

Massively multiplayer online games (MMOs) in the new media classroom

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ABSTRACT

Recent research demonstrates that videogames enhance literacy, attention, reaction time, and higher-level thinking. Several scholars have suggested that massively multiplayer online games (MMOs) such as *Everquest* and *Second Life* have educational potential, but we have little data about what happens when such tools are introduced in the classroom. This paper reports findings from two MMO-based courses in the context of situated learning theory. The first course, focused on the ethnography of on-line games, used the game *Everquest* as a vehicle for teaching research methods to 36 students in an undergraduate communication course. The second course used the game *Second Life* to teach the fundamentals of video-game design and criticism. Synthesizing comments from student web logs with data collected from follow-up surveys, the paper highlights key findings and offers concrete suggestions for instructors contemplating the use of multiplayer games in their own courses. Recommending that potential virtual environments be selected on the basis of genre, accessibility, and extensibility, it is suggested that game-based assignments are most effective when they build bridges between the domain of the game world and an overlapping domain of professional practice.

Keywords

Virtual environments, Video-games - learning, Educational technology, Game design, Situated learning

In April 2003, thirty-seven Halflings of mixed gender congregated at a large public university in the Pacific Northwest. The first meeting of the Halfling Ethnographers Guild was in session. Known throughout the land for their good-natured hospitality, these hobbit-like creatures were well-suited to the task of collecting qualitative data about their fellow citizens. There was just one problem: this group of eager social scientists had quite literally been "born yesterday." Before they could undertake any sort of research, they would first have to learn how to talk, how to move, and how to avoid being killed by diseased rats.

The convergence of high-speed Internet connections, sophisticated graphics cards, and powerful microprocessors has paved the way for immersive virtual environments populated by thousands of users simultaneously. These environments have been referred to as persistent worlds, multi-user virtual environments (MUVes), and massively multiplayer on-line games (MMOs). Gamers enter these worlds by creating highly personalized digital personae called "avatars." Many of these games are highly addictive, and some users spend more waking time with friends in the digital world than with human beings in their physical environment. As these worlds have matured, they have developed many characteristics of physical communities such as specialized language, political structures, complex social rituals, and shared history (Steinkuehler, 2004).

In recent years, several theorists have highlighted the educational potential of multiplayer games. Noting that these cultural objects raise important questions about identity, community, and the influence of technology in our daily lives, some believe that virtual environments facilitate a "psychosocial moratorium" that has profound therapeutic and educational benefits (Turkle, 1995). Others draw attention to the way these distributed environments facilitate networked learning that transcends the game itself (Herz, 2002). Foreman (2003) predicts that shared graphical worlds are "the learning environments of the future" (p. 14).

While optimistic about the potential of MMOs, Foreman (2004) asks if they can "simulate within the computer-enhanced classroom the kind of 'situated learning' experienced by students in the real world" (High Cost section, para. 3). He also wonders if students can apply knowledge obtained from these virtual environments once the game has ended. Although Foreman is concerned with the use of MMOs in courses across the liberal arts curriculum, his questions are highly relevant to those who teach courses on the theoretical implications of new media. Instructors working in this area commonly lament the difficulty of explaining cyberculture through the non-interactive medium of the textbook. *The Cybercultures Reader* (Bell & Kennedy, 2000), *Society Online: The Internet in Context* (Howard & Jones, 2004), and *Media and Society in the Digital Age* (Kawamoto, 2002) are excellent works, but many instructors feel that a traditional textbook is incapable of capturing the interactive, hypertextual and dynamic nature of on-line life.

Synthesizing findings from two MMO-based courses, this article argues that MMOs are living, breathing textbooks that provide students with first-hand exposure to critical theory and professional practice. The first course, which focused on the ethnography of on-line games, used *Everquest* as a vehicle for teaching research methods to 36 students in an undergraduate communication course. The second course used *Second Life* to teach the fundamentals of video-game design and criticism.

After briefly reviewing current research on the educational promise of video-games, I explain the objectives and design of the two courses. Since this paper is intended to provide a review framework of preliminary classroom experience with massively multiplayer environments, a formal and detailed classification of student data is not incorporated in this analysis. However, synthesizing comments from student web logs with data collected from follow-up surveys, I highlight key findings and offer concrete suggestions for instructors who may be contemplating the use of multiplayer games in their own courses. Although both of the case studies incorporated MMOs in games-related courses, my findings suggest that these virtual worlds have broader relevance to the new media classroom.

