English acquisition playing Mass Effect

A study in video games, cognitive psychology and the Swedish upper secondary school curriculum

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Abstract

This essay researches video games and learning. The academic interest in video games is steadily growing and this teacher’s degree unifies interactive game play with the learning possibilities of the media. The study compares the Swedish upper secondary school curriculum Lpf94 with Gee’s educational theory. The correlations are analyzed for compatibility, and Bioware’s 2007 video game Mass Effect is applied to see what elements are capable to teach playing students English. A qualitative methodology is used according to Malterud’s template analysis style and follows a top-down fashion. The material is analyzed through a triangulation system where each piece is read as a text and is compared and interpreted. The results show that Lpf94 and Gee’s theory has a generally high compatibility. English learning is viable since Mass Effect provides the player with a language simulator that puts the language in a logical environment. Although the game script is static, the study shows that Mass Effect includes vocabulary training, a pragmatic understanding of language, and a tool for class room teaching.

Key words: Mass Effect; non-compulsory curriculum; Lpf94; Gee; educational media; cognitive psychology; video game; semiotic domain; pedagogies
Table of contents

1. Introduction.................................................................................................................................. 5

2. Background.................................................................................................................................. 6
   2.1 Videogames and society.............................................................................................................. 6
   2.2 Education and present issues..................................................................................................... 6
   2.3 Lpf94 - what is it? .................................................................................................................... 7
   2.4 Videogames as a pedagogical media......................................................................................... 7
   2.5 Purpose and questions formulation ...................................................................................... 8

3. Theory ......................................................................................................................................... 9
   3.1 James Paul Gee.......................................................................................................................... 9
   3.2 Gee’s learning theory .................................................................................................................. 9

4. Method ....................................................................................................................................... 14
   4.1 Material .................................................................................................................................. 14
       4.1.1 The studied game: a short introduction ........................................................................... 14
       4.1.1 Mass Effect – an interactive game ................................................................................... 17
   4.2 Analysis tools and methods ..................................................................................................... 17

5. Analysis....................................................................................................................................... 19
   5.1 Content and knowledge acquisition: internal design ............................................................... 19
   5.2 Social knowledge and communication skills: external design.............................................. 20
   5.3 Practice, knowledge usage, practical execution, and, theoretical execution: acting within Mass Effect .............................................................................................................. 22
   5.4 Second story, progress system, and personal development: individual learning curve ................................................................................................................................. 23
   5.5 Meta perspective, knowledge discussion, and, critical overview: behind the game .......................................................... 24
   5.6 Debriefing and critical assessment: reflective learning and experience ............................... 25
   5.7 Automatization, objects, and knowledge development: learning tools ............................. 26
   5.8 Trial mode, hypothesis, simulation, the learning process, and, knowledge of different learning styles: learning advancement .................................................................................. 27

6. Results and conclusion.................................................................................................................... 29
6.1 Results.................................................................................................................. 29
6.2 Conclusion ............................................................................................................ 32

7. Discussion................................................................................................................ 33

8. Sources ...................................................................................................................... 35

  8.1 Literature ............................................................................................................. 35
  8.2 Digital media ...................................................................................................... 35
  8.3 Articles ............................................................................................................... 35
  8.4 Essays ............................................................................................................... 36
  8.5 Web pages .......................................................................................................... 36
1. Introduction

This essay is written due to two reasons: my personal interest in video games has led me to write about a subject I am passionate about, and I feel that too little information is available at an academic level about positive video game learning. I have always been playing video games and found myself learning a great many things from them and I have many times felt that it would be pleasing to study that joy in learning. I am sure that I would not have my interest in language and problem solving if it was not for video games.

During my school years I have read some books on video games and academic studies but few have an educational orientation and I felt that it would be fascinating to at some time do a study combining the two concepts. I played Mass Effect the summer of 2008 and was astonished by the vastness of the social interaction and the rich story. I had never played such a social game ever before. I also have the dream to give video games more recognition in academic fields and to contribute in whatever means possible. Last but not least, I hope this contribution will allow other video gamers who study and teach to spread the qualities of video games even further. By shining some light on the subject, other teachers can hopefully find it useful teaching using video games and to strengthen the academic discussion on video games.

One of the few scholars I found that matched my ideas was James Paul Gee. His psychological perspective on learning and video games matched Mass Effect’s powerful and influential game play. Furthermore, since Mass Effect was designed to reach a high level of social interaction, it is interesting to see to what extent the player learns English as a part of the games learning structure. I wanted to apply his theories to this game and see to what extent they could be used in a Swedish context – the Swedish curriculum for non-compulsory education (also called Lpf94). The curriculum can be seen as too shallow and non-specific (since it uses vague explanations of complex concepts), but that is what makes it so interesting to analyze. The document is the pinnacle of guidelines and runs through all local decisions since it overlaps the entire educational system. Its vagueness is what makes it interesting since it juggles ideas about knowledge and how that knowledge is used.

This essay could aid in the academic research on video games and learning, a field that is increasingly growing. A study such as this has yet to be conducted in Sweden and could both present new findings as well as plow a way for further research.

This essay therefore aims at studying Lpf94’s and in what degree the goals can be met by using a controversial media such as a video game. The goals are compared with Gee’s video game learning theory for compatibility by applying Bioware’s Mass Effect as an example to see how well they match and can teach a player English. Hopefully knowing what areas can and cannot correspond provides answers about Swedish teaching
2. Background

2.1 Videogames and society

Video games are in general considered spare time entertainment for children, but have been successful in all age groups. As a product, the franchise is a large economy (and made 30 billion dollars 2003) that steadily increases. Its range is studied to reach primarily young men in the age 13-15 but the numbers are getting more and more diluted each year (Falkner, 2007).

Video games are created worlds with their own rules, characters and stories. Games are usually thought of as an analogue to the simple enjoyment children exercise on play grounds transferred to the television, but have also been claimed to be vital to human intelligence (Falkner, 2007). Games train our spatial intellect in understanding symbols, time, and space. Games and play have been argued to exist within the notion of a ‘magic circle’, a closed environment where specific rules, ideas, events or figures exist. The characteristics of the circle exist only in that magic circle, and since it is fiction it has been argued to not apply to the world around it, to those who play within the circle. However, the barrier between the world of the circle and the real world can be surpassed only when “play ceases to be play /---/ [and] the boundary between make-believe and real life, dissolves” (Brown 2008, 98). In other words, if the events inside the circle (like a theatre) are considered harmful for those watching the play, these events are transformed into real issues that might harm spectators or actors. That is mostly the case, since the magic circle (and all circles in our world) does not stay intact but affects all other circles that brush against each other. The discussion about violent media could be discarded if one believes that the magic circle of the game remains unblemished. Furthermore, it is highly subjective whether the content is ‘harmful’ or not. Nonetheless, players as the author himself could argue that the critique is false since those playing a video game are aware that it is a game. At the same time there is a stigma claiming that certain individuals cannot separate between the “game” and the real world. Sensitive as the topic is, it has been argued that these individuals are more appealed to certain behavior when participating in a circle and the focus has been turned to the individual’s psychological profile rather than the circle’s content. Also, video games do contain values (as will be discussed more deeply below) and therefore suggests that the circle is such one that affects areas around it.

2.2 Education and present issues
Education and school ambience in Sweden is not the brightest; visiting schools and listening to students can give the impression that school is a bore. Nilsson & Sjögren’s (2008) “School should be boring, this is fun” [my translation] studies the use of computers in school and discovers as their essay title says that many students does not find school motivating. This general sense of school is an issue since it can halter the pedagogue when attempting to teach. Additionally, video games are considered generally as a non-serious media that is, mirrored to education, “fun” and without substance. Allowing the two to tread into the others area attempts to show that school can be fun and video games can educate.

