for well-being and

development, but in education as a whole, play provides opportunities for creative and meaningful learning. Creative abilities contribute to enriching society. Collaboration inspires innovation and entrepreneurship so that new ideas can be transformed into action. Pupils who learn about and through creative activities develop the ability to express themselves in different ways, and to solve problems and ask new questions.

(UDIR, 2022b)

Traditional views in the field of psychology, namely the vast body of work of authors such as Piaget and Vygotsky, relate play activity to development. As Vygotsky (1978) puts it: “In play a child operates with things as having meanings” (1978, p.14). In fact, “in play a new relationship is created between the semantic field—that is, between situations in thought and real situations.” (1978, p.20). Moreover, in an imaginary action, “in order to sever the meaning of the action from the real action, the child requires a pivot in the form of an action to replace the real one. But once again, while before action was the determinant, in the structure “action-meaning”, now the structure is inverted and meaning becomes the determinant.” (1978, p.17).

Caillois (1961) borrowed from Latin to explore and contrast *paidia*, free or open-ended play, and *ludus*, goal-oriented play. While all games have ludic rules, there are elements of both *paidia* and *ludus* in any game and all play activity. *Paidia* is “a primary power of improvisation and joy”, an exercise of feeling and creative impulse, while *ludus* is “conventions, techniques, and utensils” that are “complementary to and a refinement of *paidia*, which it refines and enriches” (1958, p. 29). He proposes that gameplay involves elements of *agon* (competition), *alea* (chance), *mimicry* (simulation), and *ilinx* (vertigo), sometimes with one or more forms being privileged over the others by the game design. These forms of play can be recognised in other traditional classroom activities such as quiz (*agon/competition*), word-lottery (*alea/chance*), analogue roleplay (*mimicry/simulation*), and movies (*ilinx/vertigo*). Something that is unique about video games is that they can offer all these forms of play in one simultaneous experience.

Gee (2017) argues that play is an effective pedagogical tool, as it can put people in a state of “flow”, referring to Csikszentmihályi (1990). In this state of flow, people might forget about time and lose themselves in an experience. This again might distinguish the border between serious and playfulness, which can lead people to perceive their work – or from students’ point of view, school – as play. Gee furthermore argues that play can free a person from the fear of failure, allow risk-taking, exploration and trying new things (2017, p. 34). Play facilitates the opportunity to take on new identities, roles, assumptions and beliefs. Gee calls

this *playful experiences*. Closely related to this is the term *+experiences*, which Gee describes as experiences where a person has an action to take, cares about the outcome, and where the attention is well-managed (2017, p. 33). This is often the case with playful activities. He also argues that these *+experiences* are how children and adults new to a domain learn first and best. Building upon this, Gee states the importance of horizontal learning (Goto, 2003), where in contrast to vertical learning, students are given time to dwell on information and explore its different facets and aspects. Exploratory learning activities like this with lowered time-pressure is what Gee calls *mucking around*; a form of play that allows failing without high cost (2017, p. 34). There is, however, obviously a balance between horizontal and vertical learning that is vital to consider when teaching. Gee's point is that the balance in school traditionally has been too heavily favoured towards vertical learning, and therefore warrants more horizontal learning in education. This is also important for what UDIR emphasises as in-depth learning, as they in section 1.4. word this together with exploration and experimentation (2022b).

Lastly in this section, is the term called *transformational play*. There are three key principles that characterize transformational play (TP). First, roleplaying facilitates the positioning of persons with intentionality (Barab et al., 2010) in ways that support critical reflection and the experience of multiple perspectives; players perceive themselves as protagonists who have the responsibility to make choices that will impact the game's story. Second, TP encourages players to use theoretical content to solve problems in the game's setting. Barab et al. (2010) described this as positioning content with legitimacy. In designs for game-based learning, subject content and conceptual understanding are positioned as situated knowledge. This means they are used within the game's setting as legitimate and valid resources for solving problematic situations as they unfold. Positioning content in this way transforms students' understanding because they become aware of concrete practical applications and broader meanings across contexts. The third aspect of TP is positioning context with consequentiality (Barab et al., 2010). Game environments depend on players' actions, allowing the players to judge the consequences of their actions as the story unfolds in response to their decisions. In designing for TP, game elements must be combined in ways that create consequential learning spaces for the player to act as a protagonist and to apply theoretical content to solve problems as they arise. Together, the narrative, role-playing, content, and interactive design elements create a context in which players' choices have meaning and consequence (Barab et al., 2012). TP may thus be described as a normative framework for thinking about the design of

serious games and curricular units, identifying aspects that can contribute to learning when designing educational games (Barab et al., 2010). TP principles can be extended to the study of commercial videogames as learning resources in teachers' instructional designs, by employing the concepts of positioning person, content, and context in the analysis of dialogic interactions in two different classrooms. Building on sociocultural approaches and activity theory, TP underlies the idea that learning in videogames involves active participation (Barab et al., 2010). Reasoning and knowing are seen as distributed acts that exist in the flow of activities as people interact with others and with social, physical, and knowledge resources.

2.2 Video games as facilitator for play and learning

Gee presents in his 2007 seminal book *What Video Games Have to Teach Us About Learning and Literacy* 36 general learning principles that are implemented in video games that can be transferred to general teaching methods. As it would be too comprehensive to cover all 36 principles here, this study chooses to focus on the nine principles that occurred most throughout the interviews and observations. These nine principles were later re-numbered, after appearance in Gee's 2007 book. The learning principles will in this section be given context, and will be further explored in section 5.2 with examples from the games the teachers used in their teaching.

<p>2.2.1 Active, critical learning principle</p>	<p>“All aspects of the learning environment (including the ways in which the semiotic domain is designed and presented) are set up to encourage active and critical, not passive, learning” (Gee, 2007, p. 221).</p>
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In a video game, the player is necessarily active, thus the term *interactivity*. As De Sousa (2021) argues, commercial videogames often have designs that are based on educational principles that foster cognitive and social skills, in addition to being entertaining (p. 41). Being forced to interact with the mechanics of the game, the player potentially faces many learning situations that demand action and critical thinking. This can include anything from puzzle-solving in a puzzle game, or making a choice that have consequences in a multiple-choice game. Examples of this learning principle from relevant games to this thesis are further explored in section 5.2.1.

2.2.2 Psychosocial moratorium principle

“Learners can take risks in a space where real-world consequences are lowered” (Gee, 2007, p. 222).

Building upon the term of horizontal learning by Goto (2003), Gee elaborates on the importance of “mucking around” (2017, p.34). Mucking around is a form of play, and serves much the same function. It involves low-risk exploration, trying different things and failing without high cost (Gee, 2017, p.34). Furthermore, Gee states that play free us from the fear of failure, allows us to take risks, to explore, and to try new things. As mentioned above, UDIR (2022b) also advocates the importance of play: “...playing is necessary for well-being and development, in education as a whole, play provides opportunities for creative and meaningful learning. Creative abilities contribute to enriching society. Collaboration inspires innovation and entrepreneurship so that new ideas can be transformed into action. Pupils who learn about and through creative activities develop the ability to express themselves in different ways, and to solve problems and ask new questions.” (UDIR, 2022b). This learning principle is also related to that of Callios’ (1958) *paidia* being a primary power of improvisation and joy (p. 29). Examples of this learning principle from relevant games to this thesis are further explored in section 5.2.2.

2.2.3 Achievement principle

“For learners of all levels of skill there are intrinsic rewards from the beginning, customized to each learner's level, effort, and growing mastery and signalling the learner's ongoing achievements” (Gee, 2007, p. 223).

Positive feedback is an old tradition within pedagogy (Murphey&Falout, 2010), being an important factor of the behaviourist learning theory. It is profitable to know if one is right or wrong in a learning situation. Good games are usually good at rewarding the player for playing the game, eliciting further play of the game. For example, in *Mario 64*, the player is rewarded for completing a level with an animation of Mario receiving a star. However, for the more advanced players, there are additional stars to claim within each level, rewarding the growing mastery of the player and signalling the learner’s ongoing achievements. Examples of this learning principle from relevant games to this thesis are further explored in section 5.2.2.

2.2.4 Regime of competence principle	“The learner gets ample opportunity to operate within, but at the outer edge of, his or her resources, so that at those points things are felt as challenging but not "Undoable"” (Gee, 2007, p. 223).
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One of the biggest challenges a teacher face when teaching a class of thirty students, is to adapt each learning situation optimally for each student. With thirty students, there are just too many different needs to reach over simultaneously. In good video games, however, the games are often designed with flexible difficulty, customizing the challenges to each players’ level. Additionally, many games are designed so that each player can control the in-game time by pausing or such, making the challenges adaptable by time-management. As video games often have designs that are based on educational principles that foster cognitive and social skills (De Sousa, 2021, p.41), the game itself becomes the middle circle of Vygotsky’s (1978) Zone of Proximal development, guiding the player towards the next zone of development. Some games also have a “help” button, further guiding the player individually where they need it. Examples of this learning principle from relevant games to this thesis are further explored in section 5.2.4.

2.2.5 Multiple routes principle	“There are multiple ways to make progress or move ahead. This allows learners to make choices, rely on their own strengths and styles of learning and problem-solving, while also exploring alternative styles” (Gee, 2007, p. 223).
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As previously stated by UDIR (2022b): “School shall allow the pupils to experience the joy of creating, engagement and the urge to explore, and allow them to experience seeing opportunities and transforming ideas into practical actions”. This also resonates with the part of the curriculum that encourage students to be active in their own learning, and also learning about learning (UDIR 2022a). Freedom of choice is a way to give students agency, and a way to make students learn about consequences. It is also related to mucking around (Gee, 2017), as the freedom of choice is a part of exploring games. One thing is to learn about ethics, another is to be presented with different ethical choices that require deep ethical consideration. For example, in the postapocalyptic multiple-choice adventure game *The Walking Dead* (2012), the player is presented with the choices of either granting a friend’s request of easing his pain, or letting him live in agony. Examples of this learning principle from relevant games to this thesis are further explored in section 5.2.5.

2.2.6 Situated meaning principle

“The meanings of signs (words, actions, objects, artifacts, symbols, texts, etc.) are situated in embodied experience. Meanings are not general or decontextualized. Whatever generality meanings come to have is discovered bottom up via embodied experience” (Gee, 2007, p. 224).

In text-heavy video games, the player often needs to understand key terms or acquire key information to progress in the game. In this way, the player is given motivation to pay attention to the text in the game, and learning words through actions and responses from the game. This will often lead to players learning words and terms in context. There are often additional *hint-* or *help-*mechanics in games to help players who struggle with advancing in the game. Examples of this learning principle from relevant games to this thesis are further explored in section 5.2.6.

2.2.7 Multimodal principle

“Meaning and knowledge are built up through various modalities (images, texts, symbols, interactions, abstract design, sound, etc.), not just words” (Gee, 2007, p. 224).

Video games are multimodal. They combine text, animation and sound in an interactive package that make for potentially powerful pedagogical tools. As repetition is an effective pedagogical tool, so is also multimodality, presenting the same message multiple times – at the same time – through different modalities. For example, in the action-adventure game *Assassin’s Creed II* (2009), the player learns about Leonardo da Vinci by interacting with him (text, sound and animation), seeing his paintings (images, art), and interacting with da Vinci’s inventions such as the flying machine and several weapons (interactions, abstract design). Examples of this learning principle from relevant games to this thesis are further explored in section 5.2.7.

2.2.8 Transfer principle	“Learners are given ample opportunity to practice, and support for, transferring what they have learned earlier to later problems, including problems that require adapting and transforming that earlier learning” (Gee, 2007, p. 226).
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Transfer is here used in a pedagogical sense, when learners use a previously acquired skill set to solve a new learning situation. Gee states that getting transfer to happen, “typically requires making the learners overtly aware of how two different problems or domains share certain properties at a deeper level. That is, it requires thinking at a design level. Thinking about how two problems or domains are structured or “designed” in similar ways, ways that may be obscured by the more superficial features of the problems or domains” (2007, p. 126). Good games usually present plenty of challenges that demands application of previously in-game learned skill sets. Examples of this learning principle from relevant games to this thesis are further explored in section 5.2.8.

2.2.9 Cultural models about the world principle	“Learning is set up in such a way that learners come to think consciously and reflectively about some of their cultural models regarding the world, without denigration of their identities, abilities or social affiliations, and juxtapose them to new models that may conflict with or otherwise relate to them in various ways” (Gee, 2007, p. 226).
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As part of the all-round development (*bildung*) mentioned in the current core curriculum, The teaching and training shall give the pupils a good foundation for understanding themselves, others and the world, and for making good choices in life” (UDIR, 2022b). Furthermore, in the English subject in upper secondary school, the student is expected to be able to “explore and reflect on diversity and social conditions in the English-speaking world based on historical contexts” (UDIR, 2022a). For example, in the *Civilization*-series (2001-), the player is in control of a civilisation and must actively reflect upon different political issues that will decide upon the future of the civilisation. The player is also exposed to different cultural models from other civilisations. Examples of this learning principle from relevant games to this thesis are further explored in section 5.2.9.

2.2.10 Affordances, gameful learning and identity

The previous section (2.2.9) established that video games can facilitate play in a way that can be used in education. Reinhardt (2019) describes the different ways video games facilitates learning through the word *affordances*, as in how games *afford* different forms of learning. These 8 affordances are as following: Contextualizing language learning, time-controlling features, sheltered learning features, goal-oriented play with feedback, languaging, identity work and play, time/place independence or dependence, and autonomous play (2019, p. 146). Most games are designed inherently pedagogical, so that the consumer gradually learns the game's mechanics, rules, and means of progress from the game itself. This is oftentimes done through an in-game tutorial or through trial and error with clear feedback on what is right and wrong. Progress in skill and mastering the game's challenges is indeed at the very core of many games' design. This constant feedback on what is right or wrong can in many ways be viewed upon as a mentor to progress to the next zone of proximal development. Furthermore, Reinhardt and Sykes (2012, 2014) argue that there are three different ways to use video games that all go under *gameful* teaching:

- 1) **Game-enhanced teaching.** First, is game-enhanced learning, which involves the intentional adaptation and use of vernacular games that were *not* purposefully designed for second language teaching and learning (L2TL) (Reinhardt, 2019, p. 8-9). This is the form of teaching that most closely resembles how the two teachers in this study used games, and it is the term this study will use to describe such teaching. However, this study focuses on competence aims in the English subject that are not necessarily limited to language-learning, but also include other elements such as social conditions and critical thinking (UDIR, 2022a, 2022b).
- 2) **Game-based teaching.** Second, is game-based teaching, which concerns the use of video games that are specifically designed for education. However, as several researchers points out (Reinhardt, 2019, Skaug et al, 2020), educational technology industry has not invested much in the development for educational use, and many such games suffer thus from the “chocolate-covered broccoli” problem (Reinhardt 2019, p. 10). This is a metaphor that entails the notion that when learners bite through the chocolate coating, or gameful trappings, of an educational game, they are repulsed by the broccoli, the boring ineffective educational content (Reinhardt 2019, p. 10).

