

SLeducating: An exploration of the evolution of educators in *Second Life*

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Abstract

SLeducating: An exploration of the evolution of educators in *Second Life*

Marci Araki

Second Life is a social multi-user virtual environment (MUVE) in which thousands of users interact with each other in real time through an avatar, or digital character representation. This study is an exploration of how educators using *Second Life* in college or university-affiliated teaching are constructing their identity and practice. It fills a gap in existing literature on educator identity by addressing the fluid nature of identity in a social MUVE. A qualitative case study approach was chosen. Five participants were interviewed and observed teaching a class in *Second Life*. Data was analyzed using a grounded theory approach to qualitative data analysis, and informed by narrative data analysis, which is particularly relevant for research on identity. Results of this study show that participants were influenced by their real life in designing their teaching avatars, and that teaching avatars are to be considered as part of the design of the learning environment. Participants also encountered problems with the Second Life voice technology. Guidelines for teaching in *Second Life*, and a profile of a typical educator in *Second Life* are proposed.

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PREFACE

While having lunch with a fellow graduate student recently, she asked if I would be willing to be a guest speaker in her class on cyberculture. She was going to be out of town attending a conference, and this was a perfect opportunity for her class to meet in *Second Life*[®], the popular multi-user virtual environment (MUVE), and explore the resident-built world with me as their tour guide to various educational locations. I have been a resident, as the creators at Linden Lab calls users, since spring 2006, and this was to be my first appearance in a professional education role with a class of students. I jumped at the opportunity. My excitement was quickly followed by concern when I realized that Lola, my avatar, does not look much like an educator. Or what I thought an educator should look like, based mainly on stereotypical images from popular culture. Most of my time in *Second Life* had been spent shopping for clothes for Lola and going virtual clubbing. Although I originally considered creating a male avatar, I eventually decided to create a female similar in appearance to my real life self. To prepare Lola for her new professional role, I needed to purchase more conservative clothing, I thought, definitely not what she usually wears to the clubs. No more low-cut jeans and revealing halter tops; I needed to find jackets and button-down shirts.

My concern over how an educator should appear in order to establish Lola as a legitimate educator is not uncommon in the growing community of *Second Life* educators. As increasingly more educators and educational institutions are offering courses, and in

some cases entire programs in *Second Life*, educators are grappling with how to construct their practice and identity as educators into this nascent virtual environment. What is appropriate attire for an educator? Is it OK to appear in front of a class as a furry creature? Or a fairy with wings and a wand? Is it better to have one avatar for professional purposes and another strictly for fun? With almost limitless possibilities to design one's avatar and establish a presence in *Second Life*, these are not merely aesthetic or fashion decisions. They strike to the heart of the multiple choices, tools, and practices available to educators to construct their identity in *Second Life*. And because best practices for pedagogically sound courses and programs are just in the process of being developed (“Second Life Best Practices in Education”), current educators are the pioneers. This study is an exploration of how these pioneers are constructing their professional identity in *Second Life*. It is an exploration of an emerging type of educator — a self-designed virtual representation that exists only in cyberspace, in a world distributed across multiple servers and accessible only by logging on to *Second Life*.

CHAPTER 1: INTRODUCTION

The chapter introduces the link between, *Second Life*, a social multi-user virtual environment (MUVE) in which thousands of users interact with each other in real time through an avatar, or digital character representation, and education. The first section, Organized Learning in *Second Life*, provides an overview of educational research and projects that support the emergence of a growing community of educators. The following three sections state the research questions, the significance of this study for research in education and MUVEs, and limitations of the study. The chapter concludes with a list of terms and acronyms used in this study.

ORGANIZED LEARNING IN SECOND LIFE

The user-created world of *Second Life* presents a different challenge for educators, even those familiar with teaching in other online environments. Unlike learning management systems (LMS) such as Blackboard™, commonly used by colleges and universities to manage online courses, *Second Life* is graphically rich, visually interactive and immersive. It was developed as an entertainment medium, not an educational medium. This presents educators with the dual challenge of designing a visual representation of themselves as they wish to be seen by students and peers, in a predominantly entertainment environment without traditional boundaries between leisure spaces and learning spaces. This study will describe in further detail how *Second Life* is distinctly different from other MUVEs and online educational environments, such that existing research fails to fully cover the new identity issues faced by *Second Life* educators.

Although *Second Life* was first launched in 2002, it became popular in 2006 as mainstream media outlets reported on its economic and educational potential (Shepherd, 2007; Lamb, 2006; Lavalley, 2006; Hof, 2006; "Wired Travel," 2006; Wong, 2006).

Residents have access to simple building and scripting tools, allowing them to create everything from clothing and accessories, to mansions, games, and complex physics simulations. Residents retain ownership over their creations, and have the opportunity to buy, sell, and trade their creations for the *Second Life* currency Linden dollars, which may be converted to US dollars.

The resident-built and owned environment offers opportunities for both formal and informal learning. Courses are available in-world for those wanting to learn basic navigation skills to advanced building and scripting. Book clubs, museums, and speeches by real life politicians and activists offer opportunities for informal learning. Colleges and universities have recreated aspects of their real life campuses in *Second Life*, or designed entirely new ones, to offer courses and programs in a range of subjects such as business, engineering, English composition, architecture, and geography. Research into the educational potential of MUVES, including massively multiplayer online games (MMOGs), supports the emergence of educational initiatives in *Second Life*. Jarmon, Traphagan, and Mayrath (2008) conducted an empirical study on the use of *Second Life* for a graduate communications course. Their findings recommend using a project-based learning approach combined with technical training on the *Second Life* interface. Nesson and Nesson (2008) taught a law course in *Second Life* and argue that the environment

offers more potential for creating a class community than other online spaces through the ability to co-create the learning space. Steinkuehler (2004) found evidence of informal learning during her ethnography in the MMOG *Lineage* as advanced players apprenticed novices in socially acceptable behaviour and values for her particular class of player. Delwiche (2003) used the fantasy world of Norrath in the game *EverQuest* as a site for ethnographic research in an undergraduate college course on qualitative research methods. Dede, Clarke, Ketelhut, Nelson, and Bowman (2005), and Barab, Hay, Barnett, and Squire (2001) incorporated game elements into the design of MUVES created for middle school science and social studies students. Gee (2003, 2005) asserts that certain design features of MUVES and video games empowers learners and supports complex problem-solving skills.

In *Second Life*, many learners are not simply passive consumers of content developed and owned by media and entertainment conglomerates. They are co-designers and co-creators in the environment. Complex tasks, such as creating a new business, can be completed in an authentic environment with a working economy, promoting problem-solving and teamwork skills. Private islands are available for specific groups. Brigadoon, for example, is a private island for those with autism and Asperger's Syndrome to learn and practice communications skills. Spaceport Alpha Island hosts the International Spaceflight Museum, with its recreations of NASA rockets and space shuttles, and the *Second Life* Planetarium. *Teen Second Life*, created as an environment for teens aged thirteen to eighteen without adult content, hosts Global Kids, a non-profit organization

offering experiential and interactive leadership programs for youth around the world. Activity in the educator community also provides evidence of the burgeoning interest in *Second Life* as an educational environment. The *Second Life* Educators mailing list has been active since October 2005, with thousands of members. There are also separate mailing lists for *Second Life* researchers, *Teen Second Life* educators, health care support and education, and professional trainers. The Simteach wiki site lists over 200 educational organizations, including universities, colleges, school boards, libraries, museums, and non-profit organizations, currently operating in *Second Life* ("Simteach"). An increasing number of blogs and wikis provide news and information for the educator community, and the second Best Practices in Education conference was held in *Second Life* in March 2009, a three-day grassroots event for the education community to showcase their latest research, projects, and events ("Virtual Worlds - Best Practices in Education").

A review of discussion threads on the *Second Life* educator mailing list provides evidence that the question of *who* educators are in this environment is as important as *what* they are doing there. At least five threads in a six month period from January to June 2007 were about appropriate clothing for educators, identity issues switching from the classroom to *Second Life* and back again, and the degree to which their real life practice influences their *Second Life* practice. Participants debated whether fashion decisions were appropriate for an educator mailing list, and whether conservative dress was still most appropriate for a *Second Life* class. The variety and volume of responses is clear

indication that aspects of identity construction are being discussed among educators. As was noted in a study of images of teachers in popular culture, "The medium is the message, and the image of the professor often matters more than the ideas of the lesson" (Polan, 1993, as cited in Weber & Mitchell, 1995, p. 8).

RESEARCH QUESTIONS

Given the freedom that all residents have to design themselves and their surroundings, and the diverse ways in which educators are using *Second Life* as an educational environment, identity construction for educators is complex question. In particular, this research study explores the identity practices and processes of educators using *Second Life* in university-affiliated teaching.

Specific research questions are:

- How do educators using *Second Life* in university-affiliated teaching use the available tools and technology in *Second Life* to construct their identity?
- To what degree are they influenced by their real life identity and practice as they construct their *Second Life* identity and practice?
- How has using *Second Life* in university-affiliated teaching affected the way in which educators seek to identify with their students, and their students identify with them?
- How has using *Second Life* in university-affiliated teaching affected the relationship between the educators and their colleagues, and in particular, their

reputation and status?

SIGNIFICANCE OF THE STUDY

This exploration should become significant for the study of MUVES as educational environments because it will be focusing on the personal and professional stories of those *using Second Life* in university-affiliated teaching. By building on previous research on the lives of teachers, and the development of a "teacher" identity, this study will add to the body of knowledge about how educators build their practice and identity, and how they make meaning out of their experiences for themselves personally and professionally. As Goodson (1992) stated, "In understanding something so intensely personal as teaching it is critical we know about the person the teacher is" (p. 4). This study also addresses a gap in existing research by exploring identity construction for educators in *Second Life*, a persistent, virtual environment that because of its user-created content with user ownership of the copyright of such content, is unlike other online environments used in education and addressed in previous research studies. The goal of this study is to provide insight into how these particular educators are constructing their identities in *Second Life*. Educators in *Second Life*, as well as administrators, instructional designers, and MUVE designers and planners would benefit from a greater understanding into educator identities in *Second Life*, as would other researchers interested in further exploring educator identity in different cultural contexts and other MUVES.

LIMITATIONS OF THE STUDY

The primary purpose of this study is to explore the identity construction educators using

Second Life in university-affiliated teaching. It is a study about people. Therefore, it only addresses the technology of *Second Life* insofar as it relates to the educators, and their use of technology in their identity practices and processes. This study also does not focus on educational theory and pedagogy as it is applied to *Second Life*, or other MUVES.

LIST OF TERMS AND ACRONYMS

Avatar.

Refers to the incarnation, or representation of a person or quality of a person. In digital environments, it refers to the digital character representation of a user. Derived from the Sanskrit word, avatāra.

Game world.

Refers to a type of virtual environment in which thousands of users interact with each other in real-time through an avatar, within the structure of a defined story, a character avatar with defined characteristics, goals to achieve to advance, and scores that determine a player's success relative to other players.

MMOG (Acronym). Massively Multiplayer Online Game.

Refers to persistent, online game worlds in which thousands of users inhabit at any given time. Many are graphically rich and set in fantasy worlds, and users select to play a particular class of player as their avatar, or character representation in the game.

MMORPG (Acronym). Massively Multiplayer Online Role-playing Game.

Refers to the same type of games as MMOGs, except with more of an emphasis on role-playing. The two terms are often used interchangeably. Well known examples of an MMOG or MMORPG are *EverQuest* and *World of Warcraft*.

MOO (Acronym). Multi-user Dungeon or Multi-user Domain, Object Oriented.

MOOs are a type of text-based multi-user dungeon or multi-user domain. The acronym is derived from the object-oriented programming language that is used to organize objects on the server. The first MOO was developed in 1990.

MUD (Acronym). Multi-user Dungeon or Multi-user Domain.

MUD was the name of the first text-based MUVE (Bartle, 1990), and was then used to refer to the entire genre of text-based MUVEs until derivations of it, including MOOs, were developed using different programming languages.

MUVE (Acronym). Multi-User Virtual Environment.

Refers to a virtual environment in which thousands of users interact with each other in real-time through an avatar. They are persistent, so the world exists after users log off, and continues to evolve through the interactions of other users. MUVE is used to refer to both text-based and graphical, social and game virtual worlds.

Social world.

Refers to a type of virtual environment in which thousands of users interact with each other in real-time through an avatar, focusing on activities and opportunities for users to socialize with each other often in more realistic, rather than fantasy environments.

Virtual world.

Refers to a type of virtual environment in which users inhabit through an avatar. Virtual worlds refers to both text-based and graphical, social and game worlds. Virtual worlds and MUVES are similar, but virtual worlds may not support multi-users to the same extent as MUVES.

CHAPTER 2: LITERATURE REVIEW

To situate this study in the broader context of literature about Multi-User Virtual Environments (MUVES) as learning environments, and in particular *Second Life*, and teacher identity, three streams of literature are discussed. The first describes the general evolution of MUVES from text-based worlds to realistic graphical environments, the difference between game worlds and social worlds, and the theoretical foundation for the use of MUVES in education. The second section offers insight into identity construction in face-to-face and online environments. It first describes the literature on how teachers create their professional identities, situating the experiences of educators using *Second Life* in university-affiliated teaching in the wider body of literature on teacher identity. It then reviews the literature on identity construction in text-based and graphical online environments, with a focus on professional communities. The third section describes the specific evolution of the software product used as the technology underlying this study, *Second Life*. This section follows the evolution from its initial conception to its present form. This section also provides an overview of user experience in *Second Life*, and uses participatory design research as a framework to describe how the relationship between developers and users contributes to its unique affordances for education.

MUVES

This section begins with a description of the evolution of MUVES from text-based worlds to graphical worlds, noting when popular applications were developed. The difference between game worlds and social worlds, and their defining features, is then discussed. It

follows with a review of research showing how MUVES are being used in education, and how design features of MUVES are adapted for education.

History of MUVES

The terms multi-user virtual environments (MUVES), virtual worlds, and synthetic worlds are often used interchangeably. They all refer to persistent online environments in which multiple users interact with each other through a digital character representation, or avatar. They are persistent because the environment does not shut down after a user logs off, and the identity and history of the avatar remains intact the next time the user logs on. MUVES originated in the 1970s as text-based worlds, following by graphical worlds almost twenty years later. MUVES, whether they be text or graphical, can also be classified as game worlds, with rules, goals, and scoring; or social worlds, where the focus is on socializing and communicating with other users. A brief history of the evolution of MUVES from text-based to graphical environments is followed by a description of the key features that distinguish game worlds from social worlds.

In the late 1970s, Roy Trubshaw and Richard Bartle created the first MUVE while students at Essex University in England (Bartle, 1990). Called MUD, or multi-user dungeon, it was a text-based multi-user fantasy adventure environment. The genre of text-based multi-user virtual environments are now called MUDs, or MOOs, referring to text-based multi-user environments built with an object-oriented database programming language. LambdaMOO, created in 1990 by Pavel Curtis as a text-based social world, is

the oldest and still one of the most popular MOOs today. It currently has a subscription base of over 3000 users ("LambdaMOO"). Users see a description of the environment when they first log on to a MUD or MOO. In LambdaMOO, users initially connect to a closet in a house modeled after the creator's own home in California ("LambdaMOO"). Users can then move to other parts of the house to explore and meet other users. Descriptions of each area alerts users to others who are present in the room. Users communicate with each other by typing commands, such as talk or whisper, in the command line. The first graphical MUVE, *Ultima Online*, was launched in 1997. Like the popular game *EverQuest*, launched a few years later in 1999, it is a fantasy-based adventure game more commonly referred to as a massively multiplayer online role-playing game (MMORPG), or massively-multiplayer online game (MMOG). The difference between the two terms is the degree of role-playing involved in the game. While some games enforce the role-playing aspect and insist that players keep "in character" during game play, other games do not and are less strict about having users reveal real life details about themselves. Many are based in fantasy worlds inspired by Tolkein's *Lord of the Rings*, including *World of Warcraft*, the most popular of the game world genre with over nine million subscribers ("Blizzard Entertainment").

Game worlds and social worlds

MUVEs, whether they be goal-oriented game worlds or less structured social worlds, share common characteristics. Book (2004) identifies these:

- Shared space. Multiple users represented by their avatars share the same

environment

- Graphical user interface (GUI). GUIs can be either two-dimensional (2D) or three-dimensional (3D).
- Immediacy. Interaction occurs in real time through chat, instant messaging, or sometimes voice.
- Interactivity. Users may interact with other users, non-player characters, or content in the environment.
- Persistence. The world continues after the user logs off, and the history and identity of the avatar remains intact until the next time the user logs on.
- Socialization/community. It is easy to meet other users and form groups.

Where game and social worlds differ is that game worlds have elements that provide structure to the user's activities, whereas social worlds are more open-ended and allow for many different activities. Castronova (2005) summarized the key features of game worlds, presented in Table 2-1.

Table 2-1: Key Features of Game Worlds (Castronova, 2005)

Feature	Description
Roles	There are defined roles from which a player must select in keeping with the game's storyline.
Advancement system	There is a system to reward and punish players based on accomplishing predetermined tasks and advancing to higher levels, thus achieving higher status, based on gameplay.
Status	The status of one's avatar is clearly visible, and impacts the formation of groups and guilds (which often require higher levels) and the level of challenge in the game.
Risk/danger	Risks and danger include death, which may result in loss of possessions, wealth, and status; increased risk and danger is associated with increase challenge and possible reward.
Scarcity and forced cooperation	Highly desirable items are difficult to obtain, and high levels in the game are only achieved through cooperation with other characters of differing classes in informal groups or more formal guilds.
Personalized content	The artificial intelligence (AI) in the game regulates the type of content for one's avatar. For example, specific challenges and instructions are given for a high-level warrior, or lower-level dwarf.

In game worlds, players have traditionally had little opportunity to create their own virtual artifacts for use in the game, like swords or castles, or modify the attributes of their characters or terrain beyond what is allowed by the game designers. Players are able to play their character within the predetermined rules of the game, and form groups or guilds to accomplish tasks, but identity processes in these worlds are limited to the style of game play the player chooses. For example, one may develop a reputation as a particularly violent warrior or clever cleric, based on how one chooses to play the game. There is no opportunity to customize one's avatar or a personal space, like a residence, in the game. Developers of these games, usually large media and entertainment companies, also maintain strict control over the copyright of game artifacts.

Book (2004) summarized the key features of social worlds that differentiate them from

game worlds, which I present in Table 2-2.

Table 2-2: Features of Social Worlds (Book, 2004).

Feature	Description
Open-ended environment	No rules or storyline to follow, goals to achieve, or limited number and type of characters to play
Absence of the "magic circle" (Huizinga, 1938) or distinct separation between the rules of the game world and the rules of the real world	The membrane between the social online world and real world is very thin at times; many users create avatars similar to their real life selves and are allowed to bring in real world cultural references, thus breaking the "magic circle" that exists in game worlds.
Environment and culture based on modern, realistic settings	Sometimes advertised as online travel destinations, for example recreations of Paris in 1900 or Amsterdam; absence of fantasy themes
<p>Examples of real world cultural references and artifacts that commonly appear in social worlds include:</p> <ul style="list-style-type: none"> ● residences that can be customized by the user; ● identity representations based on class, gender, race, age, etc ● real world activism, such as political campaigning (in <i>Second Life</i>), religious evangelizing (in <i>There</i>), and fundraising efforts (in <i>Second Life</i>) ● real world job roles ● commercial ventures with an emphasis on consumption; some game world users find social worlds to be like large online shopping malls 	

Second Life is an example of a social world. The focus is on meeting new people, attending concerts and other events, and carrying out day-to-day activities such as housekeeping and shopping. While games can be developed and played within social worlds, the game itself is only one aspect of the world. *Second Life* differs from other social worlds because of the freedom Linden Lab offers its residents to own the copyright over all their creations, and convert their in-world assets in Linden dollars to US dollars. These policies have led to growing interest in the educational community, wanting to leverage the technology to support different types of learning activities, from traditional

classroom-based lectures, to complex simulations in authentic environments.

Learning in MUVES

The 2007 Horizon Report identifying emerging technology trends in education listed the time-to-adoption phase for social worlds as two to three years ("The 2007 Horizon Report"). For the first time researchers decided to separate social worlds from game worlds, or massively multiplayer online games (MMOGs), because of a longer time-to-adoption phase at four to five years. Social worlds were placed ahead of game worlds because academia has shown so much interest in exploring not only *Second Life*, but other social MUVES such as *There* and *Active Worlds*. Even though game and social worlds share similar characteristics, it is important to differentiate between the two for the purpose of exploring teaching and learning opportunities because the structure, rules, and storyline that exist in game worlds place different limitations on the type of learning experiences that can be designed. A review of the literature on gaming and learning, and MUVES and learning shows that designers of educational MUVES tried to incorporate elements of games that were found to be motivational and engaging for students.

Gee (2005) listed three design categories of video games that support learning and motivation: empowered learners, problem-solving, and understanding. A discussion of these three categories in the context of both game and social worlds follows.

Empowered Learners

Users are empowered, he argues, because they are not passive consumers of content.

They have the opportunity to design, create, and collaborate within the game world, and have their decisions impact the environment itself. The game can be customized to suit different styles of play, and users are able to assume different identities in the game by creating multiple avatars, and in the process, learn the practices, values, and attitudes associated with those identities.