Gaming in the classroom

During the 1980s, early studies on video games focused primarily on dangerous content, with the Surgeon General warning that young people were addicted “body and soul” to dangerous machines. However, in recent years, a growing body of work makes more positive claims about the educational benefits of games. Researchers have argued that video-games enhance computer literacy (Benedict, 1990), visual attention (Bavelier & Green, 2003), and reaction time (Orosy-Fildes & Allan, 1989). Meanwhile, in works written for popular audiences, Gee (2003) and Johnson (2005) have suggested that video-games teach players to become problem solvers.

In well-designed games, players can only advance to higher levels by testing a range of strategies. Many games allow users to modify difficulty levels and other environmental variables, thus fostering insight into the constructed nature of all simulations. Games such as *The Sims* and *Grand Theft Auto* teach principles of representation, semiotics, and simulation in situated, experiential ways that cursory exposure to the works of Baudrillard might not. As Gee (2003) notes, good video-games teach users “to solve problems and reflect on the intricacies of the design of imagined worlds and the design of both real and imagined social relationships and identities in the modern world” (p. 48).

Of course some games are more likely to promote these goals than others. Even the controversial *Grand Theft Auto* series is more likely to promote “higher-level thinking” than reflex-based titles such as *Pong* or *Pac-Man*. Indeed, claims about the educational value of video-games tend to be based on more esteemed genres such as simulations, puzzles, strategy, adventure, and role-playing games (RPGs).

Researchers continue to document the educational potential of games, but there have been few attempts to explain their effectiveness in the context of an overarching theoretical perspective. The work of Steinkuehler (2004, 2006, in press) and Gee (2003) is a notable exception. Both argue that the instructional potential of games can only be realized through attention to the fact that learning is a social practice.

In their landmark elaboration of *situated learning theory*, Lave and Wenger (1991) challenge the conventional view of education as a process by which an individual internalizes culturally given knowledge. They argue that learning, thinking and knowing emerge from a world that is socially constructed. Meaning is contextual, and learning is what happens when individuals become increasingly involved as participants in social communities of practice. Examining networks of midwives, tailors, and recovering alcoholics, the authors offer apprenticeship as an example of situated learning in which knowledge is obtained through a process of participation within a community.

This is particularly relevant to MMOs, for these environments are complex discursive communities characterized by a “full range of social and material practices” (Steinkuehler, 2004, p. 9). When newcomers enter into such spaces, they are gradually introduced to a complex social framework through the tutelage of other community member. These social spaces encourage information sharing and collaboration both within and beyond game parameters. In external message boards, fans discuss strategies, recommend improvements to game software, and share chunks of software code (“mods”) that transform rules and content. The distributed learning evident in such forums is similar to that found in other knowledge communities, from discussion forums dedicated to sewing to mailing lists focused on programming techniques.

Gee (2003) argues that all knowledge communities function as semiotic domains that give meaning to the social and physical practices that exist within them. He notes that learners enter into such spaces as newcomers, unfamiliar with domain-specific meanings. Through active participation, they learn to experience the world in new ways and they affiliate with others who understand community practices and concerns. Gradually, the new participant develops problem solving strategies, some of which might be applicable in other arenas. This aspect of Gee's analysis is closely related to the apprenticeship process that Lave and Wenger (1991) refer to as "legitimate, peripheral participation." However, Gee takes this perspective one step further, suggesting that true critical learning occurs when the learner engages in a process of meta-level reflection, "thinking about the relationships of the semiotic domain being learned to other semiotic domains" (p. 50).

Of course, situated learning is hardly unique to MMOs. From the headquarters of the school newspaper to the halls of student government, college students have long been apprenticed in communities of practice. Yet, MMOs are intriguing because social interaction, cooperation, and knowledge sharing is central to their enjoyment. Hertz (2002) observes that these networked games "fully leverage technology to facilitate 'edge' activities -- the interaction that happens through and around games as players critique, rebuild, and add on to them, teaching each other in the process. Players learn through active engagement not only with the software but with each other" (p. 173). This stands in marked contrast to dominant pedagogical approaches. Learning is often viewed as a highly individualized activity that stops at the classroom door. Even today, many teachers discourage students from collaborating on homework assignments, viewing such behavior as "cheating."

