

Risk and Responsibility: A Self-Study of Teaching with Second Life

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This article argues for the use of self-study as a research methodology for learning technology scholars to advance knowledge and improve practice in the use of emerging technologies in the classroom. It reports on a self-study conducted on the use of the Second Life multi-user virtual environment (MUVE) in a graduate level seminar entitled “Educational Media Theory.” The article details the experience of the professor and the students in using the Second Life MUVE and it highlights the specific teaching and learning issues that arose as a result of using the technology. Through an examination of the data, I identify the assumptions based on personal interest and epistemological commitments, which led to problems in introducing the technology in the course. These problems were addressed through revising the syllabus to create scaffolds for student learning with the Second Life environment. The broader implications of the study regard the impact of student expectations and prior knowledge on the trajectory of the use of a technology in a course and the issue of student safety, which is raised when social technologies are used in the classroom. Adaptations to teaching methods to address such issues are discussed.

Learning technology scholars are experts in the role that technology plays in teaching and learning. Yet, new and emerging technologies are constantly being developed. Therefore, remaining an expert requires continual attention to new developments. Bransford (2007) argues that to keep pace with such innovations, experts should aim to develop what Hatano and Inagaki (1986) have termed adaptive expertise. Adaptive expertise refers to the application of knowledge and procedures in flexible and creative ways. Bransford (2007) notes that those who wish to be adaptive and to innovate

must be willing to leave their comfort zone, to tolerate a certain level of chaos and ambiguity, be willing to take risks and willing to be wrong. Engestrom (2001) presents much of the same idea in a discussion of his theory of expansive learning: "In important transformations of our personal and organizational practices, we must learn new forms of activity which are not yet there. They are literally learned as they are being created. There is no competent teacher" (p. 138).

When learning technology scholars use emerging technologies in teaching we engage in activities that are completely new to us and to our students. We are involved in a potential transformation of teaching and learning and we risk problems arising in class due to the use of an emerging technology. As with any teaching or research activity, we bring our biases and assumptions with us, which may also cause problems. Understanding the transformational impact of these new activities through a formal research process is important work for learning technology scholars to undertake.

A precedent for such research exists in the field of teacher education. Many teacher educators use a research method known as self-study to interrogate their own teaching practices. According to Dinkelman (2003), self-study produces two types of knowledge: knowledge which is most helpful to the practitioner in understanding problems that arise in his or her immediate context and knowledge that will be useful to others as they reflect on their own practice. Therefore, investigating the use of emerging technologies through self-study will provide a means for reflecting on practice locally, and it will aid the field in developing a stronger understanding of the "how" of technology integration. With both of these goals in mind, I undertook a self-study of my use of the Second Life multi-user virtual environment (MUVE) in a graduate level course entitled "Educational Media Theory." The purpose of this article is to report the results of this research. Since self-study is a methodology that many learning technology scholars may not be familiar with, I begin with a brief introduction.

SELF-STUDY

Self-study is akin to a number of practitioner inquiry research genres such as action research, teacher research, and the scholarship of teaching and learning (Cochran-Smith & Donnell, 2006). What distinguishes self-study, in part, from these other genres is that it is most commonly practiced by academics focused on inquiry related to the education of teachers (Cochran-Smith & Donnell, 2006). Using primarily qualitative methods, the researcher engaged in self-study seeks to understand the "dilemma, contradiction or tension derived from or created through particular approaches or expectations of practice" (Loughran, 2004, p. 26). Theoretically, the method is grounded in post-modernist views of the self as situated (Cochran-Smith

& Donnell, 2006). In other words, one's historical, social, and cultural context affects the way one thinks about the world, interacts in the world, and understands the world. Taking a close look at one's own practice through a systematic and formal research approach aims to make visible biases and assumptions that may contribute to problems that arise in one's teaching.

Issues of validity may be raised in relation to the self-study research genre in part due to the lack of distance between the researcher and the object of research and also due to the myriad of methods used by self-study researchers. The first concern is addressed by self-study researchers through Mischler's (1990) conceptualization of trustworthiness as a validation measure in naturalistic research. Trustworthiness refers to the degree to which a community of researchers accepts or trusts a research report as a basis for their own future work, and in so doing, validates the study. Mischler (1990) argues:

The essential criterion for such judgments is the degree to which we can rely on the concepts, methods, and inferences of a study, or tradition of inquiry, as the basis for our own theorizing and empirical research. If our overall assessment of a study's trustworthiness is high enough for us to act on it, we are granting the findings a sufficient degree of validity to invest our own time and energy, and to put at risk our reputations as competent investigators. (p. 419)

This concept of trustworthiness is grounded in a social constructionist view of the nature of scientific experimentation and discovery (Latour & Woolgar, 1986). This view holds that scientific understandings are socially situated, negotiated, and agreed upon by members of a given research community. It is the social act of community agreement that confers scientific validity. For example, Shulman (1999) argues that self-study is a valid research approach inasmuch as a community of scholars evaluates, accepts, and builds upon the findings of self-study researchers. In addition, the concept of trustworthiness rests on the realization that the relative importance of threats to validity depend on the nature of the research question being asked (Campbell & Stanley, 1964), thereby highlighting the centrality of interpretation as regards the validity of a study.

