Digital Entertainment Gaming as a Site for (Informal) Historical Learning? A Reflection on Possibilities and Limitations

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Abstract Over the past few decades, digital entertainment gaming has become very popular among a global audience of players, including a significant number of school-aged young adults. Some of the most popular digital entertainment games offer a (fictionalized) representation of historical events. This chapter offers a reflection on how digital entertainment gaming can be adopted to advance historical learning and the development of processual historical thinking skills. I do so by analyzing historical digital games as cultural artefacts embedded in a broader digitized media ecology, and digital games as integrated into formal school history curricula.

Keywords Digital entertainment games · Historical learning · Historical thinking · Informal learning

Since becoming a popular pastime during the 1970s and 1980s (Malliet & de Meyer, 2005), digital gaming has become one of the most prominent forms of cultural expression in our contemporary digitized global society. For example, as shown by market research companies Newzoo and Statista respectively, the global games market generated a total revenue of 148.8 billion dollars in 2019 (Nesterenko, 2019), whereas the number of people playing digital games worldwide, including a significant number of school-aged young adults, is expected to grow to over 2.7 billion by 2021 (Gough, 2019). Given this increased popularity of digital gaming, and the general observation made around the turn of the century that digital games are often underpinned by designs that mirror fundamental learning principles (Gee, 2003), a significant number of scholars has attempted to study how digital games can be adopted to foster various learning processes (Whitton, 2014). In this chapter, I reflect on how digital entertainment gaming can be embraced to foster historical learning in particular, especially in relation to the development of processual historical thinking skills (e.g. Seixas & Morton, 2013). I do so by assessing how digital games can foster historical thinking both informally as procedural artefacts that are embedded in a broader ecology of digitized and networked connectivity, and formally as integrated in school history

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curricula. In doing so, I bring together both key observations made in the existing body of literature on the use of digital games in history classrooms and formulate a number of venues for future research, especially concerning the informal learning potential of digital gaming as a broader digitized and networked phenomenon.

In what follows, I first discuss how digital games can stimulate historical learning as standalone and commercially distributed cultural artefacts. Next, I will reflect on how historical learning can be stimulated through an active engagement with the broader digitized culture in which digital games are embedded. Finally, I will discuss how digital games can be productively integrated into history classrooms.

Digital Games as Commercial and Entertainment-Oriented Cultural Artefacts

Digital games can best be characterized as *ergodic* cultural texts, which require an active effort of mechanical organization on behalf of the player to traverse (Aarseth, 1997). The activity of playing a game does not solely revolve around the 'reflexive process of producing a meaning,' as is the case for many other cultural texts, but also the 'physical process of producing the digital game' (Apperley, 2010, p. 11), which unfolds through an integrated process of selecting and excluding actions and trajectories. This has significant implications for digital games as historical artefacts. As described by Chapman (2016), historical digital games, in contrast to other forms of historical representation, are characterized by a sense of 'shared authorship' and 'narrative multiplicity'. Whenever players play a historical game, they also produce a play-induced historical narrative that is determined by the actions of at least two (groups of) actors: on the one hand the developer of the game or 'developer-historian', who sets up the components and boundaries of the 'story space' of the game, or fictively constructed ludic imagination of a past world, and on the other hand the player, who determines which stories are told within the boundaries of this story space through an act of configuration (Chapman, 2016, p. 30–34). From a narrative perspective, this act of configuration revolves around arranging two types of components: *lexia*, or the most basic narrative elements that players are invited to arrange to create a ludically emergent narrative, such as the virtual characters, objects and scenery of a game, and *framing controls*, or the procedural rules that define the mutual relationship between these lexia and between the lexia and the player (Chapman, 2016, p. 119–127).

In light of this overall characterization, I argue that the act of playing a historical digital game revolves around at least two types of *ludic revelation*. Firstly, the act of playing any type of game leads to an ongoing attempt at instrumentally mapping the game's lexia and framing controls. In order to successfully engage with a game, players need to gain an embodied understanding of its rules and mechanics, usually through a process of trial and error. A clear example of this form of *instrumental*

revelation, and subsequent attempts at domestication, can be found in e-sports competitions, where (teams of) professional players train extensively to learn and master the rules and mechanics of competitive multiplayer-based games such as *Counter-Strike: Global Offensive* (Valve, 2012) and *League of Legends* (Riot Games, 2009), often without paying much attention to the (limited) narrative layer of these games.