- 3) **Game-informed teaching.** Lastly, is game-informed teaching, which is the application of theories of games and play to the broad practice of teaching and learning, without necessarily using games in the teaching (Reinhardt 2019, p. 9). This closely resembles the message of Gee's 2007 book *What Video Games Have to Teach Us About Learning and Literacy*. Related to this, is the term *gamification*, which is a process where the engaging elements of games, like competition, objectives, levels, leaderboards and badges, is applied to an otherwise non-gaming related activity, like learning a language or learning about a culture.

De Sousa (2021) argues in her PHD that *serious games* should be used in school, as they are designed for learning in a specific knowledge domain, implementing curricular content while still maintaining the engagement aspects of gameplay, referring to Sanchez (2013). She further argues that serious games can provide educationally relevant and problem-rich environments, tools, and experiences that ensure learners will develop rich content understandings, referring to Barab, et al. (2010). On the other hand, de Sousa concludes that commercial videogames also often have designs that are based on educational principles that foster cognitive and social skills, in addition to being entertaining (2021, p. 41). Coinciding with Barab et al.'s (2010) transformational play, commercial videogames can, for example, involve students in adopting different perspectives through role-play that invites them to assume different identities in the game (De Sousa, 2021, p. 41). Gee (2007) presents three different identities connected to play: a virtual identity (the character), a projective identity (how the values of the player are projected in the character) and multiple real-world socio-cultural identities (who the player is in real life and who she intends to become). De Sousa (2021) argues that this approach has been influential in empirical studies showing how players' ethical understandings develop as they explore new identities in gameplay (p. 41). Furthermore, she states that in the virtual identity, the learner makes, and is accountable for, choices with underlying values and goals that have been pre-programmed, and the projective identity must navigate the relationship between the different identities (2021, p.41), as immersion in a story or a game character may lead to learning the story's morale.

2.3 Video games in school

The previous section (2.2) established theory that describe video games as well-designed for learning and for facilitating play. However, this might not always be the case within the limits

of a classroom. Here, there are limits such as space, equipment, power-slots, one teacher versus thirty students, et cetera. De Sousa argues that support and progression might be incorporated into the game design, but also that empirical findings stress that students depend on their teachers to make links between the game and curricular content (2021, p.41). Furthermore, she states that students need instructional assistance to understand knowledge representations that may be tacitly embedded in games, textbooks, and other resources (2021, p.41.) The use of advanced digital learning resources, like serious games and simulations, does not necessarily assure that learning takes place. Successful use of digital technology, including commercial videogames in formal learning settings, also relies on how the resource is integrated into the teacher's enacted design, where the teacher's dialogic interactions with students is a key issue (De Sousa, 2021, p.41). Any tool's or medium's educational value will arguably depend on the context of its use. This section has so far stated the importance of a proactive teacher that clarifies the educational value for the students.

The practice of game-based learning involves the adaptation of vernacular games and pedagogical mediation, often in the form of wrap-around materials that draw learner-players' attention to the language use in, through, and around the game. Games can be evaluated by considering their affordances, how appropriate they are as computer-assisted language learning (CALL) resources, and how they may appeal to learners' play preferences and styles. The latter is important because voluntary buy-in is key to a gameful disposition, which may help L2 learners see the learning potential in vernacular gameplay. The design of materials is also key, and among the many possible approaches to the practice, several frameworks stand out, including a literacies-informed approach, focusing on game discourses, functions, and dynamics, leveraging narrativisation, promoting experiential learning, and a bridging activities approach. A basic framework for implementation follows a structure of pre-play briefing, during-play role differentiation, and post-play debriefing and reflection. Chapelle (2001) categorizes six criteria for computer-assisted language learning (CALL), which are all relevant to game-based learning, as digital games are played through some sort of computer-driven technology. These criteria are all important to consider when it comes to choosing which game to use in education:

2.3.1 Language learning potential

Language learning potential considers the L2 learning affordances of the game, the extent to which these affordances are available to particular learners, and the quality of L2 learning

connected with them. Some games are explicitly designed for language learning (vernacular games), while other games might work better due to focus on engagement (commercial games).

2.3.2 Learner fit

Games are targeted at specific age groups, which is referred to as learner fit. Different factors to consider when choosing a game for a class are the students' age, gaming experience, cognitive ability and language competence. Adolescents may find games targeted at children too childish, and at the other end of the scale are the games that are too violent or inappropriate. However, games targeted at children usually use language that is more comprehensible to lower proficiency L2 learners.

2.3.3 Meaning focus

Meaning focus requires assessing the narratives and tasks in games and determining whether learners might find them engaging, and if the game elicits learning. Story-driven games are more meaning-focused than structure-driven games (Reinhardt, p.150).

2.3.4 Authenticity

Authenticity considers to which degree the language and cultural representations in the game are genuine, or originally meant for native and expert L2 users, instead of L2 learners. Translation issues might occur, or the game content might be too irrelevant.

2.3.5 Positive impact

As in all teaching, game-based activities should have a positive impact on overall learning, lesson objectives and curricular goals. Apart from content knowledge, this may come in the form of for example raising critical awareness of social and cultural issues. An example of this is how the BAFTA-awarded game *My Child Lebensborn* (2018), made by the Norwegian Sarepta Studio and Teknopilot, puts the player in the shoes of a parent providing for a German-born child (you can choose the gender) growing up in Norway in the aftermath of WW2 through the Lebensborn-project. This "first hand" experience of how "your own" child has to handle abuse, as is historically documented, really provides the aforementioned +experiences (Gee, 2017).

2.3.6 Practicality

Lastly, as with other distributed media, there are issues of licenses and accessibility. The normal price of new games on the PlayStation 5 – the currently most popular gaming console – is roughly 699,- NOK. Not to mention the PS5 itself, which has been - and is projected to be - short of demand since its release in 2020, and boasting a minimum starting price of 4799,- NOK, making it very inaccessible for school use. The case is luckily different for PC and Mac however, but there are still issues of prices, licences and subscriptions that each school individually have to prioritize in their budgets – which is usually not the case.

A Norwegian group of teachers who use video games as part of their teaching, called *Spillpedagogene* (referred to as Skaug et al.), argue in their 2020 book *Spillpedagogikk* the case that video games are a useful tool that will only benefit teachers to have in their toolbox. They are indeed so convinced of the pedagogical benefits of video games that they furthermore argue that it *should* be a part of any modern teacher's toolbox. However, as Skaug et al. (2020) point out, one can not *only* use video games as educational tool in the classroom. They compare the use of video games in education with other mediums such as movies and literature; its effectiveness all depends on its application and careful management and planning around competence aims. Skaug et al. (2020) point to research by Egenfeldt-Nilsen (2006), Young et al. (2012), and Clark et al. (2016) which show that gaming in the classroom should be enacted within the borders of education, and that the teacher should closely supervise the students and give relevant feedback to them. As to how this should be enacted, Skaug et al. (2020) point to Fjørtoft (2016), who suggests three points to consider as to how successful education should be planned:

1: *What are the students supposed to learn?* - What competence aims are at the foundation of this teaching? What are the students supposed to know, understand and do after the education?

2: *What is proof of successful learning?* – How should the students show to which degree they have obtained the goals? How should they show comprehensive understanding? How are they to be evaluated?

3: *What learning activities will develop the students' relevant knowledge, understanding and skills?* – What should be the content of the teaching, and how is it to be enacted?

These three points are all applicable to game-enhanced learning. Thus, to echo the words of Skaug et al., video games is an educational tool that can only benefit teachers who has the competence to use them in their teaching repertoire (2020, p.27).

3. Methodology

This chapter will present the different research methods that were employed to answer the overarching research question *how do two teachers use video games in English teaching in upper secondary school?* First, the research design is described (3.1). Second, the sampling procedures that were employed, as well as the participants, is presented (3.2). Third, the data collection procedures and data material is discussed (3.4), before the data analysis is explained (3.5). Last, the credibility and ethics of this study is outlined (3.6).

3.1 Research design

The research design of this study consists of different forms of qualitative data, namely those of semi-structured teacher interviews, semi-structured group-interviews with students, and classroom observation. As the first word in the RQ is *how*, a natural choice of method was observation. Furthermore, as both teachers put much thought and effort into their lesson plans through many conscious choices, a way to get insight into this was through interviews. These interviews provided the insight into how the teachers approached the different video games, how they would use them in connections with different competence aims in these sessions, and which competence aims they chose. The student interviews provided valuable insight into how they reacted to the teaching, and if – or to which degree - the competence aims were covered.

Table 3 A: Overview of the research design

Research question	Data material	Data analysis	Analytical concepts
How do two teachers use video games in English teaching in upper secondary school?	<ul style="list-style-type: none"> • Teacher interviews • Student interviews • Classroom observation 	Direct content analysis of interviews and observation through deductive coding	James Gee’s learning principles

3.1.1 Sampling of teachers

The sampling process of teachers was that of a mix between my own contacts, and the network called *spillpedagogene*, “the game pedagogues”, a network of Norwegian teachers who use games as part of their teaching. One teacher is a teacher that I knew uses games as part of his English teaching due to me having contact with him, and the other teacher was one who volunteered after I asked *spillpedagogene* if they wanted to contribute to my research.

This is purposeful sampling, as the whole premise for this study is that teachers use games in their teaching. As I could not simply choose teachers without knowing they used games in their teaching, this is a case of information-rich cases as a criterion for my selection. Due to this case-rarity, one of the teachers is located in Western Norway, and the other in Eastern Norway. Selecting information-rich cases is in line with Patton (2002):

The logic and power of purposeful sampling lie in selecting information-rich cases for studying depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry, thus the term purposeful sampling. Studying information-rich cases yields insights and in-depth understanding rather than empirical generalizations. (p. 230)

This is also in line with Firebough, who states that the “representativeness of the sample is more important than the size of the sample” (2008, p. 137). As the teachers also use different games in their teaching, this aligns with Firebough’s (2008) third principle of sampling, namely collecting a sample that “permits powerful contrasts for the effects of interests” (p.139). This furthermore serves for *strategic comparisons*, as Firebough (2008) states the importance of inferences that arise when comparing across different data. All contact with the teachers before the school-visits were through email.

3.1.2 Sampling of students

After receiving signed consent-forms from the students, I specifically asked the teachers if they could pick out a diverse group of 5-6 students with different genders and interests, so that this selection could be somewhat representative of the class. Although, a full representation with such a limited amount of participants is not possible. I did this to try and get a selection that was as representative as possible with a limited number of students, to minimize confirmation bias and single person stand-out factors. Hopefully, this would also align with Firebough’s (2008) third principle of collecting a sample that “permits powerful contrasts for the effects of interests” (p.139).

3.2.1 Data collection and material

The data collection was initiated in September 2021, as I evaluated my options regarding how to get access to teachers who used video games as part of their English teaching, preferably at

upper secondary school. My first course of action was to contact *Spillpedagogene*, as I knew they used video games as part of their teaching. Luckily, one of them taught English at an upper secondary school, and was happy to participate in my project. Having acquired one participating teacher, a more difficult process begun with the search of other teachers who used video games and would allow me into their classroom. After contacting several other schools without any luck, I started to look to my own contacts. It so happened to be that one of my former peers checked all the criteria and was happy to participate. These teachers do not use video games in every English lesson – far from it. So, I had to arrange with them as to when it would be best for me to come and observe and interview, to make sure that they actually used video games in these lessons. After that arrangement, the teachers sent me their respective lesson plans per my request, which detailed which video games that were to be played, what competence aims this would achieve, as well as the preparation before and reflection after related to the activities in these lessons. To be well prepared, I played the video games myself before visiting the schools, so that I could gain as much insight and understanding as possible of the teachers' sessions. I also sent the teachers information of my project and consent forms which again the teachers distributed to the students who could consent before my arrival. Silverman (2011) states that the focus of qualitative research is often authenticity. Interviews and observation allow for this, as they are among the most common methods applied in qualitative research. He further argues not to choose too many data sets to answer a research question when describing and interpreting different sides to a phenomenon. This is in line with my two chosen methods of interviews and observation, although they also provide for mixed methods.

Both teachers' lessons were the three first lessons of that day, consisting of three times 45 minutes. Both teachers' lessons also started with repeating previous knowledge and underlining the relevance of the session, and ended with a short repetition and students' reflection upon the activities. During the lessons I was a passive observant placed in the corner of the classroom, not intruding with the teaching taking place. I occasionally moved around in the classrooms to get a better view of what the different students were doing, as the games were being played on the students' laptops. This led to some short interactions where I got brief insights into the students' process, relating to sequences of interaction and interpretation that sometimes present unpredictable and emergent meanings and outcomes (Emerson, et.al. 2011). My school visits consisted of a short meeting with the teachers before the lessons started, to talk through the logistics and pragmatics of the day, before observing

the actual lessons. The teachers had arranged for me to interview the chosen students right after the lessons, so that the teaching was fresh in their minds. After the student group interviews, which lasted about 15 minutes each, we had a break before doing the teacher interviews, which lasted about 60 minutes each. Both interview recordings were done through the UIO app *Nettskjema Diktafon*, so that I did not have to store any data on any devices, as it transfers and stores the recording securely on the University of Oslo's server. These interviews were subsequently anonymised and transcribed with the program Inscribe. Both interviews were conducted in Norwegian, in a semi-structured manner, allowing for a comfortable and flexible conversation in the hope of being as natural as possible.

3.2.2 Teacher interviews

The teacher interviews were semi-structured qualitative interviews (Cresswell, 2014), based on an interview-guide with pre-defined questions, allowing for follow-up questions formulated by the interviewer during the interviews. This allowed for detailed and systematic investigation of the teachers' reported perspectives on video games as a teaching tool, along with explanations of their motivation. Furthermore, this was a good method to give me insight into RQ1: *How do the teachers plan when setting out to utilise video games in English education in upper secondary school?* Through semi-structured interviews, the teachers were able to share their thinking into how they set out to cover different competence aims through the use of video games in their teaching.

3.2.3 Student interviews

The student interviews were semi-structured qualitative group interviews. The teachers had both chosen 6 students from those consenting to be interviewed, to represent the class as a whole with different genders and interests. The group-interviews took place shortly after the lessons, in a room the teacher had chosen beforehand. I placed my mobile phone in the middle of the room, with the app *UIO Nettskjema Diktafon* recording and uploading the interviews on an online server. I chose semi-structured qualitative interview as format, to make the setting seem as little rigid as possible, trying to make the students comfortable and able to speak their mind freely. In both student interviews, I tried to make everyone a part of a conversation, and all students contributed with something in both interviews. The student perspective was particularly important in answering the part of my research question regarding competence

aims; this is where I got to know if the teachers managed to cover the competence aims they set out to. This process was insightful regarding RQ3: *How do the students react to this teaching?*

3.2.4 Observations

A small part of my data are observations and field notes from the lessons. I chose this as a secondary data source, to gather further contextual information in answering the part of my research question regarding *how* the teachers use video games, and also how the students reacted to the teaching. This gave me valuable insight in addition to the interviews, as my data are not only self-reported from the teachers and students, but I also got to see it first-hand. The classrooms observation were of passive nature. First, I observed the teachers' start of lesson and instruction, followed by the students' application of the instruction. This gave me the time and focus to properly observe how the students started the game and their initial reactions. In both classrooms, the students largely sat by themselves in silence and played the game, although there were instances of students talking amongst each other to help those who could not progress in the video game. As I could gain further insight into the students' reactions by moving around in the classroom, I chose to do this in the second and third lesson – although I was mindful as to not interrupt the teaching. This interaction gave me some insight into the part of my research question regarding competence aims; to see if the teachers could successfully cover the competence aims they set out to, a way to gain data of this was to hear from the students how they actually perceived the teaching process. This also gave me a broader picture of the student group, as the student interviews only took place with 6 students. Fangen (2011) describes two different forms of observation. The first regards the presence of the observer when the participants perform certain tasks typical for the environment they are part of, and the other form of observation regards following the participants through different arenas in their everyday life. It is Fangen's (2011) first form of observation that is relevant in this case. As I was an observer in the classroom, I gained benefits that align with Fangen's (2011) list of advantages, namely that of authentic first-hand experiences while being present in the participants' life at school. This interaction gave me a bigger picture regarding interpretations of how successfully the competence aims were being covered. These observations and interactions give me a foundation to draw conclusions and broaden the discussion of the findings from the data material.