2.3 Lpf94 - what is it?

The curriculum for the non-compulsory education, or abbreviated as Lpf94, is a text that documents the goals and values that education are to meet and strive to withhold. Lpf94 rests of the Education Act by the Ministry of Education and Research, and therefore retains the teacher to follow the curriculum since it constitutes Swedish law.

Lpf94 consists of two parts, the first “Fundamental values and tasks of the school”, includes: Fundamental values; common tasks for the non-compulsory school system; special tasks and goals for different types of schools. The second part, “Goals and guidelines”, includes: knowledge; norms and values; responsibility and influence of pupils; choice of education – work and civic life; assessment and grades; responsibility of the school head. This information is displayed in brief sentences and segments under the above headlines in either goals to strive towards, goals to attain, teacher specific and staff related guidelines. Each part is briefly explained with sentences and dot markers to show what the core features are.

2.4 Videogames as a pedagogical media

Video games in education are not common but electronic devices are slowly getting more ground; movies accompany literature, and the computer has become a natural part of education. There are no official documents aiming at adding video games as a standard knowledge source in the school system.

Some studies have been made on video games and pedagogies where video games have been viewed either as means of learning other subjects than the game itself teaches (see for example Falkner 2007, Gingold 2005, Kafai 2006), or as resource for learning what the game itself presents (see for example Ståhl 2008). Also, there have also been issues recorded with using video games in education since the cultural experience can inherit certain friction, where Zagal &
Buckman’s (2008) *Novices, Gamers, and Scholars: Exploring the Challenges of Teaching About Games* discusses the complexity of video game education in terms of social barriers and how prior experience of video games can alter education. Zagal & Buckman found that student gamers can get narrow-minded since they already consider themselves professionals at the subject. DiSalvo, Crowley & Norwood’s (2008) *Learning in Context: Digital Games and Young Black Men*, approaches video games from a cultural, discursive and educational perspective. They analyze the effects of poverty and skin color in video games and gamers, and how the learning effect of this affects colored Americans. They found that the youths they interviewed did not have a good enough economy to purchase the latest educational games. However, these men specialized in their games and linked expertise in them with social status, comparing games with other activities such as sports.

Video games, as any other media, have been found to show both positive and negative effects. As a pedagogical tool, games have been critiqued as equally harmful as well as with potential in awakening interest and transforming learning tools. It is the latter and the positive effects of video games which this study will focus on.

### 2.5 Purpose and research questions

**Purpose:**

To investigate in what degree the goals of Lpf94 can be met using a controversial media such as a video game.

**Research questions:**

1. How can the learning structures described in Lpf94 be compared to those described in Gee’s game learning theory and be applied with *Mass Effect*?
2. What learning structure sections can be identified in both?
3. Can games be used to learn English?
3. Theory

3.1 James Paul Gee

James Paul Gee (1948) is a scientist and teacher in language and psychology at Mary Lou Fulton College of Education at Arizona State University. Gee has a background spanning many fields, and started his career with a Bachelor of Arts in philosophy at the University of California, and he is currently a Doctor of Philosophy and Master of Arts in linguistics at Stanford University.

Prof. Gee's work over the last decade has centered on the development of an integrated theory of language, literacy, and schooling, a theory that draws on work in socially situated cognition, sociocultural approaches to language and literacy, language development, discourse studies, critical theory, and applied linguistics. (http://jamespaulgee.cgpublisher.com/)

Gee has also researched video games and their learning capability as a tool for education. His two works *Why Video Games are Good for Your Soul: Pleasure and Learning* (2005), and, *What Video Games have to Teach us about Learning and Literacy* (2003) argues that video games in their structure apply cognitive learning. Gee analyses many types of games and genres and highlights their usefulness in different school contexts and how they stimulate the mind. His work sums up with thirty-six learning principles that he views useful in coherent teaching and can be found in (good) video games.

3.2 Gee’s learning theory

James Paul Gee has written two works (2003, 2005) in the field and approaches video games from a cognitive point of view, using the theory of *semiotic domains* to prove games’ literal value. Gee’s main fundamental point is that understanding the world can be done through these semiotic domains. Semiotics studies signs and patterns, extending into understanding human thinking as series of interconnected interpretations. Gee claims that “we humans are per excellence pattern recognizers. Finding patterns is what the human mind does best” (Gee 2005, 13). He explains that learning by patterns is easier than repetition, giving a deeper understanding since it applies to seeing the world not just as loose information, but rather as connected fields. Gee writes that ”we can all read and think in different ways when we read and think as members (or as if we are members) of different groups” (Gee 2003, 3). This means that a semiotic domain
is a profession, attitude or set of interests that is shared within a specific group. These characteristics cannot be understood unless one learns about the group structure and content. Gee exemplifies with the domain of basketball, where a person that has never seen basketball badly constructs a mental image of what certain moves or rules manifest. Only reading or hearing about them is not good knowledge. To gain that knowledge one must enter the realm and absorb not only the content of the domain but also the mindset and practice of its members. The content of a domain is called its internal design grammar, the “principles and patterns in terms of which one can recognize what is and what is not acceptable or typical content” (Gee 2003, 30). For basketball, this would be the rules, the court, the ball, and so forth. The social aspects of the group are also equally important, since the group’s members share specific ideas, styles, interests and other common features. The social aspect of a domain is called the external design grammar, and contains “social practice and identity in regard to the affinity group associated with a semiotic domain” (Gee 2003, 30).

Simply put, a semiotic domain can be any group, labor or interest. The domain consists of content that makes the domain what it is. Using the example of a soldier, you follow the semiotic domain of soldiery which can contain a good many things: firearms, physical and mental training, special clothing, and so forth. The domains external design grammar would then be what these soldiers share socially. These are only connected to the domain of soldiery. These soldiers will share these social values when they are in the roles of soldiers, and can be shared through identification when other soldiers from other domains interact with them. They may also clash and acknowledge their differences. In a way, a domain’s external grammar can be isolated by defining domain differences.

For one to achieve a deeper understanding of the job as a soldier, one needs to understand and learn about the rules, tools, symbolism, visuals (internal design grammar) of the profession. One must also study those socially connected - who practice the domain and the surrounding affinity group, in terms of “thinking, acting, interacting, valuing, and believing as well as the typical sorts of social practices associated with a given semiotic domain” (Gee 2003, 27). This is an attempt to simulate identification with that domain to try whole heartedly acting as a member. How do we think soldiers, officers or supporters of soldiery act socially? That is what one must study regarding its external design grammar. Furthermore, there might be several soldier or basketball domains, which mean that if scrutinizing one domain must include the understanding that there are other domains like it that shares some features. This creates a connection between these domains by joining as a part of a family of domains, allowing

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1. Gee sees the connection between the player and the domain identity as a three-way junction, where there is the virtual identity (the game character), the real-world identity (the player), and lastly, the projective identity (the blend between the player and the avatar). The projective identity does not exist in the same way that the person and the avatar does, rather it is a form of emotional bond that is created when playing.
knowledge generalizations which can be fruitful if used correctly and harmful if spawning prejudice.

Gee argues that semiotic domains are particularly useful in a learning context. He proposes that “[f]or active learning, the learner must, at least unconsciously, understand and operate within the internal and external design grammars of the semiotic domain he or she is learning” (Gee 2003, 40). He explains that indulging oneself into the domain that is studied internally and externally is a particularly effective tool for reflective learning. When using semiotic domains in education, one should ask oneself the following questions:

What semiotic domain is being entered through this learning? Is it a valuable domain or not? In what sense? Is the learner learning simply to understand (“read”) parts of the domain or also to participate more fully in the domain by learning to produce (“write”) meanings in the domain? (Gee 2003, 22)

Only reading abstract information about a domain does not yield sufficient information. If one wishes to attain a full learning experience one needs to understand its external social premises. When understanding the domain, the student might want to reproduce, “write”, information about or as a member of the domain. How would, for example, soldiers act or think in situation “A”? What tools would a soldier use to gain reaction “B”?