Secondly, playing a historical digital game can also lead to experiences that are explicitly historical in nature. Lexia and framing controls are not only part of an internally coherent game system that can be domesticated instrumentally. Both, in their interconnectedness, are also imbued with rich historical meanings that can resonate with the mnemonic awareness of players to result in experiences of *historical revelation*. Here, I refer to (1) the concept of 'procedural rhetoric', i.e. the notion that digital games present meaningful, ideological, and potentially persuasive arguments about the nature of the (historical) world through their procedurality (Bogost, 2007); (2) the notion that this procedurality is inherently embedded in a semiotic layer that communicates these arguments and contextualizes them (Sicart, 2013, p. 83–88); and (3) the observation that these two notions, in their interconnection, are actively interpreted by players as autonomous cultural agents (Sicart, 2013, p. 91–96). I will illustrate the notion of *historical revelation* by discussing two examples: World War II-themed first-person shooter (FPS) games such as *Medal of Honor* (Electronic Arts, 1999–2020) and *Call of Duty* (Activision, 2003—present), and strategy games such as those from the *Civilization*-series (Take Two Interactive, 1991—present).

In World War II-themed FPS-games, players take on the role of individual Allied soldiers during pivotal battles of the war. In terms of lexia, these FPS-games revolve around the depiction of soldiers, firearms and other forms of military equipment, and historical battle locations. In terms of framing controls, they revolve around the need for players to engage in virtual killing and spatial conquest, and apply visual, motoric and tactical skills to navigate the game world while doing so. When asking players what they consider to be memorable moments in the games from a historical perspective, they often refer to moments such as the ones in the games *Medal of Honor: Allied Assault* (Electronic Arts, 2002) and *Call of Duty: WWII* (Activision 2017) in particular, during which players participate in a virtual recreation of the Normandy beach landings on D-Day (Fig. 1). When discussing these moments, players often highlight their 'reenactive potential': the ability of these moments to let players experience the chaos of battle and the sense of fear and vulnerability that Allied soldiers must have experienced when landing on the beaches of Normandy (for the entire paragraph, see: Van den Heede, 2021). As a result, for certain players, engaging with the games' lexia and framing controls during these moments results in an experiential confrontation with, and a particular understanding of, the represented historical events, through an emergent process of historical revelation.

In light of the previous characterization, it is important to emphasize that the reenactive potential of games such as *Medal of Honor* and *Call of Duty* is inherently limited and indirect. It is limited, in that, as stated by Van den Heede (2019), 'players […] can [never fully] overcome their presentist epistemologies, as is also the case for most other forms or reenactment' (Van den Heede, 2019, p. 88). While the act of playing the D-Day sections of *Medal of Honor* and *Call of Duty* might stimulate

Fig. 1 Screenshot of the level 'Omaha Beach' in the game *Medal of Honor: Allied Assault* (Electronic Arts, 2002). During this level, players virtually partake in the Normandy beach landings on June 6, 1944 as a US American infantry soldier (Copyright: Electronic Arts, Inc)

players to reflect on relatively ahistorical emotions such as fear, they are often not encouraged to reflect on the potentially divergent beliefs, motivations, and values of the involved soldiers as historical actors. In addition, it is indirect in its depiction of conflicts such as World War II, in that gaming as a form of reenactment does not take on the form of a directly mimetic embodied experience, but that of a motoric, cognitive, and emotional engagement with a computer as a fiction-producing piece of technology. Thirdly, as discussed by Pötzsch (2017), games such as *Medal of Honor* and *Call of Duty* tend to invite players to one-sidedly 'ally themselves to soldiers working on behalf of ultimately benevolent forces' (Pötzsch, 2017, p. 160). This means that these games, when considered autonomously, potentially undermine the premises of a multi-perspective approach to history teaching (e.g. Seixas & Morton, 2013, p. 138–167). Regardless, as shown by the player reactions discussed above, the ludified reenactment of D-Day depicted in *Medal of Honor* and *Call of Duty* is actively identified by players as a moment of historical experience, which makes it relevant to discuss it accordingly.