The second concern about the validity of self-study is related to the myriad of methods used by self-study researchers. Bullough and Pinnegar (2001) point out that a researcher's claim of authority for his or her assertions is based on close and well-documented adherence to the research methods associated with a discipline. Self-study as a genre borrows methods from other traditions; therefore, it is crucial that the standards associated with those borrowed methods be rigorously adhered to. Such an approach will aid a self-study towards the goal of trustworthiness (Bullough & Pinnegar, 2001). Furthermore, Feldman (2003) notes a clear and detailed account of data collec-

tion methods, including what counts as data and how data representations are constructed, will strengthen the validity of self-study research reports.

Self-study is a very useful method for learning technology researchers who choose to use emerging technologies in their graduate level courses. Bransford (2007) highlights the fact that the cycle of innovation is rapid. Therefore, the more we, as a field, can learn about the implementation of new technologies in the classroom through making public our own investigations of these activities, the greater our knowledge will be about how such technologies may be constructively utilized.

WHY SECOND LIFE? - THE EPISTEMOLOGICAL CONTEXT

The pedagogical decisions we make are influenced by our epistemological beliefs. Therefore, the teacher's epistemological beliefs are an important aspect of the context of a class. My epistemological commitments are informed, in part, by Papert's (1991) theory of constructionism. Similar to Piaget's (1932) theory of constructivism, constructionists believe that individuals construct their understanding of the world through acting in and interacting with their environment. However, the theory of constructionism differs from the theory of constructivism on two key points. First, constructionism holds that people learn best through the creation of personally meaningful artifacts or entities (Bruckman & Resnick, 1995) that will be publicly shared (Papert, 1991). Second, and perhaps more importantly, constructionists accord no special privilege to abstract reasoning as the pinnacle of intellectual development (Turkle & Papert, 1991). Rather, constructionists argue that individuals have highly personal approaches to developing deep levels of intellectual understanding in a domain. Therefore, one may well take a very concrete, hands-on route to understanding the most difficult concepts in a domain, whereas another may take a more abstract approach. In constructionist theory neither approach is better; they are different yet equally valid paths to high-level understanding in a domain. Turkle and Papert (1991) term this notion epistemological pluralism.

Motivated by these constructionist beliefs, I strive to provide students a number of ways to make sense of the theories we study. I chose to use the Second Life MUVE in the class because MUVEs are an emerging technology with interesting and unique properties that relate to themes in the course including: the notion of time and space (as it relates to media), multi-modal literacy, and issues of identity in cyberspace. A MUVE renders a 3D representation in a 2D space. This 3D representation provides a sense of physical location in cyberspace. The innovation of an avatar to physically represent an individual in the virtual world adds a considerable level of social presence to chat environments (Peterson, 2006), and it provides an opportunity for identity development and exploration (Bers, 2001).

Education, Second Life, and MUVES

Numerous anecdotal accounts have been written about Second Life and its use or potential use in the classroom. For example, the University of Kansas Medical Center uses Second Life to teach students patient encounter strategies where they can learn about the social aspects of being a doctor (Antonacci & Modarese, 2005). UC Davis's Medical School uses Second Life to train emergency workers who might be needed to set-up emergency medical facilities in case of a national crisis (Craig, 2006). Professor Charles Nesson of the Harvard Extension School recently held portions of his semester long class, "Cyber One: Law in the Court of Public Opinion," in Second Life (Talamasca, 2006). Despite the abundant interest in Second Life as an educational environment, as of this writing only one empirical study related to Second Life has been published in a refereed journal. This study focused on the methodological and meaning-based implications of non-verbal communication in Second Life (Antonijevic, 2008). Educational researchers have focused on the use of other MUVES in teaching and learning. Two approaches have been taken to investigating student learning in MUVES. The first approach is to build a world in which the students may interact. The second approach is to provide a space for students to create their own world. Utilizing the first approach has allowed researchers to focus on the relationship of instructional design elements to student learning outcomes (Barab, Sadler, Heiselt, Hickey, & Zuiker, 2006), to reflect on the MUVE as a collaborative learning environment (Dickey, 2005), and to examine how language learners negotiate textual meaning through the chat and avatar functions (Peterson, 2006). The second approach has been used to understand how creative activity in the MUVE can assist students in meaningful reflection on their own values and personal identities (Bers, 2001), as well as assisting in language learning through verbal description of a virtual world (Von der Emde, Schneider, & Kotter, 2001).

