

# **From Playing to Learning: Using the Learning Principles of Video Games to Rethink Classroom Literacy Instruction**

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## **Abstract**

*While videogames have not been widely embraced in the classroom (e.g., Halverson, 2005; Rice, 2007), researchers (e.g., Abrams, 2009; Abrams, Gerber, & Burgess, 2012; Gee, 2007; Gee & Hayes, 2010) have made compelling arguments for the connection between videogames and literacy. There is now an emphasis on the variety of practices associated with digital literacies (Lankshear & Knobel, 2008; Warschauer & Ware, 2008), including elements of popular culture such as videogames. In the past, literacy revolved around reading printed text but now includes information presented in any format, including videogames. Today's teachers must consider ways to make literacy and learning relevant to students. One source of information for rethinking classroom literacy instruction comes from the learning principles inherent in videogames (Gee, 2007).*

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There is a need to emphasize “the plurality of digital literacy” due to its diversity (Lankshear & Knobel, 2008, pp. 1-2). The view of literacies as plural also includes the variety of competencies and practices associated with digital literacies (Warschauer & Ware, 2008). In the past, literacy revolved around reading printed text but now includes information presented in any format, including videogames. New literacies are being defined in terms of social practices or processes, and the definition of what constitutes text has expanded (Hagood, 2008). As a result, texts are experienced through technologies and formats of the time, which leads to literacy development taking place both socially and culturally (Hagood, 2008).

In regard to videogames, Gee (2007) presents thirty six principles found in videogames

that relate to literacy and learning. While each of Gee's principles is distinct, there are overarching elements common to the principles, such as the following: the scaffolding within videogames, such as directions that the game provides just as the gamer needs to know how to use the game controller for a new task; an understanding of the connections between and among signs/symbols within the videogame, including images and words; the active role of the gamer, who must continually think about and make decisions while playing the game; the learning that takes place as a gamer experiments with game controls and tasks and learns more about what his or her character within the game can/cannot do; understanding that there are numerous paths within the videogame, rather than just one way to progress; and discovering abilities and information as a result of practice within the videogame and then applying and transferring that knowledge in other gaming contexts.

Observations of and discussions with students who are also gamers show how videogames can encourage learning and facilitate reading and writing (e.g., Abrams, 2009; Gee & Hayes, 2010; Gerber, Abrams, Onwuegbuzie, & Benge, 2014; Johnson, 2005). While some classroom teachers may consider videogames void of educational value, as evidenced by the lack of inclusion of videogames within the classroom (e.g., Halverson, 2005; Rice, 2007), compelling arguments exist for the connection between videogames and literacy. In his book about the ways in which pop culture may promote thinking and learning, Stephen Johnson (2005) presents an interesting example of learning that takes place in videogames. Johnson recounts showing the videogame *Sim City* (Electronic Arts, 2003) to his 7-year-old nephew, who after a brief introduction to the game suggested that Johnson should lower the industrial tax rate. Johnson goes on to say that this comment indicates that his young nephew was able to recognize and understand the relationship between taxation and industrial development without being explicitly taught the information.

In terms of peripheral learning and literacy practices that relate to videogames, one example comes from the game *Age of Mythology* (*AOM*; Ensemble Studios, 2002). Gee and Hayes (2010) present the story of seven-year-old Sam who began playing *AOM* and "was very much in charge of his own

learning and saw to it that his game play resulted in mastery on his own terms” (p. 22). Sam did not view game play as separate from reading and writing but instead connected *AOM* to his reading and writing activities. Sam and his classmates also received support from parents who encouraged them to read and write about mythology. In Sam’s case, gaming was about “production, participation, and authorship, not passive consumption” (Gee & Hayes, 2010, p. 25). In this case, the videogame supported Sam’s interest in reading myths and writing his own mythological stories.

Videogames also can contribute to students’ understanding of content information and academic vocabulary. Abrams (2009) states that “students learned vocabulary or historical information as a result of playing particular videogames, experiences that later enabled the students to understand and relate to the material when it was discussed in the classroom” (2009, p. 339). Abrams shares the example of a student who hears the word ‘brackish’ in school and is able to define it based on his familiarity with the geographical feature Brackish Lake in the videogame *Gears of War 2* (Epic Games, 2008). These examples provide insight into the ways in which videogames may relate to literacy and learning.