In the strategy games from the *Civilization*-series, players are tasked to '[lead] a civilization from the Stone Age to the Information Age' ("About Civilization VI," 2016). In terms of lexia, the games revolve around a selection of historical world

leaders such as Gilgamesh, Pericles and Gandhi, geographically diverse territories, various types of strategic resources, military units and technological innovations, and much more. In terms of framing controls, the game revolves around the ability for players to engage in long- and short-term strategic planning to, for example, virtually manage cities, set up trade routes, wage war and develop cultural policies that allow the player to successfully lead a civilization. As discussed by Taylor (2003) and Chapman (2013), playing *Civilization* does not only revolve around the need for players to instrumentally become acquainted with how the characteristics of the various lexia are related to one another. By allowing players to gain an emergent understanding of *Civilization*'s underlying model of causality, that is, the game's semiotically contextualized procedural model of how elements such as geography and the availability of resources impact the development of a virtual civilization in-game, *Civilization* can also emergently reveal how such factors have played a role in past societies. As a result, the game presents a model of historical causality that closely adheres to, for example, the one formulated by historian Paul Kennedy in his book *The Rise and Fall of the Great Powers* by Paul Kennedy (1989) (for the entire paragraph, see also: Chapman, 2013, p. 315–318).

As illustrated by the examples above, digital games have a significant potential to ludically convey historical meaning and produce particular understandings of the past. These understandings can both subvert and contribute to the development of processual historical thinking skills. As such, a primary way to further leverage the learning potential of historical digital games lies in the creation of games whose lexia and framing controls allow for productive instances of historical revelation. This approach adheres to the practice of serious game design (e.g. Dörner et al., 2016). An example of this approach is the game *Attentat* 1942 (Charles University Prague, 2017), an adventure game in which players need to uncover what happened to their grandfather during the occupation of Prague during World War II. In this game, mechanics are centred on solving puzzles and critically assessing historical sources.

However, as my focus lies on informal learning environments and digital games as commercially distributed cultural commodities made for entertainment purposes, it is important to mention that many digital games that are explicitly designed to achieve learning outcomes or bring about societal change, often struggle to reach a larger audience in the global games market. In addition, it is important to characterize forms of historical revelation as 'meaning-making *potentials*' (Pötzsch & Šisler, 2019), in that players can, but not always actively do, identify the historical dimension embedded in a game's design. Therefore, it is useful to reflect on other ways in which entertainment-oriented historical digital games can be used to stimulate historical learning. A second way to achieve this goal is to strive towards forms of *integrated historical contextualization.*

As illustrated by Fisher (2011), historical digital games, such as the World War II-themed FPS-games discussed above, lend themselves well for instances of 'tangential learning'. This refers to the potential of cultural tools such as games to 'help (…) familiarize learners with a body of knowledge rather than actively trying to teach them', which can subsequently motivate these learners to further explore this body

of knowledge autonomously (Fisher, 2011, p. 77). As a result, a meaningful way to promote historical learning through commercial digital entertainment games is to add complementary historical materials, such as primary sources, articles and documentary film clips, which can serve to contextualize the historical lexia and framing controls of a game, and the sense of historical revelation they can evoke as discussed above. Examples of this can be found in the aforementioned *Attentat* 1942, as well as games such as *Brothers in Arms: Hell's Highway* (Ubisoft, 2008), and *1979 Revolution: Black Friday* (iNK Stories, 2016). In these games, which respectively represent Operation Market Garden (a military operation in the Netherlands during World War II) and the Iranian Revolution of 1979, players can unlock bonus materials which contextualize what players have encountered through play, by completing a series of in-game tasks and challenges (Fig. 2) (see also: Anderson, 2019). A critical observation that can be made in relation to this approach is that the contextual materials in most of the currently available historical games are factual rather than reflexive in nature. Put differently, these materials tend to be primarily rooted in a reconstructionist historical epistemology, which departs from the assumption that there is a singular and knowable past that exists independently of the observer (Munslow, 2007, p. 1–15). Therefore, a meaningful venue for further exploration into the learning potential of historical digital games lies in efforts to add historical materials that explicitly address aspects that are central to the methodological and theoretical reflection on history as a discipline.