Utilizing the Second Life MUVE allowed me to use both approaches. Students were able to explore the existing world built by other Second Life members as well as contribute to creating the world through building on the virtual land I purchased. My pedagogical aim in introducing the Second Life MUVE was to make available to students an emerging technology that would serve both as a reflective and a projective tool for engaging with ideas. I was interested in the intersection of our abstract discussion of theoretical issues related to new media and technology and students' concrete experiences of interacting in the Second Life MUVE.

METHODS

Institutional Context

I explored the Second Life MUVE with my graduate students in a seminar entitled "Educational Media Theory." The course focused on historical,

sociological, and critical approaches to understanding the influence of technology and media on society, education, and the individual. Key areas of topical focus were: historical and sociological theories of the impact of communications media and technology on society and culture; hypertext, new media, and semiotic theories in education; and the relationship of videogames and simulations to individual agency and identity.

Eight students were enrolled in this course (two doctoral and six masters). The course met once a week for two-and-a-half hours. There were a total of fourteen class meetings. All but one of our class meetings occurred face-to-face. The eleventh class meeting was held in Second Life. The use of Second Life in class was presented to the students as an experimental aspect of the course. At the beginning of the semester, each student was instructed to download the program, create an avatar, and to begin to investigate the world. In the following weeks, we discussed student experiences in the world as they unfolded and changes were made to our experimental approach accordingly. These changes and the purposes for them are presented below.

Data Sources and Analysis Methods

For the purposes of this self-study, at the end of each class session I recorded detailed notes that included the general shape of the class activities, the content of the discussions, my own thoughts about the class, and what issues or problems were raised in the class. I also collected various class artifacts including postings to the class discussion board, a chat archive from the class session held in the Second Life MUVE, screenshots taken in the Second Life environment, and student reflection papers regarding their experience with the MUVE along with their thoughts on teaching and learning with MUVES. I analyzed the data using the method outlined by Strauss and Corbin (1998); that is, I utilized open and axial coding to generate categories and themes from the data collected. From this analysis, I developed an overall picture of the use of the Second Life MUVE in the class. This picture includes a view of my own biases and assumptions about how to use such a technology as well as a view of my students' expectations and assumptions about the environment, all of which influenced how the technology was utilized and understood. In the following section, I present a narrative of the use of this emerging technology in the seminar. The narrative includes a discussion of the class activities, the problems that arose as a result of using the emerging technology, and how I addressed the problems in the context of the class. Pseudonyms are used throughout the following section.

NEGOTIATING THE PROBLEMS POSED BY SECOND LIFE

The Second Life MUVE was introduced to the students on the second day of class. The MUVE was introduced as an emerging technology with

potential educational applications. The students were required to download the software and to create an avatar. They were then given the open-ended assignment of exploring the world. As the students undertook these activities, the first problem with using Second Life emerged.

Second Life is not a Video Game: Forms and Formalisms

All of the students in the class had experience playing video games, and at least two of the students consider themselves serious gamers. The students initially conceived of Second Life as a form of video game. This conception led to expectations about the type of experience one would have in Second Life. For example, Mike noted:

I was excited at the possibilities of this virtual world and eager to learn what this program was all about. Part of my interest, at least initially, stemmed from my love of video games and the apparent similarity between the Second Life world and a game.

However, they soon discovered that Second Life is not as similar to a video game as might be assumed. Most video games have a rule-based structure with clearly defined goals (Gee, 2004). Developing strategies to attain the goal in a video game is an important aspect of game play (Gee, 2004). Turkle (1997) has argued that people who play video games do so because they enjoy their rule-based nature. Second Life features none of the basic formalisms of the video game genre; it has neither a rule-based structure, nor a goal. There is no externally imposed narrative guiding people's interactions in the Second Life environment. Rather, when individuals become Second Life members, they agree to abide by community standards that govern member behavior based on respect, as indicated in the community standards document: "The goals of the Community Standards are simple: treat each other with respect and without harassment, adhere to local standards as indicated by simulator ratings, and refrain from any hate activity which slurs a real-world individual or real-world community" (Linden Labs, 2007).

The Second Life community standards are not the same as rules in a typical rules-based video game. They describe behavior one is expected to exhibit. They do not prescribe the types of activities one should engage in and there is no end-goal. This lack of a goal structure was difficult for the students in my class to come to terms with. Lacking a clear goal, students felt aimless and bored while exploring the environment. Relna discussed the problem in this way:

I was surprised by the level of boredom I experienced while in Second Life. In many ways, Second Life is a prime example of Turkle's (1997, p. 51) "triumph of tinkering." I tend to think of myself as a bricoleur...

