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Playing with World War II: A Small-Scale Study of Learning in Video Games

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Abstract

Out of all the K-12 disciplines, History is positioned to benefit the most from integrating games into the classroom because while school-based history is considered to be the most boring subject amongst today's young people (Loewen, 1995), history-themed video games continue to be best-sellers. This article explores how mediated action theory, in particular Wertsch's (1998) ideas regarding mastery and appropriation, can yield particular insights around the different kinds of learning that can happen by playing history-themed video games. The data used here was collected as part of a small-scale case study that asked four self-proclaimed "history gamers" to talk about the possible connections between their play of WWII games and learning history. I provide an overview of mediated action and make a case for its suitability as an analytical framework to examine game-based learning. This will be followed by case-specific findings on how the players of WWII FPS games I studied made use of these games to learn about WWII history. Suggestions on future research trajectories on history-themed games and game-based learning, as well as other uses of mediated action theory, will be discussed at the end.

Author Keywords

World War 2; history; first-person shooters; digital game based learning; mediated action

The idea of using commercial history-themed video games for educational purposes has been circulating amongst educators and researchers for the past two decades (Eisler, 1991; Jacobson, 1992; Kee, 2009; Squire, 2004; Paul, 1991; Peirce 1994; Tanner, 1993). In particular, world-building games such as *SimCity* and *Civilization* have been deployed in classrooms, either "as is" or modified to meet the curricular demands and time constraints of traditional schooling. There are several rationales for this union of learning and leisure: video games teach the way humans are psychologically structured to learn (Gee, 2003; Jackson, 2009; Shafer, 2007); this generation of students are attuned to learning multimodally (Kellner, 2004; Kress, 2003; Lotherington, 2005); video games create a fun and engaging learning environment that can hold a player's attention voluntarily and for long periods of time (de Castell & de Jenson, 2004; Goldhaber, 1997; Lankshear & Knobel, 2002); video games have become centrally important to the developing competencies that many see as central to 21st century citizenship (Jenkins, 2009; Prensky, 2006; Watts, 2009) and more.

Out of all the K-12 disciplines, History is positioned to benefit the most from integrating games into the classroom because while school-based history is considered to be the most boring subject amongst today's young people (Loewen, 1995), history-themed video games continue to be a popular sub-genre within contemporary video games (Gish, 2010; Schott, 2008). Similar to historical films or fictional novels, history-themed video games' foundation in entertainment render the medium as an attractive way to learn history (Levesque, 2006). This potential is already a topic of interest within the academic community and there are several analyses related history-themed games and learning including: how the game mechanics or rule-sets of history-themed games' may encourage certain interpretations (Kee, 2008, 2009; Schut, 2007; Urichio, 2005), if and how these games can offer players an "immersive" historical experience (Kingsepp, 2006), and inquiries into how these games encourage or help cultivate historical communities of practice within a classroom context (Squire, 2004). However, these studies do not consider whether, what, or how those who *already play* commercial themed games may be learning or how they *already use* these games to learn history.

In general, a video game is a medium that effectively engages players and holds their attention intensively for extended periods of time, meaning players of these games may spend hours in a historically immersive environment voluntarily. In contrast, it can be difficult for students to become or stay interested in school-based history for even 45 minutes, in part, because of how it is taught, positioning history-themed video games (among other media) as a more attractive way to engage with the historical content (Gaffield, 2006; Levesque, 2008; Loewen, 1995). Moreover, since much of what young people know about history is not learned in schools (Letourneau, 2006), it is fitting to examine how playing these history-themed video games can inform or influence players, and also how players in turn accept, resist, and integrate game-based information into their own historical knowledge base and practices.

It is evident that video games can indeed be employed to achieve educational goals (Sauvé, Renaud, & Kaufman, 2010). However examining *how* video games are used by players for this purpose has yet to be widely discussed. When examining digital game-based learning, it is important to recognize how learning opportunities are afforded and constrained, not only by in-game rules and conventions, but more importantly, the socio-cultural factors that affect how a player uses the game for educational purposes. Game play, like any action, is always situated within a broader network of socio-cultural, institutional, and historical contexts and the variables that construct the circumstance in which game play occurs should be considered (Taylor, 2011). James Wertsch's (1998) theoretical framework, mediated action, provides a means of examining game-based learning in a way that attends to the socio-cultural contexts of play, while also enabling granular accounts of what is learnt through play and how.