A final example that is worth mentioning is *Assassin's Creed* (Ubisoft, 2007—present), a series of action adventure games that allow players to explore virtual recreations of historical locations such as Italy during the renaissance-period and Paris during the French Revolution, against the backdrop of a fictional narrative. For two of the most recent instalments of the series, *Assassin's Creed: Origins* (Ubisoft, 2017) and *Assassin's Creed: Odyssey* (Ubisoft, 2018), set in Ancient Egypt and the world of the Greek city states during the Peloponnesian War respectively, the game developers created a 'Discovery Tour'-mode. This mode allows players to follow a guided tour through virtually recreated landmark monuments such as the Pyramid of Giza and the Parthenon in Athens. As such, this Discovery Tour-mode can equally be characterized as a form of integrated historical contextualization. However, what sets the *Assassin's Creed*-games apart from previously discussed games is that *Assassin's Creed*'s rules and mechanics often revolve around fighting and exploration activities that are not explicitly imbued with historical meaning. This means that the creators of the *Assassin's Creed*-games have adopted what I will identify as a form of *ludic captivation*: an approach to entertainment-oriented game creation where existing game genre conventions (of for example action games) are used to attract players, who are subsequently invited to explore the historical lexical layer of the game through forms of integrated contextualization, as discussed above.

As standalone cultural artefacts, historical digital games provide several opportunities to stimulate meaningful engagements with history and advance the development of processual historical thinking skills. They can do so by enabling forms

Fig. 2 Screenshots taken from the game *1979 Revolution: Black Friday* (iNK Stories, 2016). In the game, players take photographs of various events during the Iranian revolution of 1979. After taking a photograph, players unlock additional historical materials that contextualize the events that are unfolding in the game (Copyright: iNK Stories)

of *historical revelation* and *integrated historical contextualization*, or by indirectly appealing to players through forms of *ludic captivation*, which can also be meaningfully contextualized historically.

Digital Games as an Expression of a Broader Digitized and Networked Culture

To further assess the potential of entertainment-oriented digital games to advance historical learning and the development of processual historical thinking skills, it is worth discussing digital gaming as a single cultural form in the broader ecosystem of contemporary digitized expression. Over the past three decades, various technologies, services and platforms such as YouTube, Facebook, Wikipedia, Reddit and, specifically concerning gaming, Twitch and other streaming services, have been developed and integrated into socio-culturally contingent everyday practices by individuals, organizations and society at large (van Dijck, 2013, pp. 5–9). As such, it is useful to reflect on how individuals who play historical digital games develop broader (online) 'media repertoires', or 'relatively stable cross-media patterns of media practices' (Hasebrink & Hepp, 2017, p. 367) to engage with history; how, by extension, game companies who create historical games do the same to communicate with their players and other external collectivities; and how history educators can develop meaningful strategies to interact with both players and game companies to advance historical learning in online spaces outside formal education. Even though only little research has been done to answer these questions, the approach aligns with existing efforts in the field of public history to develop proper practices to engage in public history projects in various digital environments (e.g. Leon, 2017).

The first way to advance historical thinking in game-related online spaces lies in the establishment and sustenance of institutionally anchored digital infrastructures that allow for productive forms of historical interaction, also with players and game creators in particular. As stated by Wineburg, historical thinking 'is neither a natural process nor something that springs automatically from psychological development' (Wineburg, 2001, p. 21). This means that historical thinking skills such as, for example, the ones discussed by Seixas and Morton (2013), need to be systematically cultivated. In informal contexts, this often becomes difficult, since informal engagements are fleeting in nature and participants are usually not challenged to systematically re-think their historical preconceptions. A possible approach to exceed these limitations lies in the creation of dedicated online community infrastructures, spread across multiple social media platforms and with close ties to preexisting gaming communities, where constructive historical interactions can be initiated and sustained.

An interesting example of such an infrastructure is r/AskHistorians, a 'portal for public history' spread across multiple social media platforms such as Reddit, Twitter, Facebook and podcasting services such as Soundcloud (AskHistorians, 2011). In the r/AskHistorians community, users are invited to ask historical questions and

engage in discussions with other users. What sets r/AskHistorians apart from somewhat similar communities is that users are required to follow strict guidelines when engaging with others, and that discussions on the community platforms are strictly moderated. For example, some rules that users are required to follow when asking questions and posting answers are to give 'serious on-topic comments only' and to 'write original, in-depth and comprehensive answers [to questions], using good historical practices' (AskHistorians, 2020). Examples of such 'good historical practices' according to the community guidelines include the requirement for users to adequately source answers and avoid 'soapboxing', the practice of asking overtly ideologically charged questions (AskHistorians, 2020). As such, r/AskHistorians offers a compelling starting point to further reflect on how historical thinking skills can be advanced in gaming-related online environments.