As a former middle school teacher, I am familiar with the popularity of videogames among adolescents; over 90% of teenagers in the United States spend time playing videogames (Lenhart, Kahne, Middaugh, Macgill, Evans, & Vitak, 2008; NPD Group, 2011). During a conversation with my preservice teachers regarding the role of technology in the classroom, I listened to my undergraduate students’ views about technology and thought about the ways in which they supported their views based on their personal experiences with and preferences for/against technology. As one student explained, technology is a consistent presence in her life; this student shared examples of how she plays online games with her cousins who live in another state while they communicate with one another through headsets while playing. Other undergraduate students voiced support for their use of technology to connect with others through venues other than phone calls or texts. While a few undergraduate students expressed their disinterest in videogames – one student in particular said that the graphics give him a headache – the majority held favorable views of technology and popular culture as enjoyable elements of

their lives and further expressed that they would have been more interested in school (i.e., K-12) had their teachers incorporated these elements into the classroom. Listening to their views inspired me to personally explore the learning principles in games; while I was familiar with Gee's (2007) concepts of learning and literacy within videogames, I had not previously explored them myself. I decided to play a videogame to completion as a way to further explore and reflect upon the learning principles in games and as a way to reflect upon and possibly rethink my views of videogames in light of the information I had read regarding learning and gaming.

I selected the game *Red Dead Redemption* (Rockstar Games, 2010) because it is set in the American Wild West of the early 1900s. I chose the game primarily because I enjoy reading historical fiction and thought that the game may be similar to that genre. One disclaimer about this game that is important to mention is its rating of M for mature; this would not be a game that I would ask middle school students to play or that I would project on a screen in my classroom. However, it is equally important to understand the "gamer's experience with the game rather than just the content of the game itself" (Abrams, 2009, p. 337). I am not advocating that teachers bring videogames portraying violence, profanity, or other questionable content into the classroom. At the same time, I am suggesting that educators understand the potential for learning inherent in videogames and that educators recognize games, including those some may deem 'inappropriate' that may nonetheless be played by students outside of school, as springboards for literacy activities within the classroom.

My own game play was at times arduous as I learned to navigate with the controller and tried to figure out what I was supposed to do within the game. At other times, though, I lost track of time while playing and enjoyed being in the setting and exploring the digital world. Thinking back to Gee's (2007) principles of learning inherent in videogames, I was able to make several connections with the learning principles and my own experiences playing a videogame. I also thought about the ways in which these principles of videogames can and should relate to learning in the classroom. Gee presents the *active, critical learning* principle, which refers to the way that the features and environment of videogames lead

to active learning, as opposed to passive receipt of information. In a videogame, nothing happens until the gamer takes action; the videogame requires active cognitive engagement from the player, who must decide whether to move forward, to jump, to hide, to pick up an object, and so on. In the classroom, we want to encourage our students to be actively engaged in critical thinking throughout the class period and school day. Rather than having students passively receive information from a lecture, teachers need to consider ways in which to engage students and to encourage the critical and creative thinking that promotes learning. This may mean project-based learning in one classroom or group discussion in another; the point is for teachers to work toward creating a learning environment within the classroom that contributes to students' active learning.

Another learning principle found in videogames is the *psychosocial moratorium principle* (Gee, 2007). This principle refers to the way in which videogames provide a space within which gamers can take risks without the worry of severe real-world consequences. In a videogame, a gamer can jump off a ledge in search of a possible hidden world; if such a hidden world does not exist at that location in the game, the worst that can happen is that the gamer loses a life within the game or has to restart the videogame level. Since real-world consequences are lowered in videogames, gamers are able to take risks beyond those that they may attempt in real life. When we think about students in our classrooms, we as teachers need to consider ways that we can support students to take chances without the constant fear of failure. I think of my own students, both middle school students and college students, who often seem hesitant to begin work on a project or activity, instead asking questions like, "Is this what you mean?" or "Is this right?" With the pressure of having grades attached to most work and knowing that standardized testing is around every corner, students may not feel able to take risks in ways that stretch their thinking or promote creative expression because they fear the real-world consequences of being wrong. The *psychosocial moratorium principle* in videogames provides teachers with a reminder of the importance of creating a positive classroom climate where judgment is withheld and a sense of failure is removed so that students are able to take risks as they explore, think, and learn.