In her cognitive ethnography conducted in the fantasy game world of *Lineage*, Steinkuehler (2004) discovered that players are empowered by informal interaction and collaboration with other players. New players learn to play the game, and learn appropriate practices and behaviour for their particular class of player (in her case an elf), from more experienced players. For example, she was taught how to gather food while avoiding monsters, and how to behave towards other elves gathering food by a more experienced elf.

Learners are also empowered in *Second Life*, perhaps even more so than in a game world. One of the key features of *Second Life* that makes it appealing for educators is the ability to create content, and own the copyright over their creations. The freedom to create and use artifacts as desired means the environment can be customized to suit different purposes, whether they be for education, entertainment, or commercial ventures. The ability to assume, and live out different identities is also more heightened in *Second Life*

than in a game world. The culture of many game worlds prevents users from freely expressing different identities as their avatars because of the role-playing requirement. It would be inappropriate, for example, for a warrior to brew healing potions as warriors are expected to wield swords and kill monsters. Residents of *Second Life* and other social worlds are not constrained by cultural and community expectations to the same degree as players in game worlds.

Problem-Solving Skills

Good video games provide opportunities for users to practice problem-solving skills by providing challenges that are relatively simple to accomplish to start, then increasing in difficulty as the user proceeds in the game. As the problems become more difficult at higher levels, users apply skills and knowledge gained in solving problems at lower levels. At higher levels in the game, knowledge is distributed across many characters types, forcing users to cooperate with other users to solve complex problems together. Problems are also designed to challenge and motivate users to continue playing. They may be frustrating to achieve, but pleasantly so, such that users feel like they are making progress and slowly conquering the game. Users are provided information to solve problems and achieve higher levels on an as-needed, just-in-time basis. Many online games are designed to be played first, learning rules and strategies during gameplay, and not by reading instructions in advance.

Steinkuehler (2004) was taught valuable problem-solving skills when it was needed most.

After finding herself in a dangerous situation amongst a group of monsters, an experienced elf came to her rescue and taught her how to avoid monsters in the future. She found that "the information is given "just in time", always in the context of the goal-driven activity that its actually useful for — and made meaningful by — and always at a time when it can be immediately put to use" (p. 7).

Her experience as a novice elf is similar to my experience as a new resident of *Second Life*. Within my first hour of exploring the world, more experienced residents offered their assistance as Lola searched for nightclubs playing a particular style of music. She was instructed in how to use the Search feature effectively, create landmarks to frequently visited places, and transfer landmarks from one inventory list of locations to another resident's inventory list. This information was offered as it was needed, in the context of exploration of the environment. Experienced residents also instructed Lola on valued practices and attitudes for the community at an event for new residents. Upon learning that Lola had yet to go shopping to purchase new clothes, a resident gave her some clothes for free, transferring them from her inventory to Lola's. Lola was struck by her generosity, and vowed to extend the same courtesy to other new residents to "pay it forward".

Understanding Games as Models of Larger Systems

Understanding is designed into video games because game environments themselves, whether they be an enchanted forest or alien spaceship, can be seen as models of larger

systems. Users become aware of the larger system as they acquire new skills, accomplish goals, and learn the rules of the game. By learning the rules of the game, they are actively engaged in deciding which skills and strategies are applicable in different situations, and how each challenge fits into the larger goal of winning the game. Gee (2005) emphasizes the importance of learners being able to view the larger system. "In school, when students when students fail to have a feeling for the whole system which they are studying, when they fail to see it as a set of complex interactions and relationships, each fact and isolated element they memorize for their tests is meaningless" (p.14).

Echoing Gee's (2005) comments, Steinkuehler (2004) also found that learning is always situated in the larger system, or game world, in which it takes place. "From the very outset of game play, the individual engages in the virtual social and material world as a complex, ill structured, dynamic, and evolving system, not some watered down version of it" (Steinkuehler, 2004, p. 7). An individual's choices and activities in the game never occur in a vacuum. They will always influence, and be influenced by, the larger game world in which they occur.

Because residents are co-creators and designers of an ever changing and evolving environment in *Second Life*, learning can be designed in such a way that learners are aware of the impact of their activities on the larger *Second Life* community. Learning opportunities to engage learners with the general resident community of *Second Life* include offering courses, providing services, conducting research, creating a new

business, or maintaining a blog or newsletter to report on activities in *Second Life*. The key to promoting understanding of the greater system is some level of critical engagement with the *Second Life* community in general, and not just the educational community.

Based on these design features of game worlds and social worlds that promote learning, MUVEs can be seen as constructivist learning environments, as defined by Jonassen (1999), who states that “CLEs should provide learner-selectable information just-in-time. CLEs assume that information makes sense only in the context of a problem or application” (p. 9). The evolving communities of users of both game and social worlds provide just-in-time, contextual information to newcomers, whether it be how to hunt for food in a community of elves, or share clothes with other residents, always in the context of a larger problem or goal to accomplish.

Educational MUVE Design

The three design features of games identified by Gee (2005) and Steinkuehler (2004) to promote learning were incorporated by Dede et al. (2005) into the design of *River City*, an educational MUVE for middle school science students in the United States. *River City* is a fictitious 18th century city in which residents are suddenly falling ill. Students, working in teams of three, assume the role of scientists and go to *River City* to investigate the cause of the illness. Results from their study (2005) showed that students found it motivating to assume the identity of a scientist, and be given a problem to solve.

Instead of being told what to do, they had the freedom to explore and find solutions on their own, as scientists in an authentic environment. Presenting students with a complex problem to solve, which requires the assistance of others to solve, and allowing them the freedom to pursue solutions based on their actions mirrors the challenges presented to players of MMOGs.

Another educational MUVE for students aged nine to twelve, *Quest Atlantis*, was designed by Barab et al. (2005) as a game with specific quests to accomplish in the virtual world and real world. Assuming the identity of researchers on a quest to save the world of Atlantis from social, moral, and environmental decay, students must accomplish "socially and academically meaningful activities" (Barab et. al., 2005, p. 95) in the real world. Students found the quests to be engaging and motivating, and also provided them with the opportunity to reflect on the activities in the social and environmental context of not only the fictional world of Atlantis, but also the real world. As with *River City* (Dede et al., 2005), *Quest Atlantis* features game elements that Gee (2005) states supports learning and motivation. Students construct their identity in the game as researchers by interviewing, journal writing, and report writing. The quests are challenging yet engaging, prompting students to tackle more advanced quests, and through the quests gain a greater understanding of the both virtual and real world problems.

These examples illustrate the potential of using both game and social MUVEs as learning environments, and how elements from game worlds can be implemented into social

worlds. They also provide evidence that further research into learning in MUVES is necessary "to better understand what contemporary informal online learning environments do well and do miserably if we want to leverage those features that are productive and eschew those that are not" (Steinkuehler, 2004, p. 8).

IDENTITY LITERATURE

Literature studying the identity and lives of teachers and pre-service teachers is reviewed in the following section to situate the experience of *Second Life* educators in the wider context of teachers and teaching. Following that, identity construction issues in both social and game MUVES is explored, and in particular, the role of technology and how it influences responsibility and commitment to one's avatar. The influence of real life identity, and its cultural and social contexts is examined in depth, showing parallels to literature from online professional communities and social network sites.

Teacher Identity

A review of literature on identity, and teacher identity, would not be complete without an understanding of the work of Goffman (1959) who viewed social identity as a performance that individuals play for different audiences and settings. Following that, the range of literature on the identity and lives of teachers and pre-service teachers explores three themes that inform the study of *Second Life* educator identity. A postmodern perspective on identity is examined by MacClure (1993) and Day, Kington, Stobart, and Sammons (2005). The importance of informal learning spaces for pre-service teachers (Bathmaker & Avis, 2005) and for newcomers to a health- and business-related industry

(Blaka & Filstad, 2007), is compared to Clandinin and Connelly's (1996) notion of public and private spaces for teachers. Robbins (2006) notes that the idea of private spaces for teachers is challenged in *Second Life* where the lines between public and private, and personal and professional spaces are blurred. And given the visual dimension of *Second Life* that allows educators to customize the appearance of their educator avatar, Weber and Mitchell's (1995) analysis of popular culture influences on the construction of teacher identity and appearance is particularly relevant.

The Presentation of Self

Goffman (1959) uses a theatre metaphor to describe everyday interactions and the presentation of self. Social identity is created through interactions with others, and is seen as a performance to a particular audience. “The front”, or a stage, is where individuals establish the setting, appearance, and manner for their performance, and allows them to control the reaction of their audience by aligning their behaviour with existing assumptions about their role. Individuals also perform as part of a team, where the focus is to conform and lend credibility to the team performance. Individual dissent from the team performance plays out “backstage”, where conflicts explored in more detail. These backstage interactions form a secondary type of presentation, away from the eyes of the audience.

The influence of Goffman (1959) is evident in the literature on teacher identity. Teaching in front of a real or virtual class can be viewed as a performance, with students as the

primary audience and source of interaction, and colleagues as the secondary audience and source of interaction. Technology, media, and teaching tools form part of “the front”, and influences the way the performance is delivered, received, and interpreted.

Postmodern Perspective

MacClure (1993) viewed teacher identity from a postmodern perspective, stating that teacher identity "can be seen as a kind of argument - a resource that people use to explain, justify, and make sense of themselves in relation to others, and to the world at large" (p. 1). Using narrative research methodology to focus on teachers' stories in their own words, she interviewed teachers from three ethnically and economically diverse areas of England. Results from her study showed that the teacher identity is not stable over the course of time. Identity is related to a number of cultural and occupational factors, including their peers, community, educational institution, and local government. How teachers make meaning of these factors over time — how they argue for themselves — is an individual and idiosyncratic process. She summarized that "the teachers in our study seemed much more unruly and varied in their sense of selves, much less secure in their identity as teachers, and much less securely anchored in a notion of teaching as a career" (MacClure, 1993, p. 7).

An unstable teacher identity affected by various, shifting cultural and social influences is addressed by Cooper and Olson (1996, as cited in Day et. al., 2005) in their study of pre-service teachers. They noted the influence of the teaching context and interaction with

others as their teacher identity formed over time. Reynolds (1996, as cited in Day et. al., 2005) also found the teaching context played a role in how teacher identity shifted over time. Early in their teaching careers, teachers were influenced by the need to fit in — to be enculturated in a particular environment. As their careers progressed, cynicism, conflict, and confusion grew due to a diversity of school contexts and cultures, and a sense that what they had learned in school as pre-service teachers, and what they were practicing, was very different. The notion of diverse teaching contexts influencing the stability, or lack thereof, of teacher identity is applicable to *Second Life* educators, who may be influenced by both the real and virtual contexts in which they practice.

Public and Private Spaces

Clandinin and Connelly (1996) focused on how teachers' professional knowledge context influences personal knowledge. They identified the public context of teaching, or how teachers relate to their peers, parents, administrators, and the school institution itself; and the private context of teaching, or the classroom — their sanctuary away from the prying eyes of the public. "Secret stories" exist in the classroom where teachers are "free to live stories of practice" (Clandinin & Connelly, 1996, p. 25). "Cover stories" are told in public, as teachers portray themselves and their practice on the public stage as characters in a play called "School".

The idea that private and public spaces in the teaching context produce different stories of identity and practice is reiterated by Bathmaker and Avis (2005) in their study of pre-

service teacher identity. Informal learning opportunities were limited as pre-service teachers did not have access to the staff room or meetings, nor was there space in the school for preparation and planning. Inadequate access to informal learning spaces left pre-service teachers feeling alienated, exploited, and marginalized by the placement college, as they distanced themselves from their mentors. The absence of informal spaces for learning and enculturation with their mentors, which Clandinin and Connelly (1996) would view as public spaces, limited pre-service teachers in their ability to tell their own "cover stories", or the public portrayal of their identity as teachers.

Blaka and Filstad (2007) discovered similar results to Bathmaker and Avis (2005) in their study of newcomers to health- and business-related industries. In both workplaces, newcomers found informal spaces to be much more valuable than formal spaces for learning the culture, language, and institutionalized ways of becoming a professional in that industry. Informal learning spaces also provided newcomers with role models with whom to interact, thus shaping their public identities as members of that profession. Seeing oneself as a member of that profession, and making the transition from a newcomer to an insider, involved finding and navigating the path to informal learning and bonding spaces (Blaka & Filstad, 2007).

Robbins (2006) discussed her own experience as an academic and educator in a non-academic setting in *Second Life*, and in particular, how personal and professional privacy is challenged. As an educator in real life, she has a private life separate from the

classroom. She has a different social community from her students, making it unlikely that they would frequent the same parties or social gatherings as students. It is also unlikely that students would just drop by her home to check it out or just to say "hi". But these scenarios could happen in *Second Life* where academic spaces and private spaces are not as clearly defined. Students could drop by or fly over her *Second Life* home simply by right clicking on her avatar and viewing her profile, which includes land ownership details.

Professional privacy in the classroom is also challenged in *Second Life* where many classroom spaces do not have roofs. Many resemble amphitheaters where anyone can walk, or fly in. The abundance of public spaces in *Second Life* may offer more informal learning opportunities for professional development (Bathmaker & Avis, 2005; Blaka & Filstad, 2007), but may hinder opportunities for "secret stories" to be told in private, classroom spaces (Clandinin & Connelly, 1996). Goffman's (1959) theatre metaphor, and in particular his idea of "the front" and "backstage" aligns with Clandinin and Connelly's (1996) public and private spaces. Different audiences in the two spaces give way to different performances, or presentations and creations of self.

Influence of Popular Culture

The influence of popular culture on the image of "teacher" in our society cannot be understated in a study of educator identity in *Second Life*, an environment where educator appearance can be customized and edited at will. Analyzing images of teachers in popular

culture is significant, Weber and Mitchell (1995) argue, because "While images always maintain some connection to people, places, things, or events, their generative potential in a sense gives them a life of their own, so that we not only create images, but are also shaped by them" (p. 21). The reflexive nature of creating and simultaneously being shaped by images is exemplified in the images children and pre-service teachers drew of teachers. Both sets of images contained traditional symbols associated with teaching: blackboards, desks, apples, pointers, and math equations on a blackboard. More surprising was that some of the images of teachers drawn by the pre-service teachers also conformed to stereotypes, including the 19th century female teacher with a bun in her hair straight out of the *Little House on the Prairie* or *Anne of Green Gables* novels popular with girls. As Weber and Mitchell (1995) noted, "we see how problematic it is even for self-aware professionals to forge new identities by modifying images that they have held all their lives - images that are rooted in both mythology and the reality of teaching" (p. 31). Britzman (1991, as cited in Weber & Mitchell, 1995) also addressed the difficulty that teachers face in constructing their own identity and practice in the shadow of these images.

Such images tend to subvert a critical discourse about the lived contradictions of teaching and the actual struggles of teachers and students. Stereotypes engender a static and hence repressed notion of identity as something already out there, a stability that can be assumed ... trapped within these images, teachers come to resemble things or conditions; their identity assumes an essentialist quality and, as such, socially constructed meanings become known as innate and natural. (p. 27)

She also links the stereotypical images of teachers in popular culture to a false sense of

stability of teacher identity, which, as was argued by MacClure (1993), does not accurately represent the myriad of social and cultural factors shaping teacher identity.

The dominant stereotypes of educators reinforced through popular culture extend into fantasy contexts as well. Many of the teachers in the Harry Potter books and movies, such as Professors Dumbledore and McGonagale, conform to the stereotype of the wise, slightly eccentric, and strict, but with a soft spot, teacher. Robbins (2006) faced these stereotypes as she taught her first undergraduate composition course. As one of her students noted, "Aren't all writing courses taught by old guys in bow ties" (Robbins, 2006, p. 1)?

With these entrenched stereotypes reflected back at us through popular culture, do we feel the need to conform to these stereotypes? Why? To what degree do those stereotypes influence our decisions as we manipulate the tools, and nudge the slide bars to design and refine our avatar's appearance?

Clothing is also linked to pedagogical strategy and subject area. Physical education teachers, as I remember them, were also dressed casually in sneakers, track pants, and t-shirts. I associate art and drama teachers with long, floral dresses. (I never had any male art or drama teachers.) Authoritative teachers in my schools tended to dress more formally, with a suit and tie for men or tailored skirt for women. My sister, who recently started teaching in a high school after ten years of teaching in a primary school, discovered her clothing made her classroom transition easier, at least among female

students. Her clothing, always very fashionable, made her appear to be more approachable by female students, as if they could relate better to someone who wears "cool" clothes. Weber and Mitchell (1995) see clothing as representing a number of messages: "Clothing can be a proclamation of resistance, a mode of innovation or becoming, a reconciliation, a desire to belong, or a surrender. Would dressing more like our 'true' selves while we teach be a way of reclaiming that part of our personal identity that becomes 'lost' in the process of incorporating professional identity?" (p. 62)

Steenbergen (2004) described the process of integrating her personal and professional identity through dress as a graduate student preparing to teach her first course. As a high school and undergraduate student, she scrutinized the attire of her teachers, noticing the style and colour of garments, accessories, and hair style. "... it allowed me to imagine the life of a teacher outside the classroom, the professor outside the academy—as well as inside" (Steenbergen, 2004, p. 77). As a first-time lecturer in feminist studies, she experienced the anxiety of selecting her professional wardrobe, not only as a personal expression, but as a pedagogical strategy. She wanted to dress the part of a young feminist, yet not reveal too much about her beliefs. She wanted her students to focus on the lecture material, and not her style. As she continued to analyze her wardrobe, she questioned, "Was it the wardrobe I was frustrated with, really? Or was I more unnerved with what my clothes were saying out loud about my own sense of self? About my own complicity in self-(re)creation?" (Steenbergen, 2004, p. 80). Her attire, particularly for her first day of teaching, was more than various sizes of fabric to cover her body, it represented a negotiation

between her personal style, pedagogical desires, and professional expression.

Analysis of clothing and appearance is especially relevant for *Second Life* educators in the process of constructing their identity and practice. The ability to alter one's appearance quickly and easily, and purchase or create any kind of attire one desires, leaves many choices for educators. Professional avatars represent not only personal values, beliefs, and attitudes about ourselves, but also our values, beliefs, and attitudes about the profession of teaching. They are a mixture of fantasy and fiction; reality and desire. They embody our past, present, and future — who we are, what we desire, and who we want to be. Only by listening to the stories of *Second Life* educators, and understanding how they make meaning out of these images and stereotypes for themselves, will we have a better picture of the practice of teaching in *Second Life*.

Identity in MUVES

Research into online identity construction in MUVES covers both social and game worlds, from the text-based MUDs and MOOs to graphically-rich MUVES such as *EverQuest* and *Second Life*. Taylor (2003) and McDonough (1999) first argue that the impact of MUVE designer decisions on not only identity construction, but also community cohesion, deserves more attention from researchers. Dibbell (1993), Boudreau (2007), Robbins (2006) and Nakamura (2007) discuss how community shapes responsibility and commitment to one's avatar, providing a different perspective on Turkle's (1995) assertion that text-based MUVES enable online identities that are

multiple, fluid, and a tool for experimentation. Gee (2003), Nakamura (1995), Hayes (2007), Talamo and Ligorio (2001), Crowe and Bradford (2006), and Robbins (2006) argue that aspects of our real identities, and social and cultural world in which we exist, are being reconstructed in MUVES, a theme reinforced by literature from online professional communities and social network sites (boyd, 2007; Hargittai, 2007; Ellison, Steinfield, & Lampe, 2007). Taken together, the literature describes the various ways in which users negotiate their real life and online identities, and the often fuzzy boundaries between the two.

Technology and the MUVE Designer

McDonough (1999) and Taylor (2003) interviewed designers of graphical MUVES to investigate the ways in which designers embed cultural and social values, sometimes unknowingly, into the worlds they create. For Taylor (2003), "the role designers and programmers play in shaping these spaces is fundamental. If code embeds possibilities and constraints, it does so because someone made it so" (p. 25). Designers and programmers are "moral philosophers" (Kling, 1996, as cited in Taylor, 2003, p. 28) who have the ability to define how users look, communicate, socialize, and interact while in these virtual environments.

Designers that spoke to McDonough (1999) revealed that they made many assumptions about their potential user community's desires and goals for the game. They acknowledged the diversity of their potential user base, yet still designed the world with a

single reference model of a user in mind — themselves. The world and its cultural references, therefore, were oriented towards Caucasian, educated men from a developed country. McDonough's (1999) main concern with this design approach is that existing societal inequalities will simply be recreated in MUVES. Designers, he states, should strive for diversity at the design table, and not overlook seemingly small details which may have a large impact on the user community.

Taylor (2003) follows up on McDonough's (1999) research by describing the impact of designer decisions on user experiences in virtual environments, and in particular how identities are shaped and constructed. Through her interviews with a number of game designers, she discovered that many designers had ambitious plans for diverse and interactive worlds, yet were constrained by factors beyond their control, such as small development teams, poor communication, tight budgets and timelines, and choice of programming languages, game engines, and servers.

Through programming and design decisions, designers are able to embed values affecting immersion, identity, social responsibility, and legitimacy into the world. Immersion refers to how people see themselves and others in the world. It impacts how people are able to connect to each other and how relationships are formed and maintained. One designer emphasized immersion through interactivity in virtual environments as, "people aren't connecting to computers [...] whatever gives the greatest ability for another person to connect, whether this is through body language or voice or text, gestures, whatever.

That's all for the good. That's for greater connection" (Taylor, 2003, p. 29).