At the same time, the establishment of online community infrastructures such as r/AskHistorians also raises questions. In her study on r/AskHistorians, Gilbert (2020) shows how the act of community moderation, which in the case of r/AskHistorians is done by volunteers, can become emotionally taxing, for example, due to the overall culture of Reddit, the host platform of r/AskHistorians. As a self-proclaimed 'bastion of free speech', Reddit continues to serve as a home for a wide variety of racist, sexist and other forms of distasteful and controversial content. More broadly, platforms such as Reddit are often characterized by infrastructural features that actively enable forms of online harassment (Kerr & Lee, 2019). Further questions can be raised about the intended target audience of such communities. For example, r/AskHistorians as a community primarily consists of relatively highly educated, young, white, and male US American users (Gilbert, 2020). These and other questions call for a further investigation into the affordances, constraints and implementation conditions of cross-platform digital infrastructures for informal historical learning.

A second approach to stimulate the development of historical thinking skills in gaming-related online environments lies in adopting a repertoire of event-based initiatives in cooperation with player communities and game companies. Over the past few years, an increasing number of game companies have started to adopt a 'games as service' business model. This model entails that game companies no longer limit themselves to creating games as singular cultural commodities. Instead, they continue to provide additional content and upgrades to their games long after the initial release, in order to keep players engaged with the game and generate additional profits (Kerr, 2017, p. 64–105). The additional content provided by game companies can take on various forms, from cosmetic items such as new virtual outfits for a game character that can be purchased by using virtual in-game currencies, to ludic challenges that can only be completed during a limited timeframe. However, game companies have also started to set up broader in-game events to attract players. A remarkable example of this trend is the live music performance given by DJ Marshmello in February 2019 in the popular game *Fortnite* (Epic Games, 2017), which was attended by millions of players simultaneously (Webster, 2019). In line with this trend, a potential approach to stimulate productive engagements with history in gaming-related online spaces lies in setting up singular events in the context of the distinct 'media repertoires' of the targeted player communities and game companies.

An example of such a type of online event is the AMA or 'Ask Me Anything'. An AMA is an interactive interview-session held on platforms such as Reddit, during which an invited guest is present on the platform for a fixed duration of time to answer questions by community members. An example of such an AMA is the one hosted by James Grossman, the executive director of the American Historical Association (Grossman, 2018). Especially when setting up these events, it becomes important to negotiate the interests of the game companies, in order for history professionals to find a proper balance between community outreach and a retention of scientific standards.

Digital Games as Sites for Learning in History Classrooms

Concerning the use of historical digital games in formal history education, several of the observations made above retain their relevance. Also in history classrooms, the added value of historical digital games lies in, for example, their potential to evoke a sense of historical revelation. However, as formal education is characterized by unique possibilities and constraints, it is relevant to discuss what educators should take into account when integrating digital games into their teaching. In what follows, I will highlight a number of general prerequisites for the use of digital games in the (history) classroom, based on the available literature. I will also elaborate on how to discuss historical digital games in the history classroom in a deconstructionist manner, by highlighting a number of 'mediating layers' that inherently shape a commercial digital game's historical referentiality.

When reflecting on how to integrate digital games in the history classroom, several essential contextual factors need to be taken into account. Firstly, it is important to emphasize the central position taken up by individual teachers, as they, within the confines of (nationally) determined history school curricula, are considered to be key agents of change in formal education (Teo, 2008). In light of this observation, digital games need to be identified as only one possible tool in a teacher's instructional toolkit. When engaging in instructional design, teachers need to determine for themselves whether or not the use of digital games fits their teaching style. This observation is based on studies into the perceptions of students in secondary education about the 'authenticity' of teachers. As demonstrated by De Bruyckere and Kirschner (2016), secondary school students consider it to be significant that teachers put a personal stamp on their teaching practice while staying true to their personality. Secondly, it is important to discuss the perceptions of students regarding the usefulness of digital games in education. Bourgonjon et al. (2010) demonstrate how students can be rather sceptical about the use of digital games in class, as they consider gaming to be a leisure activity. The preference of secondary school students to use digital games in classroom settings depends on several factors: (1) the perceived usefulness of digital games, i.e. whether or not digital games can provide clear opportunities for learning; (2) the perceived ease of use of digital games, i.e. whether or not students believe they are capable of successfully interacting with a digital game; and (3) the

