VIRTUAL SHOOTING VS. ACTUAL LEARNING:

Examining University Students' Ideas About Video Games As Tools For Learning History

by

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B.Sc., Simon Fraser University, 2003

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

In the
Educational Technology and Learning Design Program
Faculty of Education

SIMON FRASER UNIVERSITY
Summer 2011

APPROVAL

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Degree: Master of Arts

Title of Research Project: Virtual Shooting Vs. Actual Learning: Examining University Students' Ideas About Video Games As Tools For Learning History

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ABSTRACT

Video games are a popular area of research in education, and many scholars are currently investigating the great potential of video games to engage and to teach students more effectively. Studies have long demonstrated that students perceive history as a dull subject. This study examines the potential of commercial video games as a potential tool to improve students' engagement in history. In particular, the study focuses on what university students believe they learn and what interests they develop by playing a commercial-off-the-shelf First-Person Shooter video game set in World War 2. Data collected from 12 university students of varying backgrounds show that participants regard video games as a fun pastime, and dismissed them as a way of understanding the past. This appeared to be the case partly because participants were able to "read" features of the game that marked it as a commercial entertainment product, and overestimated compromises between fun and historical accuracy in its design.

DEDICATION

To David Letterman, Batman, and Gummy.

ACKNOWLEDGEMENTS

Thanks to some people on the planet Earth. You may or may not know who you are.

Thanks to the SFU Faculty of Education's Research Opportunities Committee, who funded this research through a grant to Dr. Kevin O'Neill.

Big thanks to David Kaufman.

Bigger thanks to Kevin O'Neill.

Biggest thanks to me.

Special thanks to my parents.

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1 INTRODUCTION

The Pew Internet & American Life Project (2008) conducted a large-scale study on the video game habits of youth and reported that 97% of teenagers aged 12 to 17 play some form of video games. The large proportion of youth involved in the culture of gaming, and the amount of time they spend playing, has led some to suggest that the current generation, which has been described as the “digital natives” (Prensky, 2001), is so invested in the medium that teachers should seriously consider it for teaching. Researchers, such as Squire & Barab (2004) and Gee (2003), have already devoted significant time and effort to investigating the educational potential of video games.

This study focuses on history, and there are good reasons to be interested in the potential of games to teach this subject differently. History instruction based largely on textbooks, and focused on producing recall of authoritative stories, is unmotivating, and leaves students ill-equipped to think about the varying historical accounts that they encounter in life (Barton, 1997; Wineburg, 2001). Modern video games present an opportunity to address this issue. A large number of popular videogames are set in the past, including several games that have been top sellers: “Call of Duty”, “Battlefield 1942”, “Age of Mythology”, and “Rome: Total War”. Recent classroom-based research has demonstrated the value that current commercial games may have for teaching history more effectively in challenging settings (Squire et al., 2004). Given the number of hours that adolescents play video games, what they learn from their exposure to

video games is important to educators. For example, do video games set in the past give students knowledge and interests that can be built upon? What are the misconceptions in these games that must be weeded out? Educators need to know what they face.

Jim Gee, a popular proponent of video games for learning, has argued that video games can embody sound principles of learning, and may be a more effective means of teaching than some traditional methods, such as “skill and drill” learning (Gee, 2003, p. 205). Other studies have shown the benefits of using video games for educational purposes. For example, some video games can motivate students to learn (Facer, 2004 as cited by Schrier, 2005, p.32). Despite the theoretical advantages of video games, however, there are questions regarding whether any of the theoretical potential of video games is achieved outside of a classroom setting, when players play for their own reasons.

This study aims to reveal what university students think they learn, and what interests they develop, from playing a First-Person Shooter (FPS) video game set in World War 2 (WW2) in a non-instructional setting. A central motivation of the study is to understand what elements may be needed in an instructional design to take advantage of the theoretical potential of this medium. In the study, volunteers played a FPS video game called “Medal of Honor: Frontline” (MoHF), which puts the player in the role of a US army intelligence officer as he participates in a variety of WW2 missions -- including the American D-Day landing at Omaha Beach.

Reviews of this and similar games treat historical authenticity (or the appearance of it) as an important criterion in determining quality. For example, a review of MoHF by Trevor Rivers (2002) for GameSpot praises the historical detail of the game and how it adds to the experience:

> *The attention to detail in all of them is outstanding, with city levels that look like they were taken straight from the pages of history…The attention to historical details further augments the experience, though those who consider themselves fans of shooters would do well to add this game to their collection.*

However, like all computer-based simulations, the game world of MoHF is highly simplified. For example, few of the computer-controlled characters ever speak. When they do, they deliver only short, pre-recorded lines of dialogue. The player's own character is mute and only listens to the computer controlled characters.

This thesis examines the potential and the inherent problems associated with using a commercially produced video game to learn history. Among other things, the study explores how university students (both male and female, and with a range of knowledge about the relevant history) assess the "realism" of a game that was designed to be historically accurate, and how they view video games as a medium for learning about the past.

2 LITERATURE REVIEW

In the public education system, history is sometimes represented as static and objective like other subjects, such as math. There is no interpretation for the mathematical theorem or formula other than correct or incorrect and, once a mathematical theorem or formula has been proven to be correct through a proof, that mathematical theorem or formula will always be correct. Further, there will be no new evidence or information to change the mathematical theorem or formula. However, history is much more dynamic and subjective than this. History is a somewhat unique subject in that there is never absolute certainty about the material being taught. Wilson (1999) describes the reality of history:

> *History is best defined as a continual, open-ended process of argument, which is constantly changing. No question is closed because any problem can be reopened by finding new evidence or by taking a new look at old evidence. Thus there are no final answers, only good, coherent arguments: history is not some irreducible list of "the facts" but continually changing bodies of evidence.* (Wilson, 1999, p.3)

Consequently, history as a subject is complex. However, history is often taught based on the narratives in textbooks or in videos as stories of past events. This may give a sense that there is only a single narrative to a past event. A study by Olson (1977 as cited by Robinson) found that the language used in the writing of the textbooks had infrequent usage of words like 'I', 'belief', 'doubt',

etc., which gave the textbooks an impersonal and authoritative impression. This is part of a tradition in history textbooks that acknowledges only one 'true' perspective of history, and does not include other possible interpretations and/or views (Robinson, 1993, p.367). This is a misrepresentation of historians' practices, in which historical narratives are created based on evidence and a theoretical perspective. The theoretical perspective will furnish certain questions and, along with the evidence, allow the historian to construct a narrative.

There are issues with what theoretical perspective is used to interpret history as, for example, sociological, economic and feminist perspectives will all yield differing interpretations of similar evidence (Wineburg, 2001, p.143). A theoretical perspective can (and invariably does) introduce a bias to a narrative. For example, past textbooks have been biased toward the interests and perspectives of white males. Robinson (1993) cites many studies (Pratt, 1972; Garcia, 1978; Habtai, 1981) that show groupings of differing ethnicities in history textbooks and how references to whites were considerably more favorable than references to non-whites (Robinson, 1993, p.368). Also, in history textbooks women can be relegated to supporting or stereotypical roles (Wineburg, 2001, p.114). Clark (2005) showed a sexist bias in Canadian history textbooks up to the 1980s, in that they focused on the actions and events of white males and did not acknowledge female achievements or contributions in Canada. Throughout his book "Lies My Teacher Told Me", Loewen (1996) provides evidence that historical content in American history textbooks often present patriotic myths that vary widely from what historians have published about the same events.

The bias in a theoretical perspective is a result of an interpretation of historical events according to a particular academic discipline, but there is not necessarily a larger purpose associated with this bias. A political agenda would judge historical events according to whether something supports or opposes the agenda; hence, there can be a political bias in a history textbook. The danger here is not so much the interpretation of history as much as it is the selective repurposing of history. Gordon (2005) discusses how, in terms of the usage of history textbooks in relation to a national identity in Israel, history textbooks are not really for students, but for the older generation and the narratives that construct a national identity:

> *History books are about the passage of time, so they are the natural arena where cultural or national narratives – series of events given structure and meaning through the way they are carved in time – can be articulated and told. The telling is not so much for the sake of the students who study them, but rather for the sake of those who recount them. History textbooks and the public and academic debates about their objectivity, truth, and bias fulfill a semantic function for the adults of the society. The latter are actors in a political drama that enables them to tell and retell themselves who they are and how they wish to be situated visà-vis the stories that presume to define them.* (Gordon, 2005, p.370).

In addition to selecting what history to teach, a political bias can rewrite and reshape history to better suit the agenda. As reported by Birnbaum (2010), the Texas Board of Education gave approval for several amendments in 2010 to

the state history curriculum, which determines the contents of history books and what is taught in the classroom. The Texas Board of Education was overwhelmingly Republican and the changes to the history curriculum were very conservative. Examples of these changes include: a justification for the activities of Joseph McCarthy, and a new focus on the importance of Christianity to the founders of America. Although the changes were meant for Texas, there are implications that extend to the history curriculums of other states. Texas is a huge purchaser of textbooks and is able to get a volume discount with its buying power. This discount is offered to school districts in other states, which are compelled to buy the Texas sanctioned history textbooks. Consequently, the political bias that was inserted into the Texas history textbooks exceeds its original intended area of influence because of market economics.

A bias in a textbook could have commercial origins rather than political. The Center for Education Reform (2001) discusses several ways in which commercial forces affect textbooks for education, pointing out that the US educational textbook market is worth more than $3.3 billion annually, and that four textbook publishers control 70% of that market. Clark (2006) identifies textbooks as “an economic commodity” (Clark, 2006, p.1067), which has been a lucrative source of revenue for Canadian book publishers. Accordingly, as discussed by the Center for Education Reform (2001), in order to sell more books and make more money, a publisher could skew the content in a history textbook to appeal to potential purchasers.

A bias can extend from textbooks in a classroom and escalate to the governing standards in history education. Fonte & Lerner (1997) outline many liberal biases in the revised standards for history education in the United States, published in 1994. The major source of the biases, according to Fonte et al. (1997), was a shift in from the western world to the non-Western world as the revised standards "both romanticize and overemphasize the significance of non-Western cultures while denigrating and deemphasizing the role of Western civilization" (Fonte et al., 1997, p.20). Fonte et al. does not suggest that nonwestern cultures should be ignored (he says that Islamic and Confucian civilizations are both important for American students to understand), but that minor nonwestern cultures included in the revised standard, like Xiongnu and Zapotec, are not as significant to American students to learn as some things based in Western culture that were omitted from the revised standard. Fonte et al. (1997) ends his article by stressing the need for objectivity and that historians "…should not allow their own political views to cloud the [history] product" (Fonte et al., 1997, p.25).

In addition to the problems brought by the resources (e.g., textbooks) and standards used in history education, students bring their own challenges to history teachers. Students often have negative attitudes towards history as a school subject. While many adults would agree that history is an important subject for young people to study (Granatstein, 1998), most students do not share this belief. Surveys routinely show that history is viewed as the most irrelevant and boring of all school subjects (Lowen, 1996, p.12). There are also

epistemological problems with how students understand history. A study conducted by Barton (2001) showed how students in the US learn history by studying narratives with famous individuals, but do not understand how those narratives are constructed. This is not the case in other countries. For example, students in Northern Ireland learn how history is constructed through sources of historical evidence (Barton, 2001, p.5). In Barton's study, US students tended to think that history was transmitted, through books or between generations, whereas students in Northern Ireland more often learned the more sophisticated view that history is constructed based on evidence, such as artifacts and remains (Barton, 2001, p.6). It is not to say that students are at fault for their learning, but it is a combination of the educational systems that teach them history and how they learn and understand history that causes students' low opinions of history and their epistemological misunderstandings.

Shemilt conducted detailed research into the adolescent understanding of historical evidence and methodologies, and their roles in producing accounts of historical events. Shemilt (1987) describes four developmental stages of adolescent ideas about historical methods. The beginning stage (i.e., stage 1: knowledge of the past is taken for granted) involves a very simplistic and unproblematic view of historical events and descriptions. For example, a student at this stage will equate knowledge of the past with evidence from the past. The final stage (i.e., stage 4: awareness of the historicity of evidence) involves a complex view of how historical accounts are constructed based on available

historical evidence, influenced by the questions of the time and subjective methodologies.

In trying to alleviate the existing problems with history education, innovations in history instruction may make use of new tools, such as online archives of historical sources or, increasingly, video games. Despite potential benefits, video games are still not widely used in schools. Rice (2007) outlines several barriers to the classroom implementation of video games. There are attitudinal barriers, for instance simplistic perceptions of video games that do not acknowledge their complex cognitive potential. There are practical barriers, as the technology inside schools is usually older and current video games often require powerful machines. Commercial video games may also not be very adjustable to suit the specific contexts of individual teachers. As for the video games that are used in schools, education has historically used “drill and practice” games, such as “Alga Blaster”, “Reader Rabbit” and “Knowledge Munchers”, to support the traditional curriculum (Squire, 2003, p.5). These games were limited by the technology of the day and/or by how they were incorporated into the curriculum. Many of these video games are “edutainment”; a compound of “education” and “entertainment.” A major criticism of this genre is the poor quality of both the educational and entertainment aspects of the software. Squire & Jenkins (2003 as cited by Wagner, 2008) state that “frankly, most existing edutainment products combine the entertainment value of a bad lecture with the educational value of a bad game” (Wagner, 2008).

Despite these problems with the adaptation or implementation of video games in schools, there are individuals, like Jim Gee, who advocate their potential educational benefits. In his book “What Video Games Have To Teach Us About Learning And Literacy”, Gee (2003) discusses the embedded learning principles that are in video games. Others have discussed the educational significance of video games, such as De Castell & Jensen (2010):

> *What is significant here, from an educational standpoint, is that digital games are more than just entertainment: they are artificially intelligent spaces where people collaborate, problem solve, read, strategize, communicate, participate, and act together both inside and outside a game and its rule structures, and they are doing so in increasing numbers.* (De Castell & Jensen, 2010, p.42)

Some studies have shown the benefits of using video games for educational purposes. For example, in the proper context, video games may motivate students to learn (Facer, 2004 as cited by Schrier, 2005, p.32). Other studies have shown how video games may serve as an effective instructional strategy for teaching students(Alessi & Trollip, 2001; Gredler, 2003; Gros, 2003; Hannafin & Peck, 1988 as cited by Charsky & Mims, 2008, p.38).

Among the reasons for the benefits of video games in education are the advancements in modern video game technology and design. Rigby & Przybylski (2009) describe how the technology of modern video games can benefit learning: “These digital environments have an increasing verisimilitude that can address

many meaningful learning scenarios as well as facilitating the migration of learning from the digital to the molecular world". Modern video game design offers more than just a simple challenge; it allows for exploration and interaction (Rigby et al., 2009, p.216). As a result, video games are able to teach things in ways that are not possible through traditional means (Haas, Groff, Klopfer & Osterweil, 2009, p.4).