This article explores how mediated action theory can yield particular insights around the different kinds of learning that can happen by playing history-themed video games. The data used here was collected as part of a small-scale case study that asked four self-proclaimed "history gamers" to talk about the possible connections between their play of World War II (WWII) themed first-person shooter (FPS) games and learning history. First I will provide an overview of mediated action and make a case for its suitability as a player-centric analytical framework for examining game-based learning, with a special focus on Werstch's (1998) notions regarding mastery and appropriation. This will be followed by case-specific findings on how of

the participants in this study made use of WWII FPS play for learning about WWII history. Discussing the educational limitations of WWII FPS games or evaluating the ways in which the participants' WWII FPS play affected their formal history education (either positively or negatively) is beyond the scope of this article. Nor does this article make the argument that digital games contain inherent properties that make them excellent teaching tools, or include a textual analysis on the games the participants played.[1] Rather, the focus here is on highlighting the informal learning opportunities afforded by WWII FPS game play for the participants in this study. Suggestions on future research trajectories regarding history-themed games and game-based learning, as well as other uses of mediated action theory, will be discussed at the end.

This study focuses on commercially made WWII FPS games for several reasons. Other than the obvious connection to formal education (all secondary school students learn about WWII in their mandatory Canadian history course), WWII games are best sellers (Schott, 2008). It was not my initial intention to specifically examine the FPS genre, it was simply the case that the participants in this study were WWII FPS gamers. The participants' preference for this genre is not surprising, as FPS is considered to be the most conspicuous and highly lucrative sub-genre of WWII games (Gish, 2010). Like most successful franchises, series such as *Medal of Honor, Call of Duty*, or *Brothers in Arms* have been releasing titles for about a decade and are recognizable to those outside the realm of gaming culture (Gish, 2010). As well, to my knowledge, there are no published studies to date that attempt to examine the type of learning that playing a WWII FPS game might afford, despite the genre's longstanding and continued popularity within gaming culture.

Employing Mediated Action to Analyze Game-Based Learning

Mediated action is a socio-cultural analytical approach that understands all human actions as involving an irreducible tension between agents and cultural tools (Tappan & Kita, 1999; Wertsch, 1998, 2000). Simply put, this approach views agent (subject/person) and agency (cultural tool/instrument/meditational means) as a single unit of analysis (mediated action), not in isolation or as separate entities. Moreover, the theory takes into consideration that every action has links to broader cultural, institutional, and historical contexts. In doing so, the expectation is that analyses of players' experiences of video game play from this more holistic perspective will provide a better understanding of the phenomena being examined (e.g. players using WWII FPS games to learn history) than studies that focus exclusively on either players or games.

Because playing games and learning history are both subjective experiences that will differ between individuals, Wertsch's (1998, 2000) notions of mastery and *leveled* appropriation are useful for analyzing how players (agents) use WWII video games (cultural tool) to learn history (mediated action). Mastering a cultural tool means that the person knows how to use that tool effectively, and this can typically be proven through performance, evaluation, or achievements. A player's mastery of a particular video game, for example, could perhaps be demonstrated by technical proficiency (e.g. achieving a high score, reaching a certain level, having a low death count) or by sharing their extensive, detailed, game-derived knowledge. Wertsch defines appropriation as "the process of taking something that belongs to others and making it one's own" (1998, p. 53). In other words, appropriation is intentional use of a tool, either in the way it

was intended or for a unique use as determined by the agent. For example, although there are many motives for playing commercial video games, playing them is typically viewed and marketed as an entertaining leisure activity. However, a player may play a WWII video game to learn about history, even though education was likely not the primary concern of commercial game developers or publishers.

An agent's appropriation of a cultural tool involves an "emotional dimension" - that is the sentiment one experiences when performing an action. In the case of this particular study, these would be the emotions a player will feel when using a WWII video game for learning history, including, but not limited to, conviction, confidence, or skepticism. The composition of a person's emotional dimension is contingent upon socio-cultural context and will differ between individuals (Wertsch, 1998). Participants' educational uses of WWII games in this study, for example, were shaped by a variety of socio-cultural variables such as: the role and importance of gaming, and particularly WWII games, in the players' lives; their perspectives on the demonization of video games by the media and educational institutions; the context of their game play (including whom they play with, location, duration); personal interests in learning history; and their prior knowledge of WWII. These variables coalesced to construct the player's emotional dimension, which in turn governed how they made use of WWII games for learning history. Therefore, because an agent's emotional dimension is instrumental in shaping their appropriation of a cultural tool, it follows that proposed frameworks for examining this action would take these variables into account during analysis.

