Find Out Who You Really Are: Adult Learning In Virtual Worlds

Elisabeth Hayes
University Wisconsin-Madison, USA

Recommended Citation

Find Out Who You Really Are: Adult Learning In Virtual Worlds

Elisabeth Hayes
University of Wisconsin-Madison, USA

Abstract: Videogaming is a widely popular pastime in present society, particularly among young adults. Identifying the ways that these games support learning can broaden our understanding of how adults acquire knowledge, explore new identities, develop new skills and abilities. This paper analyzes one computer videogame to illustrate attributes of learning in a game-based environment.

Introduction: The Significance of "Virtual Learning"

Various forms of computer-based technologies are rapidly becoming a part of many adults' lives. The use of computer-based technologies in the provision of adult education is receiving considerable attention, both from practitioners and scholars. There is also a growing body of literature on how adults use computer-based technologies such as the internet, chat rooms, MUDs, and listservs as a means of informal or self-directed learning (e.g., Pew Foundation, 2000) and transformational learning (Turkle, 1995; Smith & Farrell, 2001).

A question of particular relevance for adult educators is how various attributes of virtual environments can support learning, in ways that may be similar as well as different from more conventional "real-life" classrooms and other contexts. Our knowledge in this area remains sketchy. A limitation of much prescriptive literature on computer-mediated instruction, for example, is the tendency to use existing theories to understand and facilitate learning in these new contexts, despite considerable evidence that computer-based technologies might provide opportunities for and even require rethinking our beliefs about knowledge acquisition, intelligence, culture and the divisions we make between virtual realities and what we (used to) call the "real world"(Pesce, 2000).

To better understand learning in computer-mediated contexts, this paper will examine learning in one particular setting: computer videogame playing. While videogames might seem marginal to our understanding of adult learning, I will argue that videogaming offers a valuable and intriguing context for developing new insights about adult learning in virtual environments, in part exactly because they challenge our current assumptions about learning. In 2001, despite a general downturn in the U.S. economy, videogame playing revenues reached a record $9.4 billion, far exceeding movie box-office receipts, which hit a record $8.35 billion (Borden, 2002). While the stereotypical game player is portrayed as a young, white, male computer "geek, " in reality videogamers encompass an increasingly diverse cross-section of the population. According to a gaming industry trends survey, 42% of computer game players in 2000 were over the age of 36 (Poole, 2000, p. 6). Even the gender gap among gamers is rapidly diminishing. According to some statistics, in the United States women now comprise 43% of all gamers (ibid, p. 145), though the kinds of games played by women tend to differ from those played by men (Prensky, 2001) The popularity of videogaming is not confined to the Western world; in some European and Asian countries, videogames have become even more of a national obsession. In South Korea, two million people, out of 46 million, have an active account for *Lineage*, one of many interactive online computer games (Levander, 2001).

Related Research

Very little research has explored the nature of learning associated with videogaming. Videogames are often characterized as violent, sexist, and otherwise perpetuating negative values and behaviors. The vast majority of studies have focused on the potential impact of these characteristics on children and adolescents' attitudes and behaviors, with generally inconclusive results. This focus on violence has detracted from the attention given to the actual learning process involved in videogaming. As Gee (2002) argues, videogames are typically very challenging, requiring considerable skill, strategy, and mental prowess. Furthermore, they engage players in a significant amount of learning, as players explore new worlds, solve problems, experiment with different strategies, and even take on new identities (Gee, 2002; Turkle, 1995). In fact, videogames must be designed to support such learning, in a way that keeps the game interesting and challenging but not overly frustrating.

Prensky (2001) suggests that adult education and training could be greatly improved by the incorporation of the ideas and technologies of what he calls "digital game-based learning." Prensky argues that videogame designers are more "learner-focused" (p. 99) than most adult educators, due to the pressure to create games that will be appealing and competitive in a rapidly expanding market. Furthermore, he argues that the learning preferences and abilities of younger adult learners have been shaped by their experiences with videogaming. Prensky proposes a number of ways that these young adults might differ from those of the "over 40" generation. For example, he cites William Winn, director of the Human Interface Technology Laboratory at the University of Washington, who claims that children raised with computers "think differently than the rest of us. They develop hypertext minds. They leap around. It's as though their cognitive structures were parallel, not sequential" (cited in Prensky, 2001, p. 44). Prensky describes various examples of digital game-based learning already used in contexts such as business and the military, and proposes ways to make this approach to adult education most effective.