Despite the educational potential of video games, it is still difficult to create a video game specifically for the educational market because of the exorbitant production costs of making modern video games, and the limited video game sales for the niche educational market. A game need not be intended for education to be educational; a game intended to be entertainment can still have educational value. Hence, it is possible for a commercial-off-the-shelf (COTS) game to be repurposed for educational use (Wagner, 2008). For example, "SimCity" is a very successful COTS game where players design and maintain a city and deal with the complexities of city management, such as land usage, transportation and taxation. While playing "SimCity", the student/player was learning and practiced skills from school subjects, like math and economics (Haas et al., 2009, p.8). Charsky et al. (2008) outline a strategy on how teachers can integrate COTS games into their curriculum.

Gurr (2010) found that there is great interest in the educational application of COTS video games, but also that there is uncertainty about their effective usage. A good example of a modern COTS video game used in contemporary

history education is provided by Squire & Barab (2004) and their attempt to engage with students and make history interesting and exciting through "Civilization III" (C3). C3 is a computer simulation game that incorporates historic, geographic and political aspects into its gameplay. The player guides a civilization and watches its growth over time (i.e., the narrative of the civilization). Squire et al.'s unique application of C3 to a history class was to use it as a new tool for understanding history, rather than for the traditional presentation of facts and narratives to be memorized. The complexity of the C3 simulation is intended to mimic the complexity of the historical development of a civilization, and actively engage players in thinking about how historical civilizations and events arise and unfold (Squire et al., 2004, p.506). An interesting aspect of playing C3 was that the students could explore alternative histories, such as "Could Africans conquer Europe or South America?". C3 also showed why some historical events happened the way they did, such as the advantage of the European colonizers in having horses and the South Americans not having such a resource.

Because of the complexity of the game, C3 took some days for Squire et al.'s students to learn. Many students initially rejected it and/or failed to see the relevance of it. However, after the fourth day, students began to actively engage with C3 and explore hypothetical historical scenarios, examine a particular culture's history, etc. (Squire et al., 2004, p.508). Squire et al. describe how the students "appropriated" C3 as a tool. The students learned how the tool was used, and why it was in their interest to use it; thus, the tool (i.e., C3) was no longer the teacher's, but their own (Squire et al., 2004, p.508). Squire et al.

concluded that video games can be powerful tools for history teaching, though the adoption and motivation of the tools is complex. The success of C3 in Squire et al.'s classroom was driven by the student's repurposing/reshaping of the tool and their own motivations (Squire et al., 2004, p.512).

C3 is an example of a nonlinear video game, as it allowed the players to test several different historical possibilities and did not adhere to a predefined course. A linear video game, on the other hand, could adhere to a predefined course (i.e., a narrative), and this may have advantages for history teaching. Madej (2003) cites Polkinghorne, who describes how "narrative is central to human experience" and that it is "the primary form by which human experience is made meaningful" (Polkinghorne, 1988 as cited by Madej, 2003, p.2). People may give great importance to a narrative, and try to analyze events in terms of it (Bruner, 1986 as cited by Gee, 2006, p.60). Narratives have been a part of human culture since before the written word, as the Greeks created oral traditions such as the Homeric epics that survive today (der Heyer & Fidyk, 2007, p.148). Oral traditions continued through the Middle Ages, with songs and plays (Madej, 2003, p.3). More recently, CBC Television provided a somewhat controversial example of epic Canadian history narrative in "Canada: A People's History" (CAPH), a television series that presented a narrative of Canadian history spanning from prehistory to modern times, and showcasing the stories of everyday people, rather than just politicians and military leaders.

In short, every medium, from the spoken word to television, has adopted the narrative (Madej, 2003, p.2), and video games have too; video games continue a narrative-based storytelling tradition (Squire et al., 2004, p.10) older than the written word.

The ultimate purpose of a narrative, regardless of the medium that contains it, is to engage an audience. In this case, a historical narrative would need to be constructed based on a student audience. Loewen asserts that "Emotion is the glue that causes history to stick" (Loewen, 1996, p.300); thus, to engage students with history education, a video game must work on an emotional level in the construction of a historical narrative. Although they are different forms of media, video games and film/television share many visual and aural attributes, such as musical scores, camera techniques and the shaping of a scene. In fact, video games are incorporating story structure and character development into their design (Squire et al., 2004, p.7). David Grubin, an American documentary filmmaker, explains the differences between the media of film/television and text for history teaching, and how film/television is very effective at evoking emotion. Grubin asserts that most people would rather watch a movie or TV show than read a book (Grubin, 1997); and he disagrees with criticisms of television as being reductive and overly simplistic as compared with books. He does admit that the medium of television is limited; just as any other medium is limited. Both the film historian and the traditional historian have the intention of examining and understanding history. They differ in how they construct their narratives, as each historian works with different source materials

(i.e., the film historian uses more visual and oral records, such as photographs and film reels, while the traditional historian uses more text-based records, like written documents). They also differ in how the past is represented (i.e., on a screen and in a book) (Grubin, 1997). Filmmakers use the spoken word rather than the written word, which gives a more emotive component to the medium as spoken language carries the subtleties of emotion that text cannot sufficiently reproduce (Grubin, 1997).

The construction of a history narrative for a video game would obviously be based on historical fact. However, there could be a fictional component to the narrative as it could be necessary to alter certain factual aspects and/or add a fictional component to the narrative. This would be done in a video game in order to be palatable and accessible to players in order to keep them interested and engaged by the video game. For example, in the original “Medal of Honor” video game, a fictional character called Lt. James "Jimmy" Steven Patterson was created and participated in realistic WW2 scenarios in the actual locations, like destroying V2 rockets at the Nazi Dora-Nordhausen facility in Germany. Factual history may not be conducive to good video game design; thus, factual history is adjusted with fictitious elements in order to make a good video game.

Good historical fiction can be useful to a history education. For example, der Heyer et al. (2007) cite an example from Wineburg in which a group of historians rank the trustworthiness of several documents and a fictional work was ranked higher than some nonfiction works (der Heyer et al, 2007, p.143). der

Heyer et al. advocate the use of historical fiction in education, employing Collingwood's perspective of the need for the emotional and imaginative aspects of human understanding to properly understand history. According to Collingwood, history should be "experienced" rather than "watched" (der Heyer et al, 2007, p.141). der Heyer et al. cite many examples of how fictional narratives have been important traditions, such as with myths in early Greek/western society. Egan (1986 as cited by Bryant & Clark, 2006) believes in the educational potential of a narrative form. A narrative form is a very natural way for organizing learning that helps to "make sense of the world and experience 'affectively' no less than 'cognitively'" (Egan, 1986 as cited by Bryant & Clark, 2006, p.1048).

Throughout their article, der Heyer et al. use an example of historical fiction called "Stones from the River", a book written by Ursula Hegi (der Heyer et al, 2007, p.143). The story is set in Germany in a fictional town called Burgdorf before, during and after World War 2. The central character is a female dwarf named Trudi Montag. The book depicts how the rise of the Nazis was possible from the perspective of a commoner (i.e., Trudi). This account provides an understanding and perspective to the reader not found in a regular history textbook that would typically focus on key authority figures (e.g., Hitler) (der Heyer et al, 2007, p.152). There are also conceptual limitations to traditional historical nonfiction such as history textbooks. A historical account can consist of many disembodied facts that are not relevant to a reader. A story is a way to reconstruct and give shape to a historical event, in a manner that makes that event meaningful (der Heyer et al, 2007, p.149). Historical fiction allows students

to imagine, explore and gain insight into lives and societies of the past (der Heyer et al, 2007, p.143).

As historical fiction can be used to help with history education, it may be applied to video games for similar educational purposes. There is precedent for the usage of a narrative in an educational video game. Bizzocchi (2010) conducted research into this and found that “well-designed and integrated narrative components have the power to enhance interactive experience, giving it a depth and a resonance that can better engage learners” (Bizzochi, 2010, p.80).

Beyond the usage of historical fiction in a video game is the opportunity to see historical events through a historical figure’s eyes. Seixas & Peck (2004) state that historical empathy or historical perspective-taking “is the ability to see and understand the world from a perspective not our own. In that sense, it requires perspective not our own. In that sense, it requires “imagining” ourselves into the position of another.” (Seixas & Peck, 2004, p.113). They have made perspective-taking one of six “benchmarks of historical thinking,” alongside other important meta-historical ideas and practices, such as working with evidence and gauging historical significance.

The usage of a history-based video game would potentially provide students with another perspective on the history depicted in the video game. This would be especially true if a FPS genre were used, as it would literally let a player see the events through the eyes of a person involved in the event. This exploration of differing perspectives does not extend to every perspective, as

Seixas at al. (2004) state that “meaningful history” allows for moral judgments and does not allow for relativism about historical individuals and groups that were despicable, like Hitler and the Nazis. Consequently, a WW2 based video game should likely be based on the Allied perspective.

As a theoretical argument can be made supporting the use of video games to teach history, there are also some theoretical arguments that advise against teaching history with video games. The fantastic and realistic visual imagery of video games (e.g., “Call of Duty: Modern Warfare 2”) and film (e.g., “Avatar”) give them the ability to seduce players and viewers into the created worlds. Also, unseen and inaccurate content can be easily and unconsciously absorbed by the player/viewer, which perpetuates errors and misunderstandings of historical content. Commercial films, like “Saving Private Ryan”, are very good at reproducing the visual realism of historical events, like the D-Day landing (Stoddard, 2010, p.85), but they “are often the most dramatized and least accurate of the historical fiction genre films” (Stoddard, 2010, p.85). Stoddard (2010) cites studies (Butler, Zaromb, Lyle, and Roediger, 2009; Marcus 2005) in which students tended to refer to film-based examples of historical events rather than text-based examples, which is dangerous when considering that other studies (Seixas, 1994 as cited by Stoddard, 2010) have found that students do not inherently question media that they consume without explicit instructions in critical analysis by an instructor. Film and video games can mislead viewers through emotional manipulation. Grubin (1997) mentions that an emotive medium, like film or video games, can lead an audience astray: “Chronicling

history on film -- a poetic, emotional medium -- can veil the hard facts with an impenetrable cloak of romance, lulling an audience into accepting a world that has no basis in reality" (Grubin, 1997). In addition to this danger is the existing danger of bias. As history textbooks have an inherent perspective/bias, so do video games. Inside that bias are values and beliefs, embedded in their symbols and arrangements. Flanagan (2007) uses a media effect research term "incidental learning" to describe how these values and beliefs can be learned indirectly or informally. For example, a video game called "The Sims" involves a financial system in its gameplay, in which players earn money and spend it on various goods. According to Flanagan, this indirectly teaches the virtues of capitalist consumer society. Flanagan uses the "Grand Theft Auto" series as an example of a video game with many negative themes contained in its gameplay, such as rewarded criminal behavior and antisocial activities (Flanagan, 2007, p.181).

While some biases may be inserted unintentionally, there are other biases that are inserted intentionally. In "Lying in the Public Domain", Robinson (1993) discusses the purposefully misleading uses of language and the suppression of truth in favor of less accurate, but more useful information. He describes how messages and arguments are shaped:

> *…in general in the modem world, winning the argument is accorded higher priority than telling the truth and that our species remains generally more action oriented than truth oriented.*

> *Language in such contexts is used to persuade rather than to inform; it may also be used to amuse, to excite, or to keep attention rather than to tell the truth. (Robinson, 1993, p.360).*

Thus, a video game that teaches history may exclude factual information and include information that is misleading and/or inaccurate to be successful in another context, such as the political or commercial realm.

A video game can also be biased for commercial reasons. Robertson (1995) uses the term “glocalization” to signify “the successful global transfer of products to different localities, by making modifications for such variables as culture, language, gender or ethnicity” (Consalvo, 2006, p.120). Consalvo uses this term to describe how the video game industry is able to make changes to a video game, so that it can be tailored to regional preferences. This is a business decision for video game manufacturers to increase their markets. Robertson uses the example of the Japanese video game company Square-Enix, which intends to bring localized games to the US and, thereby, enlarge its market (Consalvo, 2006, p.131). Thus, decisions to include misleading or inaccurate information would be based on a business decision to be as pleasing to a particular market as possible. Video games are made to generate profit, and are expensive to create. Consequently, a game that presents an unpopular view of history is a large business risk.

A video game can also be biased for political reasons. For example, The “SOCOM” series of video games are third-person shooters that focus on US

Navy SEALs and their realistic weapons and tactics. While not formally endorsed by the US Navy, the US Navy did provide technical support in the development of the game and the game presents the US Navy SEALs in very favorable terms. The “SOCOM” series has a subtle pro-US military message behind the gameplay. There is a game called “America’s Army” that is financed by the US Army itself and is a free download online. An example of a politically biased video game with a much more obvious bias is a pro-Palestine/anti-Israel video game created by a Syrian publisher called “Under Ash” that follows a young Palestinian and his encounters with Israeli settlers and soldiers (Gee, 2003, p.148). The bias in this game would likely be used to indoctrinate youths into a pro-Palestine/anti-Israel view through usage of a popular medium. This could just as easily have been a video game with pro-Israel/anti-Palestine for similar political means.

There are other possible dangers in using video games, such as players mimicking inappropriate behaviors from video games (i.e., violence), and becoming consumed by a virtual world and neglecting real world responsibilities (i.e., World of Warcraft addiction). Despite the possible dangers of video games however, I believe the potential of video games for history education is still very much worth investigating. Video games are a modern and relevant way to teach history, as many people are learning about history from video games and similar media and not from reading books (Rosenstone, 1995, 2006; Seixas, 1994 as cited by Stoddard, 2010, p.84). There is even precedent for teaching history with video games, like “Oregon Trail” (OT) and “Making-History”. Caftori (1994) conducted research on the usage of educational software in an Illinois junior high

school and uses OT as a particular example. OT was a history simulation of wagon traveler's journey from Missouri to Oregon in 1848. While playing it, students would learn about history, manage the wagon resources and the conditions of the family members, and participate in various activities duplicating the trail experience. OT had great educational potential because it was sufficiently complex to require students to read the necessary info in order to make appropriate decisions to advance towards the final Oregon destination. There are even teacher resources for OT with worksheets and recommended activities. However, the potential of OT did not predict its reality. Among the activities in OT was a chance to obtain food by shooting wild animals, which was meant teach about the duty of hunting for food and about differing animals and terrain. This became a simple and fun shooting gallery for boys who became oblivious to the intentions of the activity. Caftori concludes her observations on OT by saying that students enjoyed parts of it, but did not learn much from it.

OT is an old game that cannot be compared to modern standards for and concepts of video games. Video games present a potentially powerful way to improve history education because, for example, they embody sound principles of learning and can contain emotionally gripping narratives that are as factually accurate as other materials for history teaching. The first-person shooter (FPS) genre is very appealing to research in this respect: FPSs are a very popular video game genre, which can support linear gameplay and a driving narrative. Moreover, there have been numerous history-based FPSs, the vast majority of which are based on World War 2 (WW2). There is precedent for researching

history teaching with a WW2-based FPS, as Fisher (2011) explored, through the theoretical framework of mediated action theory, the various kinds of learning that can happen by playing history-based FPS. She had some positive results in her case study that suggest "how game-based history learning may occur under certain conditions and serves as evidence that WWII FPS video games should not be discredited or dismissed as a potential resource" (Fisher, 2011, p.84).