In addition to their social character, MMOs are uniquely engaging environments. In a recent study of 30,000 players, Yee (2006) found that 70% had spent at least 10 continuous hours in a virtual world at one sitting. Many researchers have observed that players intensely involved with video-games display characteristics of the psychological state that Csikszentmihalyi (1990) has termed the "flow experience." Hoffman and Novak (1996) explain that the flow state is characterized by user confidence, exploratory behaviors, enjoyment, distorted time perception, and greater learning. Drawing on Heeter's (1992) work on telepresence, Chou and Ting (2003) argue that on-line games such as MMOs are uniquely likely to evoke all of these effects among users.

This level of engagement is exciting because it helps develop "the motivation for an extended engagement" that is crucial to mastering a complex body of knowledge (Gee, 2004, p. 4). Peng (2004) notes that "students learn in a flow state where they are not just passive recipients of knowledge, but active learners who are in control of the learning activity and are challenged to reach a certain goal" (pp. 10-11). Garris, Ahlers, and Driskell (2002) agree, pointing out that "motivated learners more readily choose to engage in target activities, they pursue those activities more vigorously, and they persist longer at those activities than do less motivated learners" (p. 454).

Finally, MMOs also encourage role-playing behaviors that have educational promise. The literature is packed with examples of role-playing techniques being successfully deployed in the college classroom. At Barnard College, history students role-play key moments of the French Revolution and collectively enact imperial politics of 16th Century China (Fogg, 2001). In Australia, college students are prodded to consider the environmental and social effects of building a tourist resort on indigenous territory (Cutler, & Hay, 2000). Some of these exercises have been conducted on-line, while others were designed for face-to-face interaction. All have been highly successful.

Luff (2000) notes that successful role identification helps students escape the grip of contemporary norms and beliefs. Whether they project themselves into the role of an Athenian politician or a patient suffering from chronic pain, they are forced to shift perspective and imagine the world through different eyes. Luff refers to role-playing as "the ultimate empathy exercise." Bell (2001) makes a similar argument, noting that the ability of role-playing techniques to affect attitudes and behavior has been widely demonstrated. Bender (2005) points out that the on-line environment is particularly well suited to role-playing activities.

MMOs have instructional promise because they immerse students in complex communities of practice, because their immersive nature invites extended engagement with course material, and because they encourage role-playing. So, how can these environments be used in the classroom? In their elaboration of situated learning theory, Lave and Wenger (1991) emphasize that their approach "is not in itself an educational form, much less a pedagogical strategy or a teaching technique." Despite the disclaimer, this theoretical perspective does offer some guidance in the classroom. As Quay (2003) notes, citing Wenger (1998), the instructor's role is to implement forms of practice that open up participation to newcomers.

The ability of students to become actively involved in communities of practice within the game world has been well documented. The next step is to link student engagement in the game world to engagement in an

overlapping knowledge community that is connected to the theoretical concerns of the course in which the MMO is being used. Once students are highly engaged in the process of role-playing and information seeking, it is relatively easy to convince them to role-play as apprentice participants within a higher-level theoretical community. The students can also be encouraged to make the critical leap into meta-reflection about the similar learning processes embedded in both domains. In the following pages, I describe two courses that melded game activities with participation in other knowledge communities.

Course Description

Course 1. Ethnography of On-line Games

In April 2003, I taught a course entitled “Ethnography of Massively Multiplayer On-line Role-playing Games” to a group of 36 undergraduates at a large public university. In this course, students explored the behaviors, cultural practices, symbolic expressions and motivations of MMO players. In lieu of a textbook, they purchased a three-month subscription to the game Everquest. Arguably the most successful virtual world in North America at the time the course was offered, Everquest is a fantasy-themed MMO which encourages players to assume virtual identities such as “dwarf warrior” or “gnome magician.” Over the course of weeks, months, and years, players gradually build up the skill level, capabilities, and wealth of their game character. Along the way, they compete for scarce virtual resources and join vast in-game social networks known as guilds. At last count, more than 420,000 players paid \$15 per month to immerse themselves in the game’s virtual world. At peak moments, more than 98,000 players interact with one another on the game servers simultaneously – a population roughly approximate to that of Dearborn, Michigan. Virtual items (e.g. swords, wands, armor, characters) are regularly sold on Ebay for US dollars, leading one economist to calculate that the typical player earns \$3.42 in real-world dollars during each hour of gameplay. He extrapolates that Everquest’s per-capita GNP is \$2,266 – making it the 77th richest “nation” in the world (Castranova, 2001).