Prensky is vague about the extent to which his assertions about videogame-based learning are drawn from empirical study or experience with videogaming. Most seem to be inferred from attributes of videogames or drawn uncritically from other sources. In contrast, Gee (2002) has used his own experience as a gameplayer to describe in more detail the learning "principles" associated with popular "shooter" games such as *Tomb Raider* and *Deus Ex*. He identifies 31 such principles, which are reflective of situated and sociocultural theories of learning.

The present study contributes to this emerging line of scholarship, and builds on Gee's research in particular, through an investigation of videogaming in a different genre. Some of the most popular games, commonly nicknamed "god games," center around the creation and control of characters and events in fictitious worlds, often with unpredictable consequences. Unlike the shooter games, god-games, while they can include violence, often place more emphasis on problem-solving, plot development, and character interaction (Poole, 2000). Thus, they may offer different kinds of learning opportunities, perhaps those that might have particular relevance for adult learning more broadly. For example, success in such games might depend less on speed of cognitive processing or reaction time (which tends to decrease with age) and more on the ability to identify salient information or envision alternative strategies. Furthermore, such games attract a wider audience than shooter games, which tend to appeal more to adolescent boys and young adult men.

Black and White: An Example of Learning in a Virtual World
        In this paper, I will base my discussion on an in-depth analysis of one "god-game," *Black and White* (*B&W*). *B&W* is currently one of the most popular videogames for the PC ("Top-Selling Games," 2001). It incorporates a number of innovative attributes that make it of particular interest: an open-ended narrative structure, giving the player considerable choice of which actions to pursue; a relatively complex environment; interpersonal relationships with virtual beings; and an ongoing series of tasks that require players to grapple with ethical decisions. *B&W* draws players into the virtual world of Eden, a world with spectacular landscapes, busy villages, and intriguing puzzles. The player, summoned by a prayer from a distraught villager, an inhabitant of Eden, becomes an omnipotent deity whose power ultimately depends on the combined belief of his or her worshippers. The player can generate such belief through acts of benevolence (e.g., supplying a village with extra food) or vengeance (e.g., smashing the homes of nonbelievers). Thus, players are confronted with the moral dilemma at the heart of the game: do you choose to do good, evil or some combination of both? This dilemma is reflected in the game's title and the provocative suggestion in the *B&W* strategy guide that the player will "find out who you really are" as a result of her or his choices.
        As Gee suggests (2002), perhaps the best way to develop an in-depth understanding of videogame learning is through first-hand experience. As an aside, most critiques of videogaming come from adults who have no firsthand experience with games, and who seem to have no interest in asking gameplayers to share their own perspectives on the experience and outcomes of gameplaying. My analysis draws on my own hours of playing *B&W* (an experience which convinced me of the intensity – and frustration – of learning to play videogames as a middle-aged adult!). I also incorporate other relevant sources of information, specific to *B&W* as well as more generally related to videogaming, such as chatroom discussions, websites, strategy guides, gaming magazines, and other publications.

Learning in Virtual Worlds: Some Key Attributes
        Learning in the world of *Black and White* takes many forms and is supported by the virtual environment in both explicit and implicit ways. An exhaustive list of its attributes would indeed be exhausting, so instead I will describe a few illustrative examples.
Identity: Learning to be a God
        A father, mother and child play on a white sandy beach, a seemingly idyllic scene which quickly transmutes into an imminent tragedy. The child runs off and dives into the sparkling blue waters of the shoreline, waters that conceal a swarm of murderous sharks. The parents scream and fall to their knees, praying for the rescue of their terrified child, who realizes its danger too late. Miraculously, you scoop the child out of the water and return it to the parents, who rush back to their village, praising the benevolence of a newly manifested deity - you. Thus, you are born as a god in this new world, and your initial learning tasks are directed towards mastering the skills associated with this **new identity**. This opportunity – indeed, requirement - to take on a new identity is crucial for establishing a purpose and motivation for learning in the context of the game. What makes this identity "play" particularly effective as a motivator is, first, that it is **immediate**; the player/learner is established as a significant contributor to *B&W*'s narrative from the very first moments of the game. Second, the identity is **compelling.** Indeed, what identity could be more alluring and ego-gratifying than that of a god? The experience of saving a drowning child heightens motivation to master more challenging tasks by confirming the

player/learner's sense of self-efficacy and building a feeling of responsibility to the other inhabitants of this virtual world.