To investigate the educational potential of historical games, I have conducted a qualitative research study, which was designed to address four questions. The four questions addressed in the study are:

(1) "Does skilled gameplay in MoHF rely upon knowledge of history?" - This research question is important because it addresses the relevance of Gee's (2003) assertions about how video games reward learning. If a WW2-based video game is truly based on history, then knowledge of history should ideally aid the player in that WW2-based video game.

(2) "Does gameplay of MoHF induce interest in history?" - As much of the previously mentioned educational research into video games has focused on the motivational aspects of games, this question addresses whether a participant playing a WW2-based video game is inspired to learn more about history after having played the game.

(3) "What are the representational biases in MoHF and how are they perceived by players?" - As previously discussed, biases are inevitable in both

history textbooks and video games. Biases can be unintentional or intentional and, for example, political or commercial in nature. If a video game is to be used for history learning, it is important to know what viewpoint is being portrayed in the video game, and how the target audience perceives it.

(4) "To what extent are players aware of video game design tradeoffs between realism and fun in MoHF?" - COTS Video games function on a simplification of physical reality, to make the game easily playable and enjoyable. A player with sufficient knowledge about video game design would be able to see the purposeful simplifications embodied in a history-based video game, and know why certain things were altered. A player with insufficient knowledge of video game design may perceive the altered events in a history-based video game and believe them to be factual. Thus, it is important to examine the sophistication of participants' understanding of video game design in order to understand the implications of incorporating video games as part of history lessons.

3 QUALITATIVE STUDY DESIGN

Wanting to examine the potential of video games in history education, I decided to recruit university undergraduates to play a history game under observation, and subsequently be interviewed about history and video games. A WW2 FPS video game (i.e., MoHF) was selected because it gives the player a ground-level front-line WW2 soldier's view of events. In the version of MoHF used in this study, the player experiences the Normandy landing on D-Day through the eyes of a soldier landing on the beach. Much as der Heyer et al. (2007) described, this is a different perspective of history than would be found in a history textbook, which would likely have a wider focus on the D-Day events and concern itself with figures of greater authority.

3.1 Participants

Participants were a carefully constructed sample of university students who played MoHF under observation, and participated in a post-game interview. There were 12 participants in total, including five males and seven females. Within the participant group, I needed to have variation in the amount of history education and frequency of gameplay, because the research questions for this study examine the influence of knowledge of history and knowledge of video games on students' responses to MoHF as a tool for history learning.

One may wonder why university students were invited to participate in the study, rather than high school students. This choice was made for practical reasons, since the ethical approval process for minors to be used in university research was much more complex. The university students who took part in this study were comparable to high school students with respect to their knowledge of history, as they indicated that they had not studied history beyond the required courses in high school.

3.2 Game Description

MoHF is a FPS video game. The FPS genre features a first person perspective in which the player sees what the main character sees and some form of a weapon (typically some sort of gun). In MoHF, the player goes through missions based on WW2 events, and completes various tasks. The majority of the game activity involves combat with enemy characters.

The FPS genre was chosen for the research as it gives a soldier's eye view of the battle. This is something rarely seen in history textbooks, which usually focus on the larger figures of history.

Here is a brief description of the start of MoHF and the first level. Before the game starts, there is a black and white montage of WW2 footage and a voiceover giving a description of how the Nazis must be stopped and the coming battle. The player then chooses a difficulty setting and controller scheme. The first level of the MoHF starts with an in-game scene of the soldiers on an infantry carrier boat being attacked by oncoming fire as they are approaching the shoreline. Once the boat lands on shore, the gameplay commences and the first objective is to find the Captain. Once found, the Captain gives you another objective to rescue four squad members that are being pinned down by enemy fire. The squad is rescued and everyone meets at the base of a dune, but there is barbwire preventing everyone from crossing the dune. The player is instructed to go find an engineer who is pinned down by enemy fire and bring him back to

blow up the barbwire. The barbwire is blown up and the squad proceeds through and meets by a bunker. There is now a minefield. The player is instructed to cross the minefield and use a turret gun to take out some other German turret guns on a ridge. The player must also kill some German troops as well. The rest of the squad is able to cross the minefield and meet the player at the front door to the German bunker. The first level is now complete.

The bellow figure (Figure 1) shows the “Heads Up Display” (or HUD) of MoHF. The HUD contains all the relevant information regarding the player’s current health and weapons status. It also shows information regarding progress through the current mission.

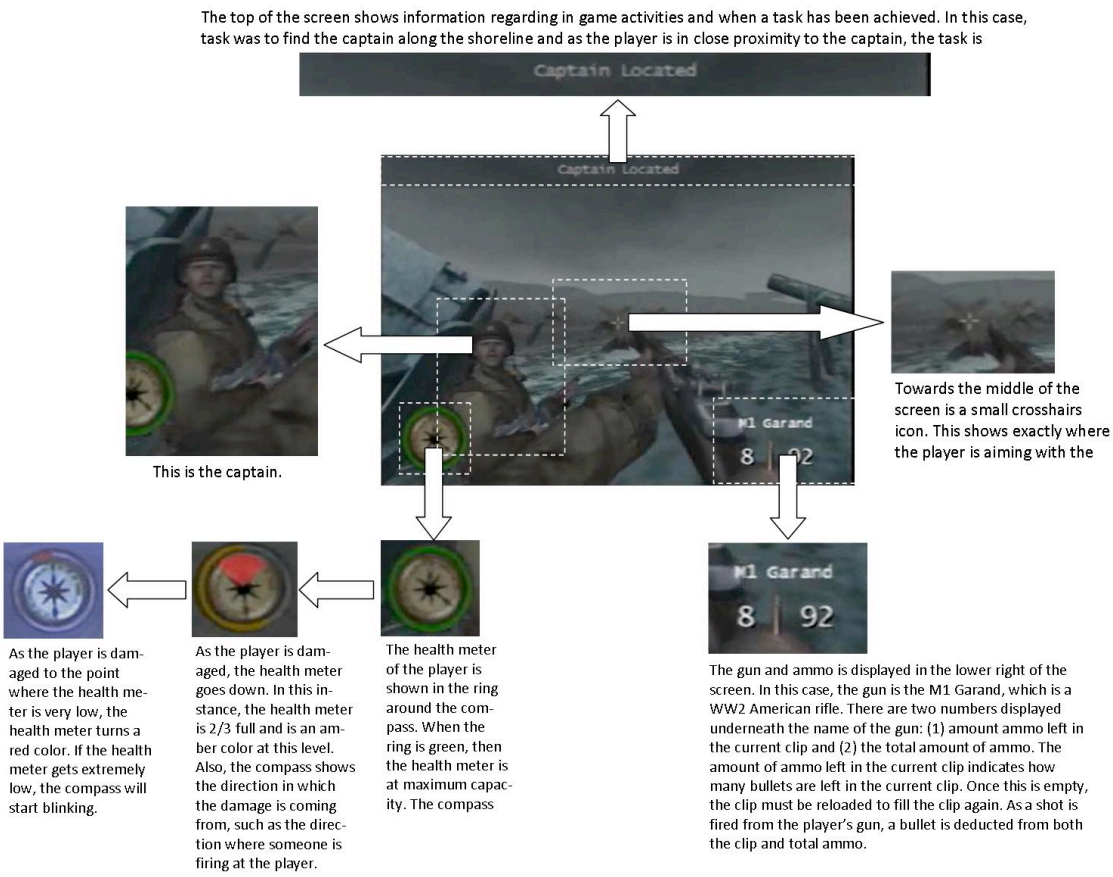
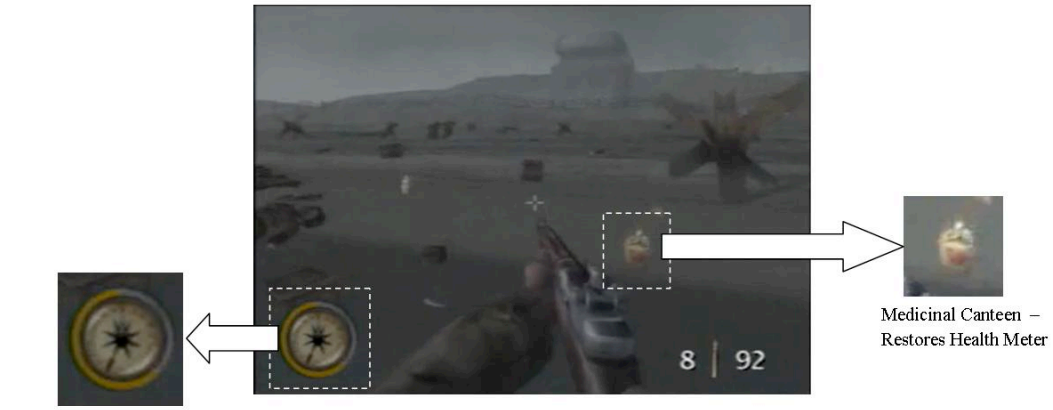


Figure 1

As gameplay progresses (as shown in Figure 2), the player's character will become injured by enemy attacks or other hazards. However, to keep the game going, MoHF allows the player's health to be replenished. The process is the same for replenishing ammo and picking up weapons.

1. Player finds Medicinal Canteen and starts to walk over it to obtain it and restore lost health from health meter.



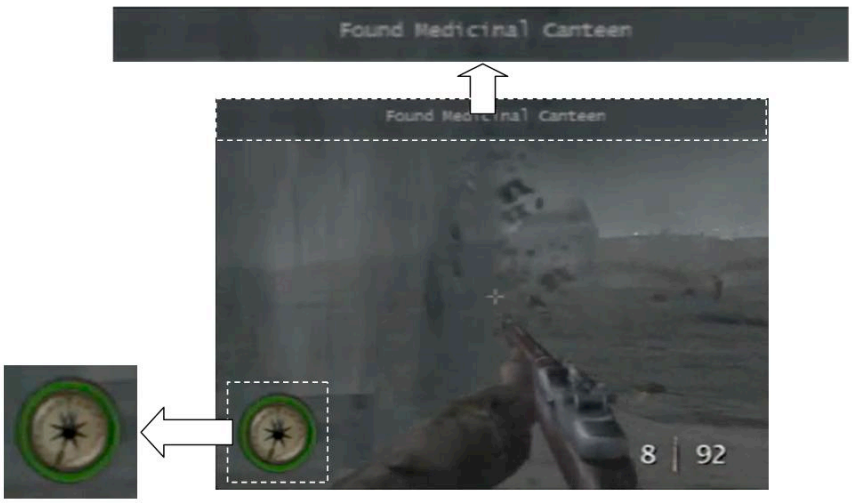
Medicinal Canteen – Restores Health Meter

Health Meter – 60% Full and Amber

---

2. Player get Medicinal Canteen and health is restored to health meter.

Medicinal Canteen Found and Health Meter restored



Health Meter – 100% Full and Green

Figure 2

During the course of the game (as shown in Figure 3), the main character will interact with many Non-Playable Characters (NPCs) that operate according to computer-controlled guidelines. The first level features many friendly NPCS that the player will see, such as other allied soldiers running up the beach, squad members that must be rescued, and the squad Captain that gives the player instructions. The enemy NPCs in the first level are German soldiers who oppose the player and try to kill him; likewise, the player tries to kill the German soldiers.

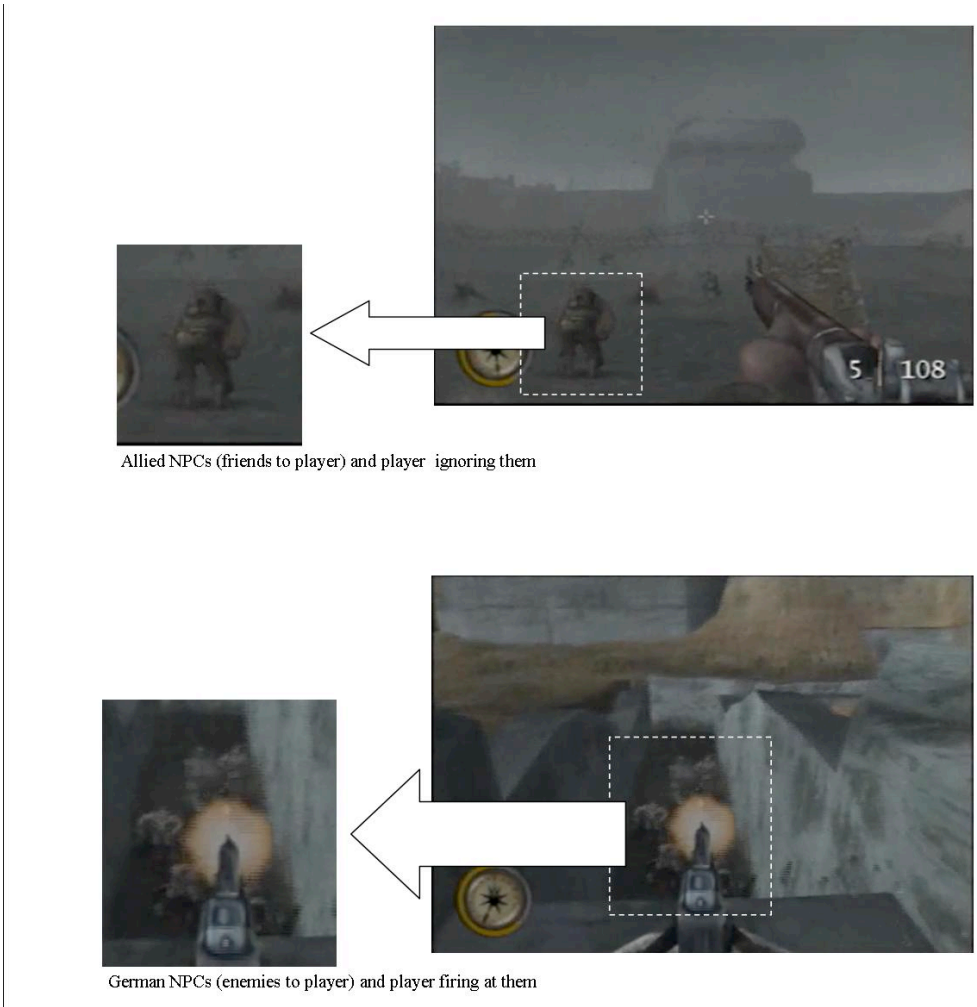


Figure 3

3.3 Procedures

3.3.1 Recruitment

In order to recruit participants, recruitment posters were placed around SFU asking people to participate in a study about history and video games and what the study activities include. A small monetary incentive was also offered to encourage people to participate. The recruitment poster can be viewed in Appendix B. There were removable tabs at the bottom of the poster with an email address (sfu.pufferfish@gmail.com) for interested people to contact. Once someone contacted the email address, the interested person was emailed with a link to a websurvey. The websurvey (provided in Appendix C) was meant for participant screening purposes and asked questions regarding the participants' video game habits and extent of history education.