3.3 Overview of participants

In both schools, the teachers were male, and the student groups both consisted of two girls and four boys. Both classes were the first grade of upper secondary school. The pseudonym for the teacher in Eastern Norway is “Armin”, and the pseudonym for the teacher in Western Norway is “Bjørn”.

Table 3B: Overview of participating students

Student ID	Gender	Location/Teacher
A1	Male	Eastern Norway/Armin
A2	Female	Eastern Norway/Armin
A3	Male	Eastern Norway/Armin
A4	Male	Eastern Norway/Armin
A5	Female	Eastern Norway/Armin
A6	Male	Eastern Norway/Armin
B1	Male	Western Norway/Bjørn
B2	Male	Western Norway/Bjørn
B3	Female	Western Norway/Bjørn
B4	Female	Western Norway/Bjørn
B5	Male	Western Norway/Bjørn
B6	Male	Western Norway/Bjørn

3.4 Data analysis

In this section I describe the procedure I have used to analyse the data material. I use theoretical groundwork for my analysis, as I seek to provide knowledge and understanding of the phenomena being studied. Direct content analysis is commonly used in both qualitative and mixed methods research (Hsieh & Shannon, 2005), and is also applied in this thesis.

As I set out to find out how the teachers use video games in teaching to cover competence aims, and reflectively how the students responded to this teaching, my first step was to analyse the interviews. After transcribing the interviews through the program Inqscribe, I applied content analysis through theoretical concepts. These theoretical concepts are developed by linguist researcher James Gee, who in his 2007 book *What Video Games Have To Teach Us About Learning And Literacy* establish 36 learning principles that are apparent in

good video games. Gee further states that we should use these principles "... with or without games, in schools, workplaces, and other learning sites" (2007, p. 215). As Gee constructs these learning principles directly aimed for use in school, I find it a fruitful and logical framework that work as a deductive coding system for my analysis. These principles describe different learning processes that students go through, and some are also explicitly described by the teachers. As 36 principles would be too comprehensive a coding system for this study, the most prominent principles were chosen (see Table 4A). These were the nine learning principles that occurred the most throughout the interviews, later re-numbered in order of appearance in Gee's (2007) book (section 4.3).

Table 3C: Analytical concepts deployed in the analysis of the data (here numbered as in Gee's (2007) book).

Analytical concept	Explanation
1) Active, Critical learning principle	All aspects of the learning environment (including the ways in which the semiotic domain is designed and presented) are set up to encourage active and critical, not passive, learning (Gee, 2007, p. 221).
6) Psychosocial moratorium principle	Learners can take risks in a space where real-world consequences are lowered (Gee, 2007, p. 222).
11) Achievement principle	For learners of all levels of skill there are intrinsic rewards from the beginning, customized to each learner's level, effort, and growing mastery and signalling the learner's ongoing achievements (Gee, 2007, p. 223).
14) Regime of competence principle	The learner gets ample opportunity to operate within, but at the outer edge of, his or her resources, so that at those points things are felt as challenging but not "Undoable" (Gee, 2007, p. 223).
16) Multiple routes principle	There are multiple ways to make progress or move ahead. This allows learners to make choices, rely on their own strengths and styles of learning and problem-solving, while also exploring alternative styles (Gee, 2007, p. 223).
17) Situated Meaning Principle	The meanings of signs (words, actions, objects, artifacts, symbols, texts, etc.) are situated in

	embodied experience. Meanings are not general or decontextualized. Whatever generality meanings come to have is discovered bottom up via embodied experience (Gee, 2007, p. 224).
20) Multimodal principle	Meaning and knowledge are built up through various modalities (images, texts, symbols, interactions, abstract design, sound, etc.), not just words (Gee, 2007, p. 224).
29) Transfer principle	Learners are given ample opportunity to practice, and support for, transferring what they have learned earlier to later problems, including problems that require adapting and transforming that earlier learning (Gee, 2007, p. 226).
30) Cultural Models about the World Principle	Learning is set up in such a way that learners come to think consciously and reflectively about some of their cultural models regarding the world, without denigration of their identities, abilities or social affiliations, and juxtapose them to new models that may conflict with or otherwise relate to them in various ways (Gee, 2007, p. 226).

3.5 Research credibility

This section regards the validity, reliability and ethical considerations of my study. Johnson and Christensen (2013) state that validity refers to “the correctness or truthfulness of the inferences that are made from the results of the study” (p. 278), and that reliability is “when the same results would be obtained if the study were conducted again (i.e. replicated)” (2013, p. 278). Regarding the difference between these two terms, Brevik (2015) argues that validity is “the trustworthiness of the inferences drawn from the data” and that reliability is “the accuracy and transparency needed to enable replication of the research” (p. 46). In other words, validity in a study cannot exist without reliability. However, the opposite may occur.

3.5.1 Reliability

According to Johnson and Christensen (2013), a study's reliability is connected to how – and if – the obtained results are repeatable. However, as qualitative research often includes complex human interactions and variations - which is the case with my study - it is on a detailed level impossible to repeat. Brevik (2015) articulates this as “research where people are involved can never be fully replicated; for instance, the atmosphere in a classroom will never be identically recreated and identical utterances will not be uttered” (p. 46). Hallgren (2012) establishes two different forms of reliability, namely that of intra-reliability and inter-reliability. First, intra-reliability concerns to which degree there is concurrence within multiple repetitions of one test (Bryman, 2016). In this study, there are no multiple repetitions of one test, which is a weakness to its reliability. However, the interviews are recorded and transcribed, giving me access to repeatedly go over the data and reaffirm its content. This is naturally not the case with the classroom observations, which were not recorded due to privacy concerns. Second, inter-reliability regards how the study coincides with the results of other researchers. Due to the case-specific nature of this study, it is unique in the sense of the combination of games and participants. However, the findings from this case somewhat resemble the classroom experiences of Norwegian teachers Skaug, Husøy, Nøsen & Staaby, which they describe in their book *Spillpedagogikk* (Skaug et al., 2020).

3.5.2 Validity

This segment describes the procedures for efforts to optimise the validity and authenticity of this study. Johnson argues that for study to be deemed valid, it has to be “plausible, credible, trustworthy, and therefore defensible” (2013, p. 299). Brevik (2015) further states that validity refers to the researcher's judgement and thoroughness throughout the process, and if the conclusions that are drawn the data are trustworthy and defensible. Creswell (2014) asserts that qualitative validity takes place when “the researcher checks for the accuracy of the findings by employing certain procedures” (p. 201). There are three procedures that are especially relevant in this case:

- 1) **Reactivity.** Reactivity in this setting means the influence a researcher might have on a setting or its people in a study (Maxwell, 2013). Kleven, Hjordemal and Tveit (2014) argues that an observer or researcher that is present in a setting might affect the participants. This may result in an unnatural environment for the participants, making them act differently than they would otherwise, and this could again affect the results and inferences drawn from the data. However, as is earlier pointed out, I started my

observations in a passive matter in the corner of the classroom specifically to disturb the natural flow of classroom events as little as possible, and gradually “blend in” to the classroom environment as much as possible. Additionally, the inherent absorbing effect of video games probably made it easier for the students to forget my presence and focus on their instructions.

- 2) **Triangulation.** Johnson (2013) describes triangulation as applying “multiple investigators, methods, data sources, and/or theoretical perspectives in the search for convergence of results”. Creswell (2003) further states that triangulation can only benefit the validity of research. In my study I use three different forms of data input, namely teacher interviews, student interviews and observations. The participants are also from two different parts of Norway, consist of different genders and have different interests. As my findings coincide across all these different variables and methods, this coincides with Creswell’s (2014) description of coherent justification that validates data.

- 3) **Researcher bias.** Maxwell (2013) categorises research bias as an influence on the conclusions the researcher might draw from their study, as to affect the result and validity of the analysis. Johnson (2013) further encourages to actively search for results one does not expect, as well as to expect the unexpected. These are all measures I was well aware of during my study, as the particular subject of video games is oftentimes accompanied by strong personal interest. This strong personal interest in video games is similar to what Gee (2017) calls *affinity space*, and was also apparent with both teachers, and even in some of the students, something which is further explored in the interviews. Additionally, there is a very high probability that teachers who use video games in teaching are positive to this practice, as it is strictly optional and takes time and effort to finalise. A weakness of this study is the lack of nuanced voices, especially concerning those critical to video games. However, this study’s main objective was to explore video games used in English education in upper secondary school, and there are firstly not many teachers who proclaim to do this, and secondly, those who do tend to be positive to this practise. The study was, however, completely open to any reactions to this practice by both teachers and students, negative or positive. As many good sides as there are to video games, there certainly are challenges – especially concerning the use of them in school. Additionally, as I already

knew one of the teachers, I worked hard on excluding any familiarity bias that could occur.

As to the generality of the study, Johnson (2013) argues that external validity, or generalizing validity, is “the extent to which the result of a study can be generalized to and across populations of persons, settings, times, outcomes, and treatment variations” (p. 291). As a premise for this case study is the application of video games in English teaching, the outcome varies a great deal on which game is being utilized. For example, if a class were to learn about the conditions of Polish-Jewish refugees under World War 2, the outcome of the lesson would diverge a great deal if the movie shown was *Frozen*, as compared to *Schindler’s List*. In the same way, the video games applied by the teachers in this study greatly affected the whole lesson, and if someone were to do the same study for the sake of validity, it is paramount that it is done with the same video games. There are, however, conclusions that can be drawn across the application of different video games in education, and it is these that are at the centre of the study.

3.5.3 Ethical considerations

Research ethics have been central for the development of this project, whether it be the data collection, the processing of the data or the writing of the thesis, to ensure the privacy and comfort of the participants. All participants have the right to privacy and not to participate, as it is ethically wrong for a researcher to collect data at all costs (Befring 2015). GDPR-requirements (General Data Protection Regulation) have been followed strictly throughout, as it is EU law on data protection and privacy focusing on the protection of personal data and the treatment of it. All participants have been anonymized by pseudonyms, and by codes in the data material.

4. Findings

In this chapter, I present my main findings based on the acquired data material. My first main finding, presented in section 4.1, revealed that both English teachers had thoroughly planned the teaching activities from the bottom up, choosing a video game that would facilitate certain competence aims. This is based on teacher interviews, and is connected to my sub-research question 1. In section 4.2, I present my second main finding, indicating that the chosen video games served their intended purpose regarding competence aims and student stimulus. This is based on teacher interviews and classroom observation, and is connected to my sub-research question 2. My third and final main finding is presented in section 4.3, which suggests that the students reported that they learned from – and liked – this method of learning. This is based on Student interviews and classroom observation, and is connected to my sub-research question 3. The following sections elaborate on said findings, and include excerpts from the teacher interviews, student interviews and classroom observation. All interviews were held in Norwegian, and later transcribed and translated to English.

4.1 Teacher planning: being ahead of the game

A vital part of Fjørtofts (2016) three points of successful education is *planning*. This is especially the case when it comes to using video games in education, as it is not a conventional form of education, and thus the students may not have prior experience with this form of teaching nor know how to react to it. The importance of detailed planning when using video games in education was also underlined by both teachers. This finding is based on both teacher interviews, classroom observation, and the teaching plans which were designed and sent to me before the teaching sessions.

4.1.1 Findings from the teacher interviews

During the interviews, the teachers were asked questions about the use of video games in education, regarding both before, during and after the actual lesson with video games (see appendix 1). The findings in this section will be presented question by question, with topics presented in bold to introduce the teacher's responses.

4.1.1.1 About the planning

As became apparent in both teacher interviews, the teachers put a great amount of thought and planning into how to successfully implement video games in their teaching. The interviewees – with pseudonyms – are the teachers Armin, marked in blue, who teaches on a school in East Norway and used the game *Win the White House*, and Bjørn, marked in green, who teaches on a school in West Norway and used the game *Orwell's Animal Farm*:

Excerpt 1

Interviewer: How do you prepare before using video games in education?

Armin: Ah, yes! That is really important. To use video games in education successfully requires more than just starting the game and expect the students to learn the intended material from the game itself, as if the game is sufficient in and of itself. You can't just say "let's play a game everyone", and hope for the best. Just like saying "let's play football" in PE doesn't make sure everyone is included. Before this lesson, we've already had five lessons to prepare the students for how to solve the challenges the game will present them. First, we discussed the overarching theme, American politics, from the start, and then narrowed down to the material that is most relevant for the game, without them knowing that they were going to play a game. In their minds, it was a matter of 'we are going to learn about American politics, and how to win the election'. We looked at the different political parties, so that the students would learn what they stand for, key issues. They worked on a form on Monday, by preparing and writing down what the different political parties stand for, finding information on their own. This makes them use the knowledge they gain, and write it down on paper.

Interviewer: Interesting! So, they were prepared for this specific game. What about today, what was the plan for today?

Armin: Yes. When implementing the game today, I showed them the game mechanics on the screen, described the purpose of why we are using the game, patrolled and helped the students while they were gaming, and finally, we summarized and had a short reflective discussion in the end.

It is evident that Armin has thoroughly planned this session on a detailed level, describing five lessons preparing the students thematically for this one, as well as introduction, monitoring and reflection in this lesson. He also made sure to sufficiently instruct the students in how to play the game, something the classroom observations can confirm. The same tendencies are evident with Bjørn:

Excerpt 2

Interviewer: How do you plan, or prepare, before using video games in education?

Bjørn: Yeah.. We've spent two weeks reading the novel. Before we start playing, we have a reflection session, where we discuss the differences between different narrative media. What is the difference between experiencing a book versus a movie, a book versus a game, and so on. More specifically, what level of agency, participation, does one have when playing a story versus when reading it. The students are given the task to discuss what they would have changed, if they could change something in the novel. [...] I make the students play the game in pairs, after showing them how the game works. This is what I find the most interesting about this process, that the pairs naturally start discussing, often academically and literary, due to the nature of the challenges in the game. We can later use these academic discussions later on in evaluation processes. After this lesson, the students will work on oral presentations related to the game, which they will give next week.

Interviewer: Interesting! Did play through the game before using it?

Bjørn: Yes. This is important. When using a game in this way, you can't do it without being familiar with the game prior to the activity, in the same way as with a book or a movie.