Gee explains that learning via semiotic domains one can identify three base sources (expanding to a total of 12 marked in italic): content, social understanding, and practice.

1. Firstly, “[w]e learn to experience (see, feel, and operate on) the world in new ways” (Gee 2003, 23). Since we already are part of a plethora of domains, engaging a new domain’s perspective allows us to attempt to see the world through new eyes. If not a soldier, there is knowledge gain trying to imagine oneself as one.

2. Secondly, experiencing a domain allows insight with “groups of people who carry them on as distinctive social practices, we gain the potential to join this social group, to become affiliated with such kinds of people/.../” (Gee 2003, 23). When thinking and learning as a soldier, one can actually (to some extent) attempt to integrate with soldiers and gain firsthand experience, using the information gained when studying in that domain.

3. Lastly, as pragmatic participants “we gain resources that prepare us for future learning and problem solving in the domain and, perhaps, more important, in related domains” (Gee 2003, 23). These experiences can give information and confidence to seek other domains similar or related to the selected domain. Retracing regarding experience and prejudice, noticing similarities within domains can open paths to recognizing patterns among a larger family of domains.

The avatar 2 and connection that the player links with their gaming experience has also been called the second story (or trajectory).

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2 The player’s character is known as the avatar, and has been considered both as an aspect of player identification as well as a tool for manipulating the game world. Brown claims that “[a]lthough our identity and our modes of communication are mediated by the game, our avatar, at its core, virtually embodies our personality” (Brown 2008, 139-140). Castronova, through Brown, explains that this “appears to be psychologically natural, because the avatar is just an extension of your body into a new space” (Brown 2008, 140).
4. When reflecting on the identity that the player has developed within the new semiotic domain, the second story allows the student to back track their own experiences. The trajectory is the foot prints that the student can recall leaving during their game play. Allowing students to reminisce, retell and reflect within a semiotic domain grants reflective knowledge. (Gee, 2005) By connecting the student’s identity to an avatar, the learning in that field increases since the student must constantly reflect on choices, surroundings, social values of that avatar and affinity group. Furthermore, Gee argues that this process is crucial in knowledge gain since it leads to a meta perspective.

5. A meta perspective is to analyze one’s findings and the experiences one has had within a domain requires seeing the elements within the domains and what constitutes them ‘from above’. Doing this, the student actually reflects on the system as a whole and can critically assess it in terms of why this information is good or not, and, what identities are adapted or recognized. It recaps the learning through an overlapping perspective.

Egenfeldt-Nielsen insists on a further reflecting step (which is used to supplement Gee) through debriefing.

6. After the student is done with the game and has experienced the content, the student and teacher walks through what has happened and asks why it happened. Egenfeldt-Nielsen explains that the students can make:

wrong assumptions based on their game experiences /---/ [and] the teacher needs to take time to correct any mistakes, clarify misconceptions and expand on the game experiences. (Egenfeldt-Nielsen et al.2008, 210)

Simply put, the teacher reflects with the students regarding their experiences of a game, both used in education and a private experience, as a semiotic domain.

Video games’ progress systems are designed to reflect how the player improves in the game world through overcoming challenges.

7. Social, mathematical or combat oriented - the game moves alongside the player ascending in difficulty. Education is often designed in the same manner, placing the difficulty level just above what is comfortable for the student, making learning challenging but equally rewarding when achieved. (For further reading, see Vygotsky’s theories on Zone of Proximal Development in for example Holzman, 2009) This also applies to video games, since “games are designed so that they adjust to different levels of play and reward each sort of player, if the player is putting in effort, with some appropriate degree of success” (Gee 2003, 64).

8. Additionally, during game play the skills that the player has developed during the previous level become with time a natural part of reactions; we do not need to look at the controller to see how to jump or attack, since the code to manipulate our character has become automatized. As the game progresses in difficulty, more and more skills are learned through this mechanism.

Some skills can be contained within objects, where the player through cognitive recognition stores certain moves or skills within that object.
9. While the player is busy exploring new areas or battling new enemies, he or she can always recall skills through activating the object connected to that skill. Therefore the player can have skills unconsciously, not clogging the current objective, but rather on hold available when necessary.

Video games usually present information about what objects and objectives are going to be in the game. The player can read the manual, see trailers featuring the trademarks of that game, or experience a walk through when beginning the game in a trial mode.

10. Video game learning presents the student to the subject, as Gee explains, since:

[for efficacious learning, humans need overt information, but they have a hard time handling it. They also need immersion in actual contexts of practice, but they can find such contexts confusing without overt information and guidance” (Gee 2003, 113-114).]

When the student is playing the game, the learning strategy used usually comes without notice. A reaction similar to a hypothesis takes place. It follows the four steps of probing, hypothesis, reprobing and result analysis.

11. The subconscious learning formulae is the following: the player faces a new environment or obstacle, probing that content, “looking around the current environment, clicking on something, or engaging in certain action”; secondly, “based on reflection while probing and afterward, the player must form a hypothesis about what something / ---/ might mean in a usefully situated way.”; thirdly, the player applies that hypothesis on the game world and records what effect it has; and finally, “the player treats this effect as feedback from the world and accepts or rethinks his or her original hypothesis” (Gee 2003, 90).

Gee claims that some of the educational value of video games is from their capacity as simulation builders.

12. Since the student is taught to understand worlds via semiotics, the reflective and critical learning spurs from not only understanding what is currently happening, but also what might happen in the future:

[True knowledge in a domain (like warfare) is based on one's ability to build simulations (“models”) in one's head, based on previous experiences and thoughtful conjecture, that prepare one for future action. (Gee 2005, 60)]

A lot of the education in school is built on simulations, mimicking the teacher or what the teacher displays. The teacher tells the student to find and use information about a subject and solve a problem. In video games, the player needs to understand in what context their overt information is going to be used or that game can be lost. Without practical context, such as many experience mathematics, the learning can seem meaningless or overly troublesome when not knowing how that information will actually be used. Gee claims that video game makes the cognitive understanding of the information gained logical.
4. Method

4.1 Material

4.1.1 The studied game: a short introduction

Bioware’s *Mass Effect* (2007) in its essence, as interpreted in this essay, is a single player game about galactic combat, racism, ethics and moral. The player does not only shoot aliens but interacts through scripted conversations that emulate speech and action. The script is static but its development varies depending on what persona the player wishes to be. Harsh or kind acting will result in similar text and speech. Although the text is finite, it is developed to function as an artificial intelligence purveying accurate language according to the character’s ideals, concepts, thoughts, and reactions to surrounding events. This is considered as “social” although it is not between two persons. Since the game is written to simulate actual conversations and gives the player the choice of reacting to the premade social scenarios, it can be argued to be interactive and social.

A scenario where the game can be used is in a classroom where a teacher educates the students in English and lets the students independently play the game. The teacher instructs the playing students to thoroughly consider the options provided and their decisions. During game play, the students will be exposed to and interact with an environment that they need to react to proceed in the game world. This will sum up to experiences in listening and reading how the language is used and seeing what acting and events are connected to that language. The imminent philosophical content permeates the experience and gives the students a context where the language functions and seems logical, plus provides with discussion topics.

*Mass Effect* is a video game that classifies as in the adventure role-playing perimeter since the player both takes part of strategic combat and exploration, and fulfilling these adventures yields experience points which can be placed in skill slots that develops talents. *Mass Effect* takes place in a futuristic galactic environment where mankind lives alongside several alien beings. Human technology rapidly developed due to the findings of alien technology known as the “mass relays”, astral travelling nodes left behind by the extinct alien race called the Protheans. The mass relays allow mankind to advance into space and integrate with other species. In the middle of the mass relay nodes is the Citadel, a massive fort city that is the hub for the Council, a seat of leaders.
(resembling of the United Nations). Mankind has yet to be accepted to the Council due to being a young race.