3.3.2 Experimental Procedures

In designing the protocol for the study, it was decided to have participants play a level of MoHF based on the D-Day landing. A key battle in WW2, D-Day seemed most likely to be known by participants, since it had involved a significant Canadian contribution with Juneau Company. In addition, the D-Day landing was depicted in a popular movie, "Saving Private Ryan". Learning about D-Day is mandated as part of the history curriculum in British Columbia high schools (British Columbia Ministry of Education, 2005). For these reasons it was

suspected that participants would be more likely to have knowledge about D-Day than other WW2 battles.

3.3.3 Data Collection

For each of the 12 participants, there was a recorded gameplay session and postgame interview. There were a total of 12 sessions and they were conducted over a period of four weeks. Each session lasted between 1 and 1.5 hours, with the gameplay section lasting between 30 and 45 minutes and the postgame interview lasting between 30 and 45 minutes following an interview guide (provided in Appendix D). Separate video recordings were made of the MoHF game screen and the players' faces and voices during game play. These recordings were later combined onto a single video file, with the participant footage being shrunk into the lower right corner. These videos and the postgame interview conversations were transcribed verbatim for later analysis.

3.4 Data Coding and Reliability

The game play session was essential to the design of the study; however, the majority of the data that is relevant to the study questions emerged from the postgame interview. The design of the interview guide (Appendix D) was directly shaped by the four study questions, though as the interviews were conducted, additional follow-up questions arose. Examples of topics that arose in this way include the player as the “center of attention” in MoHF, and ways in which participants considered MoHF realistic and unrealistic.

Once the postgame interviews were completed, verbatim transcripts of each interview were made using the audio transcription software “Dragon Naturally Speaking”. Each video recording was 30-45 minutes long and recorded on a digital video. Verbatim transcripts were imported into “MaxQDA” (a qualitative data analysis software package) for analysis, and coding began using coarse topical codes relating to the four research questions. Codes included “commercial interests in MoHF”, “historical accuracy of MoHF” and “technical limitations of MoHF.”

Deeper interpretive coding was then carried out on the postgame interview transcripts, with a view to capturing the variety in participants’ responses to the questions. Over 500 fine-grained codes were initially generated. Examples of codes for Question 3 were “EA is American company, so main character is American,” “Germans just attack and yell; a very limited representation,” and

“easy to sell a game where main character is ally and not Nazi because Nazi could not sell.”

Codes for the four research questions were combined into a single file and then refined in consultation with a second coder until convergence was reached. During this phase, a number of codes were eliminated, which on reflection were not directly relevant to the study questions. Other codes which appeared highly related were consolidated. The interpretation of the postgame interviews presented below is based on the codebook, which contains a total of 16 codes. The codebook can be viewed in Appendix A.

The analysis was based on a grounded theory approach (Strauss & Corbin, 1990) with the exception that the axial coding phase was bounded by the four *a priori* research questions.

To establish trustworthiness, transcripts were coded for reliability with the participation of a second coder. On each trial, the second coder and I applied the current version of the codebook independently to each transcript. After coding each transcript independently, the second coder and I compared results. The coding was considered to agree if both coders either applied or did not apply the same code to each participant. It did not matter where in the interview transcript the code was applied, just as long as both coders applied or failed to apply the same codes. Discrepancies were reviewed in detail after each transcript was coded, and in each trial were found either to be the result of a simple omission, or occasionally a different interpretation of codes in the codebook. After

discussing each discrepancy and agreeing to a decision regarding the difference, revisions were made to the codebook to remove ambiguities.

There were three complete transcripts coded for the kappa calculation and there were three other transcripts that were coded, but the reliability of them was too low to be included with the kappa calculation. Results from these codings still refined the codes and the coding rules for the three transcripts that were used to calculate the kappa. For example, in the coding comparison of Participant 9, there was a difference in the codes selected for the following segment:

Interviewer: So, is there anything in the game that is unique to World War 2 that could not be done in another time, like the World War I, the Vietnam War or the American Civil War...? Is there anything in the game that is unique to World War 2 that could not be done in another time? Whether it be the technology, the terrain…?

Participant 9: I don't think so. I think the terrain is easier... the particular terrain that they were fighting on, I don't know if they get to the forest... overall my answer is probably no. I think yeah maybe slightly... if you wanted to make a Vietnam War...

The second coder had marked this section as “MoHF not unique to WW2” whole I marked it as “unsure if MoHF unique to WW2”. The second coder focused on the first part of Participant 9’s response where he said “I don't think

so". I focused on the whole of the section plus some further statements in the interview:

> Interviewer: Could you still have something where you are landing on the beaches of Vietnam...?
>
> Participant 9: Yeah but I imagine most of the fighting there has been in the jungle, so the whole point of fighting in the jungle is that you can hide behind stuff and shoot into the bushes and that is actually more difficult to program. And more difficult to implement. It requires more interactivity ... overall no, probably not.

Participant 9 starts to veer away from the original question and talk about the difficulty of implementing a junglescape in a video game. I interpreted the entire section that Participant 9 initially says yes to the original question, but then questions himself and examines his answer to find an exception; his response seemed unsure to me, so I categorized it as "unsure if MoHF unique to WW2."

The resulting conversation about this section caused each coder to see the validity of the other's perspective and the weakness in their original assessment. The conclusion was that neither code was unambiguously applicable. The coding protocol was changed so that a code should not be applied to a section of interview unless that it could be simply explained as a clear example of that code.

Even before the kappa results were calculated, there were a few points in the transcripts that needed to be discussed before a final decision on the appropriate code to use.

Interviewer: How much of the mission structure is unique to World War II?

Participant 5: I don't really know.

Interviewer: Do you think it could have been done in another time period or another war?

Participant 5: As long as there is a beach...

I was unsure of whether to code “unsure if MoHF unique to WW2” or “MoHF is not unique to WW2” for this section. As Participant 5 says “I don't really know”, which indicates uncertainty, but then says “As long as there is a beach...” which indicates a condition for it happen. I thought that the statement about uncertainty was stronger as the beach condition seemed like a weaker statement. This was discussed with the second reader and it was decided that there would be a rule in the protocol saying that the only the exact transcript of what a participant had said could only be considered. No additional information given by the participant during the interview that could help determine the proper code could be included, which only I (i.e., the interviewer) would know about as the second reader would have no such knowledge. In the instance with Participant 5, it was decided that since she said something that did indicate a

condition where the mission structure from the first level of MoHF could be done in another time that the section would be coded with “MoHF is not unique to WW2.” This rule also helped in coding an inteview segment from Participant 11.

4 FINDINGS

The results from the interviews are organized below according to the relevant research questions. For each code, I provide a narrative that describes the range of responses.

4.1 Background of Participants

There were 12 participants in total and some general information about each participant is described in the table below (Table 1):

Table 1

Participant	1	2	3	4
Birth year	1988	1986	1979	1990
Gender	Female	Male	Female	Female
Place of Birth	Canada	Canada	China	Canada
Frequency of your video game play	more than once a day	few times per week	few times per year	a few times per week
Formal study of history (courses)	only high school	only high school	only high school	only high school
Participant	5	6	7	8
Birth year	1987	1990	1985	1987
Gender	Female	Female	Female	Female
Place of Birth	Canada	Canada	South Korea	Canada
Frequency of your video game play	a few times per month	once a day	once per week/a few times per year	a few times per week
Formal study of history (courses)	one course at university / college	one course at university / college	a few courses at university / college	only high school
Participant	9	10	11	12
Birth year	1987	1987	1986	1983
Gender	Male	Male	Male	Male
Place of Birth	Romania	Hong Kong	Canada	Canada
Frequency of your video game play	a few times per week	a few times per week	more than once a day	once per day
Formal study of history (courses)	a few courses at university / college	only high school	a few courses at university / college	completing a history minor

4.2 Reliability of Coding

The kappa results are in the following table (Table 2):

Table 2

	Percent Agreement	Cohen's Kappa
Question 1: Does Skilled Gameplay Rely Upon Knowledge Of History?		
Knows about D-Day and WW2	100.00	1.00
Does not know about D-Day	100.00	1.00
Question 2: Does Skilled Gameplay Induce Interest In History?		
MoHF not interest participant about WW2	100.00	1.00
MoHF does not teach about WW2	66.67	0.33
Video games not good source for historical accuracy	100.00	1.00
Focus is entertainment and not historical accuracy	66.67	0.33
Gives some sense of war	100.00	1.00
Question 3: When Considering Video Games Set In Past Time, What Are The Representational Biases, And How Are They Perceived By Young Gamers?		
Pro-US Representations	100.00	1.00
Anti-German Representations	100.00	1.00
Moral Subjectivism	100.00	1.00
Question 4: To What Extent Are Players Aware Of Tradeoffs Between Realism And Fun?		
Participant understands balance and complexity of realism and fun	100.00	1.00
Participant does not see video game design	100.00	1.00
MoHF not unique to WW2	33.33	-0.33
Unsure if MoHF unique to WW2	100.00	1.00
MoHF is unique to WW2	100.00	1.00
MoHF consistent with existing knowledge	100.00	1.00
Accurate in macro/not in micro	100.00	1.00

4.3 Question 1: Does Skilled Gameplay Rely Upon Knowledge Of History?

Participants' knowledge of the D-Day landing was evident in the postgame interviews, and was captured through two codes (see Appendix A). Together these codes capture passages in the postgame interviews in which participants either explicitly (in direct response to a question) or implicitly (through explanation or elaboration) demonstrated their knowledge or ignorance of D-Day. The knowledge level of the participant was revealed by asking whether they knew what specific battle was represented in the first level of the game (which was D-Day). The MoHF introductory videos do not explicitly declare that the battle is D-Day, but the date of the battle was presented on screen (i.e., June 6, 1944) and the beach landing by infantry carrier vessels was depicted before the actual gameplay started. Anyone with basic knowledge of D-Day should have recognized this.

Two codes in the code book capture whether the participant demonstrated knowledge or ignorance of D-Day: (1) Knows about D-Day and (2) Does not know about D-Day. A participant demonstrated knowledge of D-Day if they said something about how the Allies (Americans, British and Canadians) opened up a western front in Europe in 1944 by invading France starting at the beaches of Normandy, or said something close.

The participants' knowledge of D-Day varied between the extremes of "Knows About D-Day" and "Does Not Know About D-Day", but were divided into the two categories. In total of the 12 participants, six demonstrated knowledge about D-Day (Knows about D-Day) and six demonstrated did not demonstrate knowledge of D-Day (Does not know about D-Day). For example, the following segment from Participant 12's postgame interview was taken as clear evidence of knowledge about D-Day:

Interviewer: So, what was the... do you know what the specific battle was in the first level?

Participant 12: The storming of Normandy.

Interviewer: Do you know the significance of that battle?

Participant 12: Well it was the first time that the Americans and the allies got a foothold in Europe and it allowed them to establish bases and put their men in and start... defending France, invading Germany, getting their men into Europe…

Some participants had a less certain recollection of D-Day, but were still able to get the basic facts right, such as Participant 9:

Interviewer: Do you know the specific battle on the first level you are playing out?

Participant 9: It was D-Day. It was the invasion of Normandy beach by allied forces in 1944, but I cannot remember what day.

Interviewer: Do you know the significance of D-Day?

Participant 9: That was a major offensive in World War 2. I am not sure if the American... if it was the first major American involvement in the European conflict. They basically drove back the Germans and eventually liberated France from German occupation. That was basically the start of pushing back the Germans...

Other participants had somewhat of a recollection of D-Day, but were not able to get the key details, such as with Participant 5:

Interviewer: Do you know what the specific battle was in the first battle you played?

Participant 5: It was... I could tell you when it took place... June 6, 1944

Interviewer: Do you know the significance of that?

Participant 5: Was it... I am not sure... I am not really good at history like that.

Interviewer: Do you know what D-Day is?

Participant 5: Yes... I just noticed that I don't know anything more

There were some participants that simply had no knowledge of D-Day. For example, Participant 1:

Interviewer: In terms of the content of the game, what was it from?

Participant 1: It was from World War 2…I guess.

Interviewer: Anything specific from World War 2?

Participant 1: About as specific as I can get is that it's Americans fighting Germans and it was on a beach.

Participants' gameplay was assessed in the in-game session, where the participant was playing MoHF to see how far they could get in the game. Basically, the further a participant could make it in MoHF, the more skilled his/her gameplay was judged to be.

Skilled gameplay was determined either by (1) passing the first level on Easy, or (2) getting half way through the first level (i.e., making it to the minefield) on Normal. Normal was a harder difficulty level than Easy. For example, Participants 1 and 12 both easily completed the first level and were obviously familiar with FPS gaming conventions and the control scheme. On the opposite end of the skill spectrum, Participants 3 and 7 struggled with the control scheme and barely made it to the second mission objective; thus, they did not get very far in the game.

Of the six people deemed to have "Skilled Gameplay", four were deemed to know About D-Day and two were deemed to not know about it. Based on my observations, there does not appear to be any evidence that skilled gameplay relied on knowledge of history. The contrast between Participants 1 and 12 illustrates this well. Both participants 1 and 12 demonstrated very skilled

gameplay as they were the participants that made it the farthest in MoHF. However, Participant 12 knew a lot about D-Day and Participant 1 admitted that she did not know much at all about WW2.

4.4 Question 2: Does Skilled Gameplay Induce Interest In History?

4.4.1 Playing MoHF And The Affects On The Participants' Interest In History

When asked "Does playing MoHF make you more interested in history?", eight out of the 12 participants answered "no" (or something equivalent) while four said "yes" (or something equivalent). The No's were reasonably definitive with their responses. For example, Participant 1 declared that she was not interested in history, and that playing did not make her any more interested in history than before:

Interviewer: Does [playing MoHF] affect your interest in history at all?

Participant 1: Not a whole lot. It doesn't really make me care. I mean I am just sort of going through all these [game] objectives. If I get to the end [of the game], then I get to the end. It doesn't really matter to me how correct they are and it doesn't make me want to go research what is actually happening.

Interviewer: Any reason why not?

Participant 1: I don't particularly like history, and it takes a lot to get me interested in it, and the game did not really do that.

Participant 9 is interested in history, but felt that playing MoHF did not enhance or rekindle that interest:

Interviewer: Does playing this game make you more interested in history? Why or why not?

Participant 9: No... I mean... I am already kind of interested in that stuff. I don't know which one really came first... at first I was interested in...strategy basically. Then I studied a little bit of history...it is just interesting [to me]. I think that came before the interest in video games, so playing this game maybe would remind me that I am interested in history, but it's not the video game itself that makes me interested in history.

The majority of the "No" respondents, gave a simple "no" or "not really," declining to elaborate.

Those participants who felt that the game had increased their interest in history did not seem as enthusiastic in declaring this as the "no" respondents had been about their position. The "yes" respondents typically expressed a minute interest in history, and suggested that they might do something to pursue this interest if it did not require much effort. For example, Participant 4 expressed a mild interest in D-Day after playing MoHF:

Interviewer: Does it interest you in the D-Day landing more at all?

Participant 4: Yes it kind of does a bit. But not probably too deep.