This world is an expression of bricolage. Why then, was I not more captured by this environment, which seemed perfectly designed for my way of acting in the world? I believe the answer to this lies in the fact that [when] one tinkers, s/he generally has some goal in mind. This is true whether one is engaged in solitary activity, or is acting with others. To enter Second Life alone with no particular purpose is to have no connection with the objects or avatars in one's environment.

One of the reasons students felt aimless and bored with Second Life was a result of their expectation that Second Life would function more like a video game with very clear rules and goals for game play. Five of the eight students mentioned this feeling of boredom with the Second Life environment.

Interest Assumptions and Epistemological Bias

I was initially surprised by the majority of the students' response to Second Life as a boring environment. However, upon reflection, I realized that in choosing to use Second Life in my class, I had made an assumption: I assumed that the students, as candidates for degrees in an educational technology program, would be intrinsically interested in learning about Second Life as a potential educational tool through exploring and building within the environment. I did not realize they would need an externally derived, specific goal to achieve each time they entered the environment in order to feel engaged. This assumption was based on my own experiences and interests, and it reflects my bias towards learning with constructionist educational technologies. The act of creating an entity fully engages me and my assumption was that my students would be similarly engaged in exploring and creating objects in Second Life. However, this was not the case. While students were able to re-frame their understanding of Second Life as an open-ended, creative environment, they were at a loss as to what to do with such an environment.

Addressing the Problem through Syllabus Revision

As a result of students expressed frustration and boredom with the lack of a goal structure in Second Life, I decided that I would create such a goal structure for them. To achieve this, in the sixth week of the semester, I revised the assignments outlined on the syllabus to become more focused on learning about the Second Life environment. Towards this end, three new assignments were given in lieu of three original course assignments. The new assignments revolved around developing an educational space within Second Life devoted to the topics we were addressing in the course. The assignments included developing a project plan (including the purpose, design, and content of the area to be designed in Second Life), development of the project itself (including building the area within Second Life and

adding the content), and writing a reflection paper related to teaching and learning in Second Life.

With this new structure in place, the students were able to approach the Second Life environment with renewed energy. What the students and I came to discover is that Second Life, rather than a video game, is more productively thought of as social simulation with its own developing culture. Understanding this developing culture and identifying what it takes to survive and thrive in this environment became the primary intellectual inquiry and dominant class discourse related to Second Life for the remainder of the term.

Second Life Culture: Capital, Class, and Alienation

The developing culture of Second Life revolves around a thriving economy that features, in part, a real estate sector, a retail sector, an entertainment sector, and a service sector. Our initial forays into the world of Second Life revealed a fair amount of adult activity, which many of the students found alienating. Rex remarked on this impression of the Second Life environment: "When we first started to explore the virtual world I thought that it was nothing more than a waste of time. All I could find were people who devoted their time to sex and gambling." These adult locales generated a lot of economic activity. Economic activity seemed to be a huge aspect of the society people were creating in Second Life.

Cultural Capital and the Second Life Economy

To take part in the economy of Second Life, one needs to obtain Linden Dollars. One may do so in one of three ways: by purchasing a premiere membership from Linden Labs, by earning money within the world, or by being given money by a Second Life member. I purchased a Second Life premiere membership, providing myself with Linden Dollars. With these, I was able to buy land and take part in the economy. Some of the students earned Linden Dollars within the Second Life environment by doing menial labor such as washing windows. Such activity gave rise for my student, Brian, to quip in class, "Second Life, third world." This observation of a class system within Second Life was remarked on directly by two other students in the class. People who did not have Linden Dollars were not able to fully participate in Second Life activities. However, it is not just Linden Dollars that marked class divisions in Second Life. A major activity within the Second Life environment is imagining, designing, and building alternative spaces as well as creating objects. Behavioral scripts can be written and attached to objects in the world and the owner of the object can execute the scripts at any given moment. Mike wrote a reflection about the experience of having his avatar physically moved and mistreated by another avatar:

The power that this avatar had over me was so far beyond my understanding that I was completely helpless...It was at this point that I

realized a shift in power existed in this new world. The bully could have been anyone in the “real world” but in the Second Life he was someone in a higher class than me. He possessed cultural capital in SL [Second Life] that, for me, was unfathomable, unapproachable, and absolute...I’m not sure how much of this capital that the bully possessed, but I realized how little I had. [My avatar] was at the bottom of the Second Life society and I likened myself to the least privileged members of America.

The class system my students discovered in Second Life consisted of both a financial component (having Linden Dollars) and a computer programming expertise component. The two components were not necessarily related, as one can use U.S. dollars to buy Linden Dollars.