Identity decisions include the tools to customize one's avatar, whether gender and race are identified, the number of avatars one may have, and limits on changing one's avatar. In order to enforce social responsibility, designers often chose to place limits on changes to one's avatar. They wanted people to be responsible for their avatar, and in turn responsible for maintaining a sense of community and trust. One designer described this balancing act between identity and social responsibility, "if a person has a history (good or bad) it helps the community as a whole sort out who are a benefit and who are a detriment [...] we figured the community would determine and change its own unwritten social rules faster than we could possibly identify, document, and enforce" (Taylor, 2003, p. 30). Legitimacy is closely linked to identity. It refers to how people establish themselves as legitimate members of the community. Design decisions include classes of avatars, for example, the presence of furry creatures in *Second Life*; avatar names; formation of groups in-world; and acceptable behaviours and gestures.

For educators in *Second Life*, the question of establishing a legitimate and socially responsible professional avatar is key to understanding identity construction processes, as these characteristics are not only tied to appearance, but behaviour and communication. Social responsibility and commitment to one's avatar are common themes throughout MUVE literature, as they form the foundation of community building and maintenance.

Social Responsibility, Commitment, and Reputation in MUVES

In one of the early articles profiling MUVE identity and community, Dibbell (1993) describes a virtual rape in the text-based MUVE of *LambdaMOO* and the reaction by the community of users as well as the world administrators. "[W]hat happens inside a MUD-made world is neither exactly real nor exactly make-believe, but profoundly, compellingly, and emotionally meaningful" (Dibbell, 1993, p. 4). While there was an absence of physical violence in this case, the words that described the violent acts were real, and challenged the community and administrators to issue an appropriate punishment. Although the offending character was eventually killed, or wiped from the database records by the administrators, the technological affordances of *LambdaMOO* allowed the same user, many believed, to recreate another character from a different internet protocol (IP) address.

This incident speaks to the importance of technology and community in shaping identity. The offending avatar was eliminated, but the offending user behind the character was able to return under a new name. This new character eventually withdrew from *LambdaMOO* however, perhaps feeling the effects of being ostracized by the community (Dibbell, 1993).

New users to *LambdaMOO* playing as a guest sometimes tested the values and norms of the community, Dibbell found, but "only with time and the acquisition of fixed character do players tend to make the critical passage from anonymity to pseudonymity, developing

the concern for their character's reputation that marks the attainment of virtual adulthood" (Dibbell, 1993, p. 9).

The developers who spoke to Taylor (2003) would agree with this statement. The more time a user spends as an avatar in a virtual environment, the more that person will identify with the avatar and in turn, be more responsible for the avatar's reputation and actions in-world. The community gatherings held after the virtual rape to determine an appropriate punishment also reinforces the statements made by MUVE designers to Taylor (2003), who felt that the user community could more effectively develop its own values, rules, and norms for socially acceptable behaviour faster than a designer could identify and code them into existence.

Within the larger resident community of *Second Life*, community values of creativity, tolerance, and imagination are promoted, but what about the educator community in *Second Life*? How are individual educators helping to shape acceptable behaviours, attitudes, and practices for their community and what influence does that community have in developing educators?

The influence of community on social responsibility and commitment in MUVEs was addressed by Boudreau (2007) in her autoethnography conducted in the MMOG *EverQuest*, with similar findings to Dibbell's (1993) text-based social world of *LambdaMOO*. Within the game world of *EverQuest*, with its variety of fantasy fiction

characters such as warriors, elves, and barbarians, players come to understand the role and community expectations for their particular class of avatar. By acknowledging these community expectations, "the player enters into a developmental relationship with their avatar" (Boudreau, 2007, p. 51). Progressing to higher levels in the game requires working with other players, thus enforcing the need to play within the community constructed expectations of class roles. As she progressed to higher levels, her responsibility to her avatar and to her group increased, as did her commitment to play the game in order to maintain her avatar's status and reputation within the game. The identity of her avatar, with her unique narrative history and life in *EverQuest*, became more meaningful to her as the game progressed. She often felt that she had a responsibility to her avatar to play, to maintain her friendships in the game, and to continue contributing to her group, long after her real life commitment to the game waned. Dibbell (1993) would argue that she had attained "virtual adulthood" by her concern for her avatar's reputation and responsibilities in the game.

Robbins (2006) found that the different affordances of *Second Life* break down traditional barriers between instructors and students, especially in the development of trust between her and her students, and her reputation and legitimacy as an educator. Traditional "role markers" (Robbins, 2006, p. 37), such as appearance, tone of voice, language, and location are blurred. It is more difficult to differentiate student from educator in an environment of self-designed avatars where students and educators may not even appear as human, or if educators break from traditional stereotypes of a teacher image. Because

voice is a relatively new technology in *Second Life* and most educators rely on chat or instant messaging, it is more difficult to use vocal inflections and language to distinguish oneself as the teacher. The location of the teacher in the class is also different in *Second Life*. While some may choose to lecture in an amphitheatre or room in front, with students sitting facing them, *Second Life* offers many other options for non-traditional educational spaces. Robbins (2006) embraces the difference, however, and argues that the lack of traditional barriers between educators and students in terms of teacher image and role presents opportunities to build trust and legitimacy unique to *Second Life*.

Although the social world of *LambdaMOO* and the game world of *EverQuest* offer uniquely different experiences for users, both Dibbell (1993) and Boudreau (2007) discovered that community expectations, values, and norms increased responsibility and commitment to one's avatar and the avatar's reputation within the world. Robbins (2006) used the different affordances of *Second Life* to develop new ways of establishing trust with her students, therefore enhancing her reputation and legitimacy as an educator. These findings provide a different perspective on identity construction in MUVES than offered by Turkle (1995) in her seminal work on identity in text-based MUDs and MOOs. Turkle (1995) interviewed people who participated in these text-based worlds and identified different reasons for participation. For some, it was a mode of self-expression and an opportunity to play out aspects of their selves in a safe environment. Others found MUDs to be a valuable tool for self-discovery and experimentation with different personalities. Others explored the psychological aspects of MUDs by playing out and

working through difficult emotional real life issues. What all experienced was a blurring of the lines between real and virtual identity. "MUDs imply difference, multiplicity, heterogeneity, and fragmentation. Such an experience of identity contradicts the Latin root of the word, *idem*, meaning "the same"" (Turkle, 1995, p. 185). To emphasize the fragmented and decentralized identity patterns in MUDs, she finds "When each player can create as many characters and participate in many games, the self is not only decentered but multiplied without limit" (Turkle, 1995, p. 185).

Her conceptualization of fragmented identity in MUDs is problematic when extended to the range of graphical social and game MUVES that exist now. Many MUVE designers, as discovered by McDonough (1999) and Taylor (2003), now stress responsibility and commitment to one's avatar in order to support socially responsible behaviour and community cohesion. Care for the reputation and status of one's avatar in the community, as Boudreau (2007) noted, is a very important component of game worlds in which one is trying to advance to higher levels. Some social MUVES try to encourage maintaining one fixed identity, instead of cycling through multiple identities, to build social responsibility and commitment. In the social MUVE *There*, for example, users have one avatar with a fixed name and gender, and a personal home page to display their interests, photos, and group memberships, per account (Brown & Bell, 2006). Brown and Bell (2006) also discovered that in *There*, users do not respond well to those who "lend" their avatars to others, or let others "play" their avatars. Other users feel like they have been deceived if another user is playing, and adopting a different personality, than the one expected.

The experience of educators in *Second Life* may also challenge the multiple, fluid nature of identity in MUVES as Turkle (1995) described. While residents of *Second Life* have the ability to change their appearance and gender quickly and easily, having a persistent, recognizable, and respected identity is key for professionals. Avatars can act as business cards, since information on group affiliations, land ownership, and friends is easily accessible by right-clicking on any avatar. The focus is on building and maintaining the reputation of one's avatar, as one would care for and maintain one's real life professional reputation.

Nakamura (2007) characterized these different portraits of identity in MUVES as a progression from what she describes as avatar 1.0 to avatar 2.0. Avatar 1.0 characterizes the earlier years of identity work in MUVES as described by Turkle (1995), focused on trying on multiple roles with a renegade, therapeutic intent. Avatar 2.0 characterizes the experience of Boudreau (2007), Robbins (2006), and professionals in MUVES, as work, pleasure, and profit often collide under the umbrella of large, media and entertainment conglomerates (Nakamura, 2007). Avatars of today, used increasingly for business by professional communities, or for profit by MMOG gamers in *EverQuest* and *World of Warcraft* (Castronova, 2004), are subject to increased scrutiny within their virtual communities. A culture of profiling has replaced a culture of experimentation in virtual environments, where one's status and reputation in the community is based on level achieved, type of armour and weapons, group affiliations, race, and age (Nakamura,

2007). The culture of profiling avatars introduces a number of real life social and cultural constructs, such as age, race, and gender that expose the porous boundaries between real and virtual identity construction.

Real Life Identity and Real Life Influences in MUVES

Gee (2003) provides a useful framework for understanding the negotiation between real and virtual identities at play as users inhabit virtual environments. Real identity is who we are in the physical world, virtual identity is who we are in virtual environments, and projective identity is the real identity manipulations and projections on to the virtual identity (Gee, 2003). He describes two interpretations of projective identity: as a "project" under development, and as a projection of our intentions, our conscious and subconscious desires and insecurities that we try on as our virtual selves. As a project, my avatar Lola has to bear responsibility for my manipulation of her in *Second Life*. She is the face of my successes and mistakes. Her identity, or my virtual identity, is who other residents of *Second Life* interact with; they do not know my real identity unless I chose to reveal it. The projective identity can also be seen as a space that I share with my virtual identity, Lola. It is a space where I can transcend my real life identity and limitations, and project onto her my desires as a resident and researcher in *Second Life*. Gee (2003) states that the projective identity can also succeed or fail separate from the real or virtual identity. My attempts to project Lola as a successful educator may fail if I do not manipulate her in the environment in such a way that, for example, attracts new students to my course. If this happens, my real life identity as an educator remains intact. I could

learn how to become a better *Second Life* educator, or I could choose to stop teaching courses in *Second Life*. My virtual identity, Lola, may never be a successful educator, but I could always project a new identity onto her, for example, that of a jewelry designer. As the one projecting my desires on to my virtual identity, I am the puppeteer. But because Lola exists in a world, in a community, separate from my own, I can never enter her world.

The concept of a projective identity is a common theme running throughout the literature on online identity construction (Hayes, 2007; Crowe & Bradford, 2006; Talamo & Ligorio, 2001; Nakamura, 1995). And often what is projected are real world social and cultural stereotypes and divisions, shattering the idea of MUVes as utopian spaces that transcend real world limitations.

Nakamura (1995) addressed the issue of racial identity in *LambdaMOO*, and the ways in which real world stereotypes are presented. She found that although there is no option for race as an avatar characteristic, many users chose to play Asian characters with names such as Mr. Sulu, Akira, or Little Dragon for men, and AsianDoll, Miss Saigon, or Geisha_Guest for women (Nakamura, 1995). Attempts to have serious conversations about race in *LambdaMOO* were dismissed as unnecessarily bringing “real world” issues to the utopian virtual world. Calling it “identity tourism” (p. 1), Nakamura (1995) notes that it was accepted by the community to be Asian in *LambdaMOO* as long as it conformed to traditional stereotypes.

By creating your identity, you help create a world. Your character's role and the roles of the others who play with you are part of the architecture of belief that upholds for everybody in the MUD the illusion of being a wizard in a castle or a navigator aboard a starship: the roles give people new stages on which to exercise new identities, and their new identities affirm the reality of the scenario. (Nakamura, 1995, p.2)

This speaks to the reflexive nature of these virtual spaces. The act of creating an avatar and participating in the space contributes to its continuation as a shared fantasy world. The difficulty in maintaining the utopian promise of MUVES is that "access to technology and necessary skills will effectively replicate class divisions of the rest of reality in the virtual spaces [and] will tend to reinforce existing inequalities, and propagate already dominant ideologies" (Nakamura, 1995, p.6). Her findings echo McDonough's (1999) concern that societal inequalities are being recreated online.

Hayes (2007), in a study of two women playing the fantasy MMOG *Morrowind: Elder Scrolls*, and Crowe and Bradford (2006), in an ethnography of teenagers playing the fantasy MMOG *Runescape*, found that users were heavily influenced by their real life identities and cultural practices. The women in Hayes' (2007) study were very deliberate in their choice of avatar, and wanted to create one that reflected their real life personality, interests, and values, and therefore would be comfortable playing. As Hayes (2007) observed, "For both women, the game presented opportunities to enact identities that they valued and were trying to enact in their real life as well" (p. 20). The teenagers in Crowe and Bradford's (2006) study used the game as a virtual playground, or another leisure

space within which to socialize with their friends. The virtual environment itself is "*already and in the process* of being shaped by the social and cultural. It offers no romantic liberation from the material world, but constructs an intriguing interface between two planes of existence ..." (Crowe & Bradford, 2006, p. 340). The virtual and material worlds co-exist as players slip between the two, importing real world influences into the virtual and vice versa.

Talamo and Ligorio's (2001) study of students and educators in Euroland, an educational 3D world, discovered that virtual identities are socially constructed, negotiated through discourse in specific contexts, and dependent on the affordances of the environment.

Virtual identity is not a static characteristic, but instead built on action and communication. "Identities reside not only in the mind but also in the context and in the artifacts we interact with" (Talamo & Ligorio, 2001, p. 120). Although MacClure (1993) studied teachers in face-to-face environments, her conclusion that teacher identities are unstable, and highly dependent on changing social and material contexts is similar to Talamo and Ligorio's (2001) and still relevant for today's educators in virtual environments.

The studies by Crowe and Bradford (2006), Hayes (2005), Talamo and Ligorio (2001), and Nakamura (1995), while addressing different user communities, still paint a consistent picture of a projective identity (Gee, 2003) that is based in the material, social and cultural world around us. Research from other professional communities online, and

from social network sites supports the conclusion that identity construction online, whether it be through an avatar, or through discourse and text, is not a process that exists in isolation from embodied identity construction. Furthermore, it appears that social inequalities are being recreated online.

Bayne (2006), in a study of face-to-face tutors participating in an online discussion forum, and Matsuda (2002), in a study of Japanese English language teaching professionals participating in a listserv, discovered that social hierarchies did not disappear online. Both communities reasserted and renegotiated social hierarchies to suit the online environment. The tutors in Bayne's (2006) study felt more confident in their ability to be “teacherly” and to assert their authority in an online forum, where it was more controlled and manageable than the sometimes stressful and ad hoc classroom environment. The professionals in Matsuda's study (2002) found ways to reassert social hierarchies in a listserv that limited traditional ways of establishing social hierarchy based on physical characteristics such as age and gender. Grammatical structures in the Japanese language, such as honorifics and verb endings, are indicators of power and social hierarchies. Without knowing the audience in the listserv, members tended to use formal honorifics and verb endings, and in some cases would ask specific members how they would like to be addressed. Over time, social hierarchies were reasserted based on subject matter knowledge. Those seen as more knowledgeable were regarded as being of a higher status, and therefore addressed as such, in the online community.

Recent research from social network site usage in the United States also indicates that existing class and racial divisions are being recreated online (boyd, 2007; Hargittai, 2007; Ellison, Steinfield, & Lampe, 2007), echoing Nakamura's (1995) conclusion over a decade ago in her investigation of racial identity in *LambdaMOO*. boyd's (2007) findings from her ethnographic study of American teenagers using MySpace and Facebook are similar to Hargittai's (2007) findings from her survey of over one thousand 18 and 19 year old college students at University of Chicago. They found that participation in social network sites is not uniformly distributed. For example, Hispanic users are far more likely to use MySpace than their Caucasian or Asian counterparts, who prefer Facebook (boyd, 2007). Users whose parents had less than a high school education are more likely to use MySpace than Facebook, conversely those whose parents have a college education were more likely to use Facebook (Hargittai, 2007).

Kraut, Kiesler, Boneva, Cummings, Helgeson, and Crawford (2002), in their study of the effect of the Internet on communication, social involvement, and well-being, suggested that "those who are already effective in using social resources in the world" are "well positioned to take advantage of a powerful new technology like the Internet" (p. 69). Ellison et.al. (2007) and Hargittai (2007) confirmed these findings in their studies on the use of social network sites. Social networks tended to migrate from offline to online as users strengthened and grew their offline network of friends through use of social network sites, but did not necessarily gain new online friends. Therefore those with already well-developed social skills and social networks benefited more from these

technologies than those with smaller social networks.

Bargh, McKenna, and Fitzsimons (2002) and Tyler (2002) came to similar conclusions earlier in their analysis of social life on the internet. Bargh et. al. (2002) determined that people were more likely to locate their "true selves" while interacting over the internet than in face-to-face settings. People's "true self", which was established through testing people's responses to a series of adjectives to describe themselves, is defined as those characteristics that people believe they possess, but aren't always able to express. Tyler (2002), in a review of literature on social life on the internet, concluded that the Internet has provided us with new ways of exploring social relationships, and constructing our identity through avatars, discourse, and text, but it is not the "transformative technology that has fundamentally changed patterns of either interpersonal or group processes" (p. 196).

SECOND LIFE

This section of the literature review shifts focus to describe *Second Life*, the specific virtual environment that this study explores, so readers who have not used this software have a context from which to consider *Second Life*. This section first provides a historical background of *Second Life*, and a description of user experience in it, concluding with an analysis of the unique relationship between Linden Lab, creator of *Second Life*, and its residents.

The History of *Second Life*

Second Life began in Philip Rosedale's shower. That is apparently where Rosedale, then Chief Technology Officer of RealNetworks, and now Chief Executive Officer of Linden Lab, first conceived of the MUVE as an immense, scalable world consisting of islands distributed across a network of servers ("*Second Life* History Wiki"). In 1999 Rosedale left RealNetworks, moved to San Francisco with one other employee, and set about building his dream from an office on Linden Alley (Fitzgerald, 2007). The notion of a creative, participatory 3D space for all users was fundamental to his vision from the beginning.

We were steadfast in the belief that what we were creating was a complex emergent system driven by an economy and the contributions of a lot of people, just like the Internet but in 3-D and live - you were really there. The other thing was this idea that it ought to be a creative space where people can be entrepreneurial if they want to (Fitzgerald, 2007, p. 2).

Many people did not believe in his vision, however, claiming that technology would never support his vision of a massive, scalable, interactive world, and that the idea of user-created content was financially unsustainable. Until 2003, his naysayers were correct as the company struggled, even after the launch of *Second Life* in 2002. Investors pressured Rosedale to turn *Second Life* into a game, claiming the environment needed to be goal-oriented in order to succeed (Fitzgerald, 2007). Rosedale was adamant however, that *Second Life* was not a game.

I'm not a gamer, and *Second Life* isn't a game. From the start, we/LL observed that something like *Second Life* would have its first uses in entertainment, and then grow beyond those uses and

people became more confident in the capabilities of the new platform/OS/whatever-we-want-to-call-it. So we focused on making *Second Life* very exciting and visceral and inspirational, but not on making it a game. The future that we are all most passionate about is creating a new version of the world with a fundamentally different and better set of capabilities, and then see what happens when we all move there. This means we want *Second Life* to be able to reach everyone in the world, to be able to scale to 100's of millions of users and millions of servers, and to remain an open decentralized system in which creativity rules ("*Second Life* History Wiki", para. 5).

In 2003 version 1.2 was released, bringing about changes to the economy that created *Second Life* as it is now. Version 1.2 saw the end of a tax-based economy where residents paid taxes on the land and objects they owned. Paying taxes on objects stifled creativity, so it was replaced with a land-based economy where residents paid a one-time cost for land, with no taxes ("*Second Life* History Wiki"). Residents also retained copyright over their creations, and could create, buy, and sell whatever they wanted, and convert their Linden dollar profits to US dollars. Investors agreed with his decision to give more ownership and control over to its residents, and by 2005 Rosedale had enough investors that he no longer worried about the financial future of his company (Fitzgerald, 2007). In January 2007, Rosedale made another move to give more control over to the resident population. He decided to release the source code of the client software, or the *Second Life* viewing software, to the public. The blog post announcing the move stated that, "Releasing the source now is our next invitation to the world to help build this global space for communication, business, and entertainment. We are eager to work with the community and businesses to further our vision of our space" (Linden, 2007, January 8).

Rosedale recognized that in order for Linden Lab to grow and continue to serve its commercial and educational residents, it needed to allow those developers to make modifications to the viewing software to their particular specifications.

In November 2009, Linden Lab released the beta version of *Second Life* Enterprise, a hardware application that commercial and educational enterprises can install on their own servers, behind company firewalls (Wagner, 2009). This move addresses much of the concern from these organizations about the security of their data on Linden Lab's servers, periodic service problems, and land security options that do not completely block “griefers”, or residents who intentionally cause disruptions. Linden Lab initially announced plans to release the grid source code to the public in 2007, recognizing then that "*Second Life* cannot truly succeed as long as one company controls the Grid" (Wallace, 2007, p. 1). Release of the *Second Life* viewer software and server hardware represent a logical extension of Rosedale's initial belief that this complex system would be sustained by the contributions of its residents. Both initiatives offer its resident developer community the opportunity to be co-developers in the evolution of *Second Life*.