Interviewer: Would you go out and sign out a book on D-Day now?

Participant 4: I would probably just go to the Internet.

Interviewer: And check out Wikipedia?

Participant 4: Yeah.

Participant 2 offered an example about how he found out a character in a WW2 video game was real:

Interviewer: Does playing this game interest you more in history at all?

Participant 2: It does. I would say that back in the day when I would play a WW2 game, I would typically take names that would pop up in the game and I would go and Google their names to see if they were actually real people.

Interviewer: You would check if there was a Wikipedia entry?

Participant 2: A similar game to “Medal of Honor” is “Battlefield”, and there is a character named “General Rommel” and [I found out that] he was a general in the actual war as well.

These findings suggest that that in a few cases, playing a video game might interest a player in learning more about history. However, this was not the case with the majority of participants in the present study.

4.4.2 What MoHF Teaches About WW2

When asked in the postgame interview, none of the participants expressed a belief that MoHF had taught them anything significant about WW2. When asked if "MoHF teaches you anything about history?" most responded "no" or "not really." Participant 8 generalized this to all video games:

> Interviewer: Does it [the game] teach you anything about history?
>
> Participant 8: I don't think games really teach you anything about history.

Some participants suggested that MoHF essentially taught that the war was Americans versus Nazis. For example:

> Interviewer: Does it teach you anything about history?
>
> Participant 2: So far as what I have extracted from the game... I did not actually get any history from the game itself other than the Americans fought the Nazis…

Despite believing that the game had not taught them anything, some participants suspected that this was because they had not gotten far enough in the game. For example, Participant 3 thought that if she had gotten further, she could have learned more about WW2:

> Interviewer: Does playing this teach you anything about World War 2?

Participant 3: I am sure it will, if I can pass the task. [Then] I will learn more. The more I play, the more I can learn about the war.

Participants 1, 7 and 9 all had similar sentiments when asked if they had learned anything about WW2 from playing MoHF. They made reference to the limited experience they had in playing MoHF. If a participant did continue to play MoHF (and assuming that they went until the game was finished), the participant would be exposed to more historical content from WW2. For example, level 4-1 is based on Operation Market Garden, which was an Allied airborne operation fought in the Netherlands and Germany in September 1944. The level featured the player having to stop the Germans from blowing up the Nijmegen Bridge, which is based on true WW2 events. In level 2-2, the player must find the Enigma Code Book, which was based on the Enigma machine that was used by the Germans in WW2 to encrypt and decrypt secret messages. In level 6-1, the player must locate the plans for the HO-IX, which was a late WW2 fighter/bomber design that was the first flying wing powered by a jet engine and designed to avoid radar detection. However, the historical WW2 content in MoHF that was used for level design includes activities that are not historically accurate or even realistic, such as sneaking aboard a U-Boat and infiltrating a German production facility. The game actually ends with Patterson escaping in the HO-IX. It is possible that a participant could gain some trustworthy knowledge of WW2 from the briefing before a level, however they would need quite a bit of knowledge to differentiate this from the invented elements of the game.

4.4.3 Judgments of Historical Accuracy

In the postgame interview, participants were also asked how historically accurate they felt videogames were, as compared to books and documentaries. Half of the participants (six of twelve) expressed the opinion that video games are not a good source for historical accuracy when compared with other sources, like books and documentaries. All six participants declared that books and/or documentaries were better sources of historical accuracy than video games, because books and documentaries are meant to inform, while video games are meant to entertain. Take, for example, Participant 12's response:

> Interviewer: How would you compare the historical accuracy of a book, a documentary and a video game?
>
> Participant 12: Well a book and a documentary, depending on the sophistication...I think you can be pretty close. A book is probably the best because you can say so much more in a book then you can in a documentary. I think a documentary would get weighed down if it had all the facts of a book. A game I would say is definitely at the lowest level.
>
> Interviewer: Why?

Participant 12: Well beneath those two, you can't relate...a game is a game. A game is meant for...not that history isn't entertaining, but again it is more visceral I think. You are supposed to be accomplishing more [in a video game] whereas a documentary or book can strictly be about facts.

Participant 4 felt that books would be more accurate than video games because video games twist history to suit gameplay:

Participant 4: Honestly, I would stick with the books. The games can alter anything, but you cannot alter history.

Interviewer: So, do you think that they [the makers of MoHF] altered history at all?

Participant 4: I don't think the altered history, I just think that... [pause].

Interviewer: Maybe bent it a little bit?

Participant 4: For the gameplay.

Four participants asserted that documentaries are still fallible, but are still better than a video game in terms of historical accuracy. For example, Participant 8 acknowledged that documentaries can have biases in them, but felt that video games are less accurate than documentaries because the primary purpose of a video game is entertainment:

Interviewer: How would you compare the accuracy of a video game versus a documentary?

Participant 8: Even a documentary can have its own biases. So it is hard to say.

Interviewer: Which would you trust more as a source of information about World War 2?

Participant 8: Probably the documentary because the video game is there, and its primary purpose is to entertain. A documentary usually is there to present facts. I think the goals are different and that's why I would say a documentary is more accurate.

4.4.4 Focus Is Entertainment And Not Historical Accuracy

Six out of 12 participants expressed the idea that the primary purpose of MoHF was entertainment rather than historical accuracy. Take, for example, Participant 9:

Participant 9: I would imagine that the historical accuracy of a video game is not that important to them [potential buyers] as the entertainment value, so the selling point... that's why I am guessing it's... that's why I imagine [the game] is less historically accurate.

Participant 8 makes a related point about the market forces acting on games:

Participant 8: [Video games] are there for fun. Most people who play them probably are not playing them for the accuracy with how well it depicted the events that happened.

4.4.5 Gives Some Sense Of War

In terms of their value in representing the past, seven of the 12 participants expressed the view that MoHF does provide a valuable experience of what it is like to be in war, and see what a soldier in WW2 would have seen. For example, Participant 2 describes how MoHF provides a chance to have a realistic experience of what it is like to be in war, even though no one wants to be in a real war:

Participant 2: There is a certain set of gamers out there that just enjoyed the first person shooter experience, and they like the experience being in war, but they do not directly want to be in war or that scenario. There is a contradiction there. I for one personally enjoy playing the game because it brings about this really realistic experience about what it's like being in war, not that I particularly want to be in war.

Participant 12 felt that MoHF provides a weakened experience of WW2, but perhaps as close as could be had without actually being at war:

Participant 12: Well I think it allows you to connect with this historical event. Even in a very shallow way you can relive what happened, and get may be the closest sense that you're ever going to really get about what it is like to be there. It is kind of like how people do historical reenactments. There is no threat, there is nothing at risk, but you still get a slight glimpse of what this may have been like.

Related to this point, Participant 5 expressed the view that while books may be more historically accurate than video games, they cannot duplicate the immersive experience of video games:

Participant 5: Yeah, you can get accuracy from books, but books cannot put you in that place where you are a soldier.

Discussion

When asked directly, none of the study participants felt that they had gained any new historical knowledge from playing MoHF. Further, most players did not express an enhanced interest in the historical events depicted in the game. Most viewed it primarily as an entertainment product, less trustworthy than books or documentary films in its depiction of past events. When asked to compare the trustworthiness of games to other media, some participants appeared to infer that video games would seem to be less trustworthy than books or documentaries due to the influence of market forces. That is, they viewed

MoHF and other WW2 games as a form of entertainment designed to appeal primarily to an audience that enjoys other, non-historical first-person-shooter games.

This being said, there are facets of MoHF that are more realistic, and have more value for teaching, than the participants appeared to appreciate. This may be because the first level of MoHF requires a basic knowledge of D-Day to appreciate its historical accuracy, though the game itself does not provide the necessary information. Before beginning the first level, MoHF provides an introductory video clip explaining that the US is going into Europe (with some allies) to fight the Germans and liberate the oppressed people. There are only a few clues to indicate that the first level of the game is D-Day. For example, the date “June 6, 1944” is shown on screen before the level starts, and “D-Day” is what the level is titled on the game save/load screen.

Participants could have better appreciated the historical accuracy of MoHF and have been more inspired to learn about history if it was set in a larger context, like a history classroom, that used MoHF as part of a lesson plan. As Participant 5 suggested, the potential of such an immersive game for history learning lies in providing an experience of war that a book, or even a documentary film, cannot do. MoHF is a video game that is meant to be understood in historical context; but to most of the participants in this study, MoHF was conceived more as entertainment than a historically accurate reenactment. It is noteworthy that the participant who felt most optimistic about

the educational potential of MoHF was the one with the most prior knowledge of WW2.

Although some of the participants said that MoHF gave them some sense of what war was really like, no participant took that idea further to empathize with the characters in the game and ponder the human significance of the events depicted in MoHF. In the real D-Day landing, the Allies were at a huge tactical disadvantage in that they were open targets on the beach, while the Germans were fortified in positions on high ground. Despite this, the Allied troops still advanced toward the German positions and, eventually, gained control of the Normandy beach. In MoHF, the Allied NPCs run toward the German positions, are shot and then disappear. To the participant, the MoHF characters go no further than the game. No participant appeared to generate an empathetic understanding for the virtual WW2 characters, to realize the sacrifice that real soldiers made in the battle.

4.5 Question 3: What Are The Representational Biases, And How Are They Perceived By Young Gamers?

4.5.1 Pro-US Representations

Ten out of the 12 participants expressed the view that the representations of the US and Americans in MoHF were favorable. The discussion about the perceived favorable representations arose from questions like “Why is the main character American?” and “Do you see any biases [in MoHF] towards or against anybody?”. While the vast majority of the participants all saw favorable representations of the US in MoHF, the reasons each participant expressed for the representations varied. Many participants suggested that MoHF was Pro-US because the developer of the game, Electronic Arts, is American. Participant 2 illustrates this view:

> Participant 2: I would imagine that since the game was developed in the United States, if their primary audience that they wanted to interact with was Americans, Americans would be a lot more attracted to you again if it portrayed their country as conquering, for lack of a better phrase, an evil force.

Some participants extended the thought that the favorable representations were a result of a commercial intention of MoHF to appeal to an American audience, adding that the bias towards the US was also linked with American

nationalism. For example, Participant 12 links the Pro-US representations in MoHF to American patriotism and the game developer's commercial interests:

> Participant 12: It is all tied into patriotism and [the] glory of America. I am guessing that this is primarily aimed at a North American audience, so it would probably be hard to sell and it may even come under some controversy if you were playing as the Germans fighting the allies. I think it's definitely easier to sell a game where you are the allies.

Other participants were less eager to connect the favorable representations to nationalism and economics, but simply said that it was historically accurate, as the US had a bigger contribution to WW2 than the other allies:

> Interviewer: There were Canadian and British troops involved in D-Day. Why do you think they didn't make a Canadian or British trooper the main character?
>
> Participant 10: Because it is a lot more exciting...a lot more happened with the Americans.

Participant 5 suggested that the favorable representations served a motivational function for the player, in that it was intended to inspire the player to proceed through the game:

Participant 5: The American side was represented as being really honorable and brave, going into this land that is not home to them... I guess pumping you up for this mission, so trying to make it seem a lot a lot better than the opponent.

It is noteworthy that while most or the participants saw the representations of the US and America as favorable, Participant 7 did not see a bias and could not a think of any reason why the main character in MoHF was American:

Interviewer: Do you know why the main character is American?

Participant 7: I am not sure why. Just the fact that the whole side was American.

Interviewer: And why do you think it was American?

Participant 7: I am not sure.

This unawareness of participant 7 is surprising. A possible explanation for her unawareness could be a lack of exposure to western entertainment, in which the US is typically portrayed as the “good” side. Such a bias is easy for people to spot who consume a lot of TV and movies. Participant 7 was born in South Korea, and it is unknown when she came to Canada.

4.5.2 Anti-German Representations

As 10 out of the 12 participants perceived that representations of the US in MoHF were favorable, 10 out of 12 participants perceived the representations of Germany in the MoHF were unfavorable. Participant 4 suggested that it only made sense to have Germans as the enemy in MoHF, since they were the actual enemy in WW2:

> Interviewer: So why the Germans?
>
> Participant 4: Because they are the opponents... in American history they think that they are the enemy. Who else would you put in as their rivals? You are playing history and the Germans and the Americans were fighting with each other. Would it make sense if it wasn't the Germans? You would, say, throw in Chinese people. Why would you fight the Chinese? When in history did you ever fight the Chinese? It would only make sense if it was Germany.

Participant 5 mentioned that the mere use of the swastika symbol automatically incites negative sentiments about Germans:

> Participant 5: When they were showing Germany [on the screen], they used the swastika, which is representative of the Nazis and the image itself conjures up a lot of negative emotions for a lot of people…

Participant 1 noted that the German characters in the game were merely targets to be killed, and that was nothing was presented from their perspective:

> Interviewer: How fair are the representations of the Germans, the soldiers?
>
> Participant 1: I did not see a whole lot of them. In battle it is just shooting I guess, but you definitely didn't see any of their side. You just killed them…

Participant 12 extended this idea, suggesting that the portrayal of Germans in MoHF was one-dimensional:

> Participant 12: The Germans are definitely being [taken] down almost to a subhuman level. They don't really have control over their own actions almost. …The Nazis are pretty easy fodder, so you know you're going to go in there and fight some bad guys and win some typical videogame fare.

In the post game interviews, participants were also asked whether it would be possible to develop a game similar to MoHF, based on the German perspective. Eight out of 12 participants suggested that it could not be done. Most of these eight participants said that this would involve endorsing Nazism, and would be too controversial. For example:

Interviewer: So if it were Germany then... and a video game company... do you think they would make a Medal of Honor from the German perspective?

Participant 12: I don't think so.

Interviewer: Why?

Participant 12: Well I know in Germany it is a taboo subject.

Interviewer: What is a taboo subject?

Participant 12: Just Nazis and trying to put them in a positive light. It is not anything that is really done. That would meet with a lot of criticism too, even in Germany.

Participant 9 felt that a MoHF based on the German perspective could not be done, both because of the stigma against Nazism, and because the Germans lost the war, which would not make for a good conclusion to a video game narrative:

Interviewer: So the main campaign…do you think in Germany there could be a Medal of Honor game based on their side?

Participant 9: I'm not sure that would be popular either, because there is probably a certain stigma surrounding this kind of thing, like do you want to be German soldiers fighting... I wouldn't see anything wrong with it because this is just a video game anyways... I don't think it would have significance,

but I think there would be some other factors that would prevent it from being popular.

Interviewer: Like what?

Participant 9: I'm thinking that certain sides might be offended that you are actually...you would have a game where you have a campaign where you're supposed to help the Nazi army to fight off the allies. You lose in the end anyway, so I don't know if that makes for such a great game.

Two participants suggested that a MoHF-like game based on the German perspective could be done. Participant 11 describes how a German MoHF game could be done with the condition that the focus on the Nazi aspect is reduced:

Interviewer: So, if this game was made by Americans for Americans, do you think that there is a video game company in Germany that would make a game based on the German side?

Participant 11: I think it would be interesting, but...I don't think they would be marketing again where you play as the Nazis to kill the Americans. Yeah! That is not really what you're supposed to be doing, I don't think that is what they will do.