As the nature of these two games are different, the planning approach from the two teachers are thus slightly different. Armin's preparations were focused on American politics, while Bjørn focused more on a literary approach, especially the comparison between novel and game. However, there are a lot of similarities between the two teachers' methods as well. Both teachers spent several lessons on subject-related topics to prepare the students before introducing them to the video games. They also made sure that the students properly understood how to approach the games, and frame it within academic borders. Both teachers also monitored the students while playing, and made sure to have a reflective conversation about the games at the end of the lessons, something which also became apparent through the classroom observations of these lessons. This correlates with Fjørtoft's (2016) points of successful learning, especially point 1 - *What are the students supposed to learn?* – and point 3 - *What learning activities will develop the students' relevant knowledge, understanding and skills?*.

4.1.1.2 Competence aims

Competence aims should be at the core of every teacher's education planning. In the interviews, it became apparent that this in fact was the case with both teachers:

Excerpt 3

Interviewer: How does competence aims fit into all this?

Armin: The students are supposed to learn on – and about – digital platforms. They are not only required to read text, they are supposed to be able to see, listen and produce. You get all that with video games. There is sound, pictures, animation, text, and interactivity where you have to use all that to solve different tasks. [...] The students are supposed to learn about different cultures and English speaking countries. This is where *Win the White House* is relevant. Different competence aims are intertwined in these lessons. They cooperate and work on specific topics mentioned in the curriculum, like culture and politics.

Armin mentions several facets of the curriculum. He mentions digital skills, which is part of the basic skills. This involves i.e. using digital media and resources, encountering authentic language models, critical and reflected behaviour using digital forms of expression in English, as well as exploring the language to interacting with others, creating texts and acquiring knowledge by obtaining, exploring and critically assessing information from different English-language sources (UDIR, 2022a). Armin furthermore says there are different competence aims intertwined in his lessons, relating to different cultures and English speaking languages. The process of working with American politics is one that is relevant to several competence aims, especially “explore and reflect on diversity and social conditions in the English-speaking world based on historical contexts” (UDIR, 2022a). Bjørn also takes the approach of having multiple competence aims in mind in his teaching:

Excerpt 4

Interviewer: Do you take competence aims into consideration in this process?

Bjørn: Oh, yes. To start off, there is the new competence aim where the students are to discuss and reflect on cultural forms of expression, including gaming. Using games like I have done with this class now, makes them conscious of games as a cultural form of expression. [...] You can, in theory, cover basically every competence aim

with the use of video games, given that you find an appropriate game. But this is obviously not to say that one should *only* use video games in education. The same goes for movies or books. Games can also cover parts of the curriculum that applies to language and language development. [...] It is not so much about the games themselves, but how they are applied in education. In this case, it is about games as a literary expression. I also use games as excursions or roleplays, or pedagogical tools. [...] When it comes to analysing fictional texts, a lot of students have issues when it comes to using citations from the source material when presenting their analysis of, say, a novel. What we do when analysing video games, however, is that they can use screenshots from the games as citations. This has helped a lot of students to understand the process of using citations in analysing literature as well.

Interviewer: Wow. How nice. Regarding the use of video games in education.. Does that help in fulfilling the bildung-responsibility that schools have for their students?

Bjørn: Absolutely. An important reason for using video games in education, is to familiarize the students that have no or little understanding of games with the value of games as a cultural expression. Gaming is growing in popularity amongst adolescents – with adults also, in fact. Also, for the “cultured” gamers, a part of the school’s responsibility is to elicit critical thought . In the same way that we can ascend readers from *The Hardy Boys* to Edgar Allan Poe, I hope to do the same with gamers from, say, *Fortnite* to *Among the Sleep*².

In addition to English-specific competence aims, Bjørn also mentions parts of the core curriculum, namely democracy and participation, as well as citizenship. For the students to properly take part in a society where English video games become a steadily more prominent part of popular culture, the school system have an obligation to familiarize the students with such media, as part of a bildung-process. Bjørn specifically mentions the newly incorporated competence aim that explicitly mentions gaming, but points out that games technically can be used together with all competence aims – although not exclusively so. He also mentions the use of screenshots from games as citations in analysis-processes, having a transformative value for the students’ understanding of citations in general. This goes under the competence

² *Among the Sleep* is a first-person horror adventure game made by the Norwegian *Krillbite Studio* in 2014. This game deals with mature themes such as childhood, trauma, and alcoholism. The player explores and interacts with the surroundings from the perspective of the 2-year-old toddler David, who must deal with the dangers and traumas from living with – and without – an alcoholic mother.

aim of “read, analyse and interpret fictional texts in English” (UDIR, 2022a). Through their process of using video games critically in education, both teachers cover the newly incorporated competence aim:

Discuss and reflect on form, content and language features and literary devices in cultural forms of expression in English from different media in the English-speaking world, including music, film and gaming. (UDIR, 2022a)

Both teachers set out to cover more than that with their plan, though, with Armin naturally focusing more on culture and social conditions, and Bjørn focusing more on texts and literary devices. They both also point out that video games can be used to cover many of the competence aims, with Bjørn going so far as to say that video games technically *can* be used in relation to every competence aim. Bjørn also points out the part of the core curriculum that relates to citizenship, as video games are an increasingly important part of youth – and adult – culture, which is also related to identity and cultural diversity.

4.1.2 Finding 1 summary

As became apparent in the teacher interviews, the teachers had thoroughly planned the implementation of video games in education by several measures:

- 1) They took great care when choosing the specific game they were to use. They made sure the game was accessible, both on a required skill-level and on a convenience to use in a classroom-level, pertaining to possible licenses, equipment and instalments.
- 2) At the root of both teacher’s education plan with games, were competence aims.
- 3) They had a clear plan of incorporating the video game in education with preparation, in-action follow-up, and post-activity reflection.

4.2 Video games as pedagogical tools

Through classroom observation and interviews, it became apparent that both *Win the White House* and *Orwell’s Animal Farm* served their intended purpose, functioning as pedagogical tools that elicits learning relevant to competence aims for upper secondary School English. This was observable in the classroom through the immediate response of the students, and the teachers also reported that they found the education successful:

Excerpt 5

Interviewer: How do you think it went today, using the game?

Armin: Well! First, some students said that they lost with around 200 electors. Then, we process what the students found hard in the game, and what can be improved upon in the next playthrough. There are answers in the political discussions that are obviously correct for a particular state, to get the momentum on your side and get the votes. After that, a lot of students wanted to try the game again, resulting in some of them winning with 360 electors.

Interviewer: Why did you choose this game?

Armin: I have used it earlier with success, and experienced that it was a good way for the students to understand how the election process in the USA actually works on a detailed level, and to get insight into key issues in different states. Some students chose to play as Republicans to be the bad guys. [...] Otherwise, they would have sat passively and read. One thing is obtaining information, another thing is to actually use that information for something. It is not input only, it is also output. [...] The game is in English, and the students are simulating a somewhat authentic situation. They must read the text, process it, and then use it to progress. To succeed they've got to understand the instructions and challenges presented to them. [...] Yeah, in the game, the students get praise when they do something right, and feedback when something is wrong. They get this immediately, which is good, because then they get useful information for the next challenges – in contrast to a hand-in written text, where the feedback might not come for weeks, upon which the students might have already forgotten the process, you know.

Armin reports that he found the session successful. He points out the value of students getting to use the knowledge they have obtained. This speaks to Gee's (2007) first learning principle: active, critical learning. He also mentions the fast feedback the students get from the game, relating to Gee's (2007) achievement principle. Interestingly, Armin mentions the roleplaying element where students chose to be Republican to be 'the bad guy'. This relates to transformational play (Barab et. al., 2010), giving the players choices that have meaning and consequences, and the experience of multiple perspectives. Transformational play is also evident in Bjørn's reports:

Excerpt 6

Interviewer: How do you think it went, using the game?

Bjørn: I think it went well! Many students were excited early on, as they liked the idea of rewriting the story towards how they wanted it to be. In games, you can get a strong emotional connection to the characters they control and meet. In addition, when the students are aware that their choices decide if the in-game characters will have good or bad outcomes, there emerges... The students are made responsible, which creates a closer, more emotional bond to the characters compared to movies or books, which again makes the experience more memorable. When rehashing the concepts from the games in, say an oral exam, it is easier to relate to the experiences in a game than in novels and movies, because of the interactivity.

In addition to transformational play, Bjørn mentions the phenomenon of games creating an emotional bond between the players and the in-game characters. This is in line with Gee's (2017) +experiences, with an action to take, caring about the outcome, and focused attention. Gee's (2007) multiple routes learning principle is also relevant to Bjørn's reports, as he mentions how the students were keen on rewriting the story themselves with their choices deciding the outcome of the story.

4.2.1 Finding 2 summary

Both teachers report the teaching session with games as successful. On a practical level, it became apparent through classroom observation that the initiation-process was comfortable and brief for students and teachers. Armin's students only had to open their computers and type in the right url-address, while Bjørn's students had received an installation-CD, through which they had installed the game prior to the observation. This installation-process took roughly five minutes. One of Armin's students had forgotten their PC at home, but he was able to play the game on mobile instead. As the games demands attention and interactivity, the student-engagement level was very high, with no registered fallouts. Both teachers were good at monitoring their respective students during the gaming-process, and the post-game reflective conversation engaged many students and summarized the most important themes they were working with.

4.3 Engaging learning

Through the student interviews, it became clear that both sets of students learned from – and liked – this form of teaching. The various ways in which they reported their learning is also what determined which of Gee’s (2007) learning principles that were to be applied in this thesis. For convenience, the students have a letter which represents which teacher they have, A for Amir, marked in blue, and B for Bjørn, marked in green.

4.3.1 Principle 1) Active, critical learning principle

The students reported the benefits of being active in the education, made possible through interacting with the game:

Excerpt 7

Interviewer: So, how was your experience of playing a game in education?

Student A1: It was interesting. They show us that we can make choices ourselves, to get a perspective. When writing and reading, you don’t get the same impression, but you do when you play yourself.

Student A2: It was fun! More varied. Not the same old English grammar all the time, you know. We do something new, while being active.

Student A4: [...] I feel that it sticks more to the brain and is more fun. The player use more senses; eyes, ears, hands. That makes it stick to brain better, and you remember it longer. Because you yourself are the player, you need to show some understanding to progress in the game.

Excerpt 8

Interviewer: So, how was your experience of playing a game in education?

Student B1: I get very engaged, which makes me want to learn more,

Student B2: I think I learn better through experience. Now we have sort of experienced how it is to become the president in the USA – very simplified, of course. We learned how the system works.

Student B1: You get to see it from the inside, how it works in practice.

Student A1 points out the value of making choices as feeling an impact. He/she also mentions benefits of interactivity and the activation of multiple senses, and describe the process as fun and engaging. This is also related to +experiences, the students also reporting that this form of learning sticks better in the long term memory.

4.3.2 Principle 2) Psychosocial moratorium principle

The students reported benefits of a low-risk, playful learning environment:

Excerpt 9

Interviewer: Did the game tell you if you were right or wrong?

Student B3: Yeah. [...] it is no big deal if you make mistakes. It's easy to do things over in games. You learn from your mistakes, you know. You can start over, or load a save. You can also play around, try different stuff.

The fact that the student points out that it is no big deal to make mistakes, is in relation to other forms of classroom activities, such as vertical learning with pressure on grades. This student's reports are in line with Gee's (2017) term of mucking around, the value of horizontal learning (Goto, 2003).

4.3.3 Principle 3) Achievement principle

The students reported benefits of fast, positive feedback:

Excerpt 10

Interviewer: Did the game tell you if you were right or wrong?

Student A3: I knew right away if I had got it right or wrong. In the in-game discussions, there is applause and a "that's correct"-message when you choose the right answer, which feels nice. Compared to waiting weeks to receive a corrected essay, and I have to remember why I chose those exact words, et cetera.

One of the most basic pedagogical principles is positive and negative feedback. Games do this very effectively, as not only do they get this feedback fast, each individual student are getting

challenges and feedback at the very edge of their proximal zone. Most games are constructed with many different levels of difficulty and challenge, as to appeal to as many as possible. It is therefore normal that the players, after starting the game, quickly adjust to their default level within the game, and from there gets pushed by the game to climb further up the difficulty levels, with the help of fast feedback.

4.3.4 Principle 4) Regime of competence principle

The students reported benefits of challenge of appropriate difficulty:

Excerpt 11

Interviewer: What about the challenges in the game?

Student A3: [...] If I meet a difficult challenge, I get motivated to learn what it takes to overcome it. [...] I sometimes set difficult goals for myself in games, like getting the platinum trophy, where you have collected all the trophies in the game, which sometimes is really hard, hehe.

Excerpt 12

Interviewer: Why is it more fun [than “normal” education]?

Student B2: Well, it’s a game. So maybe it’s about the competitive spirit, that you can win. And then it becomes more fun if you also manage to win.

Student B1: You need to focus to progress in the game. And you want to follow, because it is fun, in contrary to doing tasks or reading.

The regime of competence principle is related to the proximal zone of development (Vygotsky). In order to learn and develop, the students have to be presented to new material. This can come in the form of challenges in games, through which the game’s design itself guides the player in the zone of what the learner can do ‘with help’. Finding the right balance of difficulty is key as to make challenges motivating; too hard, and difficulty is demotivating. Too easy, and there is little feeling of accomplishment. However, both sets of students report the games’ challenges as motivating, and even fun. In addition the students who played *Win the White House*, reported the motivating aspect of the competitive nature of the game, as the goal is to win the presidential campaign in opposition to other candidates.

4.3.5 Principle 5) Multiple routes principle

The students reported benefits of making their own choices, relying on their own strengths and problem-solving:

Excerpt 13

Interviewer: Can you tell me about the game that you played?

Student A3: *Orwell's Animal Farm*, where we were supposed to do something with, something different, choose your own path forward for the farm, and what happened, by making your own story.

Student A1: It let us experience 'what if'. What if this happened, or this. And it made us choose how we wanted the story to end.

Student A4: It was motivating to take Napoleon down. He was a tyrant, so I wanted to see, what if Snowball actually wins in the story. It gave me motivation to find a way to take him (Napoleon) down, or make him lose.

Student A1: It's a game where you need to make the choices yourself, which make an impact on you. You read the information carefully, because you care, and then you remember it well.

Excerpt 14

Interviewer: Can you tell me about the game that you played?

Student B2: [...] I wanted to play as a Republican, to see how much stupid stuff I could do, like Trump. That was fun.

Relative to transformational play, the students report scenarios and narratives that are the result of their own choices and actions. They also report that the games make an "impact", that they "remember well" from playing games, and that the feeling of agency "gave motivation". This is also in line with +experiences (Gee, 2017), with actions to take, caring for the outcome and focused attention.

4.3.6 Principle 6) Situated meaning principle

The students reported benefits of being introduced to new information and vocabulary in context through embodied experience:

Excerpt 15

Interviewer: Did you learn any words, expressions from playing the game?

Student A4: Yes! For example... Elector, polling, mandate, campaign... I had to learn what they meant to beat the game.

Student A1: I learned about politics, what the different parties represent and mean. I felt that I learned through playing it myself. Through experience, so to say.

Student A4 reported that he/she had to learn new words, presented in the game, in order to beat the game. As the player immediately is given actions to take in interaction with newly introduced words, this may classify as embodied experience. Student A1 points out that he/she learned by playing, which is similar to learning by doing.

4.3.7 Principle 7) Multimodal principle

The students reported benefits of learning through a multimodal medium:

Excerpt 16

Interviewer: How did you experience playing this game in the classroom?