The User Experience in *Second Life*

The first image I saw at the *Second Life* website is that of a young woman, posing casually in front of a bar on a tropical beach, complete with palm trees and bamboo bar stools. In the corner of the image is a box announcing that there are over 8.5 million

residents, and over \$1.2 million US was spent in the past 24 hours. The dominant images on the website promote the economy (buying items), education (learning new tips and tricks), and the company (working for Linden Lab).

New residents have two payment options. A free account offers all the benefits of *Second Life* but without the ability to purchase land. With a paid account, residents may purchase land and build their own residence, business, or just have a plot of waterfront property to call their own. The first step in becoming a resident of *Second Life* is creating one's avatar. Users may select a first name and have a selection of last names generated for them by Linden Lab. There is also a group option for names for a fee. For example, educators may wish students to have the same last name to identify themselves as members of a particular university class. Users must select a gender for their avatar, but gender can be changed easily at any time. All avatars come with a selection of male and female clothing.

The avatar appearance palette has four options for customizing body parts, and nine options for customizing clothing. Under each body part option, there are a number of sub-options from which to choose. For example, if I want to customize my avatar's head, I would click on the "Shape" tab, then the "Head" tab. A series of images appear showing the possibilities for customizing my head, for example, from small to large. For each image, a sliding bar with one hundred increments appears below. *Second* sliding the bar back and forth changes the image dynamically, showing the user the range of possibilities

under each option. Customizing one's appearance can be a lengthy task, although residents can continue to tweak their appearance as they are introduced to different resident-created options for skin, hair, and clothing. Figure 2-1 shows the screen for customizing appearance in *Second Life*.

Figure 2-1: Screen for Customizing Appearance in *Second Life*



The avatar appearance palette contains numerous options for creating clothing as well. New residents come with a wardrobe consisting of a pair of jeans and a t-shirt. Residents have the option of creating a free wardrobe based on the simple shapes for pants, shirts, and jackets. Custom colours and textures created in graphics software programs may be imported, giving the user more options for customizing the generic shapes. Despite the range of options for creating a free wardrobe, new residents do stand out as being very plain amongst the array of intricate designer clothing, flexible hair, unique gestures, and skin colours available to purchase.

Once residents have finished creating their avatar they proceed to Orientation Island, which is designed to introduce residents the basics of movement, interacting with objects, and navigating the interface. Residents may stay as long as they wish on Orientation Island practicing their skills. After leaving Orientation Island, new residents connect to the Welcome Area. Mentors and guides are available at the Welcome Area to provide assistance to new residents if desired. There are also numerous signs and advertisements beckoning new residents to their establishments.

Second Life itself is made up of a series of islands that keep growing as residents purchase land. Residents may navigate the islands by area maps indicating the number of residents present in any given area. They may also use the Search feature, or browse the daily calendar of events listed on the *Second Life* website. Each location has a SLURL (*Second Life* universal resource locator) associated with it and residents may instantly move from location to location by "teleporting" between them. Residents may also opt to fly around the landscape to explore.

Residents communicate with each other through chat, instant messaging, or voice. The chat window appears in the bottom left corner of the interface, and displaying conversations happening within close vicinity of the avatar. In locations with many residents speaking at once, it can be difficult to keep up with conversations threads. Text does not appear as it is being typed. It appears once the user has pressed enter. While a

resident is typing, their avatar appears to be looking down typing on a keyboard. Instant messaging is an option for private conversations or to communicate with friends who may be in a different location. Instant messaging is an option for private conversations or to communicate with friends who may be in a different location.

Shopping is probably the most common activity in *Second Life*, based on the number of shopping malls, boutiques, and sales advertised on *Second Life's* website, and accessible through the Search feature in-world. Some real life retailers such as The Gap have opened outlets in *Second Life* so residents may purchase brand name clothes for their avatars.

There are always sales and events with items available for free, especially at events targeting new residents. More experienced residents are also very generous about sharing items, providing advice and tips, and generally being helpful and friendly towards new residents.

The *Second Life* community and Linden Lab promote a culture of free expression, tolerance, and creativity, and this is evident for new residents. There are a number of "how-to" guides, tutorials, and courses for free to teach new residents everything from navigating the world to advanced building and scripting. Sandboxes, or free public spaces for practicing building and scripting skills, are widely available. Linden Lab's support and knowledge base accessible from its website also provides detailed information and videos for all levels of support.

Linden Lab is very supportive of educational initiatives in *Second Life* with a community manager dedicated to serving the education community. Community managers frequent the educator and researcher mailing lists to keep abreast of new developments and solve any issues that may arise. They have taken part in educational community gatherings and conferences, and have responded to the community's suggestions on managing groups of students, managing educational islands and locations, and providing guidance on research ethics and practices for those wishing to conduct research in *Second Life*. Rosedale recently identified the use of *Second Life* for science education as one of the developments for which he is most proud (Linden, 2007, December 21).

Using Participatory Design to Understand the Relationship between Linden Lab and *Second Life* Residents

Participatory design research is an effective model through which to understand the initial vision of *Second Life* as a space driven as much by user contributions as developer contributions. Although participatory design research originated in the Scandinavian labour union movement (Torpe, 2005), certain methodological assumptions are relevant to understanding the relationship between Linden Lab and *Second Life* residents.

Participatory design projects began in the 1970s as a way to include union workers in the decision-making, design, and development of technology that they would be using (Torpe, 2005). Since then, participatory design methods and approaches have been applied to various other contexts. In the context of computer applications, participatory design seeks to involve end users in part of, or the entire design and development process

(Torpel, 2005). Three themes emerge from the literature that can be applied to the relationship between Linden Lab, the developers, and *Second Life* residents, the end users: tacit knowledge, empowered users, and strong versus weak forms of participatory design.

Considering Tacit Knowledge

In applying participatory design to technical communication research, Spinuzzi (2005) emphasizes that "Participatory design's object of study is the *tacit knowledge* developed and used by those who work with technologies" (Spinuzzi, 2005, p. 165). He describes tacit knowledge as idiosyncratic, implicit, and holistic. It is knowledge that is difficult to describe, and difficult to formalize. Participatory design strives to respect this tacit knowledge by having users apply the technology to their own unique situations, rather than having users adjust to the technology. Research has found that users often adjust technology to their own particular situations anyway, using and interacting with it in ways that developers had not planned (Spinuzzi, 2003, as cited in Spinuzzi, 2005).

Every resident of *Second Life* applies their tacit knowledge to their exploration and use of the technology. How one resident comes to understand and use the software to navigate and experience *Second Life* may be different from other residents. By freely providing scripting and building tools, and "sandboxes" in which to practice using these tools, Linden Lab is respecting the various ways in which residents apply their tacit knowledge to use these tools to suit their own needs. Releasing the client server source code also preserves residents' tacit knowledge. Instead of constantly working to accommodate the

technological needs of the resident developer community, Linden Lab chose to let residents use and modify the software themselves.

Empowering Users

Empowering users to take ownership over projects, thus having them develop their own solutions instead of having solutions imposed on them, was the goal of Merkel, Xiao, Farooq, Ganoë, Lee, Carroll, and Rosson's (2004) work in applying participatory design to community computing projects. They assumed the role of technology consultants while working with community organizations to develop websites. Sustainability was a key factor in their research as they attempted to co-design the websites in such a way to empower community organizations to maintain them in the future without their assistance.

The concept of sustainability, while at the same time empowering users, factored into Linden Lab's plans to release its client and server software code. Rosedale realized that Linden Lab alone could not manage the rapid growth of *Second Life*, and the diverse commercial and educational requirements that comes along with this growth. Long-term sustainability of the *Second Life* model depended on ceding some control over server maintenance and specific client viewing requirements to its developer community (Wallace, 2007). The recent release of *Second Life* Enterprise empowered commercial and educational users to create a more secure, stable, and easily customized version of *Second Life* behind their own firewalls.

Distinguishing between Strong and Weak Participatory Design

The difference between game worlds and social worlds again arises as Taylor (2006) calls for the application of participatory design models to MMOGs as a way to better integrate player communities into the formal design of these games. Developers of MMOGs see players as simply passive consumers, she argues, instead of informal participants in the design of games through their participation in fan discussion boards, websites, and conventions. "Players aren't simply consumers but are constructing meaningful experience, culture, communities, and play & technical interventions in these spaces. Through their participation they help shape the technology, as well as alter and extend the mechanics of the games" (Taylor, 2006, p. 5).

Taylor (2006) identifies two forms of participatory design in order to illustrate the progression from how players are currently involved in the design process, to how they could be (and should be according to Taylor) involved in the design process. Weak participatory design describes the current situation whereby players are not included in the decision-making process, but still make their skills and opinions available to developers. Strong participatory design is a process whereby "[p]articipation by users is considered of core value to the success of the project and they are involved not only in the "user experience" side of things, but analysis, design, evaluation and selection of technology, and organizational implementation" (Taylor, 2006, p. 10). Divisions between traditional developer and player communities evaporate in a strong participatory design model.

Her call to apply strong participatory design models to the development of MMOGs highlights the major difference between MMOGs and *Second Life*. Residents of *Second Life*, through the release of *Second Life* Enterprise, are already involved in the design, evaluation, and implementation of solutions to their problems. These residents are now fully involved in both the user experience as well as server maintenance aspects of the world. If strong participatory design "is not only a question of users participating in design, but also a question of designers participating in use" (Löwgren & Stolterman, 2004, as cited in Taylor, 2006, p. 10), then *Second Life* exhibits characteristics of strong participatory design. Employees of Linden Lab maintain a presence in *Second Life*, with the last name "Linden" signifying an employee. They are all encouraged to participate in *Second Life*, as described in "The Tao of Linden":

As with life, the journey matters as much as the destination. That means a lot of different things, and a lot of what it means can't be captured in words alone. Find out by talking to your colleagues, by living the principles above, and by exploring *Second Life*. ("The Tao of Linden," n.d., para. 11)

"The Tao of Linden", or the company's core principles, promotes the values of open and transparent decision-making, creative problem-solving, collaborative work teams, honesty, and compassion. The tone of the message encourages individual contributions and a designer-as-user mindset amongst employees. "Have a sense of humor. Have a sense of humility. Have fun. Call out inconsistency in principles when you see it. Don't let a staid form and function become routine and boilerplate" ("The Tao of Linden", para.

10).

SUMMARY

Taken together, the three sections of the literature review provide a compelling view of why *Second Life* is a distinct type of MUVE that provides unique affordances for educators to construct their practice and identity. The first section describes the evolution of text-based and graphical MUVEs and analyzes research illustrating the potential of using both game and social MUVEs to empower learners, develop problem-solving skills, and understand games as representing larger systems. It also provides evidence that further research into learning in MUVEs is necessary "to leverage those features that are productive and eschew those that are not" (Steinkuehler, 2004, p. 8).

The second section on identity literature describes teacher identity through a postmodern perspective, influenced over time by the shifting social and cultural world in which teachers work (MacClure, 1993; Day et. al., 2005). The places and spaces in which teachers practice can be seen as consisting of both public and private spaces where "cover" and "secret" stories are told (Clandinin & Connelly, 1996), and as informal and formal spaces which offer different opportunities for learning and enculturation in the profession (Bathmaker & Avis, 2005; Blaka & Filstad, 2007). An analysis of stereotypical teacher images in popular culture shows how they could lead to a false sense of stability in teacher identity that belies the actual struggles and contradictions inherent in the profession (Weber & Mitchell, 1995). Literature on identity in MUVEs covers both text-

based and graphical, game world and social world MUVES. Three themes emerged that spans all types of users and worlds: the influence of MUVE designer decisions on the worlds they create; social responsibility, commitment, and trust in MUVES; and the influence of real life identity and social and cultural contexts on identity construction.

The third section describes the history of *Second Life* with a focus on the vision of its founder, Philip Rosedale, as a social MUVE enabling user-created content. It then provides examples of user experience in creating an avatar, interacting with the environment, and communicating with other avatars. It concludes with an analysis of the relationship between Linden Lab and *Second Life* residents, which is one that exhibits characteristics of strong participatory design. Using this literature as a foundation, the next chapter describes the selection of an appropriate research methodology to study how post-secondary educators are constructing their identity and practice in *Second Life*.

CHAPTER 3: METHODOLOGY

This study attempts to uncover the multiple ways in which educators in *Second Life* construct their identity, and make meaning out of their experiences for themselves personally and professionally. Specifically, it asks:

- How do educators using *Second Life* in university-affiliated teaching use the available tools and technology in *Second Life* to construct their identity?
- To what degree are they influenced by their real life identity and practice as they construct their *Second Life* identity and practice?
- How has using *Second Life* in university-affiliated teaching affected the way in which educators seek to identify with their students, and their students identify with them?
- How has using *Second Life* in university-affiliated teaching affected the relationship between the educators and their colleagues, and in particular, their reputation and status?

This chapter describes the research methods used to answer these questions. It starts by describing how research methods were chosen, then explains the role of researcher, how participants were chosen, and the research process from entry into the environment through to data collection and data analysis. It concludes by describing how qualitative rigour was ensured and limitations of the data.

CHOICE OF RESEARCH METHODS

This is, by nature, an exploratory study, because the design of customizable avatars by

post-secondary educators in 3D virtual worlds such as *Second Life* is a new phenomenon, with little prior research having been conducted. Therefore qualitative methods are best suited to address them because it enables us to gain a deeper understanding of the participants' experiences, therefore uncovering the complexity of this phenomenon. More specifically, qualitative case study inquiry seems to be the most appropriate method for understanding the identity processes at work as educators begin to practice in *Second Life*. Stake (1988, as cited in Stake, 2003) states that "boundedness and behaviour patterns are useful concepts for specifying the case" (p. 135). The focus of this study are behaviour patterns, especially as related to identity construction within the bounded system of *Second Life*. A collective, instrumental case study gives the researcher freedom to select two or more cases to determine if there are common characteristics in educator identity practices. An instrumental case study "is examined mainly to provide insight into an issue or to redraw a generalization. The case is of secondary interest, it plays a supportive role, and it facilitates our understanding of something else" (Stake, 2003, p. 137). Each case, or educator, is of interest in and of itself, but also because it may provide insight into the larger educator community. The cases, or post-secondary *Second Life* educators in this study may facilitate our understanding of how professional identity is being constructed, and how it is affecting their relationships with students and colleagues.

The question of how *Second Life* educators construct their identities through the everyday practice of existing in and out of the virtual environment lends itself to being understood

as interpretive practice. "Interpretive practice engages both the *hows* and *whats* of social reality; it is centered both in how people methodically construct their experiences and their worlds and in the configurations of meaning and institutional life that inform and shape their reality-constituting activity" (Gubrium & Holstein, 2003, p. 214). This research study is oriented towards not only how educators construct their identity, but also what it means to be a *Second Life* educator—what is the social reality of being a *Second Life* educator, and what influence their own background, institutional affiliation, and pre-existing notions of educators play. In order to access the rich, yet personal information to tell the story of the "birth" of *Second Life* educators, I need to hear the participants' stories. The reflexive act of simultaneously telling a story, retelling another's story, and *living* the story as it is being told, characterizes narrative research.

"Narrative imitates life, life imitates narrative," Bruner (1987, p. 13) said. He argued that a story is never simply a recital of known facts in a chronological order; it is an interpretation of experiences. A life as told is inseparable from a life as led (Bruner, 1987). Because narrative research is focused on the stories we tell to make sense of our lives, it is particularly appropriate for the study of identity issues, lifestyle, and culture (Lieblich, Tuval-Mashiach, and Zilber, 1998). It also has a tradition of use in educational research to explore the personal and professional lives of teachers, and how they view themselves and their practice (Connelly & Clandinin, 1990; MacClure, 1993; Whelan, Huber, Rose, Davies & Clandinin, 2001). Indeed, Connelly and Clandinin (1990) assert that "education is the construction and reconstruction of personal and social stories;

teachers and learners are storytellers and characters in their own and other's stories" (p. 2). Humans have always told stories to entertain, to educate, and to discover. In education, it is the stories that teachers tell to students that, in my experience, have a greater impact on learning than reading facts in a textbook devoid of emotion, character and personality. Great educational stories contain the same elements as any great story: a compelling plot; complex, believable characters; some unexpected plot twist; and a satisfying conclusion. I would much rather listen to my late high school history teacher, Mr. Young, tell stories of his youth in World War Two England, stumbling into the bomb shelter at night on hearing the air raid sirens go off, and hearing bombs being dropped in the distance, than read about it in a textbook. Hearing Mr. Young's stories also gave us insight into him, as a teacher and as a person. As a teacher, I remember him wearing brown pants and a beige pullover sweater; always smiling and enthusiastic as he attempted to explain trench warfare strategies in World War One. As a person—as an individual outside of the classroom—his stories from his childhood revealed part of his personal identity and made him more human in my eyes. Telling personal stories to his history students simultaneously informed us of life during a war, and constructed his personal identity as a resident of England while at war. Telling my story of my memories from high school history class simultaneously informs readers of this paper of the importance of storytelling in educational practice, and constructs my personal identity as an eager high school history student who, over twenty years later, still remembers the stories she was told. Riessman (2002) speaks to this connection between narrative research and identity construction, "Narratives are a particularly significant genre for

representing and analyzing identity in its multiple guises in different contexts" (p. 706). She also cautions that multiple truths may emerge from narratives. The facts of the events themselves are less important than "understanding the changing meanings of events for the individuals involved, and how these, in turn, are located in history and culture" (Riessman, 2002, p. 704). My memories of high school history were relatively insignificant in my life until now, when I searched my memory for examples of engaging storytelling in school. The facts of that event haven't changed, but the meaning of it for me has. I now interpret that event, and those stories, in the context of being a Masters student studying and researching the personal and professional lives of *Second Life* educators. Previously it was just one of a jumble of high school memories.

My goal is to retell the stories of educators as they construct their identity and practice in *Second Life*, while also telling my story as a researcher of *Second Life* educators. For readers, doing so will illuminate the complexity and diversity of experiences in constructing a teacher identity in a social MUVE. For participants, it will give different meaning to their experiences and stories as they retell them to me. And for me, it will allow me to interpret and reinterpret my stories as a graduate student, novice researcher, and resident of *Second Life*.

ROLE OF THE RESEARCHER

“One must first begin to hear her own inner voice in order to understand the importance of drawing out the voices of others, whether the other is her child, spouse, students, client

or friend.” (Belenky, 1986, p. 266)

As opposed to other forms of research in which researchers attempt to hold back, or bracket, their beliefs and experiences so as not to influence the data, narrative research is a collaborative process of storytelling between researcher and participants (Connelly & Clandinin, 1990). As a peripheral member of the *Second Life* educator community, and resident of *Second Life*, the participants and I share the same community. We may share similar stories, which in the process of the conversation or during the data analysis may come to have new meanings for us. The mutual storytelling, and close relationship between researcher and participants during not only data collection but also data analysis is a unique quality of narrative research.

Conducting a narrative analysis also required me to reflect on my own experience as my avatar in *Second Life*, Lola Goff. Her beginnings, her life, and my interpretation of our lives is a part of my inner voice that guided how I conducted the interviews to tease out the stories, and my interpretation of the data. But my inner voice encompasses more than the voice of Lola Goff and I, residents of *Second Life*. Just as the participants in this study are educators in *Second Life*, they are also professionals, colleagues, friends, and relatives in real life. Their stories encompass all of the roles they play and perform to others, not just the ones in *Second Life*. My inner voice encompassed the roles that I perform outside of *Second Life* as well.

Belenky's (1986) statement indicates that self-reflection is a necessary tool for a narrative researcher. My role as a narrative researcher requires me to elicit the stories of the participants, observe them at work in *Second Life*, and keep a journal of my own thoughts and reflections throughout the research process. All of this data is then analyzed and shaped into patterns and themes. My final step as a researcher is to take these patterns and themes; thoughts and observations; and notes and recordings, and write them up into an over-arching narrative that will help illuminate this phenomenon in some way.

PARTICIPANTS

I chose to have five cases as part of this study, limited to faculty members at English-speaking North American colleges and universities. The participants had to be teaching a credit, non-credit, continuing studies, or professional development course in *Second Life*. My goal was to achieve regional, academic, and demographic diversity of participants in this study.

Five participants were selected for inclusion in this study. The three female and two male participants taught at institutions of various sizes in different geographical regions of North America, worked in diverse faculties from education to health care, and taught a mix of classes from graduate to faculty professional development. They all used *Second Life* in college or university-affiliated teaching in English-speaking North America, and were not limited to academic tenure track faculty. An important quality of narrative research is establishing a relationship between researcher and participants that is equal

and caring, so feelings of trust and "connectedness" can emerge (Connelly & Clandinin, 1990). Participants and researcher need to feel safe, and in the company of one that they trust in order to share stories that may be potentially revealing, uncomfortable, or difficult to tell. Both parties, participants and researcher, share in the construction of the narrative, of our stories.

A call for participants document with details of the study was given to personal contacts who could help me gain access to potential participants. These personal contacts were qualified to recruit participants for me because they were either faculty or graduate students who were also interested in, or conducting research in virtual worlds and online games. Snowball sampling was employed, so all potential participants were also asked to forward the call for participants document to other colleagues who met the criteria. I also searched through online lists of universities active in *Second Life* and conference proceeding to find educators representing diverse faculties.

In order to protect their identities, pseudonyms are used in all documents related to the research study, including the final report, journal and interview notes, and electronic files. The name of their educational institution is protected, and is only identified in the final report by size and general geographical location. Participants signed a consent form before data collection procedures begin, advising them of their rights, including the right to withdraw from the study at any time without any negative repercussions.