Interviewer: Why?

Participant 11: Probably not emphasizing the Nazi part of it. Maybe emphasizing the war gameplay part of it, but not really you

playing as... a big selling point probably won't be that you play as Nazis and you go shoot allies. It would probably be exciting as the Germans who are fighting against the Americans or other allied troops. Not so much focused on the Nazis.

Participant 7 was the only participant to suggest that a German MoHF could be done without giving any conditions for its implementation or suggesting anything that might prevent it from being commercially successful:

Interviewer: Do you think in Germany that there is a first-person shooter game where you are playing on the German side?

Participant 7: I think so, maybe.

Interviewer: Do you think there could be?

Participant 7: There could be.

Interviewer: Why?

Participant 7: Kind of like they would want to depict the better side... the fact that the side in the game was the American side and in Germany they could have this game where that same side is the German side... kind of switch them around.

4.5.3 Moral Subjectivism

Five of the 12 participants brought up instances of moral subjectivism in relation to MoHF. These participants made statements to the effect that the opposing sides in WW2 had a more ambiguous morality than a simple good-versus-evil scenario. For example, Participant 7 suggested that opposing sides in war cannot be morally judged as they are both in a moral grey-zone:

> Interviewer: Do you agree with the morality [represented in MoHF]?
>
> Participant 7: Not really.
>
> Interviewer: How come?
>
> Participant 7: Because when it comes to like war and stuff like that... there is no one person that is ever bad. It is more like each side is kind of in the gray area. There is a gray area.

During interview, Participant 6 exposed this gray area by introducing a hypothetical moral situation where an allied soldier is fighting a reluctant or coerced German soldier:

> Interviewer: Is it fair?
>
> Participant 6: In the context of what was happening in the game?
>
> Interviewer: In World War 2.

Participant 6: I don't know. I don't really want to judge what's fair and what is not fair…there are so many underlying things, like does that person actually want to be a soldier in the Nazi team? I don't know.

Others were not as quick to reassess the actions of Germany as they were to reassess the actions of the US. For example, Participant 12 does not admonish Germany, but explains some American intentions and interests for their actions in WW2:

Interviewer: How fair do you think the representations of Americans and Germans are in the game?

Participant 12: Pretty unfair. Not to say that the Germans were not bad and the allies weren't good, but it just seems like there are far more motivations going on there, other than just wanting to liberate people or to take over land just for pure power.

Interviewer: What kind of other motivations are there?

Participant 12: There were a lot more factors in history, like...I think the Americans had imperial biases to get into Europe...a bit. I know they did want to free everyone, but I think there were other motivations to actually go to war. Such as resources...they wanted to have control over some areas in an indirect way. I am having trouble stating specific

examples because I am not really a scholar of that era or area, but this is just what I vaguely remember learning about.

Participant 4 was the most morally subjective in equating Germany and the US, with claims that the Germans are under-represented and that both US and German perspectives need to be understood:

Participant 4: I don't really know. If I think as a game designer and American game designer based on American history, I don't think that they are really that representative. Maybe I just don't see it. You are shooting the Germans...and it is just so awkward.

Interviewer: How is it awkward?

Participant 4: Because you don't play as a German in the game, so you do not know the German side of history, and you feel like that you should play both just to get a fair understanding of the representations.

…

Interviewer: Do you think if a German company...like a German video game publisher, do you think that they wouldn't make a World War 2 game based on a German perspective?

Participant 4: Probably. You could probably equal out...you have the American game version and then did a German side game version. You put them together and you would get a better understanding of what is going on.

Discussion

Perhaps unsurprisingly, the participants in this study perceived a bias in the design of MoHF towards the US and against Germany. Favorable US representations are fairly common in media, as the US is the key market for consuming high-production-value media, like Hollywood movies and video games. More interesting were participants' theories about the reasons for this bias and the possibility of designing games without it, or to counter-balance it. Participants who recognized a pro-US bias linked it to commercial interests, such as the need to appeal to a mass audience with disposable income. The other sources of bias toward American interests, such as the developer being an American or wanting to appeal to American patriotism, seemed secondary to this.

I will note that not all FPS WW2 games feature Americans as the protagonist, as "Medal of Honor: Underground" (released in 2000 for the PlayStation) featured Manon Batiste, a female member of the French resistance.

The unfavorable representations of Germany that were noted by several participants are part of a larger post-WW2 tradition of condemning anything and everything associated with Nazi Germany. Despite the beliefs and desires of some participants, I believe there could not be a MoHF-like game based on a

German perspective, because the game would be highly controversial and bad for the image of the company that produced it.

Of the five participants who made statements suggesting moral subjectivity, I don't believe that any sympathized or agreed with any Nazi ideology, but displayed ignorance of important historical events. I also believe that some of the statements about the US having its own interests in WW2 and/or its "hands not being clean" may bespeak a mild Canadian anti-Americanism.

4.6 Question 4: To What Extent Are Players Aware Of Tradeoffs Between Realism And Fun?

4.6.1 Video Game Design: Balance, Complexity, Realism and Fun

All but one of the 12 participants, when prompted in the interview, demonstrated some ability to observe and comment on the design of MoHF, and expressed some understanding of the balance between realism and fun in a video game. These participants voiced some understanding of the complexity of this balance, the compromises that may be necessary, and their consequences. Below I examine six related issues discussed by the participants: (1) Historical Accuracy, (2) Mass Audience Appeal, (3) Technology, (4) Level Design, (5) Focus of Action and (6) Health.

4.6.1.1 Historical Accuracy

Three of the 12 participants expressed recognition that the historical accuracy of MoHF was adjusted for the sake of fun. For example, Participant 4 explained that because history can be a boring subject, MoHF does not delve into it too deeply:

Interviewer: So what does this teach you about history?

Participant 4: I guess the basic... the basic things of history. They try to go for the most known basic history for the game... with the American story I guess.

Interviewer: How deep do you think they get into it?

Participant 4: Probably not that deep. They try to work on the entertainment more than the history because... you hear that history is boring but you have to learn it as is part of the curriculum... a lot of the game designers probably felt that way... it is like we should add in more special effects, more entertainment to make it more fun... then more people buy it.

Taking a somewhat different perspective, Participant 7 discussed how the story of MoHF is simplified, with the Americans on the good side and the Germans on the bad side, so that the player is not distracted and confused by the more complicated reality of multiple countries engaged in WW2:

Interviewer: How good is “Medal of Honor” at creating a sense of realism?

Participant 7: I guess... not that good because they... I think it wasn't just like the Germans and the Americans, and there were other countries involved too at that time... maybe they should incorporate other countries as well.

Interviewer: Why do you think they didn't?

Participant 7: I guess it would become more complicated and they just want a single shooter... it would be more complicated to have other countries than just one team.

Interviewer: Simplify it?

Participant 7: Yes.

4.6.1.2 Mass Audience Appeal

Three of the 12 participants described how aspects of MoHF's design seem intended to be palatable to a mass audience. For example, Participant 12 mentioned that players expect to play as the good guys, or the moral side (i.e., the US) in a video game, and how it is unattractive to play as an immoral bad guy (i.e., the Nazis):

Interviewer: Why do you think you play as an American?

Participant 12: I think it is easier identify with an American because you just think that the Nazis are bad and I think, especially at this time that video games are made... it is a bit different now, but you always play as the good guy. So it would be difficult to play as a good Nazi.

In a somewhat related vein, Participant 11 thought that despite the game being a first-person shooter, the violence had been toned down to obtain a

certain “Entertainment Software Ratings Board” (ESRB) rating. The ESRB is the governing body that determines the rating of a video game according to its content, such as violence, language and sexual explicitness. The ESRB ratings include “Everyone”, “Teen” (13 years+) and “Mature” (17 years+). By not having content that would require a “Mature” rating, MoHF could reach a broader audience:

> Participant 11: Of course the game is rated... teen or mature...? Well it is teen, so it is kind of a cleaned up... there is not a lot of excessive violence in terms of blood and gore and that kind of thing.

4.6.1.3 Technology

Three of the 12 participants recognized ways in which the technology of the game console limited what could be done in MoHF. For example, Participant 1 explained that some things could not be done in MoHF as they exist in reality, due to hardware limitations and programming complexity:

> Interviewer: When you are firing at the box, why do you think the box didn't just blow apart like any other box normally would?
>
> Participant 1: Computational limits. If everything reacted completely realistically it would be very intense and very difficult to program, I imagine.

Similarly, Participant 10 explained that greater realism in a video game requires more computing power and more complex controls, so MoHF might need different hardware to be more realistic:

> Interviewer: If you were to make it more real, what do you think the consequences would be?
>
> Participant 10: You would probably need a more sophisticated console to handle... yeah... things. It might be harder to control because it is so real that they try to add more realistic controls and that might result in more difficult controls.

This last point also seems related to the need to maintain audience appeal, since more complex controls would take longer and require more effort for players to learn.

4.6.1.4 Level Design

Seven of the participants commented on how the levels in MoHF seemed purposefully designed and constructed to create a specific video game experience. For example, Participant 4 explained how the player's movement on the beach area in level 1 of MoHF was limited to certain areas, and did not allow for complete freedom to explore:

> Interviewer: Did you notice anything in the game specific to game design?

Participant 4: You are limited in a boundary. I thought I had the whole beach to walk through, but I guess the game desires... if they wanted to give me the whole beach, it might have been too much. It may have been too much information... you are only limited to certain areas of the beach. I guess it is just based on where they land...

Players need guidance in a video game to tell them where to go to achieve an objective and/or give some hint when the player is struggling. Participant 11 knew that, and inferred that the Captain, a computer-controlled character in level 1, had been integrated into the design to provide the player with needed direction:

Participant 11: Basically the whole reason ... okay, you are doing all these things and you are the hero in this group, so they will probably ask you to do a whole bunch of things.

Interviewer: Then why aren't you Captain?

Participant 11: Someone has to give you instructions to tell you what to do. If you are thrown in there without orders coming in, you might just be running around and getting shot and dying over and over and over again. It would seem more fitting for someone of higher rank to tell you what to do.

In contrast to Participant 11, Participant 10 did not appear to realize the purpose of the Captain in the game design. Drawn in completely by the game's

premise and narrative, he explained the Captain's role and actions in relation to his own rank or abilities in MoHF:

> Interviewer: In the game, you're speaking with the Captain, who is always asking you to do this and that, you go give these guys cover fire, you go get the engineer, you run through a minefield. He is kind of getting you to do a lot and you are playing as a squad. Why do you think that he is asking you to do everything?
>
> Participant 10: Because I am the lowest ranking soldier. Either that or I am really good at doing all those things.

4.6.1.5 Focus of Action

As part of the interview, all participants were asked why the player's own character always seems to be at the center of the action, doing all the tasks and completing all the objectives regardless of how far from the reality of history that is. Three of the 12 participants recognized that this as an example of trading away realism for the sake of fun in the game. For example, Participant 4 explained:

> Participant 4: The whole point in the game is about... you... the game is based on you, and what you do and how you are going to do it... versus the other people because they are just

computers and just designed to be there and shoot at things that probably will not die... Because you want to advance...it would be boring if, like I said, it would be boring if the computers would attack the Germans and you would be sitting in the hole and hoping they would be dead... it would not be fun for the game or the player either...

Interviewer: Because?

Participant 4: What's the point if you are just going to sit there and let them play it? What fun would that be?

4.6.1.6 Health

In MoHF and other games of this genre, a player is punished for bad gameplay with subtractions from a health or life bar (see MoHF HUD section). If you expose your character to gunfire or other dangers, your health bar goes down. The game ends if the health bar reaches empty; but it can be rapidly restored if the character picks up medical kits, which are hidden in most levels.

Four of the 12 participants commented that this unrealistic mechanism seemed intended to extend gameplay at the expense of realism. For example, Participant 5 explained what the consequences would be if the health system of the main character was more realistic:

Participant 5: They are not real... the character is not a real person. They can experience as much pain...

Interviewer: But if you are shot in the thigh or the stomach, and then you are just screaming in agony and you could not even move, why do you think that is not reflected in the game?

Participant 5: Because the game would not go on... nobody would be able to complete the game or mission.

Participant 8 commented on how medkits were integrated into MoHF, and what the consequences for gameplay would be if they were not there:

Interviewer: In what ways are [the medkits] expected and standard?

Participant 8: You know you are hurt and about to die. I am expecting that somewhere along the way I'm going to find something or somebody that is going to be able to heal me.

Interviewer: Why?

Participant 8: Because I hardly got through the first part of the game even with finding the canteens. I think it would make the game really unplayable and insanely difficult [if the medkits were not there].

Conversely, Participant 3 did not understand the health system in MoHF and why it was not more realistic:

Interviewer: If you get shot in the leg you do not start limping, you just keep walking...

Participant 3: Yeah that part I do not think is real.

Interviewer: Do you know why they do not make it realistic?

Participant 3: Maybe they did not consider it that much. Maybe they wanted to add to the anxiety level of the player. It could be several reasons...

Interviewer: So if the person gets shot in the leg, why do you think that they do not limp?

Participant 3: Because... I do not know if they can make it happen. The end goal that you see on the screen could be shaking and that so it could; it may be difficult for the game designer to produce a game like that... I am not sure.

Interviewer: If you could make the game more realistic what would you include or change?

Participant 3: They would just add things to make it more realistic... like you said, if I got shot in the leg, then they could make it to be like I am limping.

Interviewer: If it were more realistic like that, do you think the game would still be as fun?

Participant 3: Yes it could be still fun. I think so. Well, if fun means that it makes you enjoy, well I can make people who enjoy the game, enjoy it.

Discussion

At the core of seeing and understanding the design of MoHF is knowing that MoHF is a video game intended as an entertainment product for a mass audience; thus, everything will be amended for the sake of fun. The most obvious example of this is the health system in MoHF, which allows the player can be hit multiple times by bullets and still keeping going as if he is not injured. A realistic system, in which the player could be killed with a single bullet, would make the game difficult and frustrating to play. Other ways in which MoHF is amended for fun include simplifying the narrative (i.e., Historical ccuracy) and having the player do the majority of tasks (i.e., Focus of Action).

Several participants in the study recognized that aspects of MoHF are crafted to provide an entertaining experience to the player, often at the expense of historical realism. For example, enemy soldiers are there to provide a challenge to the player, while the barbwire fences are intended to keep the player within a specific area of the game map in which the level's objectives can be accomplished. In general, participants with more gaming experience were more able to recognize these trade-offs between realism and fun. Less experienced gamers were more likely to suspend disbelief and be drawn uncritically into the game's premise.

As unrealistic as it is to pit a single Allied soldier against the entire German army, there are historical accounts of incredible individual accomplishments against overwhelming opposing forces. For example, there is Simo Hayha, a Finnish sniper who shot over 500 Russian soldiers during the Winter War (Saarelainen, 2008), and Audie Murphy, an American soldier in WW2 who earned the Congressional Medal of Honor for singlehandedly holding off the advancement of a German regiment in Holtzwihr (Davies, 2006, p.263).