Nonlinearity: Make the Path by Walking (or Right-Clicking)

As you enter the world of Eden, you are immediately offered choices – different directions to pursue, different ways to interact with villagers and objects, different ways to accomplish tasks and master new skills. The two Advisors appear and almost immediately offer you conflicting advice about how you should behave (nice and not so nice). As I noted above, a distinctive attribute of *B&*W is its open-ended narrative structure, that gives the player considerable freedom to explore, experiment, and otherwise shape the direction of the game's events. In fact, in the development of the game, a plot was almost an afterthought. The game-makers acknowledge that their first interest was in creating the world of *B&W* and its inhabitants, realizing later that they needed a narrative to keep the player engaged (Leach & Bravery, 2001). Learning opportunities are offered in only a loosely sequential manner. For example, initially the Advisors provide some instruction in how to move around the world using the mouse and keyboard, and some simple tasks are provided for the further development of skills. However, those who desire highly explicit, linear and sequential instruction quickly will be frustrated. The virtual environment is designed in a way to allow players to roam freely, discovering new information and learning skills through chance encounters and experiences, in a very **nonlinear** fashion. Opportunities for **accidental learning** are intentionally built into the game, as contradictory as that might seem. The freedom to experiment allows the player/learner to discover, for example, that they can impress villagers by planting trees in the middle of their village or picking them up and depositing them in a new location. **Anticipatory learning** is also important. At intervals throughout the early part of the game, an image appears on the screen with related text that offers information useful for future tasks, such as influencing villagers or navigating new lands in the virtual world. While this information is typically not immediately applicable and may even be forgotten, it alerts the player/learner to future tasks and the availability of different strategies

Multimodality: "Reading the World"

The nonlinear learning process in the game is successful to a great extent because of the many ways in which information and learning opportunities are embedded in the virtual environment. Learning does not take place primarily through imbibing abstract textual information. Brief forms of text are integrated into the environment, often attached to the objects they explain. For example, in the early part of the game, signposts marked with a "?" can be clicked to yield brief reminders about objects, people, or buildings nearby. Player/learners must come to "read the world;" i.e., learn to **interpret signs, symbols, and in general the environment** around them in order to complete challenges and gain more power in the game. Empty scaffolds, auras around villagers, the design of buildings, the shape of icons that represent potential "miracles" all communicate meaning, and the player/learner must both learn to interpret this environment and then use these interpretive skills to engage in continued learning throughout the game. The villagers erect flags at the Village Store to indicate their desire for things such as wood, children and protection. Vibrant scrolls hover in various places throughout the landscape, and when clicked, reveal prayers from your Villagers or offer quests that you can choose to undertake. Much learning takes place as the player/learner **interacts with the virtual world**. While such learning can be challenging for those used to acquiring information from

texts alone (even the manual is replete with pictures and diagrams!), this process is engaging in visual, kinesthetic, and auditory ways. Furthermore, the sheer **aesthetics** of the environment encourage continued engagement in learning (the aesthetic quality of videogames such as *B&W* is reflected in the growing interest in videogames as art forms).

Challenge: Learning Isn't Child's Play (Or is It?)

While *B&W* offers a compelling identity, plenty of freedom, and a stimulating environment, these attributes cannot conceal one quickly evident fact: learning to become an adept player in this virtual world is not an easy task. To the contrary, it is VERY difficult, often frustrating and sometimes to the point of exasperation. Mastering even the simple navigation tools requires periods of **extended practice** and **repetition**. The player/learner must play the game on a regular basis to develop and sustain a level of comfort and ease with routine tasks; mastering challenges and completing quests require longer periods of **continuous engagement**. I tried to learn the game by playing sporadically, and quickly discovered how ineffective this approach was for lasting learning. Not only did I lose my skills between game-playing sessions, I began to lose enthusiasm since I had to do so much re-learning whenever I tried to play. The large investment of time and attention required to master games such as *B&W* not only suggest the complexity of the games themselves; it also indicates an aspect of learning that adult educators (and learners) often try to ignore. Learning, at least on more than a superficial level, requires a degree of sustained commitment and extended duration that runs counter to the current demand for learning opportunities that are "convenient," "efficient," "condensed," and otherwise designed to save time and effort rather than require it.