Class Division and Second Life Bullies

The class divide was a powerful aspect of student experience in the Second Life simulation. Rex remarked on this idea: “Without any skills in this virtual world I had nothing to offer it. And as such, I saw myself as a poor citizen wandering around aimlessly.” Mike felt that the society in Second Life was developing similarly to social circumstances in real life, which is to say power imbalances and inequities exist in real life and they also show up in Second Life. Like Mike, I, and many of my students in the class, came into contact with other people who used their scripting skills in a malevolent fashion. To evade harassment one needed to teleport to a different area of the virtual world or quit the simulation altogether. I was unable to meaningfully address this problem. Second Life is an open environment and anyone may become a member. It seems that cyber-bullying is part of the developing culture of Second Life, even though such activity is expressly forbidden by the community standards.

Second Life and Multi-literacies: Reading and Creating the Virtual World

Within the class discussions, students framed these scripting skills as literacy skills that one may need to thrive in the Second Life environment. Indeed, a clear focus of discourse in the class was the notion of how to read the environment and the types of literacy one would need to develop in order to function in this environment. Relna remarked that she had difficulty figuring out second life – “it’s not text-based, it’s not information-based, and it’s not a video game.” Rex then commented that reading the assigned articles on multi-modal literacy and thinking about Second Life really brought home to him the power of literacy. He said, “For example, there are all these people in Second Life who are becoming real estate millionaires, and in Second Life I am a penniless bum wandering around.” His main point (and a very important one) is that being literate in (or understanding how to read)

Second Life was key to the success of the real estate millionaires – and by extension, literacy in real life is key to success in real life.

Multi-Literacies

My students and I came to an understanding that literacy in the Second Life simulation encompasses many things: a) reading and writing; b) computer literacy (consisting of the ability to manipulate the avatar, use the controls and menus in the simulation, program, and script); c) techno-literacy (including having an understanding of what the actual simulation is from a technological standpoint, as well as understanding how to communicate with others in the simulation); d) economic, social, and cultural literacy (as each of these systems are manifested in the Second Life simulation); and e) imagination and creativity. These ideas were discussed and developed over a three-week period in the third month of the semester. Table 1 presents an excerpt from the online class chat that exemplifies the class's exploration of the topic of literacy as it applies to multi-literacies. The left column presents the time of day the comment was made in hours and seconds, the middle column is the unedited text of the chat and the right column is the type of literacy being discussed.

Our developing understanding of the multi-literacies needed to survive and thrive in Second Life was part of our overall effort to understand the culture of Second Life and the potential educational meaningfulness of the simulation. Another mechanism that we used to make sense of the culture of the Second Life simulation was to compare it to real life.

Second Life Versus Real Life: Interaction and Risk

We compared Second Life to real life in a number of areas including the phenomenological aspects of interactions with other avatars, the educational possibilities for travel and interaction in Second Life as compared to real life, the appearance of one's own avatar, and risk-taking in Second Life as opposed to real life.

Social Interaction

In general, we had three types of interactions in Second Life: interactions that constituted harassment by other avatars, interactions with our class group – both whole class and individual, and interactions with the avatars of strangers that were friendly and positive. The first type of interaction, harassment, has been previously discussed. The second type of interaction, class interactions, revolved primarily around working on projects within the environment and also included the whole class interaction that occurred when one of our class sessions was held online. Working together online provided students with a sense of belonging in the environment. Veronica expressed this feeling in her reflection:

Table 1
Example of Class Chat-based Literacy Discussion

Time	Chat Discussion	Type of Literacy
13:59	Lita: but SL does create a focus on literacy which can be a disadvantage.	
13:59	Lita: You need to be able to type and read to communicate and learn with SL.	Reading and Writing
13:59	Brian: build/buy - But there is a literacy debate embedded in that discussion, do you buy because you can't build or because you don't want to?	Computer Literacy
13:59	Florence: Literacy - L/ what do you mean?	
13:59	Florence: Literacy - Is literacy in this world graphics knowledge?	Computer Literacy
14:00	Florence: Literacy - scripting knowledge?	Computer Literacy
14:00	Brian: literacy - well, see I think if you've made it this far, there is a minimal set of technoliteracy skills you possess, this is not for kinderG-ers	Technoliteracy
14:00	Lita: F/ it's not a completely formulated thought, but when Brian typed about breaching class, race, etc, it struck me that while it does that, it places a huge emphasis on the ability to read and write.	Reading and Writing
14:00	Florence: Literacy - some of that is just navigating with the keyboard and being comfortable looking at the screen and being comfortable with a certain level of frustration related to tech usage.	Computer Literacy
14:01	Brenda: computer navigation skills are needed	Computer Literacy
14:01	Lita: You have to be able to read/type to use SL, whereas you could learn similar things in the RL through lecture...	Reading and Writing
14:01	Veronica: I think the literacy is definitely about computer language, it took me hours to get those knobs on the TV to say things	Computer Skills
14:01	Lita: Obviously, I'm a huge advocate of literacy, don't get me wrong	Reading and Writing