The mind-boggling complexity of this virtual world made it an ideal vehicle for exploring social and philosophical issues related to new media. Along with the game Everquest, a comprehensive course packet synthesized articles on gaming, virtual community, and social-science research methods. Students were assigned approximately 80 pages of reading each week. The course packet included articles specifically analyzing Everquest (Yee, 2001; Castranova, 2001; Griffiths, Davies, & Chappell, 2003), the cultural roots of role-playing games (Fine, 1983; Mackay, 2001), psychological significance of role playing (Douse & McManus, 1993; Hughes, 1998), and identity construction in virtual worlds (Turkle, 1995; Stone, 1995). These theoretical and substantive works were accompanied by methods pieces that described interview techniques and ethnographic approaches (Emerson, Fretz & Shaw, 1995; Fetterman, 1989; Mann & Stewart, 2000).

Ethnography is a qualitative research method in which the investigator strives toward an insider’s perspective of a particular culture. Originally used to study indigenous cultures in remote locations, the method has been widely applied to other cultural groupings within industrialized nations. Ethnographic research combines participant observation with qualitative interviews and analysis of related cultural artifacts. Because the academic quarter is only ten weeks long, it was impossible for students to gain a fully emic perspective on Everquest players. While recognizing these limitations, the class gave the students a trial run of an ethnographic research project. In class, we jokingly referred to their abbreviated methods as “ethnography lite.”

Approximately half of the class time was spent in the virtual world, and students were asked to log at least five hours in the game-world each week. Role-playing the part of ethnographers, students crafted research questions and set out to collect data through a process of participant observation. They documented their field notes and reactions to class assignments in publicly accessible web logs. At the end of the quarter, students delivered conference-style presentations of their findings.

The course objectives were two-fold. The primary goal was for the class to investigate collectively the activities of on-line gamers in the context of what Silver (2000) terms “critical cyberculture studies.” Along the way, students were exposed to the fundamental principles of social science research. By the time students finished the course, I hoped they would understand the relationship between research questions and data collection, the necessity of obtaining informed consent, sampling considerations, the way interview techniques and question design can shape results, and the difference between qualitative and quantitative methods.

Class exercises varied, depending on the reading. In one session, after discussing the concept of on-line identity, four students created avatars of varying genders. Within the game, the remainder of the class asked questions and

attempted to guess which students were virtually cross-dressing. This paved the way for a thoughtful discussion of Goffman's (1959) theories on the social performance of identity. Students were not graded on their activities within the game world, but they were asked to reflect on the discussion in a subsequent web log posting. In a second exercise, students traveled to different continents in the game and used the built-in chat tools to talk with other players. This activity was followed by a spirited conversation about on-line interview techniques and the ethical considerations of ethnographic research. It also prompted students to reflect on their experiences of being instructed by other players.

During the quarter, students were active participants in two semiotic domains. Initially, as residents of the game world, they participated in a distributed network of information and ideas related to game dynamics. They participated in on-line forums, talked with other players, and shared strategies with each other. However, throughout this process, they also participated in a community of practice as communication researchers. They discussed research ethics, compared interview techniques and evaluated each other's methodologies. They also participated in web sites and discussion forums populated by game researchers. The two domains (player and researcher) overlapped, and students became highly engaged with both identities.

While I realized most students had no intention of becoming communication scholars after the course was finished, this class attempted to make students more critical consumers of research findings by providing first-hand exposure to data collection and analysis. This is analogous to the way media literacy educators promote critical analysis of representations by giving students hands-on experience with video cameras and editing decks (Van Buren & Christ, 2000).