The player plays as Commander Shepard, a character that is highly customizable in feature, personality and history. The player is sent on a mission to the planet Eden Prime to investigate the unearthing of an alien beacon and is assaulted by the rogue Council agent, ‘Spectre’, Saren Arterius. Saren is initially the game’s antagonist and Shepard pursues him on the orders on the Council. In short, Saren in charged for treason and Shepard is given his position as Spectre, revolutionizing human involvement in the Council being the first human to gain status within this alien alliance. The beacon on Eden Prime shows Shepard a vision of a cataclysmic past at the hands of a mechanical race. Ultimately, the pursuit of Saren leads Shepard to his plans of apparent destruction, allegiance to the hostile robotic Geth and his control under the mechanical battleship Sovereign, an ancient entity of the Reaper race. Sovereign is controlling Saren’s mind and aims to set in motion a harvesting cycle where civilizations of flesh have been exposed to the evolving capacity of the mass relays and at a suitable point Reapers emerge to consume these races. As Shepard, the player struggles to battle through several planets and systems to solve this inevitable doom, meet foreign races, and to solve mysteries.

The game allows the player to be part of a complex system of conversation-based storytelling and tailor relationships with computer controlled characters (commonly known as Non-player characters, or NPCs). Shepard’s features, personality, professional history are all chosen by the player and these will be further affected by the multiple options one gets when interacting with NPCs via replies, insults or suggestions. These choices will generate points into a scale ranging from “paragon” to “renegade” which results in certain outcomes when conversing, such as possible side-missions, romances, or even loss of opportunities. This image illustrates the options when talking to NPCs and the ways the player can direct the story and her own persona on the game world.
As seen, the player has several options, where the ones to the right are basic replies. The blue and red to the left of the conversational wheel are options added if the player has invested certain experience-based points into skills such as “charm” or “intimidation”, allowing the player to attempt to rescue “the man” (here a scientist) or to kill him. *Mass Effect* heavily relies on this mechanism to involve the player to venture through the game and obtain, or miss, events, items, information, and so forth, depending on their choices. Conversation also happens between the player and the party of allies that follows you through the story. They also ventilate their thoughts on your actions and clarify when one has done something “wrong” or amoral, or good for that matter. This makes the player aware of the choices that have been made since the environment reacts to both your immediate actions and to the “aura” you gain from performing these actions, which later on might increase or decrease future possibilities.

*Mass Effect* is a game with promising abilities when analyzing the essay’s literature and the curriculum due to the value of customization, identification and conversational integration that the player must take part of to play the game; a game where the rich story requires to some extent reflective involvement to not get lost in galactic exploration or miss salient factors that pull the story forward. The player must consider how he or she must act to be able to play the game since certain responds will yield certain results, what the plot contains and can extract, and the moral affection one can develop when making these decisions oneself.

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3 From http://www.supecheats.com
4.1.1 Mass Effect – an interactive game

Bioware’s Mass Effect has been argued to be one of 2000’s most influential games, where Gamespot.com explains “Developer BioWare has always been at the forefront of progressive storytelling in games, so it’s no surprise that Mass Effect's story is one of its best yet.” Mass Effect develops Bioware’s good versus evil selection system that can be seen in games such as LucasArts’s Star Wars: Knights of the Old Republic (2003), where the player’s actions alters the character and also in what way the game is played. Mass Effect was critiqued in a newscast by FOX NEWS due to its sophisticated design that enables sexual interaction with advanced artificial intelligence. Such critique also empowers the game since it implies that it has reached a realistic level featuring a realistic experience. The game was met with critical acclaim since the story is well made; the game allows interaction and customization which is accompanied with near-reality cut scenes and graphics. The game relies on its social mechanics as means to explore the game world and therefore the game is an example where the game mechanics puts the player in a world where both the practical game play as well as social interaction is equally important.

4.2 Analysis tools and methods

The essay will be of a qualitative nature using a theory to examine a specific case following Malterud’s “Template analysis style.” (1998, 90) The template follows four steps of analysis, using existing theories to examine a new area in hopes of extracting new information. The four steps are:

1) To extract general information from the material to build a good overview and structure them into themes,
2) Select salient representing samples of these themes, such as quotes,
3) Organize each theme and example into a combined text,
4) And summarize these texts and describe them with the chosen theories.

The general view follows a deductive and “top-down” (Malterud 1998: 151) structure, meaning the analysis relies on several theoretical outsets that attempt to build upon the other. Using several inputs is also known as “triangulation” (Malterud 199, 166), where generally two theories act towards one point (in a triangular fashion), however more perspectives can function in tandem. When the study meets at a foci it will be interpreted using a “qualitative text analysis” or

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4 http://www.youtube.com/watch?v=PKzf173GqTU&feature=related
“text analysis method” which allows for a systematic analysis and interpretation of the content. The method “logically organize[s] the content in the texts. The scientific assignment is to form the substance of idea in easy overviewed categories. “(Essiason et. Al, 2007, 238) [my translation]

All stages of the analysis are not written down due to space limitations, but the process outside of the written text has been made according to the above method. The data was extracted as patterns in pieces of text that resembled each other. These were made into structures to understand what the information actually meant, which in turn allowed to transform the information into text segments. The read texts and game data were made into themes. The quotes and examples found in the essay are the pieces of information chosen to represent the general arguments and phenomenon in the material. Since the material spans many areas that contain some data that overly resembles other pieces some were clustered to save space. Gee speaks of three “resources” or “attributes”, which will be presented in the theories section. For simplicity’s sake the whole material has been structure into twelve attributes. The general themes from Lpf94 have also in clearness been structured into twelve themes, more specific the segments concerning “knowledge.” Moreover, these themes contained similarities within themselves and between Gee’s theories and were finally themed into eight sections. Gee’s and Lpf94’s themes are combined into the headlines of each analysis sub-chapter. Examples were chosen from Mass Effect to give substance to Gee’s theories and to meet curricula requirements and guidelines.
5. Analysis

5.1 Content and knowledge acquisition: internal design grammar

According to Gee a teacher first needs to introduce the students to the internal design grammar. In *Mass Effect* the player takes the role as Commander Shepard, a character that allows the player to primarily control social and combat events. The game starts with introducing who Shepard is, where the default character is described in a conversation between two NPCs as a war survivor, and the only potential protector of the galaxy. The player is introduced to what characteristics are expected of Shepard, who was “raised on the streets. Learned to look out for himself” (Bioware, 2007). The text, graphics and game play that the player ‘reads’ can be seen as the content. The internal design grammar begins to take logical form since the player is introduced to what is expected of him or her as an actor within that universe and the symbols that surround it. The player is exposed to verbal objects that explain the rules and premises of the game play. The surroundings are in a military context that specifies some of the language according to that content.

Similarities with Gee’s theory within the curriculum appear to exist in absorbing ‘knowledge.’ To begin with, the material provided using a video game can be seen as connected to that non-compulsory teachers “can use specialist literature, fiction and other forms of culture as a source of knowledge, insight and joy” (Lpf94, 11). Teaching English can be done using the game’s examples of items, phrases - written and spoken -, and signs. The student needs to use the central words and phrases that are used by the characters in *Mass Effect*. Secondly, the link where knowledge and internal design appears to teach English is the extraction of utterances that are given through the mission surrounding Eden Prime. By learning the internal design the students reaches the first cognitive semiotic step, since they must be able to interpret words, signs and so on, to know their meaning to be able to continue the learning process in the semiotic domain.