RESEARCH PROCESS

This section explains how the research was conducted, from entry into the environment up through the analysis of the data.

After the potential participants agreed to participate in the study, I sent them a consent form to sign. Once I had received the signed forms, I scheduled the data collection. Each participant was studied from two different perspectives: interviews for them to tell me their stories, and an observation of them teaching a class in *Second Life*. An interview was also scheduled after the observation session to debrief.

Semi-structured interviews were the primary source of data because the foundation of narrative research is to elicit stories from participants. They allowed their responses to become stories, and provided the rich detail that is desirable in qualitative research. The semi-structured questions covered the following topics:

- educational background and reasons for teaching in *Second Life*
- avatar design process, including the influence of real life identity and teaching background
- learning the avatar design technology and tools
- ongoing changes and manipulations to avatar appearance, including having multiple avatars
- how teaching in *Second Life* has affected relationships with colleagues and students

None of the participants were located in the same city as me, so interviews were conducted by distance. For privacy reasons, one participant requested that her interview be conducted over the phone. Her interview was recorded using a digital audio recorder. The other interviews were conducted using the voice-over internet protocol (VoIP) service provider, Skype, at the participants' convenience, and recorded directly onto my laptop computer.

Interviews ranged in length from 90 to 120 minutes. In some cases, the class observation occurred before the first interview, so the interview included the debrief of the observation session as well.

Class observations were conducted so I could observe participants at work as their avatar. It allowed me to gather visual as well as verbal, interview data. I had no preference as to what occurred first, the interview or the class observation. If the class observation occurred after the interview, a separate interview was scheduled to debrief the observation. If the class observation occurred before the interview, the interview included the observation debrief. In three cases the class observation occurred before the interview. All class observations were conducted in the same manner. I first confirmed the time and location of the class. If permission was required to access the location of the class, I received an invitation, and a teleport to the location. Participants either informed the class in advance, or told them in the beginning of the class that I was a non-participating guest and was there to observe them teach for research purposes. I did not interact with others

in the class except to test my audio equipment to start the class.

During the class, I recorded my observations as handwritten notes. I did not use a dual monitor setup during the observation, so I was not able to have a word processing software program open on one monitor and *Second Life* on the other. Immediately following the class, while still in *Second Life*, I confirmed the time for the follow-up debrief with participants by either voice or text chat. Finally, I typed my handwritten notes into a word processing software program.

The two cases in which the observation debrief was conducted as a separate interview, followed the same procedure as the primary interview. They were conducted using Skype, at the participants' convenience, and recorded directly onto my laptop computer. Following the interviews and class observations, I sent a summary of the interview to each participant to confirm the details of the interview, and allow them the opportunity to clarify any details and add any information given during the interview.

Any email exchanges prior to, and following the interviews and class observations were saved as text files and imported into a word processing software program. Throughout the research process, I also maintained a journal with personal reflections throughout the process. Emails and any online communication between me and the participants were saved and used as an additional source of data.

Protecting the data was an important part of these ongoing procedures. Once the electronic files from the interviews were saved to my laptop computer, and backed up on an external storage device, the files were deleted from the digital audio recorder. All electronic data, including interview transcripts, observation notes, email transcripts, and journal notes, were saved on my laptop computer and backed up on an external storage device. I am the only person that has access to my laptop computer.

As I began to analyze the software, I used mindmapping software to assist with analyzing and coding the audio data. Mindmapping software allows users to visually represent ideas, show relationships between ideas, and rearrange relationships. It is useful for brainstorming and information sharing.

Analyzing the Data

The data was analyzed using narrative analysis. Narrative analysis was chosen because it focus on the content of the story, as well as the form of the story. Two different approaches were used to accomplish both narrative content analysis and narrative form analysis.

The content of each case was analyzed using a holistic/content approach, as proposed by Lieblich et al. (1998). Using a holistic/content approach, specific content elements of the stories are interpreted while keeping the whole context of the story in mind. It is the most appropriate for analyzing stories of *Second Life* educators, where the content of their

stories - their identity constructing experiences - are not dissected and analyzed out of context. As stories are fluid, the analysis relies less on the validity of the facts of the particular events, and more on the interpretation of those events.

Analysis of the form of each case was derived from Goffman's (1959) theory of identity as a performance. Identity is dynamic and constructed, something that is performed in social situations for specific audiences (Goffman, 1959). For these *Second Life* educators, their professional identity is performed in front of students, peers, and members of the general *Second Life* population. The narrative form analysis was structured on three questions:

- How do educators refer to their avatars? First person? Third person?
- What identity claims are made? For themselves? For their avatars?
- How do educators position themselves and others in their stories? Are they the protagonist?

All three questions seek to understand the social positioning of themselves and their avatars in their stories, how they relate to their avatars, and how they locate themselves in their stories relative to other participants (Riessman, 2002).

The personal narratives that were revealed to me during the interviews are the subject of this analysis. Personal narratives are accounts of specific events, and are briefer than autobiographies or life histories (Riessman, 2002). Bruner (1987, p. 12) said that

“narrative imitates life, life imitates narrative.” Events in our lives exist in the ways that we tell them, and retell them to others. While facts may remain the same, how we wrap them up and present them for particular audiences are the foundation of personal narratives. Personal narratives also show “individual and collective action and meanings, as well as the processes by which social life and human relationships are made and changed” (Laslett, 1999, as cited in Riessman, 2002, p. 697). The processes by which these participants are building their teaching practice and professional identity in *Second Life* are valuable to understanding the pedagogical potential of virtual worlds. Carter (1993) links narratives and life histories of teachers to “how teachers know their practice” (p. 8). “Knowing” their practice cannot be separated from “knowing” themselves, because, as will be shown, practice is built on personal beliefs and values, grounded in a particular cultural context (Bruner, 1991).

ENSURING QUALITATIVE RIGOUR

In order to ensure qualitative rigour, or the credibility and trustworthiness of the data, data was collected from multiple sources, including interviews, observation, researcher journals, email communication, as well as data collected from the *Second Life* Educator mailing list. Member checking was accomplished by sending interview summaries to participants to give them the opportunity to confirm or alter any details. Any email correspondence between the researcher and participants regarding data collected was used as secondary data sources. Finally, an experienced researcher reviewed initial coding and results from the data analysis.

LIMITATIONS OF THE DATA

This study is focused on the identity construction of a very small selection of higher education instructors in *Second Life*, a unique virtual environment, therefore it would be problematic to generalize the results to other environments in which teachers practice. As identity construction is a unique, idiosyncratic process, this study will provide insight primarily into the participants in the study, with certain themes that may be sufficiently broad to transfer to interpretations to the wider community of educators in *Second Life*.

CHAPTER 4: ABOUT THE FIVE INSTRUCTORS STUDIED

“Wait a second man. Whaddaya think the teacher's gonna look like this year?”

(Alex Van Halen, Edward Van Halen, David Lee Roth)

This chapter describes the cases of the five instructors studied in this project. Each case summarizes the interviews and class observations, and shows a dynamic mix of personalities, motivations, and types of educators that have established their teaching practice in *Second Life*, as well as the diversity of perspectives of the five educators in the study.

Specifically, this chapter presents separate, in-depth narratives of each of the five teachers studied, culled from the semi-structured interviews and class observations of them. The next chapter reports on the analysis of the data, and presents recurring patterns found across these cases.

WHO ARE SECOND LIFE EDUCATORS?

This section suggests answers to that question. It describes the five educators profiled in this study: Sheila, Brad, Frankie, Caitlin, and Philip.

Each profile first describes the educator’s educational and employment background and reasons for teaching in *Second Life*. Then, the profile describes the educator’s first impressions of *Second Life*, explains how he or she created and developed the avatar, and

learned how to teach in *Second Life*. Each profile concludes with reflections: on the impressions of educator's colleagues impressions about their teaching in *Second Life*, educator's relationships with students in *Second Life*, and of my observation of the educator's class session in *Second Life*.

Sheila

Sheila, the first educator profiled, teaches a graduate-level course on Special Education Law online through a university in midwestern North America. The course has six online sessions or "avatar sessions" as she refers to them, offered in *Second Life*. This is the first course that she has taught in *Second Life*. A self-professed "card-carrying technophobe", Sheila did not experiment with multi-user virtual environments, video games, or role-playing games before deciding to implement it in her course.

Education and Employment Background

Sheila currently works as a Special Education Law professor. Her path to her current position began with a Master of Arts in Special Education. She then began working as a special education teacher in midwestern North America in a classroom of multi-handicapped children. After receiving her doctorate from a midwestern North American university in 2000, she moved further south for her first job as a professor. Initially she thought she was hired as a general instructor, but the job was in fact for educational law. The move worked out well for her, however, as she realized she loved teaching educational law. She moved into teaching special education law thereafter and has been teaching it at a graduate level ever since.

Why Teach in Second Life?

When her current university told her the Special Education Law course in the MA program had to be offered online, Sheila admitted that she panicked. The choice of tools for delivering the course was completely her decision though, so she made a list of three main requirements that the online tool must do. The tool must be anonymous, free for students to use and communicate with her and each other, and provide a place to apply the *synthesize* and *evaluate* levels of Bloom's taxonomy.

Anonymity for her students was a primary concern because of the sensitivity of the subject matter in her course, and an online space afforded anonymity for her students that a classroom could not. She did not want students to know each others' full names, what they looked like, or where they were from. The anonymity afforded by online spaces in which users do not have to use their real life names and do not have to reveal their real life appearance would allow them to speak freely about their experiences and not worry about harming their professional reputations. As a free communication tool, it was important for her that it enabled communication to flow among students, and not always through her. She had used Macromedia Breeze (now marketed as Adobe® Connect™) in the past, software that enables users to create elearning content and deliver it over the web and found in that situation that she was the central communication focus, or “the sage on the stage” in lecture-mode.

While Blackboard®, enterprise-wide software used by universities and colleges to

manage the delivery of online learning, offered a space for her to present information, the delivery tool for this course had to be appropriate to apply specific cases for synthesis and evaluation. She wanted the software to allow her to facilitate, or be the “guide on the side”, rather than lecture to her students. It had to have collaboration tools that offered student-to-student as well as instructor-to-student interactions.

After creating her list of requirements for the delivery tool, she approached the learning technologies group at her university, which provides assistance to instructors with researching and implementing instructional technology, and offers professional workshops and hands-on guidance on instructional technology. After reviewing her requirements, they suggested she use *Second Life* because it met her three main requirements. As a “technophobe”, it appealed to her because it was only one tool, one program to learn. She did not have to learn multiple tools to deliver the course.

Getting Started with Second Life

“The whole thing was horribly frightening,” as Sheila remembers. She was terrified. Reiterating her fear of technology, Sheila feels that if anything could go wrong with it, with her, it will. To provide support to Sheila as she started using *Second Life*, the learning technologies group spent hours with her as she learned how to use the software. One of the first questions she had for them was how to download *Second Life* onto her computer. The instructions on the homepage did not seem obvious to her. They later advised her that, if she could not figure something out on the first or second try, she was

to call one of the staff members.

Creating and Developing the Avatar

The interface for creating an avatar offered Sheila six general design choices for avatar. She chose the one that looked professional, but also fun; “a light, professorial image” is what she desired. Her main consideration for choosing her avatar was the subject of her course and potential students, and ensuring that her students would be comfortable with *Second Life*. She never considered creating a non-human avatar, as she felt it could be too much, too experimental for her students. She also never considered switching genders and creating a male avatar. “It would be very fake for me,” she said, and, pointed out the lack of female school superintendents in the state and a general lack of female leadership in her area. Although she did not consider herself as an “active feminist”, it was important for her to portray a strong female persona.

Developing the Avatar

Sheila did not spend a lot of time designing her avatar. Her avatar Sheila has the same first name as her in real life, with the same eye and hair colour, although *Second Life* Sheila weighs a bit less. As long as her students would be comfortable with her avatar image, she was fine with it.

Sheila is her main avatar, although she actually has about 60 avatars. She accidentally created avatars for all of her students initially, before realizing that she did not need to create them for her students.

She has not spent much time since Sheila's initial creation working on her appearance. She would rather spend her time in *Second Life* finding teaching and learning resources than designing her avatar.

Learning How to Teach in Second Life

The learning technologies group at her university was, and continues to be, her primary source of information and support for teaching and learning in *Second Life*. “I could not have done this without them,” she notes. She attends most of the technology classes they offer throughout the year, and they will only approach her with new technology when they think she is ready for it. She will sometimes sit in their area for hours, working with them. Being “part of a *Second Life* team” with the learning technologies group has enabled her to learn the tools and technology to become a *Second Life* educator.

She has attended some *Second Life* educator conferences, but found them to be boring, and lacking innovation. She felt that these events were show-and-tell sessions, without much information about best practices. She found them to be more suitable for instructional designers and those creating content in *Second Life*.

Reflecting on Colleagues' Impressions of Teaching in Second Life

Sheila is the only faculty member in her department using *Second Life*. The nursing school at her university also uses *Second Life*. “My colleagues are terrified of this,” she states, believing that a lack of understanding of *Second Life* has led many of her peers to

resist using it. She feels that they need to be convinced about teaching in *Second Life*, and at the time of this interview she was preparing to give a presentation on *Second Life* to her university. She estimates only 10 to 15 people may attend.

The fact that she is recognized as the *Second Life* person in her department “scares the bejeebers” out of her, as she was fearful of the technology when she first started using it. However, she is using the latitude she has with her course delivery to experiment with the use of *Second Life*. By alternating between synchronous delivery with six sessions in *Second Life*, and asynchronous delivery with individual meetings in *Second Life*, she hopes to have data to demonstrate the effectiveness of using *Second Life* to her colleagues.

While the learning technologies group offers technology advice for faculty interesting in *Second Life*, they have referred other faculty members to her for pedagogical advice. She once spoke to a librarian at her university about using *Second Life* for her class. It was a “very powerful epiphany” for her, following their discussion, to realize that *Second Life* is not necessarily suitable for all courses.

Colleagues at hers and other universities have offered her little in terms of her own professional development as a *Second Life* educator.

Building Relationships with Students in Second Life

The students in Sheila's course had no experience in *Second Life* before taking her course. In fact, the students did not realize part of the course would be delivered in *Second Life* because the course calendar description only stated that it would be offered online. Initial student reaction to *Second Life* was mixed. The program director informed her that some students dropped out because of the technology, and she admitted that she received emails from students at the beginning of the course complaining about having to use *Second Life*. For those who persisted past the initial session, however, Sheila finds student attitudes more positive. She has not received negative comments at the end of the semester. Sheila feels that if she can help students through the technology hurdles at the beginning, they will be on board with her for the duration of the term. Sheila has two mottoes to help them all get through the challenges of using *Second Life*: (1) there is nothing we cannot resolve, and (2) “Are you breathing? OK, tell me what's going on and we can fix this.”

Her first class in *Second Life*, was, as she recalled, “nothing short of controlled chaos”. She worked with students individually to help them with their microphones, to learn how to walk and move, and troubleshoot various other sorts of issues. It was critical that students not let frustration with the technology interfere with their learning the course content. The learning technologies group played a central role in these opening days of the course in supporting her by walking her students through *Second Life* when necessary. The learning technologies group also offered to put together a list of technical

requirements for *Second Life* so students in the future will be better prepared with proper technology before enrolling in the course.

Observing a Session of Sheila's Course in Second Life

When I first arrived at the learning space for Sheila's course, which is a part of an educational island where many universities rent space, I was struck by feelings of peacefulness and calm. It was outdoors, with a wooden roof above, and no walls. I could hear a piano playing softly in the background, and see trees blowing in the breeze outside. Small benches were arranged in a semi-circle, and except for the fact that I knew the name of Sheila's avatar in advance, there was no way to distinguish who the instructor was by the layout of the space, or by the appearance of her avatar.

Sheila's appearance was as she had described to me, with short brown hair in a grey checked top and cropped pants, flat shoes, and green t-shirt. It was casual but professional, and not revealing or provocative like many outfits I have seen in *Second Life*. It was similar to what I would see a professor wear in the summer, or what one would wear on “casual Fridays” at a corporate office.

For this class, Sheila had expressed some nervousness as she would be playing “Who Wants To Be a Millionaire”. While she had used scavenger hunts, and small group work before, this was the first time she was playing a game, to reinforce and review the course content. The first part of the course was spent testing her microphone and the students'

microphones until everyone's sound was working properly. She was a bit panicked when her microphone did not work initially, but was able to fix the situation with continued troubleshooting. Being the centre of attention seemed to put more pressure on her for the technology to work.

As the class progressed, Sheila sat on a bench in the semi-circle with the students. Her hands were positioned in front of her for most of the time as if typing on a keyboard; in *Second Life*, hands in this position do indicate that the avatar is typing. She did not use any gestures for her avatar, such as waving, nodding, or pointing, and the entire class was spent sitting in the semi-circle playing the game and having a discussion towards the end of the class. When I asked Sheila about using gestures, she felt that it would be too much multi-tasking for her to type, handle the microphone, pay attention to the students, and keep the class moving all at the same time. She does not feel that she is “as fluid” in her movement and control in *Second Life* as she would like to be. However, students can use gestures. Sheila led a discussion with her students about using gestures in class, as they are free to use them as long as they are appropriate for the class setting.

Part of the way through the class, a man with a guitar joined the semi-circle. He sat for a few minutes, and then asked, via chat, what the discussion was about and why we were all meeting. One of the students explained what the course was, and after a few minutes he left. To me, his presence was not disruptive, and neither Sheila nor the students seemed affected by the event. When I asked about having visitors drop by the class,

Sheila said that this space is open to the public with no controls on who can enter even when a class is going on. She does have a private area, however, called “the grassy knoll” which is open to only those who she gives permission. It is the safe area in case the class is disrupted by unwanted visitors.

I would probably not have guessed this was a space for offering graduate level university courses if I had not known this before. From where I sat I could not see any traditional identifying features of a classroom, or university campus. As Sheila and I discussed, it was not confining at all, with walls, ceilings, and doors. It had a free, open, and calm energy to it, and this is exactly what she wanted for her course.

Brad

Brad offers a graduate-level class discussion in various topics in educational technology for the Educational Technology program at a university in southwestern North America.

Education and Employment Background

Brad is an adjunct professor in a graduate program in Educational Technology at a southwestern university in North America. After completing his Bachelor's degree in secondary education, Brad was going to be a social studies teacher. That is, until he did his practicum. He switched course after that, and received his Master's of Education in Educational Media, where he was first introduced to computers and technology. He became Director of Technology for a college at a university in southern United States, and taught courses in educational psychology, educational technology, and educational

leadership. He was also a senior consultant for the learning technologies group at the same university, before taking early retirement. Brad continues his technology consulting practice in retirement, as well as holding an adjunct professor position at the university.

“Technology is a major part of my life,” Brad stated, despite the fact that in his own background he’s “paper-trained”. He has spent time playing in massively multiplayer online games (MMOGs) such as *World of Warcraft*, but actually had more fun in *Club Penguin*, the virtual world designed for children. He is not really a gamer. It takes time to learn rules, and he did not want to work through a series of quests and tasks to progress in the game. What he likes about *Second Life* is that there are no prescribed goals, and you can just “get in there and start messing around.” Interaction with other residents is the main appeal for him.

Why Teach in Second Life?

Brad's priority in finding a tool for online course delivery was one that allowed him to further his contact with students. He had used Macromedia Breeze (now marketed as Adobe® Connect™), software that enables users to create elearning content and deliver it over the web, but did not like the fact that he was “lecturing to his laptop”. He had also experimented with Skype, the voice over internet protocol (VoIP) software tool, but found that “for me, it's a more authentic experience when I'm talking to my student avatars than when I'm talking to them on Breeze or on Skype.” Even though it is a computer-generated representation, he feels he can still watch them and gauge their

reaction from their avatars. When their avatars look bored, or fall asleep (which indicates that the user has been away from the keyboard for a while), he will ask if they are bored, or maybe he is not making sense. It is part of the “bizarre nature of *Second Life*.”

He first started working in *Second Life* through his state affiliation of the International Society for Technology in Education (ISTE). When he first joined *Second Life*, he was “like an alcoholic”. The first thing he built was an area with a PowerPoint projector where he could display his slides, realizing later that he was doing everything he preached against, which was bringing old teaching techniques into a new environment. He still presents content in *Second Life* when appropriate, but laughs about animating the PowerPoint projector blowing up as a symbolic gesture.

As an educator, he sees *Second Life* primarily as a community-building tool. In online courses, it is challenging to build a sense of community, and he feels *Second Life* has great potential for building communities, and friendships. The course he offers in *Second Life* is in a graduate level educational technology program, and most of his students are educators and trainers. The class reflects his belief in community-building, as they are more “fireside chats” than traditional classes that present information. They “just discuss stuff” on topics that are generally focused on technology and learning, and may or may not have anything to do with *Second Life*. He guides the discussion initially, but once the discussion gets going he lets students lead. He had tried using *Second Life* for office hours, but found using Skype to be an easier tool for online office hours. If his status is listed as online, his students know he is available to chat.

Getting Started with Second Life

After proceeding through Orientation Island and “wondering what the hell I'd gotten myself into,” Brad used the Search tool to find educational areas. His first contact was with other educators, and the advice they gave him was to go buy a skin, so he could present a professional image. The skin he bought then is still the same one he is using now. He likens shopping in *Second Life* to shopping in a country with a very favourable exchange rate. And Brad enjoyed shopping. *Second Life* allowed him to experiment with personal interests from when he was younger and buy suits of armour, capes, and medieval robes. After that, he began creating his professional self.