Student A4: It's more fun, more interesting, than just reading a book, where I only catch half of the content, you know. If it's visualized with living pictures and sound, and if you also can make choices yourself, I feel that it sticks more to the brain and becomes more fun. Like I said, you use more senses; eyes, ears, touch. I think that makes it stick to the brain better, and you remember it longer.

Student A4 theorises that the activation of multiple senses in the learning experience leads to him/her remembering it longer. Multimodal media demands more attention from the user compared to monomodal media. It can also draw upon multiple sources to create a message that is pedagogical on more levels. In a game, the same instruction can simultaneously be presented through text, animation/illustration and sound.

4.3.8 Principle 8) Transfer principle

The students reported benefits of getting to use their newly attained knowledge in various situations:

Excerpt 17

Interviewer: Did you get to use the information you learned in the game?

Student A2: [...] especially in the political discussions. You learn what is the most important key issues in each state, what they support and what they don't support. Then you can use that in the discussion to win and get more votes.

Excerpt 18

Interviewer: Did you get to use the information you learned in the game?

Student B3: You get motivated to learn what the game tells you, because you might need that information to win, or progress. Like in *Animal Farm*, you realise that Napoleon is bad, you know, and then you can use that information to make Snowball win.

Student A2 reports that it was motivating to use the newly attained knowledge. Student B3 reports how she used new information about key issues in American states to win a political discussion. As the students are aware that what they are being presented to might be important for near future actions, it makes them more susceptible to learning, as student A2 reports "it gives you motivation".

4.3.9 Principle 9) Cultural models about the world principle

The students reported benefits of learning of different cultures in a way that elicits critical thinking:

Excerpt 19

Interviewer: What did you learn from the game?

Student A1: Games are really good for putting you in the perspective of the characters, of the story. *Orwell's Animal Farm* is a version of the Russian revolution, in a way. So it put us in the shoes of different voices from that revolution. It made me think of the workers back then.

[...] The many bad endings in the game makes it sort of sad to think about how Russia, or Soviet, became after the revolution as well. Not very good for the workers.

Student A1: Games can sort of show you who you are. What you think is right or wrong. Games have helped me grow and develop as a person. When I play a game, I think “what do I want, what do I want to do” relative to good and evil. It has made me more comfortable with myself, and helped me build myself up.

Interviewer: Interesting! Is this the case with this game as well?

Student A1: Yes.

Student A1 reports that he/she learned of the Russian revolution from the game and the novel in a way that made him/her reflect critically. This dystopian metaphor was first presented in the book by Orwell, which the students read first. Student A1 reports that through making choices in games, he/she has developed his moral sense to better distinguish good and evil, which has made him/her more comfortable with himself/herself.

4.3.10 Gee’s (2007) learning principles in the student interviews.

Gee initially describe 36 learning principles in his 2007 book *What Video Games Have to Teach Us About Learning and Literacy*. As this would be too comprehensive for this study, this table shows the nine principles that were most predominant through the student interviews.

Table 4A.

Instances of Gee’s (2007) learning principles in student interviews.

Learning principles	A-students instances	B-students instances
1) Active, critical learning principle	12	7
2) Psychosocial moratorium principle	2	2
3) Achievement principle	8	7

4) Regime of competence principle	5	5
5) Multiple routes principle	13	11
6) Situated meaning principle	4	3
7) Multimodal principle	15	12
8) Transfer principle	5	3
9) Cultural models about the world principle	5	8

4.3.11. Finding 3 Summary

That the students' reports align with several of Gee's (2007) learning principles, is arguably an indicator that learning has taken place. Through the student interviews, there were reports of the benefits of being active in the education (principle 1), a low-risk, playful learning environment (principle 2), fast, positive feedback (principle 3), challenge of appropriate difficulty (principle 4), making their own choices (principle 5), being introduced to new information and vocabulary in context through embodied experience (principle 6), learning through a multimodal medium (principle 7), getting to use their newly attained knowledge in various situations (principle 8), and learning of different cultures in a way that elicits critical thinking (principle 9). The frequency of the different principles in the student interviews (table 4A) might be an indicator of which parts of this teaching that make the most impact on the students. The best-scoring principles were the multimodal principle with 27 instances, the multiple routes principle with 24 instances, and the active, critical learning principle with 19 incidents. The students also referred to this form of teaching as "fun" and "motivating" numerous times. In addition to correlation with Gee's (2007) learning principles, the findings from the student interviews also correspond with transformational play (Barab et al., 2010) and +experiences (Gee, 2017).

5. Discussion

In this chapter, I discuss my main findings in relation to theory and prior research from chapter 2. In the previous chapter, I first found that both teachers had thoroughly planned the teaching activities from the bottom up, choosing a video game that would facilitate certain competence aims. Second, I found that the chosen video games served well as pedagogical tools. Third, I found that the students learned from – and liked – this form of teaching. In this chapter, I will mainly use Chapelle (2001) and Gee's (2009, 2016) theoretical concepts as a foundation to discuss empirical, theoretical, methodological and didactic contributions of my study. My research question is "How can video games be used in English education in Upper Secondary School?". As reported in chapter 3, I have studied how two teachers do this. I will in this chapter refer to examples from their teaching practices, before I present an example myself in section 5.3. In the first section, 5.1, I discuss how video games can successfully be implemented in English teaching by Chapelle's (2001) six criteria for computer-assisted language learning (CALL). In the second section, 5.2, I will use Gee's (2007, 2017) principles to discuss how video games can be a beneficial teaching tool in education. In the third section, 5.3, I discuss the didactic implications of using video games in English education. This is presented by going through the different steps of the process; first choosing a video game, second making a lesson plan, and third executing said lesson plan.

5.1 Criteria for video games in education

Far from every video game is suitable for use in education. This also applies to movies and books. To help with the selection of which video games to use in education, a list of criteria may narrow down the candidates. In this section, I will use Chapelle's (2001) six criteria for computer-assisted language learning (CALL) to discuss which kind of video games that makes for successful implementation in teaching in the English subject. After all, the main digital tools that students have to their disposition in the classroom are computers like laptops, tablets, and smart phones. Using games on computers for language learning may thus be defined as computer-assisted language learning.

5.1.1 Language learning potential

An important aspect to have in mind when considering whether to use a game in education, is the possible L2 learning affordances of the game. Some video games are specifically designed

for language learning. These types of video games that are explicitly designed and branded with educational purposes are termed educational games, or serious games, as school-related content is prioritized over gameplay elements such as fun, action and immersion (Reinhardt, 2019, p.4). On the other hand, there are vernacular games, which often are more commercially successful, as they focus on aspects such as engagement, visuals, gameplay³ et cetera. In *Win the White House*, the main L2 learning affordances lies in its rich vocabulary related to American politics, how terms are immediately explained with the help-function, and how the player repeatedly has to face these terms in order to progress in the game. The latter phenomenon coincides with Gee's (2007) practice principle, as the learner gets a lot of practice in a context where the practice is not boring (p. 223).

5.1.2. Learner fit

Video games are often tailored towards a specific age group and gender. There are also genres of video games that are more suited for school education than others, as mentioned in the previous section. Currently, the most popular video games (measured by monthly active users) are online competitive games, except from *Minecraft*, which is more focused around single player creativity, and cooperation rather than competition when it comes to its multiplayer mode. The four biggest online competitive games are currently *Fortnite*, a 'battle royal' (a 'become the lone survivor'-type of game), *Counter Strike*, a 'multiplayer first-person shooter' (a team-based gun and combat-focused experience in the first person perspective), *League of Legends*, a 'MOBA' (Multiplayer Online Battle Arena, a strategic game genre where two teams compete against each other on a predefined battlefield) and *DOTA 2*, which is very similar to *League of Legends*. These types of games are so intense, stress-inducing and demands such focus from the player that they are poorly fit for classroom activities related to English learning. Reinhardt (2019) stresses the importance of being able to control *time* in a game to make wraparound tasks in education, as that enables the players to pause the game and think and reflect in their individual tempo (p. 146). *Win the White House* is a simulation type of game, while *Orwell's Animal Farm* can be defined as a multiple-choice adventure game. These kinds of genres, together with visual novel, puzzle and role-playing games are well suited for use in school, as they give the players time to reflect, and demand little

³ Gameplay is a term for the features of a video game, such as its plot and the way it is played, as distinct from the graphics and sound effects.

technique, skill or reflexes. Other factors to consider when choosing a game for a class are the students' age, gaming experience, cognitive ability and language competence. Hence, both *Win the White House* and *Orwell's Animal Farm* are a good fit for upper secondary school students, as the games strike a good balance between challenge and accessibility for students aged 16 or older. Additionally, *Win the White House* lets the player choose difficulty in three levels tailored towards American elementary school, middle school and high school.

5.1.3 Meaning focus

Meaning focus relates to assessing the narratives and tasks in games, and determining whether learners might find them engaging, and if the game elicits learning. As to eliciting learning, both *Win the White House* and *Orwell's Animal Farm* are good fits, as reported by both students and teachers in this study. This can also be said for appropriate narratives and tasks in the two games. The narrative is strongest in *Orwell's Animal Farm*, as it is a multiple-choice adventure game based on a critically acclaimed novel. In *Win the White House*, on the other hand, the player creates his own path towards becoming president of the United States, but there is no narrative or fiction beyond that. The tasks in both games are relevant to their respective competence aims, which is the reason why the teachers chose to use these specific games in education. The challenge for games tailored towards use in school, are often the level of engagement, or the lack thereof (Reinhardt, 2019, p.4). This might often be the case of production budget, as the money, time and skill required to create a fun game with high quality are rarely given to game studios tasked with making an educational game (Reinhardt, 2019, p.4). Thus, as with literature and movies in education, it is up to the teacher to find a video game that both has high quality, is engaging and has educational value. That combination might be most frequently found on the commercial side of the industry, compared to the educational, as with literature and movies (Reinhardt, 2019, p.4). A frequently mentioned game in educational context, is *Minecraft*. This is a commercial game owned by Microsoft, but it works well in school due to its high level of production, engagement, accessibility and flexibility. It is a sandbox-type of game, that makes it a good tool for task-solving and teamwork-project. However, the game is most frequently used in subjects such as math, history and science, due to its design of being a 'build-what-you-want' type of game, as becomes evident in the study made by Dezuani&Macri (2020). *Minecraft* could be used in English teaching to build famous buildings frequented in the history part of the English subject, such as the Statue of Liberty, Westminster Abbey or Buckingham Palace.

However, these kinds of challenges might be better suited to lower secondary classes, as they elicit little reflective thought.

5.1.4 Authenticity

The authenticity of a game in this context considers to which degree the language and cultural representations in the game are genuine, or originally meant for native and expert L2 users, instead of L2 learners. Translation issues might occur, or the game content might be too irrelevant. Both *Win the White House* and *Orwell's Animal Farm* are made for English L1 users, with genuine language and cultural representations, and can thus be said to have a high degree of authenticity. The cultural representations in *Orwell's Animal Farm* are however inspired by the Russian revolution, and its references might go amiss to players who are not familiar with that subject nor have read Orwell's novel.

5.1.5 Positive Impact

According to the findings of this thesis, the game-based activities of this study had a positive impact on learning, lesson objectives and curricular goals. Students who played *Win the White House* reported to have learned about American politics, including terminology and social and cultural issues. This becomes clear in excerpt 13:

Interviewer: Did you learn any words, expressions from playing the game?

Student A4: Yes! For example... Elector, polling, mandate, campaign... I had to learn what they meant to beat the game.

Student A1: I learned about politics, what the different parties represent and mean. I felt that I learned through playing it myself. Through experience, so to say.

Students who played *Orwell's Animal Farm* reported to have learned about cultural and political movements and factors, similar to those of the Russian Revolution. This is evident in excerpt 17:

Interviewer: What did you learn from the game?

Student A1: Games are really good for putting you in the perspective of the characters, of the story. *Orwell's Animal Farm* is a version of the Russian revolution, in a way. So it put us in the shoes of different voices from that revolution. It made me think of the workers back then.

[...] The many bad endings in the game makes it sort of sad to think about how Russia, or Soviet, became after the revolution as well. Not very good for the workers.

Video games might be especially powerful teaching tools in the light of positive impact, as they in light of +experiences (Gee, 2017) provide actions to take and generally induce high engagement. The challenge in the classroom is for teachers to manage the students' attention towards the learning outcome that is relevant to the competence aims and lesson objectives. This is why the process of choosing a game must be thorough, as to optimise the learning outcome in regards to the learning topic at hand.

5.1.6 Practicality

Possibly the biggest challenge of using video games in a classroom with 30 students, is the practicality. Unless the school has invested in classroom-sets of a video game, as is often the case with novels used in school, or purchase of licences, the teacher is restricted to use free games. The next matter of practicality is the accessibility of required technology. Different schools have different solutions and requirements for 'school-PC's'. This includes the difference between Mac and PC, which greatly determines what games are available for classroom use, as a lot of developers do not develop PC games to also be available for Mac. One inexpensive solution is that the school buys one PC, PlayStation, Xbox, Nintendo or Mac, and one copy of a game, and that the teacher plays and demonstrates the game on a screen for the students to see. In case of multiple choice games, the students can then come with inputs that affect the outcome of the game, or students can take turns between playing and watching. However, this will exclude 'an action to take' for the students not playing, and can in many ways be compared to watching a movie. Thus, it is by far preferable that all students get to play simultaneously, or play cooperatively in pairs, as was preferred by Bjørn to elicit reflective discussions between the students. Armin's solution was to use the free browser game⁴ Win the White House. In this case, there is no need to buy licenses for the game, and it is available on PC and Mac, and indeed also on mobile devices. Bjørn, however, went to great lengths to provide his students with a licensed game. Firstly, the game *Orwell's Animal Farm* is released on Steam, a digital video game distribution service. Second, Bjørn

⁴ A browser game is a video game that is played via the internet using a web browser.

convinced the school to purchase a classroom-set of licence free copies of the game, that works in much the same way as a classroom-set of novels. Third, Bjørn had to help the students install the game on their devices, and after using it make sure that they deleted it on their devices, so that the game rightfully can be used for the next class.

5.2 Video games as a teaching tool

The focus of the previous section was that of *which* kind of video games that should be used in education. In this section, the focus will be that of *why* video games in particular are a powerful pedagogical tool. I will in this section use Gee's (2007, 2017) principles to discuss how video games can be a beneficial teaching tool in education. This will be emphasized with examples from Armin's and Bjørn's teaching and the games they use. Out of the 36 learning principles that Gee presents in *What Video Games Have to Teach Us About Learning and Literacy* (2007), I have chosen to focus on the 9 principles that were the most prominent in my data coding, for practical reasons. These principles describe the cognitive and pedagogical processes that happen during learning through video games. The order in which the principles are discussed are arranged by appearance in Gee's book (2007).

5.2.1 The active, critical learning principle

All aspects of the learning environment (including the ways in which the semiotic domain is designed and presented) are set up to encourage active and critical, not passive, learning (Gee, 2007, p. 221).