Gee (2007) mentions the *identity principle* in which there is a relationship between a gamer's identity and the virtual identity that the gamer takes on in the game. I experienced this at times in my game when I had choices, such as whether to skin a deer. My "real life" personality would not be interested in that activity at all; my virtual identity needed to engage in the activity to advance in the game. According to Gee, "learning involves taking on and playing with identities" in ways that allow the learner to make choices and to consider the connection between new and old identities (p. 222). In the classroom, we want students to consider their potential and to explore new identities that they may not have previously considered, such as the identity of *mathematician* or *scientist* or *author*. Identity is part of learning and in videogames allows for choice and reflection. In our classrooms, we must consider ways to provide students with choice and to encourage reflection as they explore their abilities and their identities as learners.

Gee (2007) also mentions the *regime of competence* principle which involves the gamer having opportunities to operate within his or her ability while still being challenged and pushed to the "outer edge" of competence (p. 223). At the beginning of *Red Dead Redemption*, I was focused on trying to learn the controls and figure out what I was supposed to do in the game. The bottom left corner of the screen had a compass, with a white shape indicating where John Marston (my character) was within the game and a yellow dot indicating where he needed to go. At the beginning of the game, I approached a building and saw a yellow "x" on the swinging doors. Once inside this building, a man called toward my character and said that some men had hired him as my guide. The man moved toward a door and the directions, "Follow Jake to the horses," appeared on the screen. Marston and the man approached the horses and the instructions, "Mount your horse," appeared on screen. Then the text, "Accompany Jake to Fort Mercer," displayed on the screen, along with the hint, "Hold RB to slow and stop your horse." While I was playing *Red Dead Redemption*, the *regime of competence* principle was at work, guiding me through the game by providing little pieces of information and support to help me overcome challenges and make progress. In the classroom, we must scaffold instruction so that our students have opportunities

to experience achievable challenges. Videogames provide scaffolding in ways such as providing information “on demand and just in time” (Gee, 2007, p. 226), meaning that the gamer receives information right when it is applicable and needed to overcome a challenge. In our classrooms, though, we sometimes provide a great deal of information at one time and then expect students to identify what is important and to recall and apply the information at a later point in time. Videogames provide a different model for teachers, one in which students actively think and learn while receiving pertinent information and guidance right when it is needed and immediately applicable.

I also had a personal experience with *Red Dead Redemption* (Rockstar Games, 2010) that led to learning and provided opportunities for reading and writing. At one point during game play, I (my character) went to an area called Hennigan’s Stead. My character was able to collect flowers called Wild Feverfew that grow near this location in the videogame world. The flowers can be used within the game to reduce headaches and fevers. Out of curiosity, I searched online to see if it was a real flower. I found the Latin name for the flower, in addition to information regarding where it grows best, how to tend to it, and so forth. I found pictures of the flower online; the photographs are similar to the way the flower looks within the videogame. My online search for information about the flower led me to message boards for gardeners, online almanacs, and other genres of literature. This is just one example of how videogames allow gamers/students to identify areas of personal interest that may lead to peripheral learning and support literacy.

My own experiences playing a videogame parallel those presented by Johnson (2005) and Gee and Hayes (2010). Other examples of ways that videogames may connect with Gee’s (2007) principles of literacy and learning can be seen in the use of *World of Warcraft* (Blizzard Entertainment, 2004) to create a school curriculum (Sheehy & Gillespie, 2011) and the increased use of *Minecraft* (Mojäng Aktiebolag, 2009) in classrooms (e.g., Barack, 2013; Jenkins, 2014). More information about the use of *World of Warcraft* and *Minecraft* in the classroom can be found at [www.wowinschool.pbworks.com](http://www.wowinschool.pbworks.com) and at [www.minecraftedu.com](http://www.minecraftedu.com), respectively.

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Within the school setting, teachers and students can learn from and work with one another to develop digital competence that may support content learning (Søby, 2008). In this way, both teachers and students can share their knowledge and learn from one another as both parties develop their own skills. As teachers, we can strive to create and maintain a culture of digital learning within our classrooms (Søby, 2008). For example, teachers and students often use technology at home in ways that are not reflected in the school curriculum (Søby, 2008). In addition, students may engage with media as cultural forms, rather than as technologies, when they are at home (Buckingham, 2008). It is necessary for schools to bridge the gap between in-school and out-of-school literacy in order to create a digital learning culture (Hagood, 2008). Classroom literacy practices can expand by recognizing forms of literacy students enjoy and pursue outside of school and by incorporating those out-of-school forms of literacy into the current classroom literacy practices. By reflecting upon the learning principles found in video games, teachers can rethink classroom literacy instruction.

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