However, even with an understanding of how appropriation occurs, examining this action is still challenging because variables that make up one's emotional dimension are subject to change. A once-avid gamer's involvement with a new activity such as a sports team, for example, may cause a declining interest in gaming as a leisure activity, which can in turn shift gaming to a low priority or importance in their life, thus potentially resulting in the player using the game differently than when gaming played a more prominent role in their identity formation. The dynamic nature of appropriation, then, suggests that game-based learning can be examined using methods other than the commonly employed approaches for conducting educational game studies research, which usually involves having participants play the game (or use the digital resource/learning object) and then administer a post-test to evaluates the game's efficacy as a learning tool based on the number of questions participants answered correctly (Sauvé, Renaud & Kaufman, 2010).[2]

Knowing WWII: History Video Games and Learning

According to Gee (2003), "well-designed" video games act as effective learning instruments to the extent that they embody what he calls "sound learning principles." For example, video games encourage players to engage in active, critical thinking and to take risks in an environment where the player receives feedback immediately and constantly, exploration is rewarded, meaning is contextualized and information is delivered using different modalities (image, text, sounds, etc.). Moreover, in a well-designed video game, the model of instruction is not focused on the transmission of textual content between instructor and learner, as is sometimes the case in formal schooling environments. In fact video games often deprioritize

textual content because it is but one of many signs/modalities that they employ to recruit learning (de Castell, 2010; Jenson, Taylor, de Castell, 2007). For the most part, well-designed video games teach players not by bombarding them with decontextualized information, but rather "how to be" – think, act, make decisions, and so on - in a particular context by scaffolding the player as they perform increasingly difficult, complex actions and come into contact with signs that are widely recognized and accepted as conventional within that semiotic domain.[3] Through successful performance of these actions, a person becomes literate (that is, able to read, recognize and produce meaning), and in turn, enculturated into that domain, or even several related domains. For example, playing a WWII FPS game affords the player the chance to potentially learn "how to be" a WWII game player, a FPS game player, and, as I will argue, a WWII history enthusiast.

History-themed video games often utilize and communicate similar content as formal history curricula. However, given the ways games often deprioritize textual content, particularly when teaching players how to play, what is at stake educationally is more than a player's acquisition of factual content. In this study, for instance, the focus was not on the historical facts players learned from playing these games, rather the variables that enabled and/or encouraged these players to appropriate WWII FPS video games to *not only* increase their historical knowledge base but also think and talk about history in a manner similar to professional historians (critical analysis, debate, consulting multiple sources, etc.). Shifting the analytical focus from content to the dynamic interactions between players, games, and the contexts of play may help to deter equating a student's ability to memorize facts from the game with the game's capacity to enable and support historical learning processes.[4]

The rest of the article will demonstrate how mediated action can be employed in game-based learning research using data from a small-scale case study conducted in 2008-09.[5] Data for this study was primarily collected from two semi-structured group interviews with four male "history gamers" in their teens who also engaged with other forms of WWII media such as theatrical movies, documentaries on *History* channel, fictional novels set in the 1930s and 1940s, general interest books, and websites on a variety of WWII topics (weaponry, battles, leaders, etc.). During the interviews, the researcher suggested topics for discussion dynamically, or "on the fly," following the participants' interests and leads in directing the conversation about playing WWII FPS video games and learning history. Despite popular cultural notions of the "anti-social" gamer, the participants were very talkative and eager to share their WWII game play experiences, building off each other's comments and talking right up to the end of the scheduled session. The first of these interviews was conducted before the participants had officially learned about WWII in their grade 10 History class, and the second interview was conducted after they had finished the unit. Additional data was also collected from questionnaires that asked about their informal history knowledge and experiences and their game play habits, as well as researcher observations of the participants' interactions in their history classroom. After the interviews were transcribed, reoccurring patterns or themes related to WWII game play and learning were identified and closely examined to ascertain what might have encouraged these particular acts of game-based learning. These conditional variables (the building blocks for their emotional dimension) were grouped together and analyzed within the larger socio-cultural context of their classroom as well as their self-reported game play habits and interest in WWII

history to make case-specific claims concerning the different *degrees or levels* of player appropriation of WWII FPS games for learning.

Constructing Emotional Dimensions: Two Key Variables

"Emotion is the glue that causes history to stick."

Loewen, p. 300 (1996)

As stated earlier, numerous socio-cultural variables will coalesce to form a person's emotional dimension. These variables, however, will not contribute equally to this construction; some will be more influential than others in determining how that individual will use a cultural tool. In this study for instance, two variables appeared to have considerably more impact on how the participants appropriated WWII FPS games: 1) the role of WWII FPS gaming in the player's daily life and 2) the extent and quality of their existing, factual WWII knowledge learned from other resources.