The travel system “Mass relays” is one of the first phrases that the player needs to understand. Synonyms according to Thesaurus.com are “broadcast, carry, communicate, deliver, hand down, hand on, hand over, send, send forth, spread, transfer, turn over” (http://thesaurus.reference.com/browse/relay). Alongside the first Mass relay jump, the pilot Joker describes ship status as “Thrusters… check. Navigation… check. Internal emissions sink engaged. All systems online. Drift… just under 1500 K.” (Bioware, 2007) This sort of language is most probably recognized within computer or transmission contexts, with words and abbreviations for vehicles and digits. The information of the internal design provided for the
student points towards a specialized language usage. The language reflects the profession’s content; the student learns about the game by scrutinizing what is being told and what they have available when playing.

The curriculum states that school shall strive towards to ”acquire good knowledge in the courses that are a part of the pupils’ study programme” (Lpf94, 10) - criteria that does not specify what content should be taught. Regarding English, it is only mentioned that students “can use English in a functional way in vocational and daily life and for further studies” (Lpf94, 11). The central educational feature appears to be the connection between vocabulary training, vocabulary interpretation and internal design grammar, reading and listening exercises and decoding of symbols. Inside a class where the students are studying galactic material as means for language acquisition, the interpretation and use of the rules, tools, symbolism, and visuals could be considered as content. However, since the “programme” is unspecified it creates a hole where the curriculum is not precise enough and Gee does not specify actual educational content. It appears that this hole is for the teacher to fill. The curricula’s goals when targeting knowledge appears “when grading /---/ take account of verbal as well as written evidence of knowledge” (Lpf94, 17), can be seen as to surpass the need to define content as long as the teacher finds the learning process successful.

5.2 Social knowledge and communication skills: external design grammar

Gee’s next step to gather knowledge is to place the internal design grammar in an external context. Acting and thinking as one of the studied semiotic domain grants deeper understanding, where Gee highlights that in video games the player participates in the internal and external design grammar simultaneously. The external design grammar helps the student to come in contact with the content since the student actively participates and acts like a member of that context.

In accordance with Gee’s connection with the learning mechanism, the teacher sees to that the students tries ”thinking, acting, interacting, valuing, and believing as well as the typical sorts of social practices associated with a given semiotic domain” (Gee 2003, 27). The student observes and acts on the internal design grammar extracting external behavior. The curriculum does not contain any specific references on knowledge in a social manner, only that “the school shall develop the social and communicative competence of its pupils” (Lpf94, 5-6). Gee argues that the information gained at school only makes sense to the students if they actually see a way of using it. Structuring lessons where students “can use English in a functional way in vocational and daily life /---/” (Lpf94, 11) can be seen as similar. The use of Mass Effect’s external design grammar provides a context where students logically can use and see the internal design at work. To hear and read phrases and use them where they make sense can fit the goal to attain.”
In the ability to analyze different choices and determine what the consequences of these may be” (Lpf94, 16). This can be seen as teaching the student a perspective where that student considers what acting suits a domain. Making the student see what role will or will not fit that domain since some domain behavior cannot coexist, such as racism versus anti-racism.

As the role of a human in a racist galactic environment, the player (as Shepard) is set in a story where race is a frequent topic. Immediately as the game starts, the player witnesses two of the crew members talking about dislike for the alien Nihlus’ presence onboard their ship. Although the dialogue is not outright racist, it implies certain unease with racial differences. The player has the opportunity to reply to this discussion by either agreeing or disagreeing with their values. Playing out some of Shepard’s more racist dialogues confirms the external design grammar of the space navy’s troubles with alien races, as seen when Shepard talks to Captain Anderson about Nihlus’ presence and says (choosing the renegade option) that “I don’t like putting my life in the hands of a turian, sir” (Bioware, 2007). Nihlus’ airs some of the general ideas about humanity as well, stating that “You humans don’t have the best reputation. Some species see you as selfish. Too unpredictable. Too independent. Even dangerous” (Bioware, 2007).

Another social event is when on the first mission to Eden Prime, the player finds the surviving farmer, Cole, and two other humans. When speaking to them, the player can make Shepard threaten them to share the items they hid during the conflict, supposedly to guard their goods instead of helping. As Shepard the student can either tell them “You should have come clean [paragon], What's going on? [Neutral], or I don’t like being lied to. [Renegade]” (Bioware, 2007). [Brackets added to simplify the choices nature]. The player can choose to not see so harshly on these actions and let them go or inflict these survivors with guilt. To be able to fully understand the social play of situation the player must be able to interpret the language and what the social practices at play mean.

From these utterances the student can identify some of the external grammars at work in the Mass Effect universe and what ideas surround Shepard. The teacher needs to highlight these if to follow Gee’s argument using semiotics. The player does not need to apply the renegade and therefore the racist ideas to witness them – racist utterances are frequently presented by NPCs. These ideas regarding race are around although the player might not follow them as paragon. The similarities meet at the logical use of the knowledge gained in a social environment. Studying the external design grammar from a language point of view will allow the students to see logical patterns in using the social functions of language. Phrases and expressions within English in the Mass Effect universe are, however, specific. The ideas that are expressed take form in action and the player sees what the words actually means as they are played out in that domain. A pragmatic perspective is developed since the language learned is in accordance with the context which clarifies its use. The student gets experience in how the language is used only if they, as Gee claims, acts as if they thought, believed and acted as Shepard. Depending on what role that the player has chosen for his or her avatar, and the way he or she decides to manipulate Shepard,
these reactions rewards the player with real-time responses. However, the knowledge also seems to be bound to that specific context.

5.3 Practice, knowledge usage, practical execution, and, theoretical execution: acting within *Mass Effect*

Marrying theoretical and practical education is a key attribute of semiotic domains. Most traditional education is done theoretically due to tradition and since facilities might lack proper equipment. Using a virtual world as *Mass Effect* offers the teacher to simulate the necessities for the education guidelines documented in Lpf94. The internal design grammar can be seen as the theoretical content and the external as practical. These two areas work in tandem to give the student a holistic learning experience.

The curriculum states that the student shall be able to “use their knowledge as a tool to /---/ solve practical problems and work tasks” (Lpf94, 10). This can be read as that the teacher needs to structure the education where the students get practical problems that they can solve using the theoretical information. The teacher shall also “in the education create a balance between theoretical and practical knowledge that supports the learning of pupils” (Lpf94, 13), which can mean several things: practical and theoretical teachings are not the same thing, meaning that they are perhaps even opposites; practical and theoretical education collides and is had to ‘balance’ out; the social values behind what kind of education is considered more valuable can affect teachers’ decision of what to teach. According to Gee’s perspective, good teaching cannot rely on only on one input (e.g. internal design as word acquisition) but needs to extract and use it in an external design space (e.g. talking or discussing).

The teacher using *Mass Effect* is provided with practical exercises since the students can move inside the design space to discover expressions and language by playing the game. An exercise such as to discover the words and expressions used that explain human-turian relations during the Eden Prime mission that the students play the game and are observing replies, uses the conversational system and interprets the words used. The game play can be seen as practically performing the guideline that:

> Pupils shall also be able to keep their bearings in a complex reality involving vast flows of information and a rapid rate of change. Their ability to find, acquire and use new knowledge thus becomes important. (Lpf94, 5)

The above segment appears to want students to through different means reach multiple knowledge sources. Additionally, the students need to know how to use that knowledge. From a *Mass Effect* semiotic perspective, the students would have the opportunity to actually use the
different kinds of knowledge that they acquire, and to see results of the language that they have learned in using it within the game world.

5.4 Second story, progress system, and personal development: individual learning curve

The second story is the memories the players has of the game and decisions that took the game in a certain direction. These choices also reflect parts of the ambitions that the player had for the game—different levels can provide different trajectories, since:

[given the consequences, [since ]we tend to treat our game decisions like real decisions, and come to identify more closely with our avatar. The longer we play, the more our character reflects our choices. (Brown 2008, 18)

The identification in video game semiotics is similar to the educational aim that students shall “develop an insight into their own way of learning and an ability to evaluate their own learning” (Lpf94, 10). The “insight” can be argued to have similarities with the insight that is granted through the second story. Due to the backtracking attributes of the theory, the student has the chance of scrutinizing their game play. The “own way of learning” could be highlighted when the student has looked upon his or her own game process and evaluates the choices made.