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Table 1
Example of Class Chat-based Literacy Discussion

Time	Chat Discussion	Type of Literacy
14:01	Reina: literacy - I need to know who the literate people are here The builders? The consumers who don't build? Do people who don't build feel they are a part of SL?	Economic, social and cultural literacy, Imagination and Creativity
14:02	Florence: Forms - I have found it interesting that people in this world just build replicas of real life buildings.	Imagination and Creativity
14:02	Lita: but learning in SL bring [sic] up other issues in communication and dissemination of information.	Technoliteracy
14:02	Mike: they don't know anything else	Imagination and Creativity
14:02	Ted: build- yes I find that interesting too	Imagination and Creativity
14:02	Reina: Forms - I think people are afraid of creativity.	Imagination and Creativity
14:02	Rex: is it creativity they are afraid of or a lack of it?	Imagination and Creativity
14:03	Brenda: afraid to use their imaginations.	Imagination and Creativity
14:03	Mike: or lack of time investment.	Imagination and Creativity
14:03	Veronica: r: but I think that the opportunity to be create [sic] may encourage creativity	Imagination and Creativity
14:03	Reina: yeah, maybe a lack of creativity.	Imagination and Creativity
14:03	Brian: literates - there are several levels of literacy - you can look (decode), manage (buy) or create	Economic, social and cultural literacy, Technoliteracy, Imagination and Creativity

My first interaction was when I gained access to Black Tail Ridge and Paul was online learning to build. It was the first time I was able to ask questions and even though he didn't know answers it was nice not [to] be alone in the world. The next interaction was the class discussion and field trip. Much like the experience with Paul, it was better because there was interaction amongst the group members and I wasn't alone. Admittedly, I felt the rush we speak of in class about video games that evening. It was fun, and I felt like I belonged.

Veronica's comments about not being alone in Second Life refer to an interesting phenomenon noted by all of the students. Though Linden Labs publicized the large number of people who were members and the large number of people who were online in the simulation at any given moment, it was actually difficult to run into any of these avatars. Brian noted, "After much roaming, I found a lot of really awesome virtual architecture and media manipulation, but not a lot of people or social interaction."

The third type of social interaction was with friendly strangers. The most remarkable of these interactions occurred during the online class. As a part of the online class, we teleported as a group to various educational regions of Second Life that we had discovered through our explorations, including the campus region. The campus region is an area within Second Life designated for use by colleges and universities interested in using Second Life in teaching and research activities. In the campus region, we visited a space developed by the educational technology program at San Diego State University (SDSU). While there, we met and had a discussion with the avatar of a graduate student assistant who worked on designing the space. This spontaneous meeting allowed us to have a discussion about the educational uses of Second Life with a peer who was located across the country. This type of class interaction is not possible in a face-to-face class. Mike remarked on the educational benefits of Second Life in this regard:

What we did in one class session was really amazing, especially when you think about it relative to doing the same in the real world. We held a regular class session, visited SDSU, interacted with a professor [sic] from across country, and then visited an aerospace museum and took a trip to outer space. These experiences were very life-like and educational. If we were to attempt a similar real world experience, one can only imagine the time, effort, and money that would be wasted.

Avatar Identity and Anonymity

An interesting aspect of this meeting with the SDSU graduate student assistant was that my students' avatars gathered around this avatar to have the discussion. As Rex noted, "Also, it was funny that we all gathered together in one virtual place to have this discussion, yet this isn't necessary.

Doing so helped us see who was involved in the conversation and was a social norm.” This notion of being able to see who was in the conversation is an important one. Brenda described the avatar as a “digital projection” of the self. All of the students saw their avatars as extensions of themselves. Lita wanted her avatar to look as much like her real self as possible, whereas Brian created an avatar that was quite different than his actual physical appearance. Rex indicated that he created his avatar to reflect his feelings about the simulation and his place in it: “I tried to create my character as a penniless bum to reflect my feelings of my own role in this world.” The avatar seems to heighten the sense of actually being in a locale. This sense of place quite possibly gave rise to Veronica’s feelings of being alone in the simulation and Mike’s feeling of having actually visited the SDSU campus and the NASA museum.