Everyone, gamers and non-gamers[6] alike, plays and thinks about video games differently. Playing video games can fluctuate between a serious activity in which the player heavily invests their time, resources, and energy or a casual hobby that is only pursued when in the company of others. Indeed it was the case in this study that if playing WWII FPS video games comprised an important part of a person's identity, this influenced how they considered, evaluated, and/or used the game-based information. This is because in their efforts to hone their gaming skills, gamers who considered themselves to be advanced or expert players engaged with WWII FPS games more intensely and with a more serious disposition than someone who played WWII games more casually. In short, these heightened stakes made the game play experience more memorable and thus they utilized game-based information more frequently when talking about WWII history, even in non-game related contexts such as the classroom.[7]

A player's existing knowledge about WWII was another key variable identified in this study and also appeared to function as a prerequisite for certain types of appropriation. For instance, a player who knew more about WWII made use of the game for learning history in more ways than a player who was less knowledgeable about the event. In other words, a player who knows more factual WWII content is better equipped to use (or refute) WWII games as a potential historical resource than someone who is unsure of the historical accuracy of game-derived information.

As well, it should be noted that all the participants in this case study were male, so their deep interest in WWII history and video games is rather conventional due to the heavy masculine overtones and privilege associated with both domains. Despite recent initiatives by game developers to design games and controllers to entice new 'casual' gamers (who are assumed to be older or female players), mainstream video game culture is still regarded as a masculine domain in which female participation is marginalized (Beavis & Charles, 2007; Begy & Consalvo, 2010; Jenson, Fisher & de Castell, 2011; Taylor, Jenson, & de Castell, 2009; Winn & Heeter, 2010). Moreover, the domain of history ("his" story) in general is also subject to similar

criticism in that both official and popular culture historical narratives tend to marginalize those who are *not* white, middle-upper class, straight males (Letourneau, 2006; Levstik & Barton, 2001). This is not to say that females cannot also be expert gamers who enjoy learning about WWII, but I argue that males are granted access more easily and are more supported in developing expertise in these domains, and are thus more motivated and likely to do so. The influence of these variables can be seen in the following levels of appropriation that were constructed from the interview data. And while it may be obvious to some that these variables would have *some* bearing on a player's educational use of these games, it is the degree to which these variables affected this action that is of particular interest, and this cannot be assumed on the part of the researcher.

Case Specific Claims: Three Levels of Appropriation

In this study, WWII FPS video games clearly played a contributing role in shaping how the participants thought and talked about history. Indeed, they were to some degree aware of, and admitted to, this happening. Applying Wertsch's (1998) concepts of mastery and appropriation to the interview data shows that as individuals with different personalities, interests, and relationships with WWII gaming culture, the participants did not make use of these games equally, but did so on different levels. Based on the themes constructed from the participant's interview data I can demonstrate how playing WWII FPS themed video games may have contributed to these players' historical understandings and inquiry-skills in at least three ways:

1. Facilitating tangential learning.
2. Preconditioning expectations for engaging with WWII history.
3. As a historical resource that can be read, interpreted, and scrutinized.

Tangential Leanings

In "tangential" learning, the instructor, tool, or learning environment helps to familiarize learners with a body of knowledge rather than actively trying to teach them. The idea here is that learners will educate themselves if the tool can facilitate their introduction to topics they might like in a context that they already find engaging (Portnow, 2008). The concept of tangential learning is suitable for analyzing the use of history-themed games for learning because while the participants first and foremost played WWII FPS games for entertainment purposes, they found themselves genuinely intrigued about WWII after playing these games. One participant, for instance, explicitly stated that his own historical interest about the Russian city of Stalingrad originated from playing *Medal of Honor: European Assault* and the topic continues to fascinate him even four years after playing the game. Another participant described how after playing *Call of Duty: World at War* he went online and researched the historical accuracy of the armored vehicles he was driving around, stating, "I didn't actually think they had a tank that could go backwards and your gun was the other way."

Appropriation on this level is, perhaps predictably, centered around already established ideas of using entertainment sources for informal learning (Francaviglia, 2007; Hughes-Warrington, 2007; Rosenstone, 2006). Unsurprisingly the participants considered game-based historical information to be "cool" and "interesting" in comparison to school-based historical information,

which in turn implies that WWII FPS video games may be more successful for facilitating historical tangential learning (at least for experienced gamers) than school-based resources. History-themed video games are arguably more suited for facilitating this type of learning because they make it easy for players to find and recognize historical information. These types of video games execute what Kingsepp (2006) calls "historical highlighting," employing established conventions borrowed from older media such as film and television to communicate the significance of historical objects or events. In WWII themed video games, for example, this can include the use of grainy, black-and-white archival footage, popular 1940s music, and interesting facts or quotations from famous WWII figures during loading or end of game screens (Kingsepp, 2006). Moreover, games in the FPS genre can also dedicate space *within* the game to access tangential topics. The game *Call of Duty 3* (2006) for instance has an "extras" section that contains maps, interviews with veterans, and detailed information about WWII era weapons or vehicles for the player to peruse when they are not engaged in play.