Creating and Developing the Avatar

His main professional avatar SurferDude wears casual slacks and a Hawaiian shirt. It is not a professional outfit that Brad would wear to a conference, for example, but it suits a man who is retired. Sometimes SurferDude will wear an ISTE shirt for an ISTE event, but otherwise his wardrobe is much like Brad's – simple and casual. Brad feels that SurferDude actually represents how he looked about 30 years ago. Determining avatar height is challenging in *Second Life*, he notes. While Brad initially based SurferDude's height on what looked appropriate in the environment, he may be about seven feet tall, much taller than Brad in real life.

Brad is also working on educational projects in *Teen Second Life*, a separate grid that is designed for teenagers aged 13 to 17 with restricted access for adults, so he has two other

avatars besides SurferDude. They are designed after a popular British actor and often wear robes or medieval costumes, and are “kind of alter egos”. Unfortunately he could not find the same skin maker for them as SurferDude, as he had hoped.

Brad has experimented with non-human avatars, including a dragon and a cat. He has appeared in class as a dragon, which he says is an indication to his students that he has had a very bad day. He has also experimented with a female avatar to which he has access, but is not his own. It is interesting to interact with others as a female avatar once in a while, he notes, but finds that the gender of the other avatar sometimes becomes difficult to distinguish during conversation. He tells a story that he heard when *Second Life* first introduced voice chat. Apparently about half of the female population in *Second Life* disappeared after that, indicating the degree to which many men may be inhabiting female avatars. There is the opportunity to play with gender differences in *Second Life*, he acknowledges, and tells another story about a colleague who designed activities specifically for students to explore gender and non-human avatar perceptions among the general population in *Second Life*.

The university had no influence on how Brad designed SurferDude or his other avatars, he feels, when he first joined *Second Life*. Once he convinced the Director of Technology to buy an island on a large multi-university space, however, he considered the implications of institutional representation on avatar design. He began investigating university policies while in the process of writing a paper on implementation strategies in

Second Life, and discovered no specific policies in regard to virtual worlds. He consulted the undergraduate director about dress code, and realized the university had no policies on faculty dress code. As a faculty member, there were no policies to violate, in real life or in *Second Life*. In fact, one policy on acceptable use seemed to disallow avatars themselves by prohibiting the creation of an anonymous online representation of oneself. Upon further consultation with a university lawyer, it seemed the policy was specific to email to prohibit spamming.

Educational institutions, Brad believes, have not really thought through what it means to represent oneself as an educator in a virtual world. To emphasize his point of faculty dress code, he tells a story of a meeting he had arranged with a new professor at his university. Before the meeting he received a warning from a colleague that he should return to his office because there was a vagrant there. Returning to his office, he realized it was the new professor. There seems to be differing expectations and assumptions about professional educator appearance in real life, he comments, let alone a virtual world like *Second Life* with fewer constraints on appearance.

Learning How to Teach in Second Life

Because the focus Brad's course is on community-building, and not presentation of content, his main teaching tools are beanbag chairs and firepits. He especially likes the coffee table that spawns chairs – whenever someone sits down the table creates another chair. He specifically designed the space he has on the university island for stimulating

discussion, whether the “elder” can tell stories and pass on his wisdom to the “younger apprentice”.

He has used more direct instruction and demonstration classes in *Second Life* as well as class discussion. In one class he had students use the building and scripting tools to create content, including seeking out the self-directed tutorials and resources available in-world. Feedback from his students indicated that they needed more basic direct instruction before starting the tutorials, so he revised his lesson and offered workshops on creating, modifying, and linking objects. His classes went much smoother after following the feedback from his students.

When asked whether his degree in educational media helped him in *Second Life*, Brad agreed it did, but also his general philosophy of trial and error when it comes to using technology. As he tells his students, he considers himself “a computer expert, but the expertise is the fact that I've screwed up more computers, in more different ways than they'll ever come up with.” He emphasizes the importance of making mistakes as part of the learning process, and that his problem-solving and debugging strategies are the result of experience.

Brad was also involved in the design of the university island. “I'm very good at walls,” he states, adding that he built the brick walls and aisles on the island. He had been involved in *Second Life* on his own before convincing the university to rent space, so when the

university purchased land he was asked to be faculty lead. With the help of the New Media Consortium (NMC) that rents out space to universities, he learned about megaprims, the large building blocks of content in *Second Life*, terraforming large areas of land, and creating the basic structures of the university campus. Now that *Second Life* is more popular and the university has more of a presence, the learning technologies group has taken over maintaining the campus, but he still is faculty lead.

Reflecting on Colleagues' Impressions of Teaching in Second Life

As faculty lead, any faculty at his university interested in using its island must come speak to him first. He provides pedagogical guidance on using *Second Life* for their particular course or subject area, and works with the learning technologies group to design the learning space. Most faculty, like him, he notes, immediately want to import their familiar teaching environment and tools to *Second Life*. "Everyone wants their own building when they get to *Second Life*," he notes, but he generally discourages spaces with walls and ceilings for practical as well as pedagogical reasons. It can be challenging for instructors to see everything with the camera views in closed spaces, he feels, whereas open spaces are much easier to work with. New faculty are also concerned with privacy and keeping unwanted visitors out of their space. He understands this concern, but tells a story of how having visitors can lead to unexpected benefits. Brad was giving a lecture to his class at an open space on the NMC island about using NMC when an avatar joined his presentation at the back of the space. The avatar asked about the subject of the lecture, and when told it was about using the consortium space, he said that he was a director of

the island. The director was able to provide answers to many of the students' questions and as a result, made it a “much richer learning experience for them.”

There are a couple of other *Second Life* classes scheduled at the same time as his on the university island. One faculty member uses *Second Life* for office hours, while another uses it for a large lecture class. They have not encountered any resource or scheduling conflicts to date, but they do have a scheduling program they use to book the island. Brad is considered “the old man of *Second Life*” since he has been present for two to three years now, and he will get questions from them on how to do specific things. He will usually point them to resources, and infrequently, they will get together in real life for him to help out. They are all “self-learners” he feels, and his own approach to learning in *Second Life* is to find the specific resource that he needs for the question he has—the most expedient way is the best.

In terms of his own professional development, when asked whether his relationship with the state affiliation of ISTE was helpful, he hesitated before answering yes. Brad explained that his learning happens by “doing the professional development for others.” He hones his understanding of how to do things by trying things out in class with his students first, and then teaching it to other faculty, or “reverse professional development.” The workshops that he gives to others is one way of refining his expertise as he has the opportunity to bounce ideas off of participants, and search for answers to their questions. Brad also has an informal group of *Second Life* colleagues that he is able to approach

with questions, or just to get together and chat about *Second Life*. He considers this group of colleagues to be some of the pioneers of educators in *Second Life*, those with just a bit more expertise and knowledge than himself. Brad admits that he does not participate in “standard” professional development workshops much. Although he loves some of the events that ISTE hosts, he usually does not have the patience for workshops. He likes finding answers to his questions as they arise, learning one thing at a time.

While Brad learned a great deal from colleagues in the educator community, he also benefited from interacting with the general population in *Second Life*. Working as a *Second Life* mentor to new users from Orientation Island helped him increase his knowledge of *Second Life*, and acquire valuable facilitation skills. He saw many problems that new users first encounter, and he learned from some of the more experienced mentors with whom he worked. In particular, he gained confidence in handling potentially disruptive visitors to his class. He described one situation in which an obnoxious avatar would not leave his class, prompting him to threaten to ban someone for abuse. By working with the general population, he learned how to explain *Second Life* behaviour policy and escalate to the point of threatening to report someone for abuse.

Building Relationships with Students in Second Life

The first time Brad appeared in class as a non-human form, his students thought it was cool. They wanted to know how to do the same. His students can read his moods depending on which avatar appears in class, or how his avatar is dressed. A suit of armour indicates a bad day; a dragon indicates a very bad day. Students do not comment that

much on his appearance changes though. Some of Brad's students have appeared in class as non-human forms. "People play with avatars," he says, and he finds it interesting to see how they experiment with avatar design and appearance.

While discussing avatar design and his relationship with his students, he launches into one of his favourite stories of avatars and identity. He once had a two-hour conversation with another educator in *Second Life*, whose avatar was a basset hound. After a few meetings, the basset hound sent him a link to his real life website, where Brad discovered that the educator actually looked like a basset hound in real life. His students, the educator revealed, actually designed his avatar for him.

Brad has learned a lot from his students from their discussions about their experience in *Second Life*. He feels there is a benefit to returning to an orientation after having experienced *Second Life* for a while. The orientation for new users can be meaningless without some frame of reference to the experience, as they "don't have a structure to hang that information" on, he notes.

A class activity that did not go quite as he had planned also led to greater insight into using the affordances of *Second Life* for teaching. He had planned a scavenger hunt activity in class, with students having to locate certain areas, and attend a few events. The majority of his students work during the day however, so they were not able to attend the events. Now instead of him creating a scavenger hunt for his students, he has his students

create their own scavenger hunt. Students found the activity to be more meaningful when they put together their own locations and events, and it led to a deeper understanding of *Second Life*.

This story is indicative of Brad's belief that “students have a lot to teach us.” He is a proponent of “multi-age learning”, where older students have the opportunity to mentor younger students, and adults and teens can interact informally, in less structured environments. There is a lot of value educationally for older students being responsible for younger students, and the sense of community that brings. *Second Life*, although not quite there yet, offers a potential environment for sustaining multi-age learning.

Businesses could get involved in mentoring activities, as a way to link what is learned in formal education to the needs of the workplace. We need to address what is being taught in formal education, he believes, to determine its relevance. Brad would also like to see greater opportunity given to students in *Second Life* to express themselves. Delivering podcasts or videos in *Second Life* are currently controlled by the landowner, so there are restrictions on where media can be broadcasted. And he would like to be able to import media developed outside *Second Life* with greater ease.

Observing a Session of Brad's Course in Second Life

I was having problems logging in, so I arrived just before class was due to start. Brad and a half dozen other students sat around a small table. I took a seat, and as more people showed up Brad “rezzed” or created more chairs until the table was full. After that, he

created beanbag chairs on the grassy area behind the table. We are sitting outdoors, in a large area surrounded by a waist-high red brick wall, and floors that looked like hardwood. There is a fireplace in the corner of the room, and a large sign just beyond the brick wall enclosing the area displaying the name of the university and program.

SurferDude is wearing a white and purple Hawaiian shirt, beige pants, casual sandals, and a headset. He has long hair in a ponytail. The title above his head identifies him as “Chief Guide”. He uses head, hand, and arm gestures throughout the discussion, and seems very comfortable using the tools and technology. He points out certain features of the environment, and take the time to explain technology issues as they arise in class. Except for having to make adjustments to volume and microphone settings, there were no technical problems. For most of the class, my avatar Lola sits with her hands in her lap and legs crossed. I have to move my mouse occasionally otherwise it appears that she is nodding off. SurferDude comments when avatars appear to be nodding off, as if to make sure people are still at the computer.

I find the subject matter being discussed very interesting and would have liked to participate. The main focus of the class is a discussion, so the environment is well-suited to an informal gathering. No other avatars other than class members joined the circle or appeared in the area.

Frankie

Frankie began attending Renaissance Faires, set during the reign of Elizabeth 1 in England, with her parents when she was four years old. She continued to attend these gatherings as an adult, learning improvisation, pantomime, and acting skills through courses and hands-on practice. Although she does not play any MMOGs or face-to-face role-playing games such as Dungeons and Dragons, she grew up role-playing and became devoted to character development.

Education and Employment Background

Frankie teaches a course in Instructional Tools in *Second Life* for a large midwestern North American university. Following college, where she received a Bachelor of Arts in Philosophy, and a graduate degree in Information Science, Frankie took on number of jobs which, she feels, turned out to be influential as she began teaching in *Second Life*. She was a cook, a baker, and ran kitchens in different food service environments. Working in large, noisy kitchen spaces with some co-workers that did not speak English as a first language, she was forced to rely on large gestures and non-verbal communication skills. She was also a professional Easter Bunny. The costume had a large plastic head, so she had to portray this character without speaking, and without the benefit of facial gestures. Her experience at the Renaissance Faires learning acting and pantomime was beneficial in those jobs, and influenced her “ability to be a good cartoon in *Second Life*.”

Why Teach in Second Life?

Frankie first heard of virtual worlds when she attended a presentation by Peter Ludlow as a graduate student. Peter Ludlow was involved in *The Sims Online* at the time, and although she was fascinated by virtual worlds, the demands of being a graduate student did not allow her the time to pursue this interest any further. Following graduation, she began reading blogs and other sources of online information on virtual worlds. She was particularly taken by a book written by Boing Boing blog contributor Cory Doctorow, which featured images from *Second Life*. The photos reminded her of her childhood, watching cartoon characters like Heckle and Jeckle run around dropping anvils on each other's heads, and wishing she could be a cartoon. “[T]his is probably part of how *Second Life* hooked me,” she recalled.

Frankie first joined *Second Life* out of curiosity, after reading about a library project in-world. She had taken a job as an academic librarian, and in order to achieve tenure and promotion, she needed to participate in some service to the profession. Working with an emerging *Second Life* library project fulfilled those needs, as it involved service and the potential for academic research and publishing. The first avatar she created was experimental, simply to learn about the world before she could consider volunteering for the library project. This initial avatar is now lost, although Linden Lab does have a process for recovering lost avatars.

Getting Started with Second Life

Frankie's initial encounter with *Second Life* to see the library project “was very strange and very daunting at first because I had no idea how you controlled a character in a game, and I was always walking into things, and you know, I felt like objects were persecuting me.”

After joining *Second Life*, she discovered a region called Selkirk, and assumed it was Scottish, or like the Renaissance Faires she had attended growing up, and in particular, a virtual Dickens Christmas Faire. The Selkirk community blog was engaging, literate, and intelligent, and she “was just enchanted by all sorts of things about it,” including a floating island that reminded her of the island of Laputa from the novel, *Gulliver's Travels*. “We can embody literature; we can embody Laputa,” she thought. When Frankie was asked to be the community librarian in Selkirk, she jumped at the opportunity.

Creating and Developing the Avatar

Before taking on the role of librarian in the community of Selkirk, Frankie had created her main avatar for which she is quite well-known now, RJ Goodfellow. She spent a lot of time designing RJ, trying to make her look like herself in real life. “I spent hours on the nose,” she laughs. She could not recreate her nose, but still designed a distinctive one. She spent a lot of time on Orientation Island playing with the sliding bar variables in the avatar creation menu, but not being a very visual person she feels, she confessed she never really knew what she was doing. RJ ended up being “about eight feet tall, she's

blue-skinned with a bright green mohawk.” Frankie then modified her back to a more realistic human form.

RJ Goodfellow initially started out as a female, but after getting the job as librarian in Selkirk, Frankie decided to switch to a male, as “this was a pants role.” She switched gender to accommodate her new role as Selkirk librarian, and RJ “became a tall, doofy-looking Victorian gentleman.” She later realized that RJ Goodfellow did not need to be a male to assume the role of Selkirk librarian, so she switched her back to a female form. Selkirk residents continued to call her Mr. Goodfellow though, so RJ returned to being male. “[RJ Goodfellow] had become a very strong, very iconic character” in Selkirk. Frankie admits that she likes playing the male librarian RJ Goodfellow. “... I've very much enjoyed, you know, being Mr. [Goodfellow]”

Frankie was initially hesitant about using custom skins and animated gestures for RJ. She thought that a village librarian should not be intimidating, and should look like everyone else, so she kept the default skin and hair. She was also a bit intimidated by her *Second Life* mentor, who had custom skin and hair, and used animated gestures. Even after someone gave her a custom skin, she wore it only in private, and not on the job. Selkirk, she soon realized, is not a community of new *Second Life* users, however. It is “a community of people who are fairly finished in *Second Life*.” So Frankie began using custom skin and animated gestures for RJ Goodfellow.

Selkirk, she admits, is “a very, very sartorially conscious community,” and acknowledges that “clothes really do make the avatar.” Because RJ Goodfellow is her professional avatar, he is “neatly dressed, not outrageous, or outrageous within ... only within bounds that are agreeable to people.” He “has always been deliberately respectable but certainly never conservative.” RJ is known for his collection of top hats, some of which have been given to her, and some of which are animated. *Second Life* has a definite “potlach ethos” to it, so people enjoy giving and receiving objects “to trick out your avatar.” Selkirk now has an area for freebies, and as librarian, RJ has made some basic clothing to give to people.

RJ, or Sir RJ is now a well-known and respected resident of Selkirk, having been knighted for service to the community. Frankie was very surprised that RJ was knighted. As a scholarly gentleman librarian in a Victorian context, he is treated accordingly, as a distinguished member of the community. He has also developed a presence and manner quite distinct from Frankie herself. RJ has taken on a life of his own, and in her experience with role-play at the Renaissance Faires, she understands that “you fall into a voice; you fall into a manner.” RJ's reputation and role in the Selkirk community gives her cues as to what is expected from “Sir RJ”, and she obliges. “When I am playing [RJ Goodfellow], I think of things to say that I wouldn't otherwise.” Frankie admits to being quite fond of Sir RJ. “I really like [RJ Goodfellow]. I really like the funny little librarian, so I maintain it when I teach. His somewhat archaic manner, somewhat archaic speech ...”

Frankie has created approximately six other avatars for different purposes. Admiral RJ is her female avatar shape. As with RJ, she tried to design her real female shape, but then realized that no clothes looked very good on her. Admiral RJ only has about four outfits that suit her. “She's more like my actual body type,” Frankie admits. Frankie's mother thought Admiral RJ resembled her as well. Not so much the appearance, but “apparently [Admiral RJ] telegraphs something that's like me without actually looking like me.”

“More confirmation that identity is constructed, and not ... essential.”

Gender stereotypes are pervasive in *Second Life*, Frankie feels, and the avatar creation menu perhaps advances the stereotype by making it difficult to design more real life body shapes, as she tried. One “can be cute and skinny and buff, or someone grotesque,” but it is difficult to accomplish a form in between the two extremes. Her experience in trying to change RJ from a male back to a female also provides a glimpse at perceptions of gender in *Second Life*. Although she had reverted to a female shape as RJ Goodfellow, she was still referred to as “Mr.”. It could be that some do not really pay attention to avatar appearance and gender, especially after they already have a relationship with that avatar. It could also be, she acknowledges, that *Second Life* residents are not surprised by the range of avatar forms in-world. An avatar represented as a bowl of jello used to be noteworthy, she feels, but now we have gotten used to it.

Miss Henrietta was an avatar she created while working briefly as a librarian for an

online school. She was conservative in appearance, and Frankie did not spend as much money designing her. She “was short and perky and had iron grey hair. Charmingly no nonsense.” Frankie has other avatars for working when she does not want to be recognized as RJ Goodfellow. RJ is well-known, and Frankie receives a lot of instant messages (IMs) while playing him. She has also created two other avatars to back up the inventory of objects, clothing, landmarks, and other items acquired in *Second Life* associated with RJ Goodfellow. Although she has enough alternative avatars now to regularly play them so they remain active, she admits that she may create more if she discovers a new name that she likes.

The fact that RJ Goodfellow is a well-known figure in Selkirk, and in educator and librarian circles, raises privacy and reputation issues for her in *Second Life* and other virtual worlds. There are a number of other virtual world projects ongoing in the education community (Warburton, 2009), and it is important for her to be able to patent RJ Goodfellow so she can use that established avatar identity and reputation in other worlds. She locked the name down in OpenSim, an open source server platform for virtual worlds that interacts with *Second Life*. Frankie “didn't want anyone to plausibly speak for me,” as this is her professional name.

Learning How to Teach in Second Life

Before teaching in *Second Life*, Frankie had experience running a library, and providing one-on-one training. When her current institution, a large midwestern university, began

offering courses in *Second Life*, she was invited to take part in a virtual librarianship class. She was good at it, so, along with another virtual librarian, proposed another course to the university. She now co-teaches a class in Instructional Tools in *Second Life*.

Although she is an experienced teacher, teaching in text, she feels, is far different from a hands-on environment. She had to become expressive in writing, and using language to display character in order to communicate in *Second Life*. She had to compensate for the “loss of vocal technique” for which she was familiar for conveying mood, character, and presence, by using word choice, pacing, and use of chat abbreviations and symbols.

Frankie also learned how to use the third person in *Second Life* chat while teaching, or what she refers to as voice over, or “sotto voce.”

In regular chat in *Second Life*, when an avatar types something into the chat window, the avatar name first appears, followed by a colon, then followed by whatever was typed. In the third person, or voice over, the colon is deleted so it appears as a statement. For example, “Lola Goff: I'm excited about buying a new outfit” becomes “Lola Goff is excited about buying a new outfit.”

She learned to use this form of speech while in Selkirk, as it is commonly used there. And because she spends a considerable amount of time in Selkirk, and with the larger librarian and educator community, she has adopted it for use in the larger *Second Life* community, and in class to demonstrate its use as a teaching tool. “I've always been a bit of a chameleon in the ways people talk,” she admits, and has always been able to pick up on

the nuances of the ways people speak and write, and use it in her own speech and writing. Although some *Second Life* residents have found it to be suspicious, she notes, as it seems like play acting, she finds it is just another tool to express herself in text.