Course 2. Game design for the web

In January 2004, I taught a course on game design to 15 communication students at a small liberal arts college in the Southwest. This course covered the social dynamics of virtual worlds, fundamentals of game design, and video-game aesthetics. The class had two primary learning objectives. As with the ethnography course, a primary goal was to explore critical themes of cyberculture studies through sustained interaction with other gamers. A second objective was to experiment with the mechanics of game design by creating games that could be played by other residents of the game *Second Life*. Like *Everquest*, *Second Life* makes it possible for thousands of users to interact simultaneously in a graphical virtual world. This is where the similarities end. While *Everquest* (along with most MMOs) is characterized by a fantastic narrative, clearly defined rules, and competitive goals, *Second Life* is an open-ended environment in which players themselves design the world, its objects and their behaviors. Incorporating sophisticated three-dimensional modeling tools and a powerful scripting language, the game invites players to freely unleash their imaginations. Rather than struggling to acquire a gold piece or an enchanted Sword of the Bloodsworn in *Everquest*, players in *Second Life* derive pleasure from displaying their own creations and admiring those of others. If *Everquest* was a good place to begin investigating key ideas in cyber culture studies, *Second Life* was clearly an ideal environment in which students could create and analyze their own games.

In the game design course, students created games within the virtual world of *Second Life*. The class was split into three development teams of five students each. Some acted as project managers, while others focused on narrative development, three-dimensional modeling, avatar customization, and scripting. As with the first course, I had no illusions that students in this course would ultimately pursue a career in game design. However, in the process of designing their own games, students would become further sensitized to the aesthetic characteristics of video-games while understanding more about the underlying structures of all games.

By the end of the course, I hoped that students would be able to wield a substantial vocabulary for game criticism that incorporated equally the language of game designers and critical game theorists. In addition to the on-line simulations, students were assigned approximately 50 pages of reading each week. The course packet in the game design course included articles about the history of multiplayer games (Chick, 2003), identity formation in virtual worlds (Stephenson, 1993; Turkle, 1995), the presumed motivations of gamers (Crawford, 1982), the nature of play, rules, and cheating (Salen and Zimmerman, 2004), aesthetic criteria for analyzing games (Pearce, 2001; Wolf, 2001; Jenkins & Squire, 2002; King & Krzywinska, 2002), and sociological debates about violence, gender, and sexuality in video-games (Robins, 1994; Relph, 2002; Consalvo, 2003).

Class exercises were closely matched to the content of the reading. One day, after spending several weeks discussing the mechanics of game design, we engaged in a face-to-face version of a popular parlor game called "Mafia." Next, students attempted to replicate the game within the confines of *Second Life*. They immediately

realized that the virtual world made it almost impossible to play according to the traditional rules. Hashing out design solutions in their web logs, students developed a second version of the game that was quite successful in the on-line environment.

Once again, this course was premised on the potential of situated learning. Students were active participants in the quirky world of *Second Life*, and they came to think of themselves as community residents. They learned how to use the game's scripting and object creation tools by participating in tutorials and activities organized by other residents. Throughout this process, they also participated in a community of practice as game designers. They discussed game mechanics, deconstructed the strengths and weaknesses of the *Second Life* environment, and participated in professional forums maintained by game designers. Because participating in the creative process is the main attraction of *Second Life*, the two semiotic domains (game player and game designer) were tightly integrated.

Findings

Game accessibility is crucial to learning

Two weeks into the ethnography course, I realized many students were having difficulty mastering the mechanics of *Everquest*. Most students had experienced games on home consoles as children, but only a few were able to quickly grasp the game's complicated interface. In the second week of class, each student created a Halfling druid as his or her avatar, and all 36 players simultaneously entered a region of the world known as the Misty Thicket. Completely unfamiliar with the controls, students ran in all directions, bumping into hostile monsters and accidentally triggering attacks on the part of computer-controlled non-player characters. In less than an hour, each player had been killed many times. However, due to a quirk in the game's design, the bodies of dead avatars remain visible in the virtual world for twenty four hours. By the end of the class session, the Misty Thicket was littered with scores of Halfling corpses. The sight was especially disturbing to other gamers who just happened to be wandering through the area at that moment.

Students recorded their frustration with the steep learning curve in their personal web logs:

I feel like all I am doing is running around like a chicken with my head cut off. (Sue, ethnography student)

I played *Everquest* in class for about 10 minutes today, and I got killed by a giant bat, a giant spider, a Halfling named Beardo or something, and I drowned. Sometimes, I stay up at night wondering how I got so far in real life. (Eric, ethnography student)

At first, I was troubled by reports of frustration and frequent death. But, failure is not necessarily a bad thing. Jones (1997) notes that making mistakes is a crucial element of games *and* of education: "One can be told countless times, but making the mistake and the proper adjustment creates deeper connections with the content than simply trying to remember." In response to this initial trouble, I worked with one of the more experienced students to design in-class exercises that would make the learning curve less painful while also allowing students to make mistakes. Only a handful gained full mastery of the game, but every student was able to conduct in-game interviews.