extent to which students have prior experiences with playing games. Taking these factors into account, it becomes important for teachers who want to use digital games in history classes to: (1) render explicit the added value of the adopted digital game in the context of the instructional design; (2) schedule in sufficient time during the instruction for students to learn how to play the game; and (3) take into account the varying levels of experience students have with playing games, and modify the instruction accordingly. A final contextual factor that teachers need to take into account is whether or not they can access the necessary technological infrastructure to properly integrate digital games into their teaching.

In light of these prior observations, several general strategies can be recommended when integrating digital games into the history classroom (McCall, 2016; Schrier, 2014). Firstly, teachers are advised to develop a broader lesson plan, in which the use of a digital game supports the achievement of a set of clearly defined learning outcomes, for example concerning the advancement of historical thinking skills. Secondly, teachers are advised to let players adopt a reflective approach while playing a historical digital game in class. It is very easy for students to become engrossed in the activity of playing the game itself, without making further observations. McCall (2016) recommends adopting a reflective play style, where students are asked to actively reflect on their activities and make notes, for example when experiencing moments of historical revelation. This requires the teacher to act as a coach and organize a moment of debriefing at the end of the instruction to establish explicit connections with the learning goals. Thirdly, teachers are encouraged to discuss historical digital games as distinct interpretations of the past, like other forms of historical representation. Here, I want to refer back to the notions of 'procedural rhetoric' (Bogost, 2007) and semiotic contextualization (Sicart, 2013) discussed above. Digital games can be characterized as ideologically underpinned, mediated and performative representations of (fictionalized and/or presupposed) aspects of the past that aim to render the past meaningful through form-specific means (Elliott & Kapell, 2013; Uricchio, 2005). In the case of entertainment-oriented digital games, this is done to achieve commercial success, which means that historical accuracy often only plays a secondary role. I will further illustrate this below.

In the context of the history classroom, the potential of historical digital games to allow for moments of historical revelation can be seized to achieve several goals. On the one hand, it can be adopted to shed light into past events. For example, if teachers want to teach about the Iranian Revolution of 1979, they can let students reflexively play the aforementioned game *1979 Revolution: Black Friday*, and let them learn more about the specific actors and events that led up to the revolution, as this is depicted both in-game and through forms of integrated historical contextualization (Fig. 2). However, on the other hand, digital games can also be used to render explicit various methodological and theoretical considerations that are central to history as a discipline (e.g. Schrier, 2014). To accommodate the latter approach, I will illustrate how historical digital games can be discussed as representations that are inevitably shaped by, for example, game design and marketing considerations as 'mediating layers', in a deconstructionist manner (Munslow, 2007). I will do so

by briefly discussing the games from the *Assassin's Creed*-, *Medal of Honor*- and *Battlefield*-series (Electronic Arts, 2002—present).

As highlighted above, the games from the *Assassin's Creed*-series allow players to freely explore virtual recreations of historical locations, which, at least according to the marketing of these games, have been rendered in great detail. However, when the developers of *Assassin's Creed* create a new virtual historical environment, they also actively adapt it to accommodate various play activities. For example, a central activity in *Assassin's Creed*-games revolves around climbing famous buildings and other structures. Especially in the earlier games in the series, climbing to the top of these buildings or structures required players to solve spatial puzzles, as they needed to find the proper trajectory to reach the top of the structure. Therefore, the architecture of famous buildings would be actively modified to integrate these spatial puzzles. More generally, the in-game environments of every *Assassin's Creed*-game are actively adapted to accommodate combat-centred gameplay, resulting in buildings that are often more spacious than they were in reality. In history classrooms, it can be very productive to discuss how these, and other game design considerations actively impact the historical dimension of the game. This can for example be done by letting students explore the virtual world of an *Assassin's Creed*-game in groups and letting them take screenshots of the monuments and other buildings in it. The students can then compare these screenshots with other primary and secondary visual sources, to let the students observe in what ways the original architecture has been modified in the game.