Reflecting on Colleagues' Impressions of Teaching in Second Life

In her current job, Frankie is seen as somewhat of a *Second Life* expert, and she tries to guide other faculty interested in *Second Life*. This is an informal role. She had a formal role as a *Second Life* liaison to other faculty members in a previous job, which required her to train others, give tours, and create a resource guide. The greatest barrier to more faculty members adopting *Second Life*, in her experience in that role, was not necessarily a fear of technology, but a lack of time. Some were told that they had to use *Second Life*, so they wanted to learn as much as possible in as little time as possible. And with most academics being over committed with their time, she feels, it was challenging for some to find the time to explore, and to make the leap to engagement with *Second Life*. “Once you engage with *Second Life* as a world, it makes perfect sense to buy hair,” she laughs. In terms of her own professional development, she finds informal communication and interaction with communities of experienced *Second Life* residents much more valuable than formal courses, workshops, or conferences. She follows the work of a few experienced *Second Life* residents and instructors, and also learns a lot from teaching, from her students, as well as by watching other classes, and the interaction between instructors and students. In her role as librarian, she is always involved in one-on-one training, which helped her learn how much information and guidance to provide in class.

She also learns a lot from her own mistakes. In fact, along with her co-instructor, she will often re-design entire classes before teaching them again.

Frankie belongs to a couple of educator and librarian *Second Life* groups, and will go to certain events and tours, but this is not a primary source of professional development. She also does not attend formal classes in *Second Life* on teaching and managing classes. Nor does she find *Second Life* educational conferences to be that helpful for her professional development. She likes the theoretical talks, but gains little from the hands-on information presented in conferences. One of the issues with conferences, she finds, is that the experience level of the presenter is not specified, so the content of the presentation could be something valuable for a new instructor, but not so much for a more experienced instructor. The socializing is fun at conferences, and she enjoys some of the latest “gizmos” that are shown off, but she feels that teaching in *Second Life* is not at the stage of defining best practices yet.

Building Relationships with Students in Second Life

On the published course outline for her course, the instructor is listed as a female, and yet when students log in to *Second Life*, they see that RJ Goodfellow is a male avatar. Some students will question this discrepancy, the fact that the instructor seems to be playing a character. Frankie takes these opportunities when they arise to turn them into “teachable moments” to discuss issues of identity and gender in *Second Life*. She has a folders of different avatars from which she can easily switch from one to another – from a tiny

avatar, to a female, then to a non-human form that is a solar system. She then asks students how those avatars challenge their perceptions of identity and self-presentation, and how the avatar design menu itself could be a teaching tool. “There's no not choosing the way you look; if you've chosen to look like a noob you've made a choice,” she insists. Her students only know her online, and not in real life. It is not an issue if she meets someone at a conference, then sees them back in *Second Life*.

Observing a Session of Frankie's Course in Second Life

The first sensation I had upon teleporting to a Shakespeare simulation for Frankie's continuing education class on instructional tools in *Second Life* was hearing the eery, whispering voice of one of the main characters. The landscape was dark and desolate, and the words of this character hovered in the air. I wandered around the sim for a few minutes, and then requested a teleport to the class location because the class was about to start. The whispers seemed to follow me as I teleported away.

I landed in an amphitheatre, with a grayscale image of a castle looming in the background. Although the image is not of very high quality, it is suitably dark and the somewhat pixelated quality fits the mood of the play. RJ Goodfellow is standing on the stage, along with his co-instructor, with the title “The Scottish Play” above his head. RJ is wearing a kilt, black boots, and what looks like a bow and arrow slung across his back. Even though avatar height is very difficult to determine in *Second Life*, RJ appears to be a tall man, with dark wavy hair, beard and moustache.

After taking my seat in the raised, theatre-style seats in front of the stage, RJ and his co-instructor engage in some light banter as the class settles. They play on the themes of the play and Shakespeare, using the “voice over” form of communication that RJ is fond of. RJ also uses animated gestures throughout the class. The class is a semi-lecture, semi-discussion format, with RJ leading the discussion by asking questions, probing and following up on student answers, then asking more questions. Notes for this class were distributed in advance for students to read. Much of the first hour is spent discussing student exploration of the Shakespeare sim, and how it was designed to immerse students in the themes of the play.

For the second hour of the course, we are all teleported to the Selkirk sim where RJ is librarian. We are standing in a circle in the middle of an open field, near the “Vannevar Bush Memorial Reading Room”. Selkirk, upon closer look, does resemble a community from more than one hundred years ago. There are clusters of low buildings near a stream, with a windmill downstream from the buildings. Except for a few park benches, the grassy field is uncluttered. RJ reappears with the title of “[Selkirk] Library Lion”, and is now wearing a black tuxedo and a top hat. After the class has formed a circle in the field, we all touch a ball above our heads to activate a script to make our avatars dance. The class continues its discussion of teaching tools in *Second Life*, and ways to implement them for different subjects, as our avatars dance in unison. The dance is a combination of ballet, contemporary, ballroom, and outright fantasy, as at one point our avatars are lifted

up in the air, turn upside down, and hang in the air before spinning back to earth. I notice that Lola's long custom hair moves naturally while being hung upside down. The discussion turns to issues of identification with our avatars, as the class discusses how we feel about our avatars as we watch them dance and move in ways that we cannot in real life. Although I could not share my feelings with the class as an observer, I felt like standing up and moving as I continued to watch Lola dance. Even though it was a script making her dance, I still felt immense feelings of pride in her ability to dance and marvelled at how coordinated and graceful she looked, as if I was somehow responsible for her movements.

I asked Frankie about the use of the dance script in class a few days later. After describing my feelings towards Lola while watching her dance, Frankie agreed that in her experience, people like dancing in *Second Life*. Dancing is also a socializing activity, she feels. It is something that “educators can stand to explore more, is how we identify with our avatars and we can, you know, have a good experience through our avatars.” She revealed that she has her computer set up so she can stand up and move around during class is so desired, as it is more fun to stand than sit all the time. We compared the sensation of watching our avatars dance and wanting to stand and dance along with them, to the Nintendo Wii gaming system. Engagement with the gaming system is driven by watching our physically enhanced movements on screen, and identification with our avatars' movements. “We project ourselves into our characters; we project ourselves into our avatars,” Frankie agrees.

We discussed the use of the “voice over” and the interplay between her and her co-instructor as the class was assembling in the amphitheatre. “I’m a bit of a proponent of role-play for a learning tool,” she admits. The use of role-play and analogies to Shakespeare was designed to draw students into the sim, and to see how it can be used as a teaching tool. It is also part of RJ Goodfellow's manner as a Victorian gentleman to use older forms of English, and gestures like bowing. Some students are more drawn into the role-play than others in her experience. This particular class, she admits, was a bit outside of their comfort zone with the Shakespeare sim. Additional guidance and directions on how to navigate the sim would have been beneficial, in hindsight. Before enrolling in the course, students are required to have basic level skills in *Second Life*. They should know how basic movement, navigation, and communication skills. There are a number of good orientations and community gateways that exist now, unlike when we first began and had to use the generic Orientation Island.

She also uses gestures in class to demonstrate their use as a teaching tool. As a librarian, she has a “shushing” gesture that states, “[RJ Goodfellow] peers over his glasses and shushes you in an approved manner.” RJ has gestures for bowing as well, with various scripts that accompany them. Gestures, she feels, are an effective way to have students think outside of the chat window and make it less discursive.

I questioned Frankie on her use of chat only for the class, because my previous

experience attending classes in *Second Life* has always involved voice technology. She prefers chat only for her classes because voice technology in *Second Life* is unreliable, and she likes to provide students with a transcript of the discussion following class. In my experience, voice technology in *Second Life* is challenging, and requires ongoing troubleshooting, including checking volume and microphone settings, and monitoring feedback and interference. For groups of more than ten people it can also be difficult to determine who is speaking. A green flashing hache mark appears above an avatar's head when they are speaking, but when multiple avatars are speaking at once it can be confusing. She has used Skype along with *Second Life* and she finds this a more reliable solution for integrating voice with *Second Life*. In the past when Frankie taught classes using voice she had a reader generate a text transcript in the chat window, so a permanent transcript was available for distribution. Students in this class have not commented on the use of chat only, but she acknowledges that she would use voice if the group requested it. Frankie has refined her use of chat as the primary means of communication, having taught a number of different courses in *Second Life*, including instructional tools, immersive learning, and numerous courses in virtual worlds and librarianship. She prepares her lecture notes in advance so she is not typing throughout the class, and is instead copying and pasting sections into the chat window. Because her notes were prepared, she began distributing the notes to the class in advance, so the time in *Second Life* could be focused on interaction rather than lecture. She finds it frustrating when students have not read the notes in advance, as the class is less productive. In order to draw students out and stimulate discussion in class, she will ask a lot of questions,

comment on any responses, and ask more questions. Silence in the chat window, as with silence in a face-to-face class is awkward, so she will ask individuals for their thoughts and try to engage those who are not actively participating. When an avatar nods off, which is the gesture indicating that someone has not touched their mouse for a while, she will note that in the transcript. Some classes take more effort than others, she agrees, but she tries to be courteous while prodding for responses.

One of the contradictions she sees in using *Second Life* for education is the idea that *Second Life* can be used to “deliver” education. It is not about delivery, she insists, as “*Second Life* doesn't reward passivity.” For students who want to sit back and have their education delivered to them, *Second Life* is not ideal. Without the interactivity, it is “just a chat room that doesn't work all the time.” To help students and educators become immersed into *Second Life*, she tries using different techniques such as the Shakespeare sim and the group dance. There are those who become immersed and those who do not, she feels, and those who have abandoned *Second Life* as a teaching tool did not make this transition to adopting its interactive and immersive qualities.

Frankie identifies herself as being more of a “big picture person” in *Second Life*, while her co-instructor is more about the specifics. Being able to stimulate her student's imagination is her goal. One idea she has to get students feeling more comfortable with their avatars is to offer an avatar workshop. She would have participants revert their avatars back to their basic form, then slowly take them through the process of designing

and adding custom items. More advanced avatar design workshops could involve designing to a particular style or fashion designer, such as “a Gucci avatar”, or to a particular style of portraiture or artist. As “*Second Life* is essentially an imaginative environment,” the only limit is her imagination.

Philip

Philip trains nursing faculty how to use *Second Life* for a college in western North America.

Education and Employment Background

Philip is a nursing faculty member at a college in the western North America. He has been interested in using simulations for medical education “before it was really popular.” On top of his full-time nursing faculty job, he also used to train faculty members on elearning applications, and had introduced fellow faculty members to learning management systems (LMS), such as Blackboard™. He was integral in implementing the system at his college and training people on its use.

Why Teach in Second Life?

Philip first heard of *Second Life* from the computer centre at his college. His “rez date”, or the date that he first joined *Second Life*, was early April, 2006, and his main interest was its use for simulations and education. On his initial visit, however, he did not see the application of *Second Life* for education. He did not know anyone using *Second Life* when he first joined, so his first few visits were spent mostly by himself, learning about

the world from others that he met in-world and first-hand experience. He lost interest in *Second Life* for about six or seven months, and ventured back in January 2007. Philip has always been interested in *Second Life* primarily for educational purposes. He asserts that, “...I have a lot of things in my first life ...,” so his motivation has always been professional, not personal.

Getting Started with Second Life

When Philip returned to *Second Life* in January 2007, he immediately recognized the possibilities for education. He was giving presentations to fellow faculty members on *Second Life* within a few months, and by the end of March 2007, he was introducing his students in class to *Second Life*. After some initial hesitation about its educational potential, he made the transition quickly to being a proponent of *Second Life*.

Creating and Developing the Avatar

Philip did not put much thought into the design and the name of his first avatar. He did not know at this time that he would be teaching and using *Second Life* for professional purposes, so he took his real life initials as the first name, and used the default last name that the system offered up for this particular day.

Working from the default new avatar form, he “tried a little bit” to make his avatar PT Cruz look like him, only younger. He continued to adjust the appearance of his avatar for about twelve months, purchasing custom skin and hair, and different clothing. PT has two or three different outfits that he will wear besides his nursing scrubs. He also has clothing

for when he visits role-play simulation islands. Philip has “added some age issues” to PT since his initial creation, with more greyish hair, and a less slim and muscular body, so PT is closer to Philip's real life appearance.

Although Philip experimented with alternative avatars a bit initially, his alternative avatars now – one patient and one nurse – are for professional purposes only. When he returned to *Second Life* and began exploring its educational potential in earnest, he created a professional avatar Philip RN. By that time, however, he was already known as his first avatar PT Cruz by his friends and colleagues, so he decided to stick with PT as his professional teaching avatar. Philip RN is now his secondary, or helper avatar. Philip will sometimes run *Second Life* on three different computers at once with his different avatars so he can play multiple roles, or film his presentations or classes at the same time.

While his college had no influence on the design of his professional avatar, it has had a negative impact on his professional practice in *Second Life* due to technology issues. He is always asking for more bandwidth, and despite some improvements, the lack of bandwidth continues to affect his day-to-day teaching. Philip, as the first faculty member at his college to teach in *Second Life*, has led the battle at his college for more technical resources to support *Second Life*. His college is, he muses, amazed that “I've become so popular, so well-known for this.”

The computer centre at his college, where he first heard about *Second Life*, is able to

provide technical assistance to students using *Second Life*. They work closely with him, and are available to help troubleshoot problems while he is teaching. Philip will hang out in the computer lab, and, if he is teaching on campus, he will sometimes walk over to the lab where the students are during a simulation.

He is currently trying to get his college to offer a basic course in Web 2.0 technologies, including virtual worlds. A course like this would help new students learn different technologies, so they would be more prepared for a class in *Second Life*.

Learning How to Teach in Second Life

The island where Philip teaches is owned by the state in which his college resides, and provides space for 34 community and technical colleges. Although other faculty are using *Second Life* in various ways, Philip has been “thrust forward as one of the biggest people to use it.” He controls many buildings, and for the highly technical simulations, has worked with other builders. Some of the medical simulations on the island that he uses are “cutting edge in *Second Life*.”

Philip is actively involved in multiple projects to expand the role-play capabilities of medical simulations, including role-play capabilities for students. He is in regular contact with the educational leaders at Linden Lab to voice his concerns over creating and running advanced simulations. While *Second Life* is unique for its content creation and ownership approach, he has reached the limits of its technological capability to support

advanced simulations. While other environments can offer higher quality simulation experiences for smaller groups of people, they do not offer the interactivity with other users. He is also experimenting with “mashups”, or merging different tools, like Skype, with *Second Life*. He hopes that *Second Life* will continue to evolve as a platform for educators, and on in medical education in particular, he continues to meet with representatives from corporations, medical support groups, and other groups and associations outside of higher education to expand the development of simulations. Textbook publishers control so much information in higher education, he laments, and people are still tied to the idea of learning from a textbook.

Simulations are very powerful, he asserts, “it's got another dimension to it.” The visual, interactive, and collaborative affordances that virtual worlds provide are more engaging than watching a video, sharing files, or posting information to a wiki. Virtual worlds are “... a highly emotional medium too, you can make someone cry, you can make someone laugh, you can make someone go, wow, I wonder where I'm going with my life ...” They provide a space where fun and work merge.

Reflecting on Colleagues' Impressions of Teaching in Second Life

As one of the early adopters of *Second Life* at his college, he is regarded by some colleagues as the *Second Life* expert. “There are positive and negative aspects to that, but they clearly know what I'm doing.” He has offered workshops and advice to fellow faculty members, but some do not want to know about *Second Life*. And as with other

technology innovations in education, he feels, some do not want to change.

Philip is actively involved in giving presentations at international, national and local conferences on *Second Life*, medical education, and elearning in general. The conferences are not always useful for him as a source of professional development, as he often has more knowledge and skills than the presenters. While he is open to both formal and informal forms of professional development in *Second Life*, informal opportunities are more beneficial for him. Philip engages in a lot of professional development from the web – reading feeds from different sites, blogs, and journals, for example. He has done some work with the International Society for Technology in Education (ISTE), which has an island in *Second Life*. ISTE is actually more focused on kindergarten to grade twelve education, but he is open to finding and adapting information from many sources to improve his own practice. He encourages his students as well to seek out information online, and not limit themselves to paper-based sources.

Building Relationships with Students in Second Life

Philip is a public figure in educational circles in *Second Life*. “Everybody knows my avatar.” His contact information is in his class syllabus, and within *Second Life*, he states his real life identity and contact information in his avatar profile. Philip has become friends with some of his students as a result of teaching in *Second Life*, but because he is so active, he tries to establish boundaries around when he can be contacted. Students feel a greater sense of connectedness to him as a result of his teaching in *Second Life*. There is

greater opportunity for them to “see other aspects of me than what they see in class.”

Observing a Session of Philip’s Course in Second Life

The *Second Life* training for nursing educators that I observed took place on the state-owned island where Philip teaches. After teleporting to the island, I was dropped into the beginning of an orientation for new residents to the island. Billboard-type structures with basic information on movement and interactions in *Second Life* lined the side of the path. Users could practice touching the billboards to interact with the content on them. The orientation reminded me of the Orientation Island for the general population when I joined in 2006, and how much the quality of orientations has improved since then.

The island is very large, and had the look and atmosphere of a university campus. Two or three large buildings framed the island, with smaller secluded areas set in groups of trees, and more open areas for demonstrating various teaching tools and simulations. After leaving the orientation, it was a short walk or fly to where I heard voices and saw class participants gathering. Voice technology in *Second Life* is sensitive to distance, as in real life, so as I approached the voices became clearer.

The class was approximately three hours long, and was mainly instructor-led discussion and demonstration of tools and simulations, with some question and answer. The first part of the class featured demonstrations and discussion about general *Second Life* teaching tools, with practical advice on their implementation. The second part of the class was

focused on medical simulations, and included a demonstration of a patient-diagnosis simulation, and tour of a medical clinic.

There were eight participants in the class, and once we were in the process of assembling, PT began conducting voice technology tests to ensure we could all hear him, and each other. Voice technology in *Second Life* is not reliable, he explained. He prefers to use voice and will chat if necessary, but finds that using Skype in conjunction with *Second Life* is a better option. We spent about ten minutes testing everyone's voice, but the class proceeded with both voice and chat. An instructional designer who had helped design and build many of the tools acted as a class assistant, and was available by instant message during the class to answer questions and provide guidance. As I discussed with Philip later, having to speak and type into the chat window simultaneously during class is difficult.

PT was dressed in loose-fitting black pants, a green long-sleeved sweatshirt-style shirt with the arms rolled up, and a light blue shirt underneath. He had black and green-rimmed sneakers on his feet, and his hair was salt and pepper, shoulder-length, wavy, and almost covering his face. His hair reminded me of that of a 1970s rock star. PT has a more stocky, muscular build, and appeared to be medium-height, compared to other avatars. Height is difficult to determine in *Second Life*. Before starting the discussion, PT introduced himself to the class, including his real life name and contact information. While I was surprised at the time at his openness, it became clear during our discussion

later that because of his work with advanced simulations, he and his avatar are well-known in *Second Life*.

Philip's comfort level with teaching in *Second Life* was apparent from the beginning. He used hand and arm gestures for pointing with ease, and as we toured the island, was quick to offer navigation assistance in order to keep the class together. The class discussion was focused on practical advice for implementing various teaching tools in class, building objects, managing the file size of objects and limits on parcels of land, buying or creating content, and managing content. Once we entered the clinic for a demonstration of a patient diagnosis simulation, we had to attach a script to our avatars so that we could see the diagnosis script, view the patient's vital signs, and view the diagnoses options. Philip changed into blue scrubs for the demonstration, which also included a stethoscope and other tools around his waist on a tool belt. He explained that the simulation teaches patient diagnosis, reading vital signs, as well as reinforcing proper procedure. As an example, students are timed on the amount of time they spend washing their hands, as this is a critical step for nursing students. The clinic and patient simulation room appeared as one would expect to see a medical clinic or treatment room. The simulation was effective, and demonstrated the potential for building and scripting interactivity into objects in *Second Life*. We then proceeded to another medical centre for a tour, and spoke briefly to the owners of that simulation. During the switch from one location to another, Philip and his assistant offered teleports to the class with ease, and were able to keep all of us together.

My initial impression of the class was that it progressed smoothly, considering the different locations we toured, the need for teleports to move from one area of the island to another, the challenges with voice technology, student interactivity with the environment, and the type of simulation demonstrations Philip was showcasing. Following up with Philip, he thought otherwise. The class did not run as smoothly as others, including a class he taught earlier in the day, he felt, and many things went wrong. We agreed that teachers are often critical of their performance, finding fault with things that students are not aware of. Communication issues such as the need to chat and speak at the same time, proved challenging. If all participants can use voice technology with a microphone, it is easier, but not all students in his class can use voice, he explained. Working with experienced *Second Life* students is easier, he admits, than new students who may not have the ideal tools and technology for *Second Life*. Even if you take the time to test the voice as we did at the beginning of the class, he observed, the voice technology can still fail part way through a class for one or more participants. Philip's bandwidth challenges with his college also affected this class. A lack of bandwidth, coupled with a lot of avatars and large objects in a particular area, can cause lag, or time delay in movement and loading objects. Despite Philip's frustrations, the opportunity to see an advanced medical simulation in *Second Life* for me overshadowed any technical glitches that may have occurred.