A year later, when planning the game design course, I found several MMOs that would be easier to master. Game developers had made fantastic strides in usability since *Everquest* was introduced in 1998. *Second Life* is a non-structured virtual environment with extensive tutorials and instructional support for new users. It also offers powerful tools for creating three dimensional objects and for scripting the behavior of those objects within the game world. The class quickly mastered the *Second Life* fundamentals, and they were able to use the game to create custom avatars, buildings, and objects when implementing their games.

Students preferred to play the game with others

In both courses, I asked students to invest five hours a week in solo play outside of class. This requirement was intended to increase their familiarity with the culture of the virtual world while helping students achieve greater competence. In both courses, many students resisted this requirement. It is possible that a lack of sufficient computing power made it difficult to play the game at home, but students could access the software on lab

computers. There might also have been psychological barriers to viewing a game as homework. The most likely explanation is that students found the game much more enjoyable when other people were playing in their immediate environment.

In their analysis of political formations in virtual environments, Jakobsson and Taylor (2003) argue that social networks and social capital are crucial to the immersive appeal of virtual environments. Furthermore, as noted earlier, social interaction is a crucial component of situated learning. The absence of social networks can be a barrier to newcomers. Once again, comments in the web logs reinforced the importance of the social dimension.

Someone I met on the Sanya server told me that Everquest is just a game until you talk to someone. He was right. Interaction with others expands the enjoyment of the game exponentially. (Joyce, ethnography student)

I think that the reason the in-class exercises were popular was because everyone was able to see that their classmates were as clueless as themselves about the game. It's always better to be lost with a buddy, than lost alone. (Carlos, ethnography student)

Unless they are genuinely hooked, it is unrealistic to expect students to spend much extra time in a virtual world on their own. Yet, devoting additional class time to game play detracts from discussion time. One way of solving this problem is to set up weekly "gaming sessions" outside of class hours. For example, one might tell students that they need to meet in the lab between 6:30 and 9:00 p.m. on a recurring weeknight to explore the game world together. A similar approach is often used in film studies courses, when instructors arrange evening or weekend viewing times. As long as they are warned in advance, students seem willing to make the time commitment. The more relaxed and informal nature of the gaming sessions also reinforces class camaraderie, feeding back into the quality of participation during more formal discussions.

MMOs are safe learning environments

Castranova (2001) identifies three defining features of virtual worlds: interactivity, physicality, and persistence. To this, I would add a fourth characteristic. Virtual worlds are safe. The player's avatar may be exposed to an array of in-game dangers, but the human being is never at risk of physical harm. Furthermore, in most massively multiplayer games, the characters themselves do not experience permanent death. The character may lose experience points or a modest amount of wealth but, as Grimmelman (2003) points out, virtual death "doesn't really seem very deadly." He notes that this dimension of safety is what makes virtual reality an effective therapy for agoraphobia and other anxiety-related disorders (Vincelli et al., 2003). It is also an important component of education.

Safety is crucial to any learning environment. When students feel threatened, they clam up. Diamantes & Williams (1999) cite research suggesting that the uppermost levels of the human brain function best in supportive, non-threatening environments. Conversely, dangerous environments are more likely to provoke fight-or-flight responses in the lower-brain stem. In the ethnography course, students were asked to do something that can provoke as much anxiety as public speaking: they were asked to interview other people. In the game design course, students were asked to undertake ambitious projects using unfamiliar technology tools. In both cases, the safety of virtual environments, combined with a mood of playful intellectual freedom, made it easier for students to throw themselves into the role of inquisitive social scientists and game developers.

Outcomes

Students reported that learning occurred.

In both classes, students were asked to reflect on course design and their experiences throughout the term. Many mentioned that they had initially expected a video-game-themed course to be a "joke" or a "blow-off class." Fortunately, the vast majority reported that the course was both informative and enjoyable.