An exception to the "amended for the sake of fun" rule in MoHF is the technology aspect of MoHF, which cannot be understood without some knowledge of computer hardware and the complexity of video game programming. Better graphics require more powerful hardware, and smarter enemies require stronger AI programming. The best example of this in MoHF is the limited scope of the D-Day landing. In reality, there were thousands of troops landing on the Normandy beaches; but MoHF is only able to show around 16 characters on screen at once because that is all the hardware can support. Only Participant 9 explicitly said something that demonstrated knowledge about the computational power required to have characters on screen:

> Participant 9: It is too computationally expensive to have too many bots like that to actually interact realistically.

Participants 6 and 12 both briefly mentioned how modern gaming hardware would be able to put more on screen, but were not specific as to non-playable characters.

4.6.2 Uniqueness of MoHF to WW2

The uniqueness of MoHF's game play experience to WW2 was also explored as part of the interview, to see how much of WW2 the participants' thought was accurately represented in the game's design. Four out of the 12 participants expressed the view that MoHF was not unique to WW2, and could be a generic battle in any war. For example, Participant 1:

> Interviewer: Based on what you saw do you think there is anything that was unique to World War 2?
>
> Participant 1: Nothing that I saw.

Other participants who said that MoHF was not unique to WW2 went further in describing how a game like MoHF could be done in the context of another war. Participant 11 took the position that only the visual aesthetics of MoHF are unique to WW2, and not the level design:

> Interviewer: In terms of the content in the game... how much of the video game structure is unique to World War 2? Is there anything in the game that is unique to World War 2 that could not be done in another war, in another time period?
>
> Participant 11: There is the names ... the sides in the introduction there. If you just showed me this game in particular without the names and the kinds of uniforms were different... and we

didn't call them the Germans... I guess the weapons would tell you the era of it... besides that it would just be another generic shooter…

One of the 12 participants said he was unsure whether MoHF was unique to WW2 or not. Only one person, Participant 12, expressed the view that MoHF was unique to WW2:

Interviewer: How much of the mission structure is unique to World War 2?

Participant 12: It seemed like a lot of it, like especially Normandy... That was very unique to World War 2. I cannot think of any other time when people stormed a beach like that. I think it is perfectly specific to World War 2.

It is worth noting that Participant 12 was more knowledgeable about the historical context of the game than any other participant, and that he also made it further in the game than any other participant. In level 3 of MoHF, you fight your way through a bombed out cityscape in France. A ruined city is a fairly common level design in games of this genre. Participant 12 recognizes this and states that that level 3 could be done in another game, but maintains that the first level (i.e., the D-Day Normandy landing) was unique to WW2:

Participant 12: Well a lot of the city fighting could be [done in another war]…aside from the weaponry. The close combat, going in and out of cover in buildings that are partially

> destroyed... but the Normandy battles seemed very specific to that time.

Discussion

The first level of MoHF, the D-Day landing in Normandy, was selected for this study because the events it depicts were unique to WW2. It was hoped that despite the minimal context provided by MoHF's introduction, participants would recognize the battle based on depictions in popular media, including the film "Saving Private Ryan." Although the astonishing scale of D-Day landing is not replicated in MoHF, there was enough to signify that it was D-Day. The participants who stated that MoHF was not unique to WW2 simply did not know enough about WW2 to make an informed judgment on the question.

4.6.3 Consistency of MoHF with Existing Knowledge

A question during the postgame interview asked how MoHF fit within the participant's existing knowledge of WW2. Ten of the participants stated that MoHF was consistent with their existing knowledge, though many also confessed that their knowledge of the history was meager. For example, Participant 6 expressed concern about her limited exposure to MoHF and some uncertainty with her knowledge of history, but still says that the game design was consistent with her existing knowledge:

Interviewer: How does [Medal of Honor] fit in with your existing knowledge of World War 2?

Participant 6: It fit in fairly good, just because... I didn't get to play the whole game and I only play that one level and it seemed pretty accurate to what I remember.

Interviewer: Anything not fit in?

Participant 6: Not really. I don't know if those events actually happened, specifically like going to rescue the engineer and coming back. I don't know if specific events happened, but on the whole it seemed good.

Participant 12 stated that MoHF was consistent with his knowledge of history, but also criticized the usage of history in MoHF as weak:

Interviewer: How does playing the game fit in with your existing knowledge of World War 2?

Participant 12: Fairly well. [But] their use of history seems a little bit shallow. So it is fair, but it is not really informing you too much.

Only one participant responded to the question with a different and, additionally, somewhat erroneous answer. Participant 1 references the lack of moral dilemmas in MoHF. Video games do not typically have moral dilemmas as it is much easier to keep things as “good vs. evil”. She also references when

opposing soldiers put down their arms and exchanged Christmas gifts. However, that was in WW1 and not WW2.

Interviewer: Even though you are not very knowledgeable on World War 2, as you have mentioned, how do you think this game fits in with your understanding of World War 2 that you do have?

Participant 1: Well a lot of things I have heard sort of more from the moral dilemma perspective like about the Christmas night where they all started singing together and just sort of soldiers who had to make that decision to take away a life every day and in this game that was sort of nothing.

Discussion

It is not surprising that the majority of the participants said that MoHF was consistent with their existing knowledge of WW2, because the use of WW2 in MoHF is, as Participant 12 mentioned, a bit shallow. As long as the player knows that WW2 featured the US vs. Germany that should be sufficient knowledge of WW2 for the player to play MoHF.

While most of the participants were not knowledgeable about D-Day (Q1 - section 4.3) and most participants assumed that the accuracy of the game was suspect because it was made for entertainment (Q2 – section 4.4.4), most of the participants also thought that MoHF fit within their existing knowledge. I believe

this can be explained due to the superficial use of WW2 in MoHF and the superficial knowledge that most participants had about WW2.

It is important to note that a lot of MoHF is based on historical fact. The days, dates, guns, vehicles, events, etc. are all accurate. These were used as inspiration to create levels in MoHF, and the narrative of Jimmy Paterson. The narrative in MoHF is a fictionalized “bottom-up” view of WW2, told through soldier Jimmy Patterson’s involvement in the various battles and missions of WW2. It is not the “top-down” view found in textbooks about the major battles and figures in WW2, where common soldiers are largely anonymous. The missions featuring major battles are accurate with respect to the dates, locations and countries involved, such as the D-Day landing. Other missions that were smaller in scale, such as the level that features Patterson sneaking aboard a U-Boat, appear fictional, but are still accurate in the surrounding details. This is similar to the usage of WW2 in “Saving Private Ryan,” where the visual depiction of WW2 was very accurate, but the story of the mission to rescue a specific American soldier is fictitious.

While the participants may not have recalled the details of key moments in WW2 (e.g., D-Day), they did have a basic knowledge that the Nazis were German and lost the war to the allies (or at least the US). It appears that the participants were also aware of the aesthetics of WW2, such as the dark grey uniforms of the German soldiers and the dark green uniforms of the American soldiers. As they have a rudimentary understanding of WW2, there was nothing

in MoHF that contradicted that basic understanding. Their questioning of the historical accuracy in MoHF is rooted almost entirely in their knowledge of video games, and not in knowledge of history.

The accuracy of a video game to historical events is not hard to doubt, as other facets of the game are entirely unrealistic. For example, despite the historical content within MoHF, the player is able to absorb multiple bullet shots, can kill opposition with minimal effort, and achieve tremendous tasks alone. Consequently, it is not hard to suspect the accuracy of the rest of MoHF. Common notions of video games are that they are mindless entertainment, and not given much credit for depth.

Consequently, since the usage of WW2 in MoHF is shallow and the participant's knowledge of WW2 is also shallow, the events in MoHF are consistent with the participants existing knowledge of WW2.

4.6.4 Accurate In Macro/Not In Micro

Eight out of 12 participants said that, in terms of the realism, MoHF was generally accurate in the macro-level atmosphere; most stated that it was not specifically accurate at the micro-level in particular aspects. For example, Participant 5 discusses how the atmosphere is realistic, but the health system is unrealistic:

Interviewer: How is the game realistic and how is it unrealistic?

Participant 5: It is realistic in that they came to the shores in these boats and the atmosphere was probably similar... you know as soon as you approached the shore you became a lot more scared than when you are in the boat because everything felt so much realer like you are actually there. I don't know if that's really a good thing to make the game more real. I am not sure about any weapons... they probably were the right time period, I'm not too sure about that but probably... nothing seemed wrong in that respect. Ways in which the game is definitely not real is the fact that you can be shot 300 times and not die afterwards. In reality it would take much less and...

Participant 3 has a similar response:

Interviewer: How is it realistic and how is it unrealistic?

Participant 3: Realistic is... the atmosphere, the action, the soldiers' animation, and all the technology used to create the game. The unreal part is that I did not die very easily because...

Part of the mission in the first level was to rescue an engineer stranded at the end of the beach and rejoin your squad. However, while getting back to the squad, the engineer runs across the beach, which would leave him open for a shot from a German. Participant 4 realizes this and comments how running

across the beach makes the engineer vulnerable to an enemy shot. So, she crawled instead:

Interviewer: How is the game realistic and how is it unrealistic?

Participant 4: I think the game is realistic about the environment, the camera shaking, the controller is shaking, the ground is shaking, bullets whizzing by, people being shot at, people dying. It was kind of unrealistic how the comrades were not helping much, and then in real life, I do not think the engineer would actually run across because, in real life, if you were to do that... they would try to head shot you for sure.

Interviewer: What do you mean by headshot?

Participant 4: Because the embankment is up to the shoulders, and you see at ahead running by, you try to shoot the head is that the only part you see running by. The engineer should have crawled, so he would be more safe... instead of being shot at... I was crawling because I didn't want to be shot at because I was already losing life

Discussion

As discussed in section 4.6.1 “Video Game Design: Balance, Complexity, Realism and Fun” section, there are elements in MoHF that are intentionally designed for the sake of being entertaining and enjoyable at the cost of realism.

For example, it is a typical game mechanism to have a substantial and refillable health bar that allows the player to endure the overwhelming odds in a level. Obviously, this is unrealistic. Participant 4 noted that the engineer runs across the beach to reach his squad (instead of crawling, which would offer better protection against enemy fire) because crawling would take longer and would bore the player waiting for him to arrive. In this situation as in others, the unrealism is centred around the player, while aspects of the situation that do not direct affect the experience of game play are free to be more realistic (for instance, the scenery.

These unrealistic gameplay elements undermine the credibility of the historical accuracy that has been carefully integrated into MoHF, particularly for players who are not knowledgeable about the relevant history. The participants who had the most to learn about the history represented in MoHF discounted the historical accuracy of everything in the game, due to what they suspected about the commercial interests of the producers, and what they experienced in the unrealistic aspects of MoHF, such as the health system.

5 DISCUSSION AND CONCLUSIONS

It has been suggested that video games may be a particularly effective way to teach young “digital natives” who thrive on interactivity (Prensky, 2001). History is a subject that youth are traditionally uninterested in, so teaching history through video games may seem especially attractive -- particularly when it may be possible to use high-quality commercial game titles, like MoHF, that have been designed with historical authenticity in mind, are available at low cost, and run well on older hardware.

Typically, when discussing barriers to the usage of video games to teach school subjects, scholars note the costs of the technology infrastructure required for students to play games, the time required to play them, and the doubtful perceptions of teachers and parents about the value or “seriousness” of video games as learning media. However, high-quality, motivating games are argued to embody good principles of learning (Gee 2003). In line with the “digital natives” argument, it may be assumed that while the older generation (i.e., teachers and parents) is suspicious of the value of games for learning, the younger generation (i.e., students) would embrace the use of video games to learn history. Lending credence to this position, Squire et al. (2004) experienced some success in teaching history with C3, despite the fact that this game has a steep learning curve and took his students several days to learn. MoHF, by comparison, requires just a few minutes to pick up. Some participants in this study had never played a game of this type before, but were nonetheless able to play MoHF and

complete a few objectives. All this suggests that MoHF should have had a strong chance of harnessing or developing participants' interest in the past.

However, this did not prove to be the case in the present study. While Gee and others have argued that games should motivate students to learn more about a subject (incidental learning), the majority of the participants (8 of 12) in this study asserted that MoHF did not motivate them to learn anything more about D-Day or WW2. Further, the few (4 of 12) participants who did indicate an increased interest in history said that the increase was slight. Essentially, MoHF did not appear to provide any motivational breakthroughs for history learning in the context of this study.

Some of the study results were ironic. The majority of participants (10 of 12) thought that MoHF was consistent with their existing knowledge of WW2, but half of the participants (6 of 12) were clearly not knowledgeable about D-Day. This is ironic in that most thought the game was consistent with their existing knowledge, but half did not know that much about D-Day/WW2 to begin with. I believe that this could be explained by the lack of explicit information to the player about the historical accuracy in the game. Very likely, the game designers chose not to provide this degree of explanation because it would slow down the gameplay.

Most participants viewed MoHF as a commercial entertainment product with negligible educational and historical value; but the more a participant knew about the relevant history, the more historical accuracy and content they saw in

MoHF. Nearly all participants were able to see and understand the design of MoHF based on their knowledge of video games; but most knew too little about D-Day to see what was realistic about the game.

The reasons for this outcome seem related both to the design of the game and to participants' preconceptions about commercial games. Almost without exception, participants in the present study gave little credence to video games as a legitimate source of historical knowledge – especially when compared to documentary films or books, despite those media being equally vulnerable to commercial interests and biases as video games. In fact, most participants discounted the historical authenticity that had been carefully designed into MoHF, due partly to what they suspected about the commercial interests of the game's publishers (i.e., motivated purely by profit and willing to sacrifice all authenticity for the sake of play value), and partly to the clearly unrealistic elements in the game mechanics (such as the health system of the game), which were visible to all players. For the most part, participants were very good at seeing through unrealistic elements of the game's design, but had insufficient knowledge to appreciate the historical authenticity that was there.

This does not mean that the participants did not enjoy playing MoHF; they did. However, most did not believe that a game *could* be a good way to learn about history. These students, all supposed "digital natives", regarded video games as an entertainment medium, and not much more. The one "silver lining" to MoHF, if you will, was that it gave 7 of 12 participants a sense of what it was

like to be in war. Albeit in a somewhat shallow way, MoHF presented an experience as close as a history student can safely and economically get to the D-Day landing. Participant 12, who was both an experienced gamer and a history minor, probably put it best when he likened games, such as MoHF, to historical reenactments.

The basic message of this research is not an optimistic one for the future of COTS games in history learning. While one might have expected a dozen "digital native" university students to be enthused about learning history through a game, their tendency instead was to discount the very possibility. Researchers may look at a game like MoHF and see strong principles of learning designed in. A history major may see a digital historical re-enactment. However, most students see only an entertainment product that bears no more necessary relationship to the real past than "Space Invaders" does to the future.

5.1 Limitations and Further Research

The research conducted here has some limitations that are worth mention. These limitations relate to the design of the protocol and the data analysis.