Yet, while the students all felt some sort of identification with their avatar, they also were well aware of the anonymity the avatar provides. This anonymity was viewed as having both negative and positive outcomes. The negative outcome is that individuals feel emboldened to perpetrate the types of aggressive harassment some of the students and I experienced at the hands of avatars with superior scripting skills. The positive outcomes are related to anonymously practicing new skills in a virtual environment without risk of real social consequences. Brenda discussed this phenomenon: “In this way, users can develop skills, including effective communication, that can be applied later in the real world, all within the comparative safety of a virtual environment.” Indeed, the comparative safety of taking risks in Second Life as opposed to real life has educational implications. For example, Rex noted that students who are more “timid” in face-to-face classrooms might feel more able to express their opinions through their avatar in an online class.

Safety and Purpose in the Online Class

The online class held in Second Life in the eleventh week of the semester served as an educational turning point for some of the students in the class. While the addition of a goal-based structure to Second Life class activity helped address the problem of student engagement, students still expressed a level of disinterest in the environment as an educational tool. In my own class notes after the tenth session I wrote:

I am still feeling that people are not that interested in SL as an educational environment. People do not seem to spend much time in SL outside of class. Their thoughts about SL seem to be that it is an interesting space and perhaps a future mode of educational work, but they are having a lot of trouble figuring out how to make it relevant to themselves.

This impression was clarified to a certain degree after the online class. In the next face-to-face class meeting, students remarked on how important it was to be in the Second Life environment as a group. For some of the students who had experienced harassment from other avatars, being with the whole class in the environment felt safer. For others, meeting as a class added the goal-based sense of purpose the environment lacks. It seems that what students were most looking for in the Second Life experience was meaningful and positive social interaction, which they did not necessarily find when they visited the simulation on their own. Along these lines, students also commented on how extraordinary it was to meet other people with similar interests in the virtual world, such as the graduate student assistant from San Diego State University. We all saw this as a potentially strong component of learning in a virtual world. Relna wrote in her reflection paper about the online class as changing her experience and understanding of Second Life as an educational tool:

My experience in Second Life changed when I participated in our class in SL. While I had interacted with others during my previous visits to Second Life, I had not been part of a group with a common goal and interests... There is an intimacy involved when people come together for a common purpose. I believe the boredom I felt during my first visits to Second Life resulted from a lack of this intimacy... The true power of Second Life as an educational tool lies in this ability to allow students from various locations to come together for a common purpose.

Relna's insight about the power of Second Life resonates with the conception of the environment as social simulation. And, in fact, by the end of the semester, the students and I had come to view Second Life as just this, social simulation with the potential to connect individuals in educational endeavors across distance and time.

IMPLICATIONS AND CONCLUSION

As Dinkelman (2003) noted, self-study produces two types of knowledge: that which is most helpful to the local practitioner in improving practice and that which is useful to the broader field of practitioners in thinking about practice. Here I discuss the knowledge generated from this self-study in both of these categories.

Local Knowledge

In closely examining the problems that arose as I implemented the Second Life MUVE in my graduate seminar, I became aware of the assumptions I had made about my graduate students interests, based on my own interest. I had gen-

eralized my interest in new and emerging technologies to my students. In particular, I assumed that since the students were candidates for degrees in an educational technology program that they would demonstrate a high level of curiosity about new and emerging technologies, and that this curiosity would manifest as self-directed exploration of the educational possibilities of the technology. These assumptions were based not only on my own interests, but also on my epistemological commitments. In line with my constructionist beliefs, I am particularly interested in learning technologies that allow one to make or create artifacts. I assumed that my students would have a similar interest in creating with a constructionist-based educational technology, such as the Second Life MUVE.

As is reported above, these assumptions proved to be wrong. The students in this class were not necessarily curious about the Second Life MUVE and the majority of them felt bored by the lack of a rule-based goal structure within the simulation. This boredom seems to be based in the students' expectation that Second Life would be constructed as and function similarly to a video game. Second Life has the look and feel of video games, and therefore it raised the expectation in my students of a certain type of experience. When this expectation was not met, students had a negative reaction to the simulation. In addition, the focus on adult activities that many citizens of Second Life seem to pursue was alienating for my students. Because of this boredom and alienation, the students were not motivated to explore the environment on their own, and did so only once I had provided a high degree of structure to student activity in the environment.

Once the new assignments were in place, the students were able to approach Second Life in a more meaningful and purposeful way. However, even with the new goal structure organized around assignments, students continued to have difficulties in engaging with the environment. For example, some of the students became acutely aware of their own lack of what Mike termed "cultural capital" in the world and the feelings of helplessness evoked when set upon by an aggressive avatar with superior scripting skills. While it was not possible for me to address the aggressive avatar problem head on, I was able to provide a more positive experience for students through our online class. This class was a high point of our semester-long exploration of Second Life. The students enjoyed traveling in Second Life as a group and the fortuitous and unplanned meeting of the SDSU graduate student assistant demonstrated the unique possibilities of the Second Life MUVE.