I learned a great deal about ways to make the research repeatable and as closed to individual interpretation as possible. I'm actually looking forward to the next time I study people and behaviors. (Joyce, ethnography student)

This class, without exaggeration, was one of the best learning experiences I had during my eight-year college career. Through play, I was able to learn on a transparent level. I learned without the pain. (Tim, ethnography student)

The availability of knowledge [in *Second Life*] provided a learning environment unmatched by any other class I have taken. We found ourselves in an enjoyable environment where we could learn from the professor, each other, and countless others whom we have never even met. (Alex, game design student)

This is probably the best course I have taken thus far at this university. While I loved playing in *Second Life*, I found the theory equally interesting, and the feeling of exploring new and unexplored media quite exciting. (Melissa, game design student)

Such evidence is anecdotal, and there are many reasons to be suspicious of self-reports when assessing curriculum effectiveness. Nevertheless, it is interesting to note that these students explicitly articulated the underlying premise of the courses. They commented on the successful melding of communities of practice (“learning on a transparent level”), and reported their satisfaction with the ability to learn from other members of the game community.

Students produced quality research

Another way of assessing course effectiveness is to look at the quality of student work. The depth of analysis in student web logs, along with strong scores on written exams, suggested that students were grasping and applying the material. This was particularly evident in both sets of final projects: research papers in the ethnography course and a collectively-designed game in the game development course.

In the ethnography course, students refined their research questions and headed out into Everquest to interview other gamers. Students selected their own topics, often raising issues that had not been considered by other researchers. A conference-style series of presentations was scheduled for the final exam period, and it took more than three hours for each student to summarize their work. Although we significantly exceeded the allotted time, students willingly stayed late to pepper their classmates with methodological and theoretical questions.

Students explored a range of topics, including: the characteristics and motivations of Everquest players, the appeal of supernatural themes, gaming addiction, the therapeutic effects of role-playing, the slippery relationship between the virtual and the real, construction of on-line identity, the depth of on-line friendships, gender-bending, effects on off-line relationships, the dreams of Everquest players, the relationship between introversion and avatar attractiveness, the use of mind-altering substances by gamers, the impact of gender and race on player interaction, attitudes of gay, lesbian and bisexual MMO players, and class reactions to the game itself.

In the game design course, students created games within the virtual world of Second Life. The class was split into three development teams of five students each. Some acted as project managers, while others focused on narrative development, three-dimensional modeling, avatar customization, and scripting. Considering that few students had prior experience with multimedia development, the final projects were highly creative. From a pirate-themed scavenger hunt complete with talking parrot to a three-dimensional hedge maze populated by Pac-Man like creatures, the games were well conceived and implemented. On the final day of the course, students turned in papers that dissected their games using the aesthetic and critical vocabulary that had been developed in the course readings. In terms of both theory and production, students had clearly mastered the course material.

Recommendations

Warn students about the potential for addiction

Two months after the ethnography course ended, an anonymous net user linked the on-line syllabus to a popular site called *Fark.Com*. The link was quickly forwarded to game-themed mailing lists and MMO discussion forums. During the next few weeks, I received almost 100 e-mail messages from gamers around the world. As one respondent wryly commented, “it appears that the players are as interested in your students as your students are in them.”

On the whole, the gaming community's response to the course was positive and good-natured. Players of all ages wanted to know if they could take the course via distance education, and some were willing to move to the Pacific Northwest if necessary. Several high-level players courteously introduced themselves and offered to answer all of the students' questions. However, I was also contacted by players who described themselves as former *Everquest* addicts. While acknowledging that the sociological aspects of the game are intriguing, these players worried that the assignments might inadvertently cause students to become addicted.

[Y]ou could potentially get people addicted and lost in this world. I was addicted to the game for 3 years and it IS a very, very powerful addiction. I strongly urge you to explain to everyone in advance that if they have strong addictive-type personalities not to force them to do this. . . [I] could not be any more serious. (Karen, recovering addict)

One man in his late 30's asked me to think carefully about the potential risks, citing many stories of students whose lives had been ruined by *Everquest* addiction.

The very nature of this game, which makes it such an intriguing subject to build a college class around, is inherently alluring to those whose lives and priorities are lacking in meaning and substance. (Nick, recovering addict)

Fortunately, although a handful of students (and the instructor) developed a temporary fixation on *Everquest* that could be compared to an addiction, this behavior subsided when the class ended. Nevertheless, any instructor who contemplates introducing an MMO in the classroom should consider the fact that extreme immersion can lead to addiction. Ethical teachers will warn students about this possibility during the first day of class, and will periodically check in with students to ensure that they are not spending too much time in the game environment.