Active learning gives students actions to take and facilitates interactivity and self-agency, as opposed to passive learning (e.g. listening to information). This aligns with Gee's (2017) aforementioned term of +experiences, where one of three criteria is that the person has an action to take. Another benefit of this type of learning is that it is stored longer in the long term memory (Gee, 2017). Critical learning is also related to +experiences, as it concerns focused attention and caring about the outcome. For example, in *Orwell's Animal Farm*, the progression in the game is centred around the player making choices and taking actions. The consequences of these actions again elicit critical thought, as bad priorities in running the animal farm results in an early ending for the animals. Similarly, the ethical and political choices, such as whether to support the tyrant-like Napoleon, or rather the democratic birds, have major impact on the outcome of the story. This positive feeling of agency is also confirmed by student A4 in excerpt 7: “[...] I feel that it sticks more to the brain and is more fun. The player use more senses; eyes, ears, hands. That makes it stick to brain better, and you remember it longer. Because you yourself are the player, you need to show some understanding to progress in the game”.

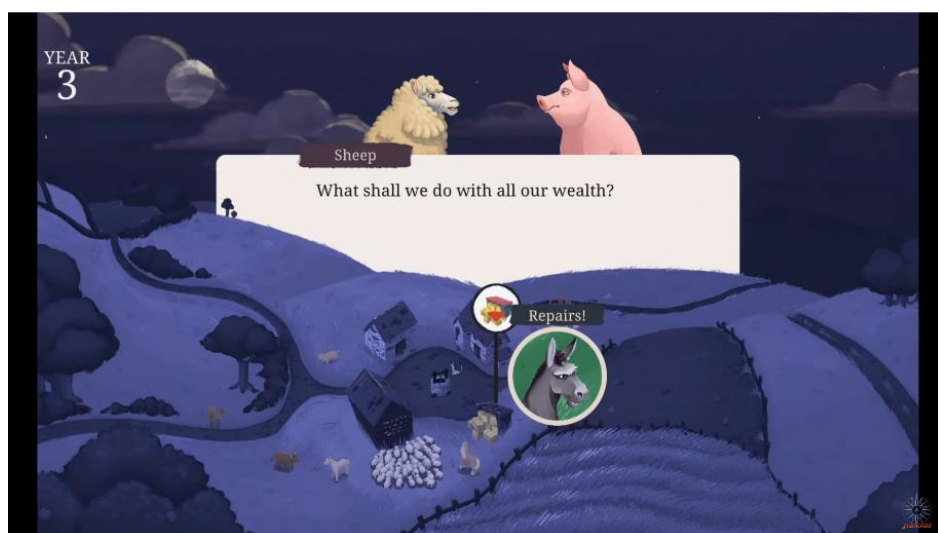


Figure 5.1, player agency in Orwell's Animal Farm, being presented with actions to take

5.2.2 The psychosocial moratorium principle

Learners can take risks in a space where real-world consequences are lowered (Gee, 2007, p. 222).

It is common for students to experience anxiety in school related to pressure and performance, like oral presentations, answering questions in class and tests. Gee advocates more horizontal learning and mucking around, and it is here that video games provide students opportunities to get the lay of the land. For example, in *Win the White House* the player can choose to experiment with different political parties, core issues, and which states to campaign in, without any real world consequences. The students do not risk potential embarrassment by saying something wrong in front of everyone in the class, rather, the game provides individual feedback directly to the player without anyone else having to know. This is beneficial for learning, as is confirmed by student B3 in excerpt 9: “Yeah. [...] it is no big deal if you make mistakes. It’s easy to do things over in games. You learn from your mistakes, you know. You can start over, or load a save. You can also play around, try different stuff”.



Figure 5.2, mucking around with political parties and issues in *Win the White House*

5.2.3 The achievement principle

For learners of all levels of skill there are intrinsic rewards from the beginning, customized to each learner's level, effort, and growing mastery and signalling the learner's ongoing achievements (Gee, 2007, p. 223).

Positive feedback is a pedagogical cornerstone in teaching (Murphey&Falout, 2010), and is important for students so that they know they are doing the right thing. This is also a way to reward students for their time and effort. In *Win the White House*, you start your political campaign with the party's primary elections, upon which you get asked questions about your chosen primary issues. Upon correct answer, a green banner shows up on the screen displaying "That's correct!", followed by a positive sound effect (Figure 5.3). For every challenge in the game, there is feedback for the outcome. Additionally, the level of difficulty is often optional in most games, tailoring the teaching process for each player. This form for feedback was well-received by student A3 in excerpt 10: "I knew right away if I had got it right or wrong. In the in-game discussions, there is applause and a "that's correct"-message when you choose the right answer, which feels nice. Compared to waiting weeks to receive a corrected essay, and I have to remember why I chose those exact words, et cetera".



Figure 5.3, positive feedback in Win the White House

5.2.4 The regime of competence principle

The learner gets ample opportunity to operate within, but at the outer edge of, his or her resources, so that at those points things are felt as challenging but not “Undoable” (Gee, 2007, p. 223).

Most games are inherently designed pedagogically so that the player learns the mechanics and objectives of the game in order to play it as the designers have intended. There are thus parallels to Vygotsky’s (1978) Zone of Proximal Development, in that the game design itself becomes the “guidance” in the middle circle in the ZPD. In *Win the White House*, the game has a *help*-button in the upper-right corner of the screen, that give the player information and tips for what is smart to do in the current situation. In this way, the student can operate within, but at the outer edge of, his or her resources. The game also has three difficulty settings, elementary school, middle school and high school, so that the students can get as close as possible to the optimal challenge level. This opportunity to operate within, but at the outer edge of own competence is well-received by student A3 in excerpt 11: “[...] If I meet a difficult challenge, I get motivated to learn what it takes to overcome it”.

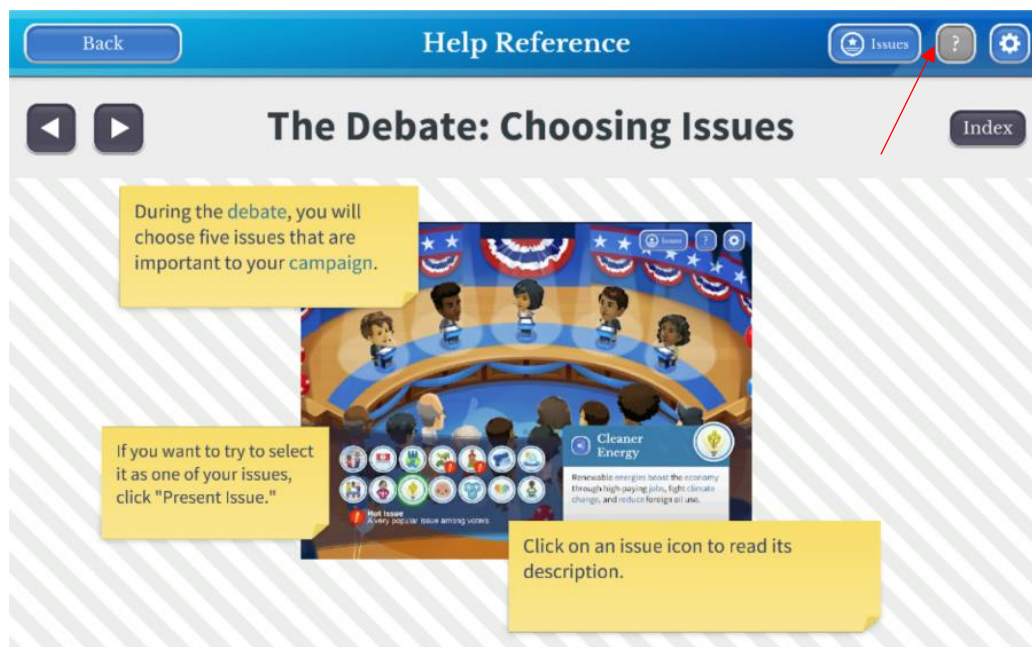


Figure 5.4, help is always close at hand in *Win the White House*. The red arrow is edited for illustration. After pressing the help-button, the game displays helpful messages that clarifies terms that might be hard.

5.2.5 Multiple routes principle

There are multiple ways to make progress or move ahead. This allows learners to make choices, rely on their own strengths and styles of learning and problem-solving, while also exploring alternative styles (Gee, 2007, p. 223).

As stated above by UDIR (2022b), “School shall allow the pupils to experience the joy of creating, engagement and the urge to explore, and allow them to experience seeing opportunities and transforming ideas into practical actions”. This is made possible in both games relevant to this study. In *Orwell’s Animal Farm*, the game has 8 different endings, ranging from the pigs’ elitist society to the birds’ focus on knowledge and equality. These endings all come as a culminating choice of the player’s multiple choices along the way. In *Win the White House*, the multiple routes come in what political party you choose to represent, what your core issues are, which states you choose to campaign in, how you chose to respond in political discussions, etc. Being given multiple choices elicits more freedom and self-agency compared to only being presented with one definite task and outcome. The feeling of self-agency is enhanced when the player’s actions and choices immediately results in direct consequences, the outcome depending on the choice or action. The multiple ways to make progress was discussed positively by student A1 in excerpt 13: “It’s a game where you need to make the choices yourself, which make an impact on you. You read the information carefully, because you care, and then you remember it well”.



Figure 5.5, multiple choices in Orwell's Animal Farm. There are multiple choices available in most decisions. «No!» is just one of the options in this scenario.

5.2.6 Situated meaning principle

The meanings of signs (words, actions, objects, artifacts, symbols, texts, etc.) are situated in embodied experience. Meanings are not general or decontextualized. Whatever generality meanings come to have is discovered bottom up via embodied experience (Gee, 2007, p. 224).

This principle is related to +experiences, as it entails learning by doing. In *Win the White House*, the player is given incentive to learn and remember e.g. which political issue is important in which state, as his or her political career may depend on it. Terms such as *debate*, *polling*, *fundraising* and *campaign* are all displayed in a context where the player has to interact with the terms and understand their meaning to progress optimally in the game. In this case, as the issue “equal access to healthcare” is a popular issue among voters in California, the player learns what that issue entails through arguing for it in a debate. The exposition of these terms is in a setting where the player gets rewarded for learning the terms properly. The player thus has more motivation for learning new vocabulary, compared to random exposition where there are no stakes or rewards for learning. This form of situated meaning is mentioned by student A4 in excerpt 15: “Yes! For example... Elector, polling, mandate, campaign... I had to learn what they meant to beat the game”.



Figure 5.6, embodied experiences in *Win the White House*. In this case, the term healthcare may be learned through discussing it.

5.2.7 Multimodal principle

Meaning and knowledge are built up through various modalities (images, texts, symbols, interactions, abstract design, sound, etc.), not just words (Gee, 2007, p. 224).

Video games are multimodal. The combination of text, images, animations and sounds provide a powerful pedagogical tool combined with interactivity. This is helpful in a L2-learning perspective, as someone who does not know the meaning of for example *fundraising* might still understand that it is connected to getting money, with the help of the piggy bank-illustration above the word (figure 5.7). The player may also learn that the Republic Party is associated with red, and an elephant, while the Democratic Party is associated with blue and a donkey. The positives of multimodality is discussed by student A4 in excerpt 16: “[...] If it’s visualized with living pictures and sound, and if you also can make choices yourself, I feel that it sticks more to the brain and becomes more fun. Like I said, you use more senses; eyes, ears, touch. I think that makes it stick to the brain better, and you remember it longer”.

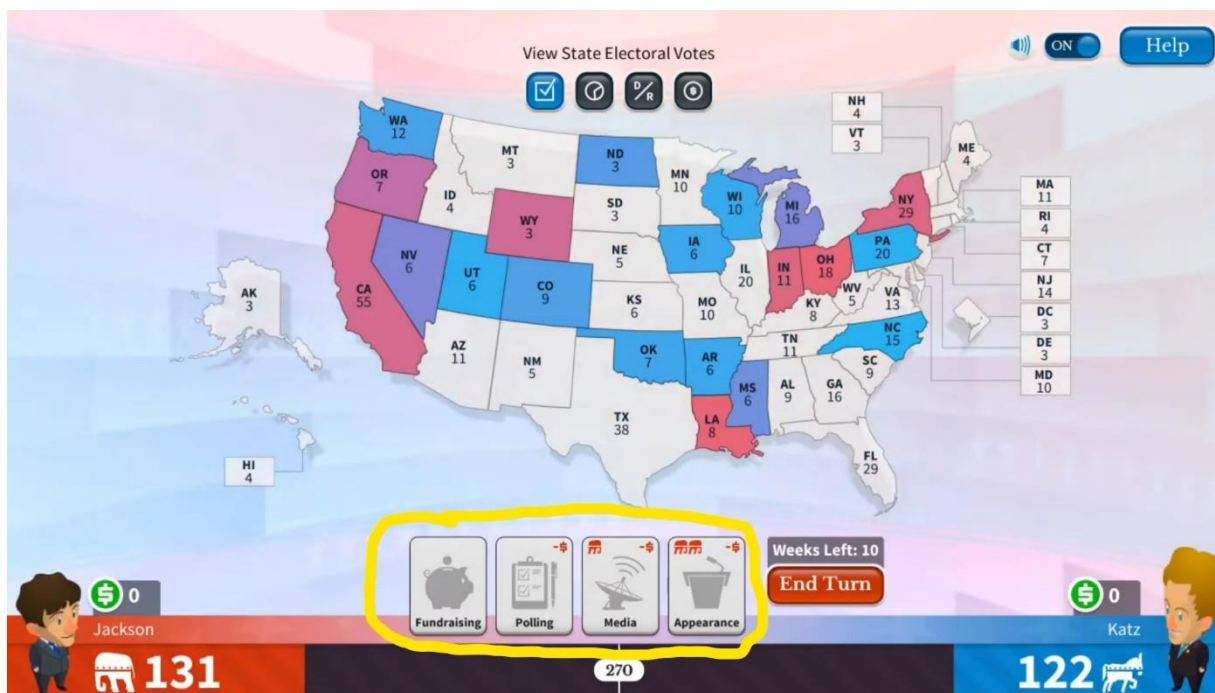


Figure 5.7, multimodality in Win the House, symbols outlined in yellow

5.2.8 Transfer principle

Learners are given ample opportunity to practice, and support for, transferring what they have learned earlier to later problems, including problems that require adapting and transforming that earlier learning (Gee, 2007, p. 226).

An example of the transfer principle in *Win the White House* comes through polling, where the player learns which political issues are supported and which are opposed in which state. This is important for later in the game, as when you make an appearance, the player can use this knowledge to either talk positively about your supported issues if these align with the opinions in that state, or talk negatively of the opposing candidate's issues if these are opposed in the state. This form for transfer is discussed by student A2 in excerpt 17: “[...] especially in the political discussions. You learn what is the most important key issues in each state, what they support and what they don't support. Then you can use that in the discussion to win and get more votes”.



Figure 5.8, *Win the White House* presents the player with tasks that reward prior knowledge given earlier in the game

5.2.9. Cultural models about the world principle

Learning is set up in such a way that learners come to think consciously and reflectively about some of their cultural models regarding the world, without denigration of their identities, abilities or social affiliations, and juxtapose them to new models that may conflict with or otherwise relate to them in various ways (Gee, 2007, p. 226).