Learner as Teacher

A particularly unique aspect of *B&W* is the Creature. Early in the game, the player/learner has the chance to choose a Creature – in the form of either tiger, ape, or cow – who becomes the player/learner's servant. When first obtained, the Creature is young and its character unformed, and a key task of the player/learner is to train the Creature to serve her/his bidding. This is not a particularly easy task, since the creature has a mind of its own (one that is based on artificial intelligence, but nonetheless a mind that makes its behavior unpredictable). How and what the player/learner chooses to teach the creature shapes its personality and even appearance. A Creature who is taught through the use of punishment becomes aggressive and destructive, while a creature treated with kindness becomes gentle and compassionate. Perhaps the most complaints about *B&W* on game websites and listservs focus on the difficulties of training the Creature to follow its master's bidding. Creatures have a tendency to wander off and get into trouble, if not monitored carefully, especially when they are young (eliciting comparisons to the trials of parenting a typical two-year old child).The idea that "teaching is the best form of learning" has become almost a truism in adult education, and indeed teaching the Creature gives the player/learner considerable opportunity to develop new skills, as well as patience. Commitment to this learning is enhanced by the potential for the Creature to serve the interests of the player/learner (thus providing a **purpose for the relationship**). Additionally, the Creatures were deliberately designed to induce an **emotional response** from the player. At first, they appear child-like and vulnerable, with large heads and soft features. The Creatures were designed to express a wide range of emotions, with the intent of inspiring similarly affective reactions from player/learners. The game developers placed such emphasis on the significance of **empathy** as central to the teaching/learning relationship that they imbued Creatures with a form

of artificial intelligence that allows them to build mental models of the player/learner's apparent goals and past behavior, as a basis for anticipating their master's desires.

Contributions to Theory and Practice

Some of the learning principles derived from videogaming have obvious similarities to existing principles advocated in the adult education literature, but videogames offer vivid examples of how these might be actualized in nontraditional ways. Some of the principles are more novel, and in some cases contradict existing assumptions about creating conducive environments for adult learning. In the conference talk, I will elaborate on these similarities and differences, not with the goal of proposing a theory of virtual adult learning, but rather as a starting point for future theory development and refinement. In addition, I will suggest ways in which videogaming can be used as a tool for self-reflection – a "playful world" (Pesce, 2000) in which learners can gain more insight into their preferences and approaches to learning, as well as experiment with new forms of knowing and being: "[In the new era] We need a playground where we can explore without fear of disaster. In short, we need an imagination, a shared digital imagination, where we can experiment with the forms of the future" (Pesce, 2000, p. 10).

References

Black & White [Computer software]. (2001). Lionhead Studios Ltd.

Borden, M. (2002, March 4). X-treme profits. *Fortune, 145*(5), 149-152.

Evans, D. (2001). *Black & White* [Strategy guide]. Roseville, CA: Prima Games.

Gee, J. (2002, February). *First person shooter games and George Bush's literacy agenda*. Paper presented at the NCTE Assembly for Research 2002 Midwinter Conference, New York, NY.

Leach, J. & Bravery, C. (2001). *The making of Black & White*. Roseville, CA: Prima Publishing.

Levander, M. (2001, June 4). When does fantasy end? *Time Magazine* [On-line], *157*(22). Available: http://www.time.com/interactive/entertainment/gangs_np.html

Pesce, M. (2000). *The playful world: How technology is transforming our imagination*. New York: Ballentine Books.

Pew Internet & American Life Project (2001, September). *The Internet and Education* [On-line]. Available: http://www.pewinternet.org/reports

Poole, S. (2000). *Trigger happy: Videogames and the entertainment revolution*. New York: Arcade Publishing.

Prensky, M. (2001). *Digital game-based learning*. New York: McGraw-Hill.

Smith, R. & Farrell, P. (2001). MUD play: A transformative learning context. *Proceedings of the 42nd annual adult education research conference*. East Lansing, MI: Michigan State University.

Top-Selling Games. (2001, October). *PC Gamer, 8*(10), 36.

Turkle, S. (1995). *Life on the screen: Identity in the age of the internet*. New York: Simon & Schuster.