Evaluate several MMOs before selecting one for your course

All virtual environments are not created equal. *Everquest* would not have worked for the game design course because it lacks tools for creating user-generated content. *Second Life* would not have lent itself to the same range of research questions explored by the ethnography students.

When selecting an MMO, key issues include *accessibility*, *genre*, and *extensibility*. As noted earlier, the learning curve for *Everquest* is very steep, and it is difficult for beginners to understand game dynamics without investing huge amounts of time. A more usable environment would allow the students to spend more time making connections between in-game occurrences and specific theoretical concepts. Genre also makes a difference. Swords and sorcery themes have a proud tradition in the world of gaming, but they don't appeal to everyone. *Sims Online* and *Second Life* are two games that break this mold. Also, depending on the context, it may be important to find an environment that allows the instructor and students to extend the world and design new scenarios. *Second Life* proved quite promising in this regard.

Tightly integrate semiotic domains

For an MMO-themed class to be effective, learning objectives should be identified at the outset. Along with the macroscopic theoretical goals, students should be given a series of smaller objectives or "baby steps" that are related to game mechanics. In the *Everquest* course, the broader research objective kept the class on track. However, more clearly identified low-level goals would have increased students' mastery of the game during the first few weeks. A handful of in-class exercises gave students immediate objectives on which to focus (e.g. the fundamentals of movement or how to transcribe on-line conversations), but there could have been more of these in-class activities.

These assignments should encourage parallel activities in both communities of practice. For example, once they have mastered conversational basics, students might be encouraged to seek out help from another player within the game world. They could document their reactions to this experience in an on-line web log. Several weeks later, they might be encouraged to post specific questions in on-line forums or mailing lists devoted to professional practice. In both cases, the exercises would reinforce the value of learning by asking questions of more experienced community members.

Conclusion

This paper has focused on the use of MMOs to teach research methods, game design and cyber culture, but they can be used in other situations. For example, Bradley and Froomkin (2003) suggest that these environments could be an effective realm in which to assess the effects of simple changes to legal rules. This application could easily be extended to courses in media law and telecommunication policy as a parallel to the effect of court decisions and federal rule making. The interview techniques used by the ethnography class could easily be applied to reporting students looking for news stories. In fact, news stories about activities in the virtual world would be an excellent and safe introduction to news values, source reliability, and the “five Ws” (who, what, when, where, and why) stressed in many US journalism courses. Some MMOs allow players to market real-world products, and these virtual worlds could be used to teach advertising students such concepts as audience segmentation and product targeting.

Other theorists have noted that virtual worlds shed light on economic transactions and the formation of political communities (Castranova, 2001; Grimmelmann, 2003). Global organizations – from transnational corporations to NGOs – could use these tools to promote intercultural communication skills between members in far-flung locations (see Cox, 1999; Hofstede, 1999). Conklin (2005) proposes a variety of ways that *Second Life* can be used to explore concepts in political theory such as cooperation, reputation, self-governance and class relationships.

Yet, the decision to implement an MMO-based curriculum should be more than a gimmick. As elaborated above, these virtual worlds are used most effectively as a bridge between overlapping communities of practice. During the final weeks of class, students can be encouraged to reflect on their participation within the domain of the game world *and* within the domain of professional practice. In articulating the similarities and differences between the two experiences, students have the opportunity to engage in meta-level awareness of their own learning process.

However, we should not uncritically embrace MMOs. The same factors that promote immersion and engagement can lead to addictive gaming behaviors that displace other activities such as exercise, real-world social interaction, and homework. Some theorists speculate that excessive involvement in virtual worlds negatively impacts interpersonal relationships, scholarship and family life (Messerly, 2004). Yet, similar charges were made against such media as film, comic books, and television when they first arrived, and each of these communication technologies has demonstrated its instructional effectiveness. In the absence of solid data supporting negative claims about MMOs, we should cautiously proceed with efforts to incorporate virtual environments into the classroom.

As this paper has repeatedly argued, context is crucial. In many classroom situations, face-to-face discussion makes more sense than on-line interaction. Furthermore, MMOs need not be the centerpiece of the course in order for learning to take place. As we explore the potential of virtual worlds, we should remind ourselves that they are not a panacea. In many situations, traditional methods of instruction will work just fine. Yet, we should not be afraid to experiment. Experimentation, like play itself, is ripe with possibility.

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