As the player can influence in what way the society of *Orwell's Animal Farm* will develop, this will hopefully elicit conscious and reflective thinking around which values make for a good society, especially if the teacher explicitly discusses this with the students. Throughout the game, the player is exposed to different ruling methods such as fear and oppression (displayed by the human farmer Jones), elitism and dictatorship (displayed by the pig Napoleon) and equality and enlightenment (displayed by the birds). The novel *Animal Farm* is considered a comment on the Russian Revolution and the contrast between the public's desired change, and an outcome that ultimately failed to improve the situation for the majority of the people. This is reflected in the game, only here, the player themselves must face the responsibility if their choices do not improve the situation. In *Win the White House*, the player gets exposed to the political climate in the United States, which again might make the player reflect on the political climate in his or her own country. This reflective thinking regarding cultural models about the world is evident in student A1 in excerpt 19: “[...] The many bad endings in the game makes it sort of sad to think about how Russia, or Soviet, became after the revolution as well. Not very good for the workers”. However, it is unlikely that all players

think consciously and reflectively about cultural models about the world after playing these games. This is why it is important with an active teacher who is explicit in eliciting this learning potential which correlates with the curriculum. This was evident with both Armin and Bjørn.



Figure 5.9, Napoleon is portrayed as a dictator in *Orwell's Animal Farm*, eliciting critical political thought

5.3 Game-enhanced English teaching

As the focus of section 5.1 was on *which*, and 5.2 was on *why*, the focus of this section is on *how* video games can be implemented in English teaching, in other words, game-enhanced English teaching. In this section, I propose a step by step-approach for actual use in English education in upper secondary school. This process is divided into three steps, from choosing a video game, to making a lesson plan with that game, and finally the execution of the plan. Following these steps are concrete examples of educational material that teachers can use. As such, the purpose of this section may be that of a guide for how teachers can proceed in using video games in school, being supported by the data of this study.

5.3.1 Choosing a video game

As mentioned in section 5.1, it is important that the teacher is active and thoughtful in choosing video games that are to be used in class. Indeed, every activity in the classroom should be related to the curriculum in some way or another. The aforementioned six criteria of CALL can be helpful in deciding which video games to select for classroom use.

Additionally, the following criteria that are comprised by experiences of this study provide a more condensed check-list that make for optimal implementation of video games in English education:

1. The game should be relevant for at least one competence aim within the subject.
2. The game should be accessible within the limits of the resources of the classroom, and the equipment available to the teacher and students.
3. The game should be of appropriate difficulty regarding the level of the students regarding language and digital skills.
4. The game should be designed so that sufficient learning (i.e. relevant to at least one competence aim) can take place within the time frame of the education.
5. The game should be designed so that minimal time is required to sufficiently pilot the technical skills that the game requires.
6. The game should be designed in a way that gives the player a feeling of agency.

A game that fulfils all these criteria is the game *Gone Home* (2013) by The Fullbright Company. Here, the player controls a young woman who returns from abroad to her childhood home in rural Oregon only to find her family gone and the big house empty,

leaving the player to piece together recent events by interactively exploring the house. As such, the game can be described as an interactive short story. The game takes roughly 4 hours to complete from start to finish, but not all of the playing has to happen in the classroom. As the students can install it on their computer, they can also play at home as homework. The game is mechanically and technically simple and intuitive, requiring only mouse-based point and click actions. The intellectual level of the game applies to the age of 13 years and older, making it a good fit for upper secondary school students. The game is furthermore relatively cheap, costing 100,- kr on the PC-platform Steam. The practical approach for licences can vary from game to game (as with movies, books). In this case, the publisher Steve Gaynor can be contacted per mail, steve@fullbright.com. He sells the game for school use at the price of 5\$ per copy, where you will receive download codes that the students can use directly themselves. *Gone Home* can apply to (at least) the following competence aims in English for upper secondary school (UDIR, 2022a):

- Use appropriate digital resources and other aids in language learning, text creation and interaction.
- Read, discuss and reflect on the content and language features and literary devices in various types of texts, including self-chosen texts.
- Read, analyse and interpret fictional texts in English.
- Discuss and reflect on form, content and language features and literary devices in different cultural forms of expression from different media in the English-language world, including music, film and gaming.



Figure 5.10, the title screen of *Gone Home*, outlining the mansion that the player will explore and interact with.

5.3.2 Making a lesson plan

As there are a lot of variables and options when it comes to using video games in education, a detailed lesson plan is of great help to structure and organise the education. In this section is presented an example of a lesson plan with the game *Gone Home*, although, the general points can be applied to other games as well. This lesson plan is largely constructed by Husøy from Spillpedagogene, with some small modifications to fit this thesis, and is available in its entirety online (Spillpedagogene, 2015):

Time	What	Why
Before class	Decide whether the students are to play individually or in pairs.	Individual play makes for more immersion and agency. Playing in pairs makes for more cooperation, discussion and reflection.
10-15 minutes	Introduce the game; the setting of the game at start, why this is being used in class.	Make the students open and “ready” for the learning situation.
1-15 minutes	Make sure that the games are installed on all computers before getting started (this can be done before the class, if the students are proficient enough).	Basic control measures.
10 minutes	Instruct the students that they are to be limited to the two first rooms in the house (“Porch” and “Foyer”). Whilst exploring, the students are to solve three tasks, giving evidence through screenshots:	For a lesson of two hours, the two first rooms in the game contains plenty of content to explore. Anything more would take more time. Also, exploring whilst having objectives, may raise motivation and awareness.
15 minutes	Task 1, “Foyer” As you explore the mansion’s foyer, collect the information requested below. Take a screenshot for every piece of evidence you find. - Avatar’s name	Exploring whilst having objectives, may raise motivation and awareness. Also, the screenshots can be used similarly to how citations are used in analysing literature. They also prove that the students have completed the tasks.

	<ul style="list-style-type: none"> - Father's full name - Mother's full name, - Sister's full name - Family's prior address, - Family's current address, - Mom's college roommate, - How long does it take mom to work? - Where does mom work? 	
15 minuets	<p>Task 2, "Timeline"</p> <p>Combining evidence from both the porch and the foyer, fill in the appropriate date and corresponding screenshot for the following events:</p> <ul style="list-style-type: none"> - Katie leaves for Europe - Family moves to new house - Katie returns from Europe 	<p>Exploring whilst having objectives, may raise motivation and awareness. This task furthermore requires the students to combine data, a good exercise for processing language.</p>
15 minutes	<p>Task 3, "Sam"</p> <p>What item triggers Sam's journal entry entitled "At the New House"? Does this sort of voiceover affect the realism of the story? Write 5 point-form notes discussing anything you know about Sam based on what you have discovered in the porch and in the foyer.</p>	<p>This task requires the student to reflect upon their experience with the game, and put this into their own words. This form for recollection is also a repetition of knowledge, making for longer learning.</p>
5 minutes	<p>Instruct homework. Either:</p> <p>1 – Finish the game at home (maybe 2 hours).</p> <p>Or 2 – Consider the information you have discovered in the porch and foyer. Write a short text where you speculate about how the story will unfold (max. 300 words).</p>	<p>Activation of the students, immersion in the story.</p>

15-20 minutes	Post-game reflection. Talk with the students about their experiences with the game. If not finished – how did they perceive the story so far, and what do they think will happen next? If finished – talk with them about how they perceived the game as a whole. How did they find working with this medium?	Closure, reflection, summarizing, highlighting key points relevant to syllabus, competence aims.
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The Foyer in the house in Gone Home, where most objects are interactable and provide information.

5.3.3 Execute the lesson plan.

The execution of video game education presents its own challenges, as there are a number of variables that might demand the teacher's attention. Firstly, making sure that everything is ok with the hardware, including chargers, and the software⁵. Hopefully, students can help each other with this as well. Second, to introduce a game, and follow through education with it optimally, the teacher would first have to play the game his-/herself. Prior research should be the standard for introducing any piece of media into a classroom. This is especially important when guiding the students with a game, as the students may not be able to progress the story without guidance in the game, whereas with a movie or book, the story progresses by itself. Without knowledge of the game, the teacher would then risk that the students miss out on valuable learning opportunities. This guidance can vary from helping the students with the basic technical skills that the game requires to be played, to analysing text and symbolism. In *Gone Home*, the only technical skill that the game requires to a certain degree, is the

⁵ Software means the programs and games installed on the computer. The computer itself is hardware, as it is the physical equipment that runs the software.

combination of using certain keys (WASD⁶ or arrow keys) with your left hand for movement, and the mouse with your right hand for field of view. This might take some time to get used to for people who have not played games on a PC before, but time is not an issue in this game. There are also different interaction options for the left and right buttons on the mouse. Third, is to guide the students to complete the tasks that they are given. The guidance of the teacher is also important when it comes to helping the students reflect upon the intended material. For example, a student can play *Gone Home* like a puzzle simulator, finding the different pieces of information to progress the story, but only to that end. In that situation, the teacher can step in and help the student reflect upon themes that lies beneath the uppermost level of surface, namely how it was growing up as homosexual in the 90s, family secrets, privacy, trauma, etc.

⁶ WASD means using the keyboard to control movement: W for up, A for left, S for down and D for right.

6. Conclusion

This study has seen two English teachers advocate the use of video games in upper secondary school, as well as students reacting largely positive to this form of teaching. To successfully implement video games in education in upper secondary school, both teachers emphasize the importance of careful planning, management of students' focus, and explicitly raising awareness of the learning material that are in the games. The study describes this form of teaching by using Reinhardt's (2019) term, *game-enhanced teaching*. Theory that argues for the use of video game in school have also been presented, largely through Gee (2007, 2017). In accordance with the core curriculum (UDIR, 2022b), this study also argues that it is part of schools' responsibility to provide students the opportunity to participate in society, and that all-round development (*bildung*) includes critical thinking regarding the different media of which they are exposed to. In a society where 76% of youth play video games (Medietilsynet, 2022), an ignorance of this medium, or a non-critical approach to it, would thus arguably result in an insufficient all-round development. A central intention of this study has been to present the possibilities that video games bring to teaching, by displaying a lesson plan. Using video games in school also comes with its challenges, like purchasing game licences and equipment, requiring a certain acquisition of game competence, extensive planning and follow-through, and managing the learning focus of the students.

Commercial literature, like the *Harry Potter*-series, and commercial movies, like *Forrest Gump* has seen widespread use in English classes around the world. These sorts of commercial media are great at causing engagement, something their commercial success speak to, but might be limited as school-related learning activities in and of themselves. Thus, the teacher must implement and intertwine these media in teaching activities that are related to the curriculum, to ascertain that relevant teaching is facilitated. This is also the case with commercial video games in school. Furthermore, to optimally facilitate teaching with video games, the teacher should familiarize him-/herself with the chosen game, and ideally inhabit basic game proficiency to teach the students the required digital skills that the curriculum describe, as well as 21st century skills. To make sure that every teacher has the possibility to use video games in their teaching, schools – and indeed teacher education programs - should provide relevant courses that cover these topics. However, this thesis does not mean to argue that video games must be used excessively in school. As with literature, film and music, the

application of video games in education should align with the subject and its competence aims.

6.1 Limitations and further research

A weakness of this study is its limited data pool. There is also an ethical consideration in that teachers who use video games in their education have a high probability of being initially positive to this practice. The study could have made further effort to pursue the voices of those that are critical to the use of video games. However, due the aforementioned stigma surrounding video games, and its previously limited educational application, these were not the voices of focus for this study. Similar research with significantly larger data pools, especially students, would possibly give a more nuanced picture of video games in upper secondary school education. Additionally, a weakness with group interviews is that the dynamic between the different participating students is hard to balance. The most orally active students in group interviews might have a tendency to also be those who do best at school. As such, it is hard to give a perfectly representative picture of the group, much less the class. Future research might also be able to uncover more and better ways as to how video games can be deployed in school. Which video games to use, what genres that are best suited for educational purposes, and more concrete teaching plans regarding video games are some of the natural continuations of this study. Additionally, as more boys play video games than girls (*Medietilsynet, 2022*), it would be interesting to study if video games can help boys to perform better in school. Statistically, 76,2% of boys complete upper secondary school, compared to 84,7% of girls. As the medium of video games is in rapid growth, it is also in rapid change. Starting up in the Norwegian University of Science and Technology, *Kahoot!* (2013) has come on in leaps and bounds as it is now a common educational tool in schools on an international level. However, it is hardly defined as a video game, but rather as a game-based learning platform. Here, the participants compete to be the fastest person to answer each question correctly. Furthermore, the leaderboard is displayed after each question, emphasizing the competitive element that is part of why *Kahoot!* is engaging. *Kahoot!* has also been criticised for prioritising engagement over learning, pointing to rewarding the fastest possible answer. Although educational games have been criticised for not creating enough engagement and being of low quality, there is certainly potential for video games that are especially tailored towards educational purposes. This would again prompt further research in this field.

6.2 The technological discrepancy

Going forward, the development of video games is tightly connected to that of technological advancement, as presented in section 1.3. As technological development concerns teaching possibilities, it should in a much larger degree be a relation between schools and universities, and accessible courses where teachers can acquire the modern digital skills that the curriculum demands from students. Technological advancement concerning everyday life, like smart-phones, internet and social media, happens at a faster rate today compared to previous decades. Engineer Gordon Moore predicted in 1975 that the capacity of computer chips would double every two years (Gregersen, 2022). This would later be referred to as Moore's law, as his prediction of exponential technological growth has largely been proven accurate. Without sufficient adaptation to rapid technological changes, schools might in some cases become outdated in certain areas, and a discrepancy in relevance might occur between schools and their students. Schools should help students get a critical and thoughtful relation to what they are being exposed to. Without relevant courses, teachers are at risk of falling behind students in digital skills. This is a problem, as the school system is supposed to guide students in critical thought as to what they are being exposed to, not the other way around. To echo the words of "Bjørn", as teachers historically have lifted students concerning critical thought in literature from *The Hardy Boys* to Edgar Allan Poe, so should modern teachers be able to lift students' critical thought in gaming from *Fortnite* to *Among the Sleep*.

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Appendix 1: Teacher interview guide (Norwegian)

Intervjuguide - lærer

1. Bruker du spill i undervisningen? Hvis ja – hvordan?
2. Kan du si noe om fordeler og ulemper ved å bruke spill i undervisning?
3. Hvordan går du frem når du planlegger bruk av spill i undervisning?
4. Hvilke type spill har du brukt i undervisning – og i hvilken sammenheng?
5. Hvordan synes du det er å jobbe med spill som medium i klasserommet, i forhold til andre media som litteratur, film og musikk?
6. Har du fått tilbakemelding fra elever på hvordan de opplever at spill blir brukt i undervisning?
7. Synes du det burde være en del av lærerutdanningen – eller oppfølgingen – å tilegne seg digitale ferdigheter man kan bruke i klasserommet, spesielt spillkyndighet?
8. Åpen post

Appendix 2: Student interview guide (Norwegian)

Intervjuguide - elev

- 1 Spiller du digitale spill på fritiden?
- 2 Har du spilt spill som en del av undervisningen? Hvis ja – hvordan, hvilke spill?
- 3 Kan du si noe om fordeler og ulemper ved å bruke spill i undervisning?
- 4 Føler du at du lærer noe ved å bruke spill i undervisningen? Hvis ja – hva?
- 5 Har du snakket med andre elever om hva de synes om spill i undervisningen?
- 6 Hvordan synes du det er å bruke spill i klasserommet, i forhold til andre medier som litteratur, film og musikk?
- 7 Hva har læreren sagt om hvorfor han bruker spill i undervisningen?
- 8 Åpen post

Appendix 3. Teacher interview 1: Armin (Norwegian)

Excerpt 1

Intervjuer: Hvordan går du frem når du planlegger undervisning med spill?