Broader Implications

Two important ideas emerge from this self-study. First, students have expectations and prior knowledge related to a technology that may affect how that technology is adopted in a course. Second, using an emerging technology in one's class may require students to take risks that the professor cannot mitigate. I address each in turn.

Expectations and Prior Knowledge

The students' expectations of the Second Life MUVE, based on prior knowledge of video games, strongly influenced the trajectory of the course exploration of the environment. Whereas I had envisioned a high degree of student directed exploration of the Second Life MUVE, the students evidenced a frustration with the open-ended structure of the environment that led them to declare the technology as "boring." A technology itself may offer a number of opportunities for meaningful engagement; however, if the students' formalistic expectations of a technology conflict with the technologies actual structure, students may not take advantage of these opportunities. While it is impossible to begin a course with full knowledge of students' expectations and prior knowledge, it is important to be able to flexibly respond to problems that arise as a result of student expectations and prior knowledge. In my case, scaffolding student activity through creating new assignments was the key to addressing the problem of student engagement in the task. However, creating new assignments six weeks into a semester presents it's own problems.

The syllabus in a class is typically viewed as a contract by all of the parties involved. In such an arrangement, the teacher has set the expectations for student engagement and achievement and the students use the syllabus as the main authoritative document in the course governing their production of labor related to the course. If the teacher and the students in the class view the syllabus as a contract, it may be very difficult to alter the contract once the semester has begun. On the other hand, the syllabus may also be thought of as a work in progress, an entity that may have a basic shape but that is also subject to change if all of the parties to the syllabus agree that such a change is warranted or helpful to the main endeavors the class has undertaken. In this arrangement, the syllabus is presented to students as subject to change, dependent on course needs. It is simpler to revise the syllabus to meet conditions as they develop when presented as a work in progress. It is advisable when introducing a new technology in a course to present the syllabus such a flexible manner. This flexibility allows the teacher the ability to create scaffolds whose necessity were unforeseen at the beginning of the class but crucial to course progression as the semester unfolds.

Presenting a syllabus as a work in progress to students also allows the teacher to introduce the concept of the reflective practitioner (Dinkelman, 2003). The reflective practitioner is a teacher who uses evaluation and feedback to improve his or her teaching. Ongoing evaluation of the students' needs in relation to the course may call for a mid-course correction. Positioning the syllabus as a work in progress allows the teacher to make the needed course corrections at the appropriate time.

In summation, in order to successfully integrate a new technology into a course, it is important to pay attention to student expectations and prior

knowledge with a technology. It is equally important to be flexible in developing scaffolds to address student-learning problems as they arise. Finally, in order to create room for such flexibility in one's classroom, it may well be necessary to alter fundamental aspects of one's practice such as moving from the concept of syllabus as contract to syllabus as a work in progress.

Student Risk Taking

One of the responsibilities of a teacher is to create a safe environment for student learning. Learning always involves risks, such as the risk of failure or the risk of not understanding. Managing students' experiences and risk taking in a learning environment is an important aspect of teaching. In using a technology such as Second Life, students are exposed to new risks, including aggressive avatars. However, unlike the risks that are confined to the face-to-face class situation, the teacher using a social simulation open to the world can do little to affect the behavior of avatars of individuals not enrolled in the course. While this risk may be specific to the public areas of the Second Life MUVE, it points to the fact that the use of social technologies in a course may expose students to similar risks.

If a teacher cannot protect students from the potential problems associated with taking such risks with social software, the question arises as to whether the software should be utilized at all. What is the responsibility of the teacher in this instance? Is the responsibility different based on the age and maturity level of the students? Is there a cost benefit analysis that teachers must now engage in when considering the use of a social technology? If new social software such as Second Life is to be used in the classroom, how can we manage the risks that students take in entering the environment? These questions are raised by this study. They are important questions for the learning technology community to be asking, particularly as the use of social simulation and social networking technologies for educational purposes are being widely explored.

Should I choose to use the Second Life MUVE again in class, I will do so with caution. It is important that students be made aware ahead of time of the particular risks they encounter in the environment, namely the risk of being harassed by other avatars roaming the public space. To mitigate these risks, I would schedule class field trips to educationally relevant areas of Second Life. These trips provide a sense of purpose and a sense of safety for students in the environment. Traveling as a group will most likely dissuade aggressive behavior from others.

Using the Second Life MUVE in my graduate level course was an exercise in expansive learning (Engestrom, 2001). In an effort to integrate relevant new and emerging technologies into my teaching, I embarked on a semester-long teaching experiment. This experiment resulted in new understandings of how to go about integrating emerging technologies in the cur-

riculum, and it has also raised important questions related to pedagogical risk and responsibility while using social technologies.

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