This level of appropriation is not exclusive to video games. Any cultural tool or learning environment carries the potential to facilitate tangential learning, as long as it contains topics that are of interest to the learner. For the participants in this study, however, what made their WWII FPS video games distinctive from the other WWII sources they used for learning was that the games not only provided opportunities to actively engage with WWII history, but also helped them maintain their interests in this historical event. In the post-unit interviews, for example, one participant stated, "I played *Medal of Honor,* I think when I was 10, I think, and then got addicted, and kept buying them." This demonstrates how playing a single game could potentially lead to a prolonged relationship with that series for years to come. The popularity of serialized WWII FPS video game franchises such as *Medal of Honor* or *Call of Duty,* then, may help to maintain and cultivate an interest and motivation for learning about WWII history, even if it is not their primary intention.

Expecting the Extraordinary: Preconditioned Expectations

Playing WWII FPS video games was a major part of the lives and identities of all of the participants in this study. Most of them had been playing these games for years and owned between five to seven titles each, frequently playing (and replaying) them,- only shelving the games away for good once the next game in the series came out. This personal connection to WWII FPS video games, in combination with the regularity and frequency of their play, situates this activity as an important personal experience that is not easily displaced, forgotten or rerouted, and thus may have contributed to the development of what I will call "preconditioned expectations." These are the player's expectations regarding what a WWII historical experience should entail and how it should be presented. Indeed during the second interview that took place after their WWII unit, the participants expressed their disappointment that their WWII unit did not deliver the historical learning experience that they had expected. When asked how they would remedy this, the participants described an approach that was strikingly similar to the historical experiences that WWII FPS video games typically offer players: focused on military-related events, full of unusual or extraordinary accounts, and told from an in-depth or individualized point of view.

These preconditioned expectations may explain why the gamers were disappointed with, and somewhat unreceptive to, the school's WWII unit. For instance, when reviewing the unit, the

participants initially indicated that learning about the Dieppe Raid and the Battle of Britain was the only exciting part of the unit as well as the only "new" information they encountered during the unit. However, later in the discussion, and when prompted by the researcher, participants were able to recall more school-based WWII information that they had not known prior to the unit (namely political and national histories). Like most WWII-themed video games, WWII FPS titles are heavily and particularly focused on the military aspect of the conflict – battles, tactics, weapons, and so on -- as opposed to social, political, or specific nationalist histories which are marginally included, if at all. Singling out these battles and disregarding the other new information arguably demonstrates the importance these participants placed on WWII military history over those other facets of WWII history. While it is impossible to say with certainty that their fascination with the military aspect of WWII can be directly linked to their intense relationships with WWII FPS video games, as their primary source for WWII information, I contend that these games were at least an integral component in a repertoire of influential sources that conditioned these players to view military history as more important than other branches.[8]

It also became clear during the post-unit interviews that the participants had expected the WWII unit to confirm, refute, or in *some way* take up their game-based historical interpretations and to also deliver information from the individualized, first-person perspective that they became accustomed to through play. For example, in addition to not spending enough time learning about famous battles (as was the case in their unit about WWI), participants expressed at length their disappointment with the school unit's lack of extraordinary narratives and/or in-depth historical examinations about relatively unknown individuals who "did something cool or heroic." They explicitly criticized the unit for not catering to their expectations by: 1) not discussing the exceptional (e.g. secret missions, contributions made by brave individuals or "heroes"), and 2) learning about WWII at the macro level of nations and leaders, not the micro level everyday experiences of citizens and soldiers. These complaints describe a WWII historical experience that is strikingly similar to the delivery style and content of WWII FPS video games. Referred to as the "one solider, one look" perspective by the participants, WWII FPS video games present history from the point of view of a single soldier who partakes in both famous, large scale battles as well as unusual, covert, behind the scenes missions. Again, because this focus on the individual is the approach taken by many popular culture representations and narratives about WWII, it cannot be argued with certainty that it is WWII FPS video games fueling participant's complaints. However, the specific "one solider, one look" label in reference to WWII FPS video games' presentation of WWII history suggests that it was at least highly influential.

Moreover, playing T (16+) and M (18+) ESRB-rated WWII FPS video games may have also conditioned the participants into expecting a more disturbing interpretation of WWII than the one they received. In contrast to the horrifying WWII information and representations found in non-school and popular culture narratives,[9] the participants thought that the school unit framed the event in a manner that downplayed the more unsettling parts of the war. Content-wise, they referred to the unit as "soft" and textbook as "dry" in comparison to the WWII history they encountered informally in video games, movies, documentaries, family stories, museums, books, etc. Shocking, devastating representations of WWII are not exclusive to video games, but for these participants, it is likely that WWII FPS video games were prominent due to their

preference for this medium over others, as well as the intensely violent and graphic nature of the titles they enjoyed playing.