Armin: Ja! Det er veldig viktig. For at undervisning med spill skal funke, så krever det mer enn å bare starte spillet og så forvente at elevene lærer det jeg tenker at de skal lære fra bare selve spillet, som om spillet er nok i seg selv. Du kan ikke bare si «nå skal vi game, folkens», og håpe på det beste. Samme som at å si «I dag skal vi bare spille fotball» i gymmen ikke garanterer at alle blir inkludert. Vi har allerede hatt fem timer på forhånd før disse tre timene for å gjøre dem klare for å forstå hvordan de skal løse problemene de kommer til å få i det spillet de skal spille. Først snakka vi om det overordnede temaet, amerikansk politikk, fra starten av, og så snevra vi inn på det som er mest relevant i spillet, uten at de visste at de skulle spille et spill. For i tankene deres var det bare at «vi skal jobbe med Amerikansk politikk», og hvordan vinne valget. Vi jobbet med de ulike partiene så de skal vite hva de står for, kjernesaker, og da jobbet de med et skjema på mandag, ved at de skulle forberede og skrive ned hva de ulike partiene står for ved å finne informasjonen selv, så de skal bruke den kunnskapen de har og få det ned på papir selv.

Intervjuer: Interessant! Så de var forberedt på nettopp dette spillet. Hva med i dag, hva var planen for i dag?

Armin: Ja. Når jeg brukte spillet i dag, så viste jeg dem spillmekanikken på skjermen, beskrev hensikten med hvorfor vi bruker spillet, gikk rundt og hjalp elevene mens de spilte, og til slutt så oppsummerte vi og hadde en kort refleksjon med diskusjon til slutt

Excerpt 3

Intervjuer: Kan du si noe om hvordan kompetansemål kommer inn i bildet?

Armin: Elevene skal jo lære på og om digitale plattformer. De skal ikke bare lese tekst, de skal se, høre, lytte, produsere. Med spill så får du inn alt sammen. Det er lyd, bevegelige bilder, tekst, interaktivitet, og du må bruke alt sammen for å svare på ulike oppgaver. [...] De skal lære om ulike kulturer og engelsktalende

land. Det er der spillet om det amerikanske valget kommer inn. Kompetansemålene går inn i hverandre i disse timene. De samarbeider og jobber med spesifikke temaer som er nevnt i læreplanen, som for eksempel kultur og politikk.

Excerpt 5

Intervjuer: Hvordan synes du det gikk i dag, med spillet?

Armin: Bra! Først så sa noen studenter at de tapte med ca 200 valgmenn. Etter det så gikk vi jo gjennom det elevene synes var vanskelig i spillet, og hva som kan forbedres til neste gjennomspilling. Det finnes jo svar i de politiske diskusjonene som åpenbart er riktige for en spesifikk stat, for å få momentumet over på din side og få stemmene. Etter det så var det mange studenter som ønsket å prøve spillet igjen, og da vant med 360 valgmenn.

Intervjuer: Hvorfor valgte du akkurat dette spillet?

Armin: Jeg har brukt det tidligere, med hell, og erfarte da at det var en fin måte på å få elevene til å forstå hvordan valgprosessen i USA faktisk fungerer på et detaljnivå, og for å få innsikt i sentrale problemstillinger i ulike stater. Noen studenter valgte å spille som republikanere for å være «de slemme gutta». [...] Hvis ikke, så hadde de sittet passivt og lest. Én ting er å skaffe informasjon, en annen er å faktisk bruke den informasjonen til noe. Det er ikke bare input, det er også output. [...] Spillet er på engelsk, og elevene simulerer en ganske autentisk situasjon. De må lese teksten, prosessere den og deretter bruke den for å komme videre. For å lykkes så må de forstå instruksjonene og utfordringene de får. [...] I spillet så får elevene ros når de gjør noe bra, og tilbakemelding når de gjør noe feil. Dette får de umiddelbart, noe som er bra, for da får de nyttig informasjon til de neste utfordringene – i motsetning til en innlevering av skriftlig tekst, der tilbakemeldingene kanskje ikke kommer på flere uker, hvor elevene kanskje allerede har glemt hele prosessen, ikke sant.

Appendix 4. Teacher interview 2: Bjørn (Norwegian)

Excerpt 2

Intervjuer: Hvordan går du frem når du planlegger denne typen undervisning – med spill?

Bjørn: Ja.. Vi har brukt to uker på å lese boken. Før vi begynner å spille har vi en refleksjonsøkt, hvor vi diskuterer forskjellene mellom ulike narrative medier - Hva er forskjellen mellom å oppleve en bok kontra en film, en bok kontra et spill, og så videre. Mer spesifikt, hvilken grad av agency, deltakelse, har man når man spiller en historie versus når man leser den. Elevene får i oppgave å diskutere hva de ville ha endret, om de kunne endret noe i romanen. [...] Jeg får elevene til å spille spillet i par, etter å ha vist dem hvordan spillet fungerer. Det er det jeg synes er mest interessant med denne prosessen, nemlig at parene begynner å diskutere, ofte akademisk og litterært, på grunn av utfordringene i spillet. Disse akademiske diskusjonene er noe vi også kan bruke senere i evalueringsprosessen. Etter denne timen skal elevene jobbe med muntlige presentasjoner knyttet til spillet, som de skal holde neste uke.

Intervjuer: Interessant! Spilte du gjennom spillet før du brukte det i undervisningen?

Bjørn: Ja. Dette er viktig. Når du bruker et spill på denne måten, kan du ikke gjøre det uten å være kjent med spillet før aktiviteten, på samme måte som med en bok eller en film.

Excerpt 4

Intervjuer: Kan du si noe om hvilke kompetansemål du trekker inn i spill?

Bjørn: Å, ja. For å tar denne «spill som kulturuttrykk-biten først», når vi bruker narrative spill på den måten jeg har gjort med denne klassen nå, så blir de beviste på spill som kulturuttrykk. [...] Man kan i teorien dekke så og si alle kompetansemål med spill, gitt at du finner et passende spill. Det betyr på ingen måte at man skal gjennomføre et semester med engelsk med bare spill som kulturuttrykk. Det gjelder jo også bøker og filmer. Spill kan også dekke deler av læreplanen som går på språk og språkutvikling. [...] Det handler ikke så mye om spillene i seg selv, men hvordan de brukes i undervisningen. I dette tilfellet så handler det om spill som et litterært uttrykk. Jeg bruker også spill som ekskursjoner eller rollespill, eller pedagogiske verktøy. [...] Når det gjelder å analysere skjønnlitteratur, så har mange elever problemer med å bruke

sitater fra kildematerialet når de presenterer sin analyse av, si, en roman. Det som vi gjør når vi analyserer videospill, er at de kan bruke skjermbilder fra spillene som sitater. Dette har faktisk hjulpet mange studenter til å forstå prosessen med å bruke sitater i litteraturanalyse.

Intervjuer: Wow. Så bra. Det med å bruke dataspill i undervisning.. Hjelper det med å oppfylle dannelsesansvaret skolene har overfor elevene?

Bjørn: Absolutt. En viktig grunn til å bruke dataspill i undervisning er at elever som har null – eller liten – erfaring med spill, skal få forståelse for spill som kulturuttrykk. Gaming blir jo stadig mer populært blant unge, og blant voksne også, faktisk. Og når det gjelder de som er gamere fra før, så er jo en del av skolens ansvar å få elevene til å reflektere på et høyere nivå. På samme måte som vi kan heve lesere fra *Hardy-guttene* til Edgar Allan Poe, så håper jeg å gjøre det samme med gamere fra, si, *Fortnite* til *Among the Sleep*.

Excerpt 6

Intervjuer: Hvordan synes du at det gikk i dag, med spillet?

Bjørn: Jeg synes det gikk bra! Mange elever var engasjert til å begynne med, da de likte ideen om å omskrive historien slik de faktisk ønsket at den skulle være. I spill så kan du få en sterk følelsesmessig tilknytning til karakterene du kontrollerer og møter. Når elevene innser at valgene deres får store konsekvenser for karakterene i spillet, så ser jeg at de får sterke reaksjoner. Elevene blir ansvarliggjort, noe som skaper et tettere, mer følelsesladd bånd til karakterene, sammenlignet med filmer eller bøker, da, som igjen gjør det hele mer minneverdig. Når vi repeterer begrepene fra spillene i for eksempel en muntlig eksamen, så er det lettere å forholde seg til opplevelsene i et spill enn i nettopp romaner og filmer, på grunn av denne interaktiviteten.

Appendix 5. Student group interview 1: Armin's students (Norwegian)

Excerpt 7

Intervjuer: OK, hvordan var det å spille spill i undervisningen?

Elev A1: Det var interessant. De viser oss at vi kan ta valg selv, for å få et perspektiv. Når du skriver og leser, så får du ikke det samme impacten selv, men det får du hvis du spiller selv.

Elev A2: Det var gøy! Mer variert. Ikke den samme gamle engelske grammatikken hele tiden, ikke sant. Vi gjør noe nytt, og er aktive samtidig.

Elev A4: [...] Jeg føler at det fester seg mer til hjernen og er gøyere. Du bruker flere sanser; øyne, ører, hender. Det gjør at det fester seg bedre til hjernen, og du husker det lengre. Fordi du spiller selv, så må du vise litt forståelse for å komme videre i spillet.

Excerpt 10

Intervjuer: Sa spillet ifra om du gjorde noe rett eller feil?

Elev A3: Jeg visste med en gang om jeg hadde gjort noe riktig eller galt. I diskusjonene i spillet, så er det applaus og en sånn "riktig"-beskjed når du svarer rett, og det er nice. I forhold til å vente ukesvis på å få tilbake en stil, og så må jeg huske hvorfor jeg brukte akkurat de ordene, og så videre.

Excerpt 11

Intervjuer: Hva med utfordringene i spillet, da?

Elev A3: [...] Hvis jeg får en vanskelig utfordring, så blir jeg motivert til å gjøre det som skal til for å klare det. [...] Av og til setter jeg meg selv vanskelige mål i spill, som å skaffe platinum trophy, da har du samlet alle troféene i spillet, som av og til er sinnsykt vanskelig, hehe.

Excerpt 13

Interviewer: Kan dere fortelle om spillet dere spilte??

Elev A3: Vi spilte jo *Animal Farm* da, der det gikk ut på at vi skulle gjøre noe med, noe forskjellig, velge din egen fremtid for den gården, og hva som skjedde, ved å lage din egen historie.

Elev A1: Det lot oss føle på «hva hvis». Hva hvis dette skjedde, eller dette. Og det fikk oss til å velge hvordan vi ville historien skulle slutte.

Elev A4: Det var motiverende å få Napoleon ned, han var jo en tyrann, så jeg ville se, hva hvis Snowball faktisk vinner. Så det ga meg motivasjon til å finne en måte å prøve å kverke ham (Napoleon), eller få han til å tape.

Elev A1: Det er et spill der du må ta valgene selv, og det gjør jo inntrykk. Du leser informasjonen nøye, fordi du bryr deg, og da husker du det bra.

Excerpt 15

Intervjuer: Lærte dere noen ord eller uttrykk av å spille spillet?

Elev A4: Ja! For eksempel... Elector, polling, mandate, campaign... Jeg måtte lære hva de betydde for å vinne spillet.

Elev A1: Jeg lærte om politikk, hva de forskjellige partiene står for og mener. Jeg synes jeg lærte av å spille det selv. Gjennom erfaring, på en måte.

Excerpt 16

Intervjuer: OK, hvordan var det å spille spill i undervisningen?

Elev A4: [...] Det er gøyere, mer interessant, enn å bare sitte å lese i en bok der jeg får halvparten med meg liksom. Hvis du visualiserer det med bilder, der du også kan få velge selv, føler jeg at det fester seg bedre til hjernen og blir gøyere. Som jeg sa, du bruker på en måte flere sanser, øyne, ører, du får det bedre inn i hodet siden du husker det bedre.

Excerpt 17

Intervjuer: Fikk dere bruk for det dere lærte i spillet, da?

Elev A2: [...] Spesielt i politiske diskusjoner. Du lærer hva som er de viktigste sakene i hver stat, hva de støtter og ikke støtter. Så kan du bruke det i diskusjoner for å vinne og få flere stemmer.

Excerpt 19

Intervjuer: Hva lærte dere av spillet?

Elev A1: Spill er veldig bra for å sette deg i perspektivet til karakterene, I historien. Animal Farm er jo på en måte en versjon av den russiske revolusjonen, da. Så du blir satt inn I situasjonen til forskjellige folk fra den revolusjonen. Det fikk meg til å tenke på arbeiderne på den tiden.

[...] Sånn som Russland – eller Soviet da – ble etter revolusjonen, så er det ganske trist å tenke på, med alle de dårlige sluttene i spillet.

Elev A1: Spill kan hjelpe på å vise hvem man er. Hva man synes er riktig og galt. Det har hjulpet meg selv å bygge meg selv som person. Når jeg spiller et spill så tenker jeg, «hva er det jeg har lyst til, hva er det jeg vil gjøre, i forhold til godt og vondt». Det har gjort meg mer komfortabel med meg selv, og hjulpet og bygget meg opp.

Intervjuer: Interessant! Er det sånn med med dette spillet også?

Elev A1: ja.

Appendix 6. Student group interview 2: Bjørn's students (Norwegian)

Excerpt 8

Intervjuer: OK, hvordan var det å spille spill i undervisningen?

Elev B1: Jeg blir veldig engasjert, som gjør at jeg vil lære mer.

Elev B2: Jeg tror jeg lærer bedre av erfaring. Nå har vi på en måte fått oppleve hvordan det er å bli president I USA, veldig forenklet, selvfølgelig. Vi lærte hvordan systemet funka.

Elev B1: Du får se det fra innsiden, hvordan det fungerer i praksis liksom

Excerpt 9

Intervjuer: Sa spillet ifra om du gjorde noe rett eller feil?

Elev B3: Ja. [...] Det er ikke no' big deal om du gjør feil. Det er lett å gjøre ting på nytt i spill. Du lærer av dine feil, ikke sant. Du kan begynne på nytt, loade en save. Du kan også kødde rundt, prøve forskjellige ting.

Excerpt 12

Intervjuer: Hvorfor er det gøyere [enn normal undervisning]?

Elev B2: Altså, det er jo et spill. Så kanskje det handler om konkurranseelementet, at du kan vinne. Og da blir det gøyere når du faktisk klarer å vinne.

Elev B1: Du må konsentrere deg for å komme videre i spillet. Og du vil følge med, fordi det er gøy, i motsetning til å gjøre oppgaver eller lese.

Excerpt 14

Intervjuer: Kan dere fortelle meg om spillet dere spilte?

Elev B2: [...] Jeg ville spille som Republikarner, for å se hvor mye bullshit jeg kunne gjøre, som Trump. Det var gøy.

Excerpt 18

Intervjuer: Fikk dere bruk for det dere lærte i spillet, da?

Elev B3: Man blir motivert til å lære det som spillet forteller deg, fordi du kan få bruk for det til å vinne, eller komme videre, da. Som i Animal Farm, så skjønner du at Napoleon er slem, liksom, og da kan du bruke det for å la Snowball vinne.