A teacher can find it resourceful tracking a student’s second story since it will reflect that student’s participation within the game. In the briefing scene at the game’s beginning where Shepard and Nihlus talk about the mission’s importance to galactic politics, a more devoted player can extract more information. All players have the same outset throughout the story, but alternatives in conversation such as the “investigate”-option on the conversational wheel provides possibilities for more depth. A student that wants to keep the language level fairly straight forward without too much overt information can get the central pieces directly, but a student that wants more conversation can dive deeper. The student will learn and decipher the utterance regarding the missions as not only “mere human interests” (Bioware, 2007) pointing towards the social atmosphere in the game’s racial content, interpreting that atmosphere and choice of words as racist. The personal adjustment can be argued to agree with the view that students “gradually receive more and increasingly independent tasks to perform as well as increasing responsibility “(Lpf94, 13) since the student personally decides during the action what direction to take.

By engaging the content through acting within that semiotic domain, the student learns unconsciously through the projective identification. This means that the student will see their character and the story they have played as more personal since they were the force that made it happen and the second story reflectively resurfaces those choices. This contains similarities with the goals of teaching the “experience that knowledge is meaningful and that their own learning is
progressing” (Lpf94, 13). The student can under pressure from the teacher's eye their second story and their own choices of progress as a tool to see their roads taken when learning from the game.

The teacher shall see to that the education is scheduled with “the starting point [of] each individual pupil's needs, preconditions, experience and thinking” (Lpf94, 13), which can be seen as possible using Mass Effect. Since the game allows the player to choose the combat difficulties it includes interpreting and using the signs and objects that have been learned during the game in either an easier or harder pace. The social communicative level scales with individual development options in conversation but not automatically with game difficulty. The students adjust their learning both in ways of accessing deeper conversational options such as “investigate” but also through different combat difficulties (Casual, normal, veteran, hardcore and insanity). The teacher could point out appropriate difficulty levels for the students which in time learn to see their own levels to “develop in accordance with their own preconditions and at the same time are stimulated into using and developing all their ability” (Lpf94, 13).

The second story and progress system’s compatibility with teaching seems to be strongest at the point where the student “receive[s] support in their language and communicative development” (Lpf94, 13) as the teacher because the game mechanics and the identification system to withdraw specific places where the student could have done differently, or extract sections that were important or well played. The student can crystallize specific instances where they see and recall what internal design grammar were executed in the external context.

5.5 Meta perspective, knowledge discussion, and, critical overview: behind the game

The curriculum does not define knowledge and to gain understanding of such a subjective concept the students needs to discuss what ‘good’ knowledge is. To achieve that goal, the teacher can use the critical learning tool that is created when a discussion carries the student through their video game trajectory. The content that the student has acquired within the domain will be aired since the student recalls how he or she gained that knowledge, both illuminating theoretical and practical experiences. It is written in the curriculum that:

The pupils' acquisition of knowledge is dependent on developing the ability to see interconnections. The school shall provide pupils with the opportunity to develop a general but coherent view. This requires special attention in a course-based school (Lpf94, 6)

These interconnections are similar to Gee’s meta perspective since they share the idea that the students can gather more knowledge if they see what connects different groups. Gee claims that knowledge structures get more logical when viewed ‘from above’ since one domain takes part in a family of domains. Although not directly related, some domains share features in several areas.
Allowing students to see these ‘interconnected’ attributes is argued to give a wider view of knowledge.

With the racial and moral content bound in the words and phrases that the students have studied in *Mass Effect*, the teacher appears to be able to teach a meta perspective to reach the curriculum’s requirements. In the class the students can compare the information gained from science fiction literature and movies with the content that they have experienced while playing. Looking at the domain’s connections to other domains through similar internal or external grammars can allow the student to see the domains’ family, bridging further understanding. Accordingly, pupils shall train themselves “to examine facts and their relationships to see the consequences of different alternatives. In such ways students will come closer to scientific ways of thinking and working” (LPf94, 5). This scientific view correlates to the meta perspective which connects the use of different media and perspectives in education, making the language acquisition seem knowledgeable from several sources. Furthermore, the students reach the first level of critical and reflective thinking with the meta perspective. It is stated in the curriculum that the students should “use their knowledge as a tool to critically examine and value statements and relationships” (LPf94, 10), which can be argued possible when seen what common features are shared between the different media.

5.6 Debriefing and critical assessment: reflective learning and experience

Traditionally, teachers can simply tell the class about what knowledge they should learn. Gee argues that since the student has developed a personal trajectory within the domain, debriefing is more effective. Used in tandem with the student’s own experiences, debriefing is to let the student reflect on their trajectory and to look upon their own learning.

The curriculum states that teachers shall “together with pupils evaluate the education” (LPf94 15), but more precisely see that they “have the ability to critically examine and assess what they see, hear and read in order to be able to discuss and take a standpoint in different questions concerning life and values” (LPf94, 12). A connection can be seen between the idea to teach students critical thinking, use discussion as a means to have the student reflect on what they have learned, and, debriefing. The teacher shall with the students discuss their learning and furthermore see to that they critically asses their experiences. The personal experience of playing a video game ties the reflection to an individual level and walks through the debriefing down into the fundamental knowledge attain through reflection and evaluation.

Debriefing seems adaptable to the curriculum’s aim of using reflection, since once the student has processed his or her trajectory with the teacher and applied the meta perspective, the student should recognize what he or she has learned. Since the student has developed an identity within
that domain, it makes him or her capable of returning to it accessing it as knowledge. The teacher has also the chance to “correct” any misunderstandings, where a student has misinterpreted content or disliked content, “mak[ing] clear /---/ [what] values and perspectives that knowledge is based on and encourage pupils to take a position on how their knowledge can be used” (Lpf94, 13), clarifying where needed.

Although debriefing is not aimed at teaching English, it seems to be a step in the semiotic process within the language acquisition. Questions what connects media opens up for a discussion that gives the teacher a tool to allow the students to both air their experiences, to apply the meta perspective, and to reassure that the content is properly treated according to the teacher’s aims. Debriefing is used as a tool when asking the students what they thought about Mass Effect’s content, what they did in specific situations such as racism conversations, why the student chose their actions, about the student’s view of the game’s internal and external design grammar, how he or she would have acted in another student’s trajectory, and so forth. This corresponds with the curricula aim that students can use their knowledge as a “tool to /---/ reflect over what they have experienced” (Lpf94, 10). Actively discussing their second story in English provides students with “the opportunity of reflecting over their experiences and applying their knowledge” (Lpf94, 6-7), where the knowledge would be their skills in interpreting the knowledge bound content within the game world. The debriefing allows the students to talk about their learning and “train themselves to think critically” (Lpf94, 5).

5.7 Automatization, objects, and knowledge development: learning tools

Automatization of skills and game play in Mass Effect allows the player to learn a piece of information and then use it enough to not need to think of how to use it. Furthermore, using objects inside the game binds certain objects to these skills. This learning mechanism is subconscious and coincides with progressing in the game.

There are no notes on automatization or use of objects in the curriculum. The teacher can see to that the internal design grammar is specifically bound to objects. For example, the conversational wheel is a tool where the student at first might need to consider in what way it is constructed before using it naturally. It is a process where the student becomes more and more comfortable with interpreting the meaning of the options rather than having to notice what is actually done every time it is used. This is the automatization. The language is here bound to the wheel that symbolizes speech. The students does not need to think that he or she is speaking but uses the wheel simply to give responses in the game universe.