Similar critical assessments can also be made about the marketing accompanying commercial digital games. For example, when game publisher Electronic Arts released the FPS-game *Battlefield V*, Electronic Arts, 2018 set during the World War II, in November 2018, a heated online discussion erupted over how the game represented 'Operation Gunnerside', an operation in Norway in 1943 during which a team of Norwegian commandos sabotaged a German-controlled production facility for heavy water, an important component for the production of nuclear weapons, near the Norwegian town of Rjukan (Wieviorka, 2017, p. 136–138). The online backlash resulted from the fact that in *Battlefield V*, players can sabotage the heavy water plant while playing as a female Norwegian resistance fighter, whereas the historical operation was carried out by a group of male operatives. Teachers can engage with this observation and the subsequent backlash in several ways. Firstly, they can use the scenes from *Battlefield V* depicting 'Operation Gunnerside' as a starting point to further discuss the role played by women in the resistance across occupied Europe, and in society more generally, during World War II (e.g. Buchheim & Futselaar, 2014; Campbell, 2013). On the other hand, they can use these scenes to critically reflect on why the creators of the game made the choice for a female protagonist in the first place. Here, it becomes apparent that, apart from efforts on behalf of Electronic Arts and game developer DICE to contribute to inclusivity and diversity (Chalk, 2018), this decision was made for marketing reasons, to make the game, which belongs to a genre traditionally purchased by male players (i.e. the FPS), more appealing to female players. *Battlefield V* was released following the success of other online FPS-games such as *Overwatch*, Blizzard Entertainment, 2016 which was able to attract

significantly more female players than its competitors (McKeand, 2017). Similar changes can be observed when looking at other historical digital games that have represented 'Operation Gunnerside'. In *Medal of Honor* (Electronic Arts, 1999), players can equally destroy the heavy water plant near Rjukan. However, they do not do so while playing as a male Norwegian resistance fighter either, since they carry out the mission as a male US American secret operative. This change was equally made for marketing purposes, to appeal to US American consumers. More generally, when discussing historical digital games that were made for entertainment purposes, it is significant to reflect on how marketing considerations impact how history is ludically represented. Teachers can do so by letting students compare scenes from games such as *Medal of Honor* and *Battlefield V* with other primary and secondary sources about the historical events that are depicted in both games.

Conclusion

In this chapter, I explored three ways in which historical digital games, also in particular the ones that are made for entertainment purposes, can contribute to meaningful engagements with the past and the advancement of historical thinking skills. Firstly, concerning digital games as standalone cultural artefacts, I highlighted how they have the potential to evoke a sense of historical revelation, or captivate the historical fascination of players indirectly. I also discussed how this potential can be further enriched by adding various contextualizing primary and secondary sources to a game. Secondly, I highlighted how digital games can be viewed as a single cultural form in a broader contemporary ecosphere of digitized expression, and how historical learning can be promoted in this ecosphere. Even though further research on this topic is required, I argued that this can be achieved by either setting up institutionally anchored, cross-platform digital infrastructures that allow for sustained and productive historical engagement online, or by organizing singular historically-themed events, in active collaboration with players and game creators. Thirdly, I discussed some general conditions for the successful use of digital entertainment games in the classroom, as well as specific ways in which this can be done, for example in light of a deconstructionist approach to history teaching.

Based on these observations, a number of recommendations can be formulated, in particular for game developers, (public) historians and history educators. For game developers, a primary venue for further exploration lies in creating digital games that allow for innovative forms of historical revelation and contextualization, especially in light of the advancement of historical thinking skills. Here, (public) historians can play a role too, since they can contribute to designing historically meaningful gameplay experiences or providing context to what is depicted in a game. Secondly, for (public) historians, an important venue for further research lies in studying existing cross-platform online game communities, as well as in exploring how to set up new ones or organize historical events in collaboration with game

creators and players. Finally, for history educators, the challenge lies in designing forms of instruction that leverage the potential of digital games to foster historical learning. Here, the discussion above provides important starting points.

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