As the participants themselves occasionally noted, they were limited in the time they were allowed to play MoHF. This limited exposure may have caused them to underestimate what could be learned from playing the game for a longer period of time. Also, because participants were purposely selected who varied in their familiarity with the FPS genre, a few participants had never played a FPS before and needed time to become accustomed to the control scheme. This too may have led them to underestimate what could potentially be learned from the game. Finally, the game MoHF was six years old, and thus lacked some of the production values and immersive aspects of current video games. (At the same time however, its technical requirements are more in line with the capabilities of computers currently used in schools than currently popular games.)

With respect to the data analysis, it is worth note that the kappa value for two of the reported codes, (1) MoHF does not teach about WW2 and (2) Focus is entertainment and not historical accuracy, was .33. This inter-coder reliability is below the generally accepted threshold of 0.7 for kappa. The low value of kappa for these codes are of concern, but do not undermine overall findings of the thesis, as related codes with higher kappa yielded similar results with respect to participants' understanding of the design intent of commercial video games.

A logical extension of this research would be to take MoHF or another WW2 FPS and integrate it into a lesson plan for a history class. As part of the lesson plan, a teacher could address up front some of the sources of skepticism highlighted in the present study. For example, the teacher could set the stage for gameplay by setting the battle in the context of the time, and explaining both what is authentic about the game play scenario and what is simplified or fictionalized.

Another way for a WW2 FPS to be more educational and avoid the suspicions students expressed in previous sections is to create an educational WW2 FPS. There has been collaboration to create a commercial historical war-based FPS before. The History Channel co-created “Civil War - A Nation Divided” with Activision Value, a now-dissolved division of Activision. In this case, both organizations were profit-based and the design of the created game would not have incorporated education objectives into its central design. However, it may be possible to incorporate education objectives into the design of a video game if there was collaboration between a university and a video game company.

In this case, teachers and other education professionals could collaborate with video game designers to incorporate learning/educational objects into the design of the educational WW2 FPS from the very beginning. Decisions in the design would of course need to favor realism and historical accuracy. For example, an educational WW2 FPS could feature more realistic combat, though

less frenetic. For example, a firefight would not feature the main player running around and across the battlefield. The gameplay would be localized to a smaller area that made strategic sense, like an area that was on high ground and was fortified. The resulting product could likely end up being more of a first-person based simulation of WW2 than a typical FPS, in which fast paced shooting action dominates.

Production costs for an educational WW2 FPS could be greatly reduced if a video game company could lend an older, but still working FPS game engine to a university. For example, Activision could lend the “Call of Duty 2” engine to SFU. The “Call of Duty 2” engine is inferior to the current version of the “Call of Duty” engine. A video game company would be much more likely to lend out outdated technology because it is old technology that the video game company has recovered its investment from, and any innovations in it would long since have been duplicated by other video game companies. The donation of such technology would likely be under conditions that were non-profit, and restricted to educational usage only. Other ways to make such a video game economically feasible would include bulk software purchases by multiple school districts, funding through a generous grant, the use of cheaper student labor during production, etc.

A final possibility, rather than creating an entirely new history-based FPS, would be to incorporate more educational content into an existing history-based FPS. As discussed above, a COTS FPS game cannot be entirely realistic, as

there are certain aspects of the game, such as the health system, that *must* be unrealistic in order to provide a fun experience. The consequence of having a realistic health system in MoHF would be a very short and frustrating game, which would be neither commercially successful nor educational. However, it may be possible to add educational value to games like MoHF without spoiling the fun. For example, in some video games, the player is rewarded for completing the game with new elements that are unlocked, such as new game content. Perhaps on a second play through MoHF, pop-up windows or web links could be activated, revealing the historical background of various game elements, such as the locations the levels are modeled on, the personalities, architecture and weapons. These convenient options for incidental learning could be turned on or off at any time. Other unlockable content could include a series of mini-documentaries about the historical source material used in developing the game. Such game elements would help bridge the gap players perceive between the game world and historical reality.

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7 APPENDICES:

7.1 Appendix A - Code Book

Question 1: Does Skilled Gameplay Rely Upon Knowledge Of History?

CODE NAME: Knows about D-Day and WW2
DESCRIPTION: Participant makes statements about D-Day that are correct
EXAMPLE: "…Researcher - do you know the significance of D-Day?
Participant 9 - that was a major offensive in World War 2. I am not sure if the American... if it was the first to major American involvement in the European conflict. They basically drove back the Germans and eventually liberated France from German occupation. That was basically the start of pushing back the Germans..."

CODE NAME: Does not know about D-Day
DESCRIPTION: Participant makes statements about D-Day that are incorrect or is unable to give information about D-Day
EXAMPLE: "...Researcher - do you know what D-Day here?
Participant 7 - I have heard of it. I remember learning about it, but I don't remember what it was…"

Question 2: Does Skilled Gameplay Induce Interest In History?

CODE NAME: MoHF not interest participant about WW2
DESCRIPTION: MoHF does not make participant more interested in history
EXAMPLE: "...Researcher - does playing the game makes you more interested in history?
Participant 8 - no…"

CODE NAME: MoHF does not teach about WW2
DESCRIPTION: MoHF teaches/shows nothing significant about WW2 to participant
EXAMPLE: "...Researcher - after playing the game, it do you think you knew anything more or new about World War 2?
Participant 10 - no…"

CODE NAME: VGs not good source for historical accuracy
DESCRIPTION: Video games are regarded as less historically accurate than other media, like books and documentaries
EXAMPLE: "...Researcher - which would you trust more as a source of information World War 2?
Participant 8 - probably the documentary because the video game is there and its primary purpose is to entertain. A

documentary usually is there to present facts. I think the goals are different and that's what I would say a documentary is more accurate..."

CODE NAME: Focus is entertainment and not historical accuracy
DESCRIPTION: Entertainment is the focus of MoHF with other considerations, like historical accuracy, being subordinate
EXAMPLE: "...Researcher - so even though in real life it would be a horrible experience, what makes it fun in a video game? Participant 6 - I am not sure. It is just that you are in control and you can move around. For me it is not about what I am doing in the video game morally or if I am shooting Nazis or whoever, it is just more like being in control and being able to play a video game that is more fun and being able to complete objectives. I am not really sure for other people though, if they actually killing people or going to war..."

CODE NAME: Gives some sense of war
DESCRIPTION: MoHF is able to give some sort of sense of how war would really be like
EXAMPLE: "Participant 12 - well I think it allows you to connect with this historical event... even in a very shallow way you can relive what happened and get may be the closest sense that you're ever going to really get about what it is like to be there. It is kind of like how people do historical reenactments. There is no threat, there is nothing at risk, but you still get a slight glimpse of what this may have been like "

Question 3: When Considering Video Games Set In Past Time, What Are The Representational Biases, And How Are They Perceived By Young Gamers?

CODE NAME: Pro-US Representations
DESCRIPTION: The representations of the USA in MoHF are favorable
EXAMPLE: "...It is definitely skewed towards the Americans..more favorable for the Americans..."

CODE NAME: Anti-German Representations
DESCRIPTION: The representations of Germany in MoHF are unfavourable
EXAMPLE: "...there are definitely biases against Germans …"

CODE NAME: Moral Subjectivism
DESCRIPTION: Participants are reluctant to pass moral judgment on the opposing factions in WW2 believing that things are more ambiguous.

EXAMPLE: "...because you don't play as a German in the game, so you do not know the German side of history and you feel like that you should play both just to get a fair understanding of the representation…"

Question 4: To What Extent Are Players Aware Of Tradeoffs Between Realism And Fun?

CODE NAME: VG Design: Balance, Complexity, Realism and Fun
DESCRIPTION: The participant understands the balance and complexity of realism and fun in a VG and the compromises and consequences between them.
EXAMPLE: "...Researcher - why do you think they don't do that in the game?
Participant 5 - they are not real... the characters are not a real person. They can experience as much pain...
Researcher - but if you are shot in the thigh or the stomach and then you are just screaming in agony and you could not even move, why do you think that is not reflected in the game?
Participant 5 - because the game would not go on... nobody would be able to complete the game or mission..."

CODE NAME: Participant does not see VG design
DESCRIPTION: The purposeful placement of the elements in MoHF is not understood and/or is misunderstood.
EXAMPLE: "...Researcher - in the game, you're speaking with the captain is always asking you to do this and that, you go give these guys cover fire, you go get the engineer, you run through a minefield... he is kind of getting you to do a lot and you are playing as a squad. Why do you think that he is asking you to do everything?
Participant 10 - because I am the lowest ranking soldier. Either that or I am really good at doing all those things..."

CODE NAME: MoHF is unique to WW2
DESCRIPTION: The participant says that the MoHF mission structure is unique to WW2
EXAMPLE: "...Researcher - in the game... this has more to do the game design, how much of the mission structure is unique to World War 2?
Participant 12 - it seemed like a lot of it, like especially Normandy... that was very unique to World War 2. I cannot think of any other time when people of stormed a beach like that. I think it is perfectly specific to World War 2..."

CODE NAME:	MoHF consistent with existing knowledge
DESCRIPTION:	Taking into account the video game design aspects and the technological limitations, the content in MoHF is constent with the participant's existing knowledge of WW2
EXAMPLE:	"...Researcher - does anything seem not possible or not plausible? Participant 7 - no, everything seemed like it could have happened…"

CODE NAME:	Accurate in macro/not in micro
DESCRIPTION:	In terms of the realism of MoHF, it was generally accurate in the macro-level in the atmosphere created in MoHF, but it was not specifically accurate in the micro-level in particular aspects
EXAMPLE:	"...Researcher - how good is the game at creating a sense of realism? Participant 12 - it was pretty good. They had a lot of stuff going on of guns and planes going overhead, shells exploding near you, it's the people around you were dying... but again you getting hurt and not going down or showing any signs of injury or of any effects to how you play were all unrealistic. But overall the atmosphere was pretty good..."

7.2 Appendix B - Recruitment Poster

EARN $CASH$ FOR PLAYING GAMES!!!

Faculty of Education - Simon Fraser University

We are looking for SFU undergraduate students to be participants in a study concerning history and video games

As a participant in this study, you would be asked to: complete two questionnaires, play a video game for a period of less than one hour under observation, and take part in a videotaped one-on-one interview. If you are selected to participate in the research, sessions could last between 1.5 to 2 hours and you will be paid $10.00 per hour.

For more information about this study, please contact Bill at **sfu.pufferfish@gmail.com**

Email sfu.pufferfish@gmail.com for information on History + Video Game Research participation

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7.3 Appendix C - WebSurvey

Video Game Study Screening Questionnaire

History and Video Game Research - SFU Faculty of Education

We are recruiting participants for a study about video games and history learning. This confidential survey will be used to help identify students who should participate in the study. Your answers to the following questions will help us to decide whether you should be in our study group. The information will only be stored long enough to help us choose participants, and will not be shared with anyone.

Q1 . Are you female or male?
- Female
- Male

Q2 . Which best describes you (please select one)?
- Pursuing a bachelor's degree
- Pursuing a graduate degree

Q3 . Are you a full-time or part-time student (please select one)?
- Full-time
- Part-time

Q4 . In what year of your studies are you now?
- 1st year
- 2nd year
- 3rd year
- 4th year
- 5th year or more

Q5 . What video game systems do you own? (List all consoles, handhelds, and computers you use for gaming)

Q6 . What kinds of video games do you most like to play? (You may give examples, such as "World of Warcraft", "Resident Evil", etc., or use the names of genres, such as "first-person shooters", "real-time strategy", etc.)

Q7 . What kinds of video games do you least like to play? (You may give examples, such as "World of Warcraft", "Resident Evil", etc., or use the names of genres, such as "first-person shooters", "real-time strategy", etc.)

Q8 . Which of the following best describes the frequency of your video game play? I play:

- More than once a day
- Once a day
- A few times per week
- Once per week
- A few times per month
- Once per month
- A few times per year

Q9 . How much formal study of history have you had?

- I'm completing a history minor
- Only what I had to take in high school
- One course at University/College
- A few courses at University/College
- I'm completing a history major

Q10 . What e-mail address can we contact you at if we would like you to participate in the study?

7.4 Appendix D - Interview Questions

Questions specifically About MOHF:

-What did you think of MOHF?

-Do you know what specific battle was in the first level? (i.e., June 6, 1944)

-Do you know the significance of anything you saw in the opening sequence?

-What do you think about the representations of people in MOHF?

-Do you see any biases towards or against anybody?

-How fair are the representations of the Americans/Germans in MOHF?

-Why do you think the main character is American?

-Did you think it is possible to create a WW2 VG based on the German side?

-Do you think it would be commercially successful?

-What is it like being “centre of attention” in MOHF?

-How does the opening montage, etc. prepare you for your role in MOHF as Patterson?

-How plausible is it that Patterson really existed? Why or why not?

-If they are trying to be accurate, why not use a real person?

-How do other characters in MOHF interact with you and themselves?

-What kind of the tone does the game create in the scenery, ambiance, etc.?

-Do you see any overarching messages, themes, etc. in MOHF?

-Discuss the morality of MOHF and your opinion of it?

-Discuss the politics of MOHF and your opinion of it?

Questions About Realism:

-How is MOHF realistic and how is it unrealistic?

-Why are some things in the game not realistic?

-If you could make the game more realistic, what would you include?

-How good is MOHF at creating a sense of realism?

-How good is MOHF at creating a sense of authenticity (i.e., historically accurate)?

-Is MOHF more real or authentic?

Questions About History and Historical Understanding:

-What sources of information on WW2 have you been exposed to? (i.e., TV, movies, books, parents, etc.)

-In terms of the content of the game, what was MOHF from?

-Anything specific about WW2?

-How much of the VG mission structure is unique to WW2?

-Is there anything in MOHF that is unique to WW2 that could not be done in another time period?

-From what you know about WW2, how do you think it is applied to creating a FPS VG based on WW2?

-Do you see any compromises between the historical component and the VG component?

-How do they balance the “war is hell” vs. “game is fun”? (or “realism/historical accuracy” vs. “fun”)

-what are the compromises?

-How does MOHF fit in with your existing knowledge of WW2?

-What does MOHF teach you about history?

-How real or faithful is MOHF to actual WW2 events?

-Do the limitations of MOHF affect your interest in history?

-Does MOHF interest you in history? Why or why not?

-After playing MOHF, do you think you know anything more or new about WW2?

-How would you compare the historical accuracy of a book, documentary and VG on WW2?

-Does the level of historical accuracy in a VG affect your interest in playing that VG?

-Does the level of realism in a VG affect your interest in playing that VG?

-Have you ever purchased a VG based on its historical accuracy or realism?

Questions About Video Game Design:

-How were the controls in MOHF?

-How "game-like" is MOHF? (i.e., How obvious is it a game?)

-Do you see any commercial interests in MOHF in how it is created?

-Who does MOHF appeal to?

-How do you think the technological limitations affect the realism and design of MOHF?

-Since the game is from 2002/2003, how does the game look according to present VG expectations?

    -What looks dated?

    -Why isn't there better AI?

-Do you notice anything in MOHF that is specific to game design?

-Why do things in VGs have to be black and white?