From a semiotic perspective the learning becomes passive. The teacher can outside of the game world use the same or similar tools to access that knowledge. It can be argued that the knowledge appears automatically by using the tool since the knowledge is not context based.
When the students are discussing their personal experiences they can merely ‘pick up’ the wheel and exemplify using it as an aid. At the same time it can be argued that the knowledge is far too context based since galactic space ferrying might not be all too common.

5.8 Trial mode, hypothesis, simulation, the learning process, and, knowledge of different learning styles: learning advancement

Video game structures stimulate certain cognitive aspects, and Gee claims that game level structures are the source. The way the player moves inside the game world is what leads to the core of learning.

Non-compulsory school education relies on knowledge and the student’s own way of gathering it. The concept is not defined since it is subjective and different styles are equally valid, but:

The school’s task of imparting knowledge presupposes that there is an active debate in the individual school about concepts of knowledge, on what constitutes important knowledge now and in the future, as well as the learning process itself. Different aspects of knowledge are natural starting points for such a debate. Knowledge is a complex concept which can be expressed in a variety of forms – as facts, understanding, skills and accumulated experience – all of which presuppose and interact with each other. Education shall not emphasise one aspect of knowledge at the cost of another. (Lpf94, 6)

Gee’s use of semiotics presumes that the students will participate and face different kinds of knowledge within a video game.

Firstly, in Mass Effect the player enters a trial world or subset environment - the learning process is alongside the actual story. After the character and plot introduction aboard the ship Normandy, Shepard is placed on the planet Eden Prime to engage his or her first mission. During this mission, the player is given instructions on how the game mechanics works, such as “press O to open your codex, your galactic encyclopedia” (Bioware, 2007). When learning the player about more complicated moves or functions, the instructions become more alive. When learning how to take cover behind debris and then lean forward to aim at enemies, a message shows telling the player to walk towards a tree and aim at a gas-filled organism. When executing the move correctly and blowing the organism up, a new message appears, complementing the player that it was well done and continues on how to develop that move. Since the player has learned some skills and routinized them, the game automatically proceeds with more advanced learning. Secondly, the player can attempt to try hypotheses inside the game to experiment. These are not exclusive to the trial mode, but the player learns some of the basic skills during it. The hypothesis form of exploring the game world will most probably come naturally when the player sits down and attempts to play the game. If he or she jumps into a pit of lava and the avatar dies, that action will most probably not occur again. If a student has issues with understanding how
the game functions, the teacher can steer the student into trying them, allowing the student to explore and find responses directly to their reflective hypothesis. The four steps of probing, hypothesis, reprobing and result analysis matches curriculum learning: firstly, the player realizes that their way of playing is not sufficient and rethinks their play style; secondly, if the player has experienced other domains that are similar to the current one, some information of how to think or act might come useful; thirdly, “[t]he learner adapts and transforms the earlier experiences to be transferred to the new problem through creativity and innovation” (Gee 2003, 127); and finally:

Gee’s explanation is similar to teaching the students to “use knowledge as a tool to formulate and test hypotheses and solve problems” (Lpf94, 11), but in a more described manner. Thirdly, the player can find the information acquired in the game useful in other contexts. Gee argues that since the student has seen knowledge bridging through the meta perspective, that knowledge does not only cross over theoretically but practically as well. *Mass Effect* acts as a simulator where the internal and external design grammar can be used in other similar domains. The simulation will most probably only be able to transfer some of the content, where, for example, a hypothesis gained could be used in another video game. In games similar to *Mass Effect*, in a sequel, or similar domains, a player can reuse knowledge supportively.

During the trial mode the student becomes more aware and used to the new terms and words that compose the internal design grammar. As the student gets better these words reveal to be key to interpreting the game world’s symbolism. Through the hypothesis theory the student can use these assumptions about what these phrases transform into and try them out to see if they have understood them correctly. The language becomes the tool to solving practical problems and extracting more information from the media. The student “can use their knowledge as a tool to /---/ formulate and test assumptions as well as solve problems (Lpf94, 10). Lastly, the students could through considering *Mass Effect* as a simulation use that knowledge in other situations. The curriculum does, however, not say anything about simulations or transferring knowledge between areas. It generally says that education should teach about studies and labor, visit universities or companies, where the student has opportunities to use experiences from working life in school, and vice versa. The closest the text comes to mentioning simulation is education “/---/ imparting knowledge and preparing them for work and participation in society /---/” (Lpf94, 5). The knowledge of language in *Mass Effect* could be argued to act as a language simulator for the players, but in the aim in comparing the theories it seems that this junction does not exist.
6. Results and conclusion

6.1 Results

This section will present the results that were discovered during the analysis. The following chart is used to give a clear overview of each theme that was analyzed. Each theme is exemplified, and the compatibility or incompatibility that the analysis interpreted is summarized. The compatibility and incompatibility columns are marked high, medium or low to show at what degree they fit. Lastly, the chart is reinforced by a text summarizing the chart and presents what themes were high, medium or low.
<table>
<thead>
<tr>
<th>Analysis Themes</th>
<th>Examples</th>
<th>Compatibility between Gee and Lpf94</th>
<th>Incompatibility between Gee and Lpf94</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal design grammar</td>
<td>Learning about words, symbols and the “stuff” of Mass Effect as general means for language and knowledge.</td>
<td><strong>High</strong>: The educational feature appears to be the link between vocabulary training, interpretation and internal design, reading and listening exercises and decoding of symbols.</td>
<td><strong>Low</strong>: The content can be seen as narrow, since it only specifies on one context.</td>
</tr>
<tr>
<td>External design grammar</td>
<td>The Conversation Wheel utilizes as a tool for social expertise in how language is used.</td>
<td><strong>High</strong>: The analysis shows practical use of external design grammar where the curriculum suggests that the student uses their data to understand social functions.</td>
<td><strong>Medium</strong>: The racial content that the student plays against or with contradicts Lpf94 guidelines and the design grammar applies only playing as Shepard.</td>
</tr>
<tr>
<td>Practical and theoretical learning</td>
<td>The game play simulates internal and external content and supports different knowledge sources, such as practical tools.</td>
<td><strong>High</strong>: A junction that aspires to blend practical and theoretical education: Mass Effect’s social game play uses the external design grammar practically playing out the internal design grammar in that semiotic structure.</td>
<td><strong>Medium</strong>: Lpf94 rarely adapts to practical learning and appears to put more weight in theoretical points of view.</td>
</tr>
<tr>
<td>Second story</td>
<td>Measures pupil advancement within the game’s interactive identification displays student levels, such as paragon or renegade levels.</td>
<td><strong>Medium</strong>: An individual view that reflects the aims of insight in individual learning: the student uses the second story to see their trajectory within the game, learning from viewing their progress.</td>
<td><strong>Medium</strong>: Language through identification is argued possible but the actual learning process does not itself target language acquisition, but is argued to be a part in Gee’s larger process.</td>
</tr>
<tr>
<td>Meta perspective</td>
<td>Students critically examine what seems as typically shared among similar media domain-families: linguistics, motivs, cultures, ethics, and stereotypes.</td>
<td><strong>High</strong>: Educates what elements are typical to the domain, and identifies those features in related areas. Internal and external design grammar are argued to receive a more logical and coherent understanding.</td>
<td><strong>Low</strong>: Bridging of knowledge seems to connect domain connections but is not directly linked to language education.</td>
</tr>
<tr>
<td>Debriefing</td>
<td>Personal critical reflection as to what has been experienced in that domain and what choices were made, such as regarding racial issues.</td>
<td><strong>Medium</strong>: Students actively discussing the experience in English provides students with the curriculum related reflective learning and skills in interpreting the knowledge bound content within the game world.</td>
<td><strong>Medium</strong>: The critical assessment of own learning seems general and concerns the whole process rather than specific language.</td>
</tr>
<tr>
<td>Automatization and objects</td>
<td>The game play disguises the learning progress inside casual playing and using objects</td>
<td><strong>Low</strong>: Few correlations are found, but learning can be seen as part in a process where the student practices and becomes casual, and the objects are tools the students uses.</td>
<td><strong>High</strong>: No reference in Lpf94 of either strategy, or the methods seems to be placeholder titles to simply using language and becoming more comfortable with it.</td>
</tr>
<tr>
<td>Trial mode, hypothesis and simulations</td>
<td>The practical and theoretical thinking in ways of allowing safe environments for learning and trying hypotheses and reflection, such as the Eden Prime mission.</td>
<td><strong>Medium</strong>: Trial modes and hypothesis thinking and learning is claimed to be central to school education, which puzzle-like game play resembles as the player knows the game world is open for trial and error.</td>
<td><strong>Medium</strong>: Simulation and morphing knowledge to other domains do not yield precise discoveries within the curriculum. Although the language acquisition is found to be stored even though the student is not planning to be a soldier.</td>
</tr>
</tbody>
</table>
Firstly, content and knowledge as internal design grammar were compared with high equivalence with curricula knowledge attainment – the pure knowledge that is seen as the content-related learning. Inside a class where the students are studying galactic material as means for language acquisition, the interpretation and use of the rules, tools, symbolism, and visuals could be considered as content. Secondly, the social aspects of semiotics meet curricula goals of choice and acting consequences in social practice with likeliness since it assumes that learning is deeper when acting as a member. Furthermore, the result is that by acting as a member of the domain gives the student understanding in what field and context such language is used. External design grammar trains the students to see when certain phrases and behavior suit. Thirdly, the analysis has interpreted the internal design grammar as theoretical knowledge and external design grammar as practical knowledge. The internal design grammar in Mass Effect is seen as theoretical language acquisition since the player has to understand these elements. Decoding symbols and learning new foreign words is argued to give a more scientific learning. The racial and racist culture that the game universe enacts gives the player a field where to use the internal design grammar in a context that makes sense. Fourthly, viewing domain features from an above meta perspective and learning of interconnections were analyzed as different forms of the same learning process since the student understands where and when such language is appropriate. Critically understanding where speech and writing are suitable is seen as the result. The result seems to knit together, since all pieces build on each other, that the student cultures knowledge of language when using it in different forms.