Mastering History: WWII FPS Video Games as Texts

In WWII FPS video games, historical fact and fiction intertwine in numerous ways: within the narrative, game mechanics, characters, setting, etc. For example, while the player may interact with a non-playable character (NPC) who exemplifies the culturally-supported characteristics of a "typical" WWII soldier (young, male, brave, eager to serve and die for his country), the NPC was likely not a real person who fought during WWII. Developers combine historical facts with fiction to create an experience that is entertaining but still feels historical, creating, and arguably inviting, a unique space for players to critically engage with these games as historical texts. When talking about WWII history within the context of video games, knowledge, or as Wertsch (1998) would argue, mastery of game-based WWII information enables gamers to (potentially) develop and practice skills essential to historical inquiry. These are skills that professional historians employ such as critically analyzing the historical fidelity of certain representations, scrutinizing the context in which texts were produced to uncover biases, and pulling evidence for their arguments from a variety of sources.

At times during the group interviews, for instance, the participants, all self-proclaimed WWII gaming experts, demonstrated WWII FPS expertise by recalling very specific, detailed, game-based information from a variety of games to use as evidence while debating whether certain in-game historical representations were factual or fictional. Their discussion of game-based information mainly revolved around the historical accuracy of specific battles, the nations or cultural groups involved, military protocols, weapons, strategies, and geography. Here the players mostly agreed with the veracity of this information, believing it was an accurate portrayal of what (most likely) occurred and cited other sources to support their arguments. In contrast, when discussing the fictionalized historical representations within these games, the participants demonstrated what Wertsch (2000) calls "knowing but not believing" (p.39). This means that while the participants knew a lot of fictional game-based information (demonstrating mastery), they did not necessarily accept this information as true or historically accurate. It was in these discussions about historical-fiction that I observed participants (perhaps unintentionally) performing the aforementioned historical inquiry skills that are essential to the discipline (Donovan & Bransford, 2005; Seixas, 2000).

When talking about the storylines of these games, for example, the participants critically analyzed the circumstances surrounding the creation of the game, employing what Seixas (2000) calls a post-modern historical epistemology. Indeed the participants rejected, and were quite critical of, historical information that had been re-purposed to function as a typical FPS game convention. For instance, they took into account the inescapable subjectivities of the game's developers to explain the overt, American-dominated narratives communicated by most WWII FPS video games.[10] Moreover, because video games are first and foremost intended to be exciting and fun, the participants also considered the games' origins in entertainment in their analyses of historical fidelity. For instance, while the participant's agreed that hand-to-hand combat could have been a plausible experience for a soldier, they viewed the inclusion of this as a game play feature meant to give the player a break from the predictable shoot-em-up scenario, and not necessarily historically accurate,

As a form of entertainment, a history-themed video game is a historically uncertain and highly contestable source of information. Accordingly, the domain of history-themed video games anticipates historical questioning and scrutiny, thus positioning these games as excellent facilitators for practicing historical inquiry skills, such as the critical thinking discussed above, so long as this takes place within a space that is considered to be "safe."[11] In fact WWII FPS video games may actually help construct and maintain these safe spaces by regularly providing new material to analyze as well as other people to interact with in this way – a community of WWII FPS video game players. It is highly doubtful that these participants would have or been so forthcoming with their opinions or as animated during these debates if they tried to have a similar discussion with people who could not readily understand the information or source being scrutinized, or the perspective from which these arguments are being made. This may be the reason why the participants do not credit WWII video games as their source for information when using historically accurate, game-derived information in class.

Schools are institutions that for the most part reward students who absorb a state-sanctioned narrative and regurgitate it back onto exams and assignments, as well as penalize or refute students who argue against or question this authoritative knowledge (Barton, 2008; Grant, 2003; Levesque, 2008; Levstik, 2008; Levstik & Barton, 2001). It is therefore unlikely that any student would feel comfortable enough to question the school version of history if they were interested in passing the course, ironically making history classrooms a rather "unsafe" space to develop and practice historical inquiry skills.

Using game-based information in an unsafe space requires a heightened emotional dimension in relation to their existing WWII knowledge; essentially, the individual needs to be confident in the historical validity of their game-based information to use it in domains where this knowledge is not valued, such as a history classroom. Because these WWII FPS video games were their primary resource for learning about WWII, all the participants in this study admitted to using game-derived historical information in class. For instance, one participant had learned about *blitzkrieg* (the military strategy used by Hitler to quickly take over surrounding nations in the beginning months of WWII) from playing a WWII game, and brought this up during a class discussion. Although the teacher accepted his interpretation of *blitzkrieg* as correct, the player did not cite WWII video games as the source for this information. This practice of not providing a source for historical information learned from WWII FPS video games was also performed by the other participants, as seen in the following excerpt:

> Researcher: have you guys used any of this knowledge in class yet? Like have you ever brought up "oh you know in *Call of Duty* I saw this…"
> (*Everyone is thinking*)
> Gamer1: well, actually yeah, we were talking about some of the weapons they used, and how they introduced the flamethrower.
> Researcher: So when you use this knowledge in class, do you actually say it's from a video game?
> *Gamer 2 is shaking his head "no," smiling and looking between the other participants*
> Gamer 1 (*smiling, beginning to laugh*) uhh…
> Gamer 2: I leave it out *(tone is matter of fact)*

> Gamer 3: I leave it out too (*smiling*)
> Researcher: why?
> Gamer 3: ‘cause it’s from a video game!

This dialogue demonstrates that the participants have a clear understanding of what counts as a legitimate resource (and subsequently, legitimate knowledge) in classrooms, and this certainly does not include video games, which are largely discredited as an accurate source for historical information. The stigma attached to playing WWII FPS games can discourage players from citing them as a source for historical information even when this information is historically accurate, as it was in the *blitzkrieg* case. In this particular instance, an explanation for the students’ hesitation to use game-based historical information might be that they did not want their contributions to be labeled as invalid by their teacher (Bain, 2006). As was observed in this study, student attempts to introduce information that countered the school narrative or were derived from sources not sanctioned by the school were rarely explored or taken up past its introduction. Below, for instance, is and example of one student’s counterpoint to the perceived brutality of the Nazi regime, which she emailed to the researcher after class:

> “Today after we watched the Holocaust video, it made me think of how Nazis treated people, and I remembered of a story my mom told me. When my grandpa was little, he live[d] in a village called Smolensk in Russia. Eventually that village got taken over by Nazis. Although the way [the] Nazis treated the people who lived there was not cruel at all. They didn't kill any women or kids, instead they gave them food and water. So it made me think that not all the Nazis were so brutal towards people who weren't in the Aryan.”

When this student introduced this alternative viewpoint of the Nazi regime, the teacher responded that while this perspective is indeed plausible under particular circumstances, she stressed to the student that this story should be considered as an exception because the majority of people would disagree with this perspective. While it might not have been her intention, the teacher’s reference to a historical narrative that is agreed upon by the “majority” – what the historical community calls the “Best Possible Story” epistemology -- maintained the school-sanctioned narrative instead of encouraging the student to view the history classroom (or the discipline) as a place to share, discuss, and critique multiple perspectives of the past. Using the Best Possible Story approach to teach history is arguably how teachers appease the demands of formal schooling; a large amount of teachable content coupled with too many tests and limited class time leads many teachers to conclude that giving students information in bite-sized chunks is the only reasonable approach to teaching history (Grant, 2003). While many have argued that this practice is counter-intuitive to what should be happening in a history classroom, it is how K-12 history has been conveyed for the last couple of decades (Barton, 2008; Levstik, 2008; Loewen, 1995; Sandwell, 2006; Seixas, 2000). If the key to maintaining students’ interest in history is to let them explore, investigate, share and talk about what is historically interesting or meaningful to them (Levesque, 2008), it may be that a WWII FPS video game can contribute to certain forms of history-related education that school classrooms are currently offering, which was the case for these participants. Moreover, the fact that students do not need to reveal their sources for historical information so long as it is aligned with the school’s version of history is indeed a larger, problematic issue that warrants further investigation.

Conclusion

WWII FPS video games can provide an engaging, immersive historical experience and can be appropriated by players to learn about WWII history. These games could be used to dispel historical myths and misinterpretations or scrutinized for historical accuracy, in turn promoting the development of critical inquiry, comparative analysis, and other disciplinary skills. Moreover, as demonstrated in this study, WWII FPS video games can function as a gateway to learning about the event, providing players with an interesting "hook" that encourages self-directed learning and also potentially shape how some players conceptualize WWII history.

Due to the nature of this study, the claims made in this article are not meant to generalize how all players of WWII FPS video games will use these games for learning history. In fact the employment of mediated action as an analytical framework reinforces the exact opposite – that appropriation of WWII FPS video games for learning will differ between individuals, making the three findings elucidated in this article case-specific and by no means representative of all WWII FPS players. It is my hope that other researchers who are interested in examining how players make use of history-themed games for learning might also employ mediated action as an analytical framework to add to the findings presented here.