The second story is of medium compatibility since the semiotic approach draws resources from the identification features in video games, as well as the game’s inherent progress system. It is seen as less featured since the identification is a more psychologically basic feature than a tool that converts into language learning. The trial mode, hypothesis and simulation theme match several Mass Effect instances, but lacks support from the curriculum. Curriculum elements supports primarily the semiotic hypothesis methods. Debriefing draws information from the second story to ask students what they have learned, how they reached it, and to question why they did so. Discussing racial content within Mass Effect is argued to be such a factor since the student adapts to the internal and external design grammar and proceeds with interpreting that content. Since racism is mentioned in the curriculum as loathsome the debriefing tool seems accordingly necessary to avoid teaching students racist behavior and language, reconnecting internal and external design grammar to a form of context sensitivity within the student. As with the second story, debriefing seems to be a tool that connects the learning process.

Lastly, automatic learning and object bounding fails at finding matching information in the curriculum. The analysis finds that way Mass Effect game play is structured learns students language since the knowledge acts in a routinized manner, rather that general video game play
stimulates such development. As for objects and learning, the conversational wheel could possibly be used in other contexts to extract and reuse the learning that was given when using it.

6.2 Conclusion

The purpose of this essay was to investigate in what degree the goals of Lpf94 can be met using the video game *Mass Effect*. It investigated if the learning structures described in Lpf94 could be compared to those described in Gee’s game learning theory and be applied with *Mass Effect*. That purpose has been fulfilled and showed the following results.

The first question asked was what learning structure sections can be identified in both Lpf94 and Gee’s theory. It was found that some of Lpf94 parses matched Gee’s theory. Most notably, Lpf94’s concept of knowledge is used freely in a wide series of interest. It is found to go hand-in-hand with detail language acquisition in internal design grammar, social acquisition in external design grammar, critical observations in the meta perspective and can be to some degree summarized practical and theoretical learning.

Some of Gee’s other elements did not find as good foot hold such as the identification in the second story, the reflecting debriefing and the puzzle-like trial mode, hypothesis and simulations. Lastly, knowledge and skill automatization and object usage did not find any correspondence. This was due to poor compatibility with Lpds94 but was argued to be valuable as part of the larger learning structure and game play.

The second question was if games can be used to learn English. The results showed that the use of *Mass Effect* proved it possible. The internal design grammar provided the player with the stuff of the game and its language, and the external an understanding how to use it. As a player, the practical and theoretical ways games function strengthen that learning. The identification of the second story was discovered to not grant as much in “pure” knowledge, but as a part of the learning process since games can motivate the player to want to develop their avatar which equals general learning. The meta perspective does not prove as successful either, but the way the language and the context correlates becomes more logical, and debriefing allows discussion topics in English. Automatization and objects usage could be found to have some possibility in making the player comfortable with the language. Lastly, trial modes, hypothesis and simulations allowed a testing of the language, but were found to more store the game play as general knowledge rather than pure language learning.
7. Discussion

In this chapter I will air my thoughts as an author concerning the discoveries in this essay and discuss the results.

The results from this study have resemblance with studies on challenging classrooms and higher order thinking, meaning higher expectations perform greater results. The teacher scaffolds the students by giving the resources they need but also allows them to stand independently and test their knowledge. This very method is what I consider myself to have found during the analysis, where Gee’s many steps in semiotic learning builds upon the other to give deeper learning. However, my results show that some pieces of Gee’s do not have as clear language related possibilities as others, but I felt that I had to keep these pieces of Gee’s theory to make it coherent and understandable upon its premises. Furthermore, the curriculum does only refer to this “gain” in terms of knowledge. My interpretations of knowledge were wide, which left the analysis process solely up to my own values of knowledge. Simply, language is knowledge, and the analysis of Mass Effect sort of “forced” me to produce logical relationships. The example with the racial discussions and external design grammar is no pure language educational matter, but in the light of Gee’s learning structures and Lpf94 knowledge concepts appear to gather at one point: language, and all knowledge for that matter, is not best grasped at secluded levels, but rather met with a good many aspects of information, usage, and, reflection, at a summit. This peak, where diverse input meets, seems to be where optimal language development is born.

To drive the agenda to teach English using a video game is very much possible, but requires firm control. Situations where students or authorities might see it as “too childish” is expectable. One must trust in that it contains such a developed lingual content that it does not stimulate locomotive-like play. Indeed, there are such games where a player never needs to interpret or learn any language-connected pieces. These do, of course, still apply the general guidelines concerning spatial training and interpreting that Gee proposes. This study has, on the other hand, steered its focus on language and learning. The game relies so heavily on understanding and manipulating the language core participating in the conversations via the wheel in the many cinematic scenes throughout the story. Most probably, any media can be oriented towards a specific goal and ill fit ones satisfy the means more or less. Mass Effect as a video game could be viewed as a pioneer since it builds thoroughly on social interests (which were its trade mark). It took a leap of from where other games left the stepping stones of social artificial intelligence and advanced it.

Lastly, I would see it very pleasing if more studies were made on video games and especially their potential as an educational media. Since I feel that I have learned so much from video games it would be most pitiful if others did not have the same possibilities as well. The gender-
and violent-related are two areas that have been frequently studied leaving room for other video game related questions to be done such as those presented here. Based on this study, other studies could perhaps be made on: other school subjects and Gee’s theories; to reuse this essay’s point of view but on other games or several games; or, a questionnaire study on student’s vocabulary development when playing video games.
8. Sources

8.1 Literature


8.2 Digital media


8.3 Articles


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8.4 Essays


8.5 Web pages


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