While this study did not intentionally seek to examine a particular context or condition (it just happened that these participants were all WWII FPS game players in their teens), future researchers might be interested in exploring how different player communities engage in similar kinds of incidental and informal game-based learning as those documented in this paper.. Because the variables that could be manipulated for analysis are practically endless, the focus of future research on this topic are also endless:

- Location of play (At home, friends' houses, public LAN events);
- Genre (FPS, real-time strategy, turn-based strategy, flight simulators);
- Platform (Consoles, computers, handheld devices);
- Demographics (sex, age, ethnicity, nationality, socio-economic status, geographical location)
- Who they play with (friends, siblings, strangers); and
- Context of their play (alone, co-situated, online, whenever they want, only at specific times), and so on.

Of particular use and value would be insight into if and how non-gamers, who are often female, can make use of games for learning history. Women are already at a disadvantage when it comes to staking a claim in computing culture and its related domains, such as video gaming, because of the widely held cultural belief that digital technology (with perhaps the exception of communication technologies) is a masculine realm where female participation/membership is viewed as an exception (Jenson & Brushwood Rose, 2003; Wajcman, 1991). As mentioned earlier, history too is traditionally viewed as a discipline that engages with topics that are also viewed as masculine– politics, conflict, conquest – making it difficult for women to insert or see themselves in these stories (Schut, 2007). When the voluntary educational use of history-themed video games is more likely to occur when the participant has prior knowledge of either gaming

or history – a designated "no go" zones for females – what does this mean for female non-gamers who know nothing about WWII? Examining if and how a non-gamer would use (or resist) this cultural tool would provide interesting and valuable insight into how domain 'outsiders' interact with, and interpret, a medium that they have little experience with.

Another interesting trajectory would be to conduct this research with players who do not play WWII FPS games. There are many other genres of WWII video games including role-playing games (*The Saboteur*), real-time strategy games (*Hearts of Iron* or the *Blitzkrieg* series), and flight or naval simulators (*Blazing Angels*, *Panzer Elite*). A conversation with gamers who played these types of WWII games would be helpful in determining if and how game genres can influence appropriation.

It is worth repeating Wertsch's (1998) assertion that people will always use the same cultural tool differently due to the dynamic nature of each person's emotional dimension. While this statement makes the findings of game-based learning research more difficult to apply to formal education contexts, this does not mean that it is not worth analyzing. The findings of this study are only case-specific, however they provide clues as to 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, because students and gamers are indeed using them as such.

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[1] Textual analyses on different history-themed games or genres are already available (e.g. Baron, 2010; Gish, 2010; Kee, 2008; Squire, 2004; Schut, 2007) and so I will not reproduce that work in this article.
[2] In their review of 806 'educational gaming and simulation' articles to gauge the efficacy of these tools for learning, the authors call this method 'comparative experimentation' (pre- and post-tests on the subject matter taught by the game) and note several studies that employ this method to show "significant positive results of games for knowledge restructuring" (p. 257).
[3] A semiotic domain is defined as any set of practices that recruit one or more modalities to communicate distinctive types of meanings (Gee, 2003). Due to the multitude of video game genres, it is perhaps more appropriate to view video games as a family of related domains rather than as a single domain.
[4] Equating a learner's mastery of facts with their ability to perform historical inquiry is also a common critique of formal, school-based history environments (Barton, 2008; Levesque, 2008; Sandwell, 2006; Stearns, Seixas & Wineberg, 2000).
[5] What is particularly appealing about employing this framework is that there is no need to actually observe game play. While observations of game play certainly add another data set to consider during analysis, it is not necessary, as this study demonstrates. To do this type of research, however, knowledge of the games being discussed does enable a productive dialogue with participants.

[6] For the purpose of this study, a gamer is considered to be someone who regularly plays video games for leisure purposes and considers themselves an enfranchised member within gaming culture.

[7] As well, it should be noted that the participant's investment in WWII FPS play and their enfranchisement with this particular sub-genre formed the criteria by which they were able to identify and self-proclaim, at the researcher's request, as a "history-gamer," and thus take part in the study in the first place.
[8] It should be noted, however, that the gamer participants were more than likely already slightly interested in WWII military history if they had purchased these games, making it is impossible to concretely determine how much of an influence these games have on directing a learners' preference for military history over other branches.
[9] Examples of non-school or popular culture narratives include Hollywood films like *Saving Private Ryan* (1998) or *The Boy in the Striped Pajamas* (2008), the *Band of Brothers* (2001) TV miniseries, as well as public WWII memorials and museums that pay tribute to those who sacrificed their lives willingly or were innocent victims in this conflict.
[10] The majority of game developers and publishers of FPS WWII games are American. This is especially true for the WWII FPS games that the participants owned and played.
[11] "Safe Space" is meant to describe an environment where people can share, discuss, and debate their historical interpretations freely. For this study, I attempted to make the interview context one such space. This is in contrast to an " unsafe" space, which is an environment that is generally unaccepting of historical accounts that counter the dominant historical narrative. See Boostrom (1998) for more on "safe" educational spaces.