Caitlin

Caitlin conducts religious studies meetings in *Second Life* for a community college in midwestern North America.

Education and Employment Background

Caitlin is an adjunct professor at a community college in midwestern North America. She loves teaching. Ever since she was a child she has wanted to teach. She has taught college students since 1988, and until the late 1990s, was pursuing a career as a tenured professor. The pay was low, however, almost too low to make a living, and her workload was high. She found the tenure track to be unsatisfying, so in 1997, during the dot-com boom, she found a job in telecommunications as a network management engineer. She learned programming languages such as Unix and MySQL, and “got machines talking to each other.” The career change worked out well for her, as she was “a whopping success,” taking to it “like a duck to water.” Caitlin worked in telecommunications for six to seven years. The dot-com bust prompted her to return to teaching at a community college in the midwest as an adjunct instructor, despite her disagreement with the role of adjuncts in the educational system. She teaches only online now, which allows her more time to spend on her educational practice. Teaching a classroom course required more time, not only preparing for class, but also commuting to and from the college.

Why Teach in Second Life?

Caitlin's experience working in telecommunications, and the technology skills she

gained, has influenced her teaching practice. She loves “being on the cutting edge” with technology, and wants to pass this on to her students. She was “profoundly affected” by the the “Did You Know?” videos (Fisch & McLeod, 2007), which provided information on global workplace trends, and the need for people to be able to adapt to changing workplace environments and technological advances. The majority of her students in community college are there, she states, because they need to find a career and earn money. In order to prepare them for the present and future job market, she exposes them to various technologies, and collaborative technology in particular like blogs, wikis, and *Second Life*. Her primary goal is to teach them poise, confidence, and adaptability.

“Whatever tool is there, whatever innovation is in place ... I just want to expose them to it so when they get to the work world ... they're actually at an advantage over people they might be competing with.” She will try whatever platform will offer her students hands-on technical experience.

An instructional designer at Caitlin's college first introduced her to *Second Life* around May 2008. Her college had previously created an island that had been used by two other faculty, and featured classrooms, office space, an art gallery, an ivory tower, a pirate ship, and a water auditorium in the bay. It was not being used at the time, and the instructional designer knew Caitlin was open to using new technology. “We know [Caitlin'll] do it. She's not scared of technology.” She was the third faculty member from her college to use *Second Life*.

Getting Started with Second Life

Being a technology savvy person, she did not experience many problems adapting to *Second Life*. She found it “annoying” however, and “as magnificent as it is it's very clunky. It really shouldn't be so difficult to smoke a cigarette, for example.” The process of smoking a cigarette in *Second Life*, she explained, involves taking the cigarette from your avatar's inventory of items, placing the item on the ground, take it out of its container, then attaching it to your avatar's lips. It should be a one-step process to attach the item to your avatar, she feels.

Creating and Developing the Avatar

Caitlin lost the first avatar she created after realizing that her computer could not run *Second Life* well. She then joined again at work, and the avatar she created then is called Nebraska Forde, her main avatar. Caitlin really cannot remember how she chose her avatar form. It is possible the system prompted her to select it. “Trying to understand my relationship with my avatar is like trying to understand my relationship with a fork,” she laughed, recalling what she joked half-heartedly about research studies on people and their avatars. She acknowledges the unconscious connection that people have with their avatars, but she did not put much thought into her own avatar design.

After selecting one of the female shapes that avatar creation menu offers, she proceeded to Orientation Island, and then to the main *Second Life* area. She grabbed a green sweater from a box of free items and put it on, and then found a hat with bunny ears. Nebraska

dresses similar to the way Caitlin does in real life – “not fashionable.” Caitlin has not changed Nebraska’s appearance at all since then. She also did not see Nebraska’s face for a while after joining *Second Life*. The default camera angle in *Second Life* shows an avatar's back, as if you are walking behind your avatar. A user needs to change the camera angle, or go into appearance editing mode, for example, to see the avatar's face. Once she saw her face, she thought “she's like a china doll, she's perfect.” She has very pale skin and big, wide-open eyes. Caitlin does not recall how Nebraska ended up with blue hair though.

She does admit to being very fond of her bunny hat. “I love that thing,” she laughs. The first time she felt an attachment to Nebraska happened when she attended a conference. Someone had brought a script that caused an avatar's head to blow up. Smoke would come out of the head, then the avatar would fall over. Everyone was trying the script and encouraging her to try it. Being a novice at the time, Caitlin refused, fearing it would permanently destroy her bunny hat.

Recalling another incident when she felt an attachment to her avatar, Caitlin describes a friend's exhibition and “identity circus” that she attended. One aspect of the exhibition was a script that allowed users to make love to her friend's alternative avatar. This was a sensual and erotic experience for Caitlin, watching Nebraska make love to another avatar. Another aspect of the “identity circus” was a tent from which users could select a random avatar, not realizing what they had selected until they left the tent. Caitlin selected a

female hobbit, but not realizing what it was, began jumping and playing around thinking it was a child avatar. Upon being told that she was, in fact, a female hobbit, she stopped playing. It was “a remarkable experience” to watch Nebraska and her friend making love, but she could not do it as a female hobbit.

The only avatars Caitlin plays besides Nebraska are the ones that were created for her to play in the *Second Life* game she developed. She has not created any alternative avatars on her own, and does not see any reason to do so unless it was useful to her. Her only activities in *Second Life* at the moment are professional, so there is no need for more than one avatar. She may create an alternative avatar, for example, if she wanted to pursue some of her personal interests.

Learning How to Teach in Second Life

Caitlin did not have a class to teach, or any idea of what to do in *Second Life* when she first joined at the urging of the *Second Life* instructional designer at her college. She was writing for a comic book website when she joined, so her first idea was to combine this with *Second Life*. She organized a comic conference or “comic-con” in the fall of 2008. It was so successful that she organized another one half a year later, with another one scheduled for fall 2009. Her students participated in the comic-con, and the opportunity for them to interact with international scholars was invaluable. This led to a request to have comic studies meetings in *Second Life*, which led to the idea to offer religious studies meetings as well.

The religious studies meetings led to the idea to create a game based on an eastern religious text. The instructional designer with whom Caitlin works first thought of the idea. Caitlin conducted the research, and came up with the concept and flow for the game, and then let a design team do the creative work to build the environment. She has demonstrated the game to some game developers, religious scholars, and members of her religious studies group, and will soon be pilot testing the game with students. She received a grant from her college to create the game, and both the college and her dean have been very supportive of her work.

Besides offering the study groups, Caitlin also created a treasure hunt activity for her students. The goal of the treasure hunt was to understand what her students thought of *Second Life*, so it involved finding five locations in *Second Life*, four of which were based on religious studies. One location required students to select a location of their own to visit, and then write a short paper explaining why they picked that location. Some of the locations, such as St. Peter's Basilica are beautiful, she acknowledged, but not very interactive. As with other *Second Life* locations, at any given time there may not be many avatars with whom to interact unless there is a specific activity to attend.

Reflecting on Colleagues' Impressions of Teaching in Second Life

Shortly after joining *Second Life* in spring 2008, Caitlin founded a think tank along with one other *Second Life* faculty member and two instructional designers at her college. The

think tank focuses on web 2.0, *Second Life*, serious games, and comic studies. It now has over 90 members, and they offer a place to exchange links, conduct research, and sponsor events. Caitlin's role is Director of Research. Speaking of *Second Life*, she comments, “it separates the sheep from the goats, and I'm not talking about students here.” Faculty who do not understand *Second Life*, and who think it is boring, she notes, are the goats.

Second Life is an environment that needs to be built. It needs to be explored, created, and experienced. Those who understand this are the sheep. And Caitlin identifies herself as a sheep.

The online learning area at her college oversees all *Second Life* activities, and she is very thankful for their support. Technical support in *Second Life* for students is available from the think tank's Chief Immersion Officer, who is also the Student Success Coordinator. Most of Caitlin's professional development in *Second Life* happens through the think tank. She attended a conference on education in *Second Life* as a presenter, and likes the fact that her experience could be useful for others. The conference was great, she thought, and the benefit for her is to learn from emerging research from various perspectives on *Second Life*, and not just educational practice.

Building Relationships with Students in Second Life

The *Second Life* faculty and instructional designers at her college offered a pirate-themed orientation day for students new to *Second Life* to learn to chat, fly, use gestures, shop,

and customize their avatars. The students were very nervous. “They were clinging to me,” she laughs. Some would crowd around her and move whenever she moved, not wanting her out of their sight. Some students immediately took to *Second Life* and began flying around and exploring on their own, knowing they could always keep in touch with her through instant messaging. Others got lost and needed her to send a teleport, or link to her location, to them.

One incident at the orientation, in particular, proved to be an ideal icebreaker for the students. Another instructor had left a box of free items for participants, including a parrot that could be attached to an avatar's shoulder. Caitlin could not attach the parrot to her shoulder, however, and finally attached the parrot to her butt. Although she “tend[s] to be well-liked” by her students, this incident, and the orientation led to more compliments. They appreciate her insistence on exposing them to new technology.

Observing a Session of Caitlin's Course in Second Life

A demonstration of a game based on an eastern religious text was the purpose of the religious studies meeting that I attended. After I received a teleport, or location link, to the college island, I landed in the water auditorium in the bay off the island. The water auditorium is a small island that fits no more than 20 avatars, with a low, ankle-height fence, and stones on the floor. The water is a crystal blue colour, and we are standing just below the surface of the water, submerged to our ankles. There are rocks around the edge of the island where avatars can sit cross-legged with their hands on their knees, in a

meditative pose. Nebraska is standing at a small podium, in front of an abstract image of a mountain with a waterfall cascading down one side.

Nebraska is a slim female, with short blue hair and a hat with black bunny ears, pale white skin, a moss green long-sleeved top, purple and black batik-style pants and black shoes, and black fingerless gloves. Her pale skin, large, round dark eyes, blue hair, and dark clothing are typical of “goth” fashion, a subculture linked to the gothic music genre in the early 1980s.

We spent approximately ten minutes at the beginning of the class testing the voice technology. She could not hear us, but most of the participants could hear her. For those that could not hear her, she had one of her colleagues type her speech into the chat window. Having to troubleshoot voice technology, she pointed out at the time, was typical for her classes and meetings in *Second Life*. Nebraska appeared at ease with the technology, and continued introducing the game despite the voice problems. She used gestures for applause, and a hearty, belly laugh, and also took over the typing duties from her colleague, speaking at the same pace as her typing.

Following an introduction to the game, we received a teleport, or location link, to the first stage of the game. Nebraska was not present in the game with us, but she continued to guide us through the design of the game, and how the choices a player makes to continue in the game reflect the various sections of the religious text, and how these choices affect

a player's success in the game. Each stage of the game featured different objects with which players could interact. The graphics are vivid and colourful, and combined with the sound effects, effectively simulates the deities and temptations in the text. The first stage is peaceful and calm, as we appear to be floating in a cloud. The second stage features a blood-red glowing ground and sky, with the sky constantly rotating over our heads, and occasional bursts of flames leaping at our feet from the ground. Characters designed to frighten and annoy players jump in and out of the game, leaving one feeling uncomfortable, uneasy, and wanting to leave.

Caitlin appears back in the game in the form of another avatar, a player character in the game. She explains her role in the game, and how the game was designed for actual avatars, and not non-player characters, to play certain roles in the game. Although the game was designed to be played in less than ten minutes, we take almost an hour to visit the different stages, and to explore and interact with the environment.

Caitlin admits that she is “thrilled to pieces” with the game. The book is ideal to represent in a game because the text was meant to be spoken aloud and not read. Having player characters read from the text not only represents it in its original form, but also creates an interactive experience for students. Students can experience the text, the questions it poses, and the answers to those questions. It was a collaborative effort by members of the think tank to research, write, and design the game, and the positive feedback the game has received so far has inspired the group to design another game

based on a religious text. As Caitlin asserts, “It takes a village.”

SUMMARY

This chapter introduced the five participants in this study: Sheila, Brad, Frankie, Philip, and Caitlin. Sheila teaches an online graduate course in Special Education Law. Brad offers a course on topics in Educational Technology to graduate students. Frankie and Philip teach courses to those interested in learning about educational opportunities in *Second Life*. Frankie's course focuses on instructional tools, while Philip's course is designed for other nursing faculty. Caitlin runs religious studies meetings in *Second Life*, and was in the process of demonstrating a new immersive game she had designed based on an eastern religious text.

CHAPTER 5: DISCUSSION

This chapter presents the analysis across the five cases presented in the previous chapter. It first presents themes that emerged by type of data: themes that emerged in the analysis of the interviews, followed by themes that emerged in the analysis of the observations, and then themes that emerged in a narrative analysis of the interviews.

Next, it explicitly answers the research questions underlying the study.

This chapter concludes by proposing a portrait of a university-level instructor who teaches in *Second Life*.

BUT FIRST, A REVIEW OF HOW I ANALYZED THE DATA

The analysis of the data in this study uses a modified version of the Grounded Theory methodology for analyzing data. Like Grounded Theory, this study uses a three-level method for analyzing the data. But rather than using fully open coding for the first level, the first level of coding emerges from the sources of data. Within each of the three sources of data, I looked for patterns. So, for example, because the interviews were semi-structured, I looked for recurring themes across participants to their responses to key questions. I completed a similar analysis of the class observation data. The class observation was structured around key categories such as avatar appearance, learning environment appearance, and interactions between instructor and students. I then looked

for recurring themes across these categories. The narrative analysis was structured around three questions that sought to uncover the relationship between participants and their avatars. Questions focused on the whether participants referred to their avatars in the first or third person, identify claims made by participants about themselves and their avatars, and how participants positioned themselves and their avatars relative to other individuals in their stories. I then looked for recurring themes across their responses to these three questions.

Two types of themes are presented. Strong themes are those for which four or five participants had the same or similar response. Weak themes are those for which two or three participants had the same or similar response.

THEMES EMERGING FROM THE INTERVIEWS

Because the interview followed a semi-structured approach, all participants were asked about the same topics:

- Information about the course they taught in *Second Life*
- How they started using *Second Life*
- How they designed their avatars
- The effect of *Second Life* on their relationships with colleagues
- How they build relationships with students in *Second Life*

The Course Taught in Second Life

The course taught refers to the course that the participants taught and that I observed.

Teaching methods refers to how the participants conveyed the class content to their students.

The course taught and the methods used to teach in *Second Life* are important issues because the affordances of the *Second Life* environment allow for different types of teaching methods than those that can be accomplished in a real or virtual classroom. The type of teaching method instructors select depends on the subject matter being taught, and this in turn reveals how instructors are adapting their professional identity and teaching methods to the *Second Life* environment.

When designing this study, I sought participants who would represent a broad diversity of experiences within academic teaching. For the most part, the participants in this study represent that diversity. Instructors teach at a variety of levels addressed include undergraduate and, graduate academic courses as well as non-credit continuing education and professional development courses. As a result of this diversity of level, these courses also served a diverse range of students, including traditional and non-traditional undergraduate students, graduate students, working professionals, and teachers at various levels. I did not achieve diversity in one area; subject matter taught. Despite a concerted attempt to ensure broad representation of faculties and backgrounds, participants

primarily taught courses on education and instruction. Sheila and Brad teach in graduate courses in Education, and Frankie and Philip offer classes in instructional skills and tools for other instructors who are, or are interested teaching in *Second Life*. Only Caitlin is involved in teaching a subject other than education: religious studies.

When observed, the participants demonstrated a similar diversity in their teaching methods. Table 5-1 explores the various teaching methods used by participants.

Table 5-1: Teaching Methods Observed among Teachers

Participants	Course taught	Course level	Course delivery	Class activity
Sheila "Sheila Futona"	Special education law	Graduate	Online/ <i>Second Life</i>	Quiz game
Brad "SurferDude"	Educational technology	Graduate	Online/ <i>Second Life</i>	Instructor-led class discussion
Frankie "RJ Goodfellow"	Instructional tools in SL	Continuing Education	<i>Second Life</i>	Semi-lecture, Semi-discussion and simulation tour
Caitlin "Nebraska Forde"	Religious studies	Continuing Education	<i>Second Life</i>	Immersive game demonstration
Philip "PT Cruz"	Teaching in SL (for nursing faculty)	Professional Development	<i>Second Life</i>	Demonstration of teaching tools, and simulation tour

No strong pattern emerged but these weak patterns did:

- Instructor-led group discussions, such as (Brad's “fireside chats”, designed for students to discuss educational technology issues of interest to them with Brad's; and Frankie's instructional skills class, consisting of both lecture and group discussion, used to provide information and specific examples of instructional tools in *Second Life*.
- Demonstration, such as Philip's demonstration and tour of advanced simulations for nursing faculty; Frankie's demonstration of instructional tools and techniques.
- Games, such as Caitlin's demonstration of an immersive game based on a text, used to present the game and receive feedback; Sheila's “Who Wants To be a Millionaire”, used to review and reinforce concepts in a content-heavy course.

Starting to Use Second Life

The methods used to start using *Second Life* are important because it has only been used as a learning environment for approximately five years, and there are few established patterns for how educators begin teaching there.

Participants showed diversity in their backgrounds with technology, reasons for joining *Second Life*, and source of professional development.

Table 5-2 summarizes participants' initial experiences with, and reactions to, Second Life.

Table 5-2: How Participants Started to Use *Second Life*

Participants	Background	Why join SL	Why teach in SL	Initial reaction to SL	Source of professional development
Sheila "Sheila Futona"	Fearful of technology	Fit her pedagogical needs for online course delivery	Fit her pedagogical needs for online course delivery	"frightening"	Institution technology teaching and learning centre
Brad "SurferDude"	Computer expert	Extension of his interest in technology	Wanted a communication tool to extend contact with students	"wondering what the hell I'd gotten myself into"	By teaching others, through more experienced SL colleagues
Frankie "RJ Goodfellow"	Renaissance Faires (acting, pantomime, improv)	Liked the idea of being "a cartoon"; opportunities to volunteer in her discipline	Advancement for tenure and promotion by volunteering; opportunities to publish and present	"very strange and very daunting"	By observing others teach, student feedback, through more experienced SL colleagues
Caitlin "Nebraska Forde"	Educator, network management engineer	Was asked to join by an instructional designer at her college	Opportunity to introduce her students to new technology	"clunky", difficult to accomplish simple tasks	College think tank she co-founded
Philip "PT Cruz"	Educator, interest in advanced simulations	Potential for offering advanced simulations	Potential for offering advanced simulations	Saw no educational potential on first few visits so left	Informal/web

Despite all of this diversity, two strong patterns emerged in instructors' initial experiences with *Second Life*, and their reasons for teaching in it.

The first of these strong themes is that all five participants found *Second Life* challenging and difficult to use at first, regardless of their comfort level with technology. Philip did not see the value of *Second Life* for his educational purposes after his first visit, and did not return for over six months. Caitlin found the interface to be “clunky”, and could not understand why it was so difficult to accomplish common real life tasks, such as smoking a cigarette. Sheila was frightened. Frankie found it to be daunting and strange, while Brad wondered what he had gotten himself into. Despite their initial reactions, all five persisted and continued to teach in *Second Life*.

The second of these themes is that participants began teaching in *Second Life* for pedagogical reasons. Four—Sheila, Brad, Caitlin, and Philip—recognized that *Second Life* fit their needs for course delivery, to extend their teaching methods, and to practice their teaching philosophy. Frankie, the fifth, initially began teaching in *Second Life* for other reasons: as a means for advancement in her profession and tenure.

Several weak patterns about participants' initial use of *Second Life* is previous experience with educational and information technologies. Brad considers himself a computer expert, having been involved in educational media and consulting for years. Philip helped his college start using LMSs, while Caitlin worked in the high tech industry as network

management engineer. Sheila and Frankie do not have the same experience using computers and technology.

Another weak pattern addresses the reasons that the other two joined *Second Life* because someone in the teaching and learning group of their institution recommended that they did so. That's why Sheila and Caitlin joined. In Sheila's case, the teaching and learning group felt that *Second Life* fit her course needs. In Caitlin's case, the teaching and learning staff was encouraging people to use the island the college built, which was not being used.

I observed identical patterns in the manner in which these participants received professional development to use *Second Life*. Brad, Frankie, and Philip, who all had backgrounds with educational and information technology, tended to seek out guidance on their own from teaching and mentoring others, communicating with other educators in *Second Life*, and using online resources from other communities and disciplines. These three did not find *Second Life* conferences for educators to be helpful, as they were familiar with most of the information being presented, or were presenters themselves. In contrast, Sheila and Caitlin, who had more limited technology backgrounds, relied more heavily on their institution's teaching and learning group, and virtual worlds and gaming think tank, respectively.

Designing Avatars

Designing an avatar first involves selecting an avatar style from a menu. Avatar styles include human forms with different styles ranging from sporty to goth. Users can then customize the avatar's appearance with the design tools provided, by purchasing custom features such as clothing, hair, and skin, or by creating features using the scripting and building tools in *Second Life*. The choices the instructors made when designing avatars to represent themselves in *Second Life* are important because avatar design is one of the first steps in defining their professional identity, and how they are perceived as instructors by others in the education community.

Several issues affected avatar design. Table 5-3 summarizes participants' avatar design influences and choices.

Table 5-3: Issues in Designing Avatars

Participants	Avatar design influences?	Tried to make first avatar look like their real life self?	Alternative avatars?	Non-human? Other gender?
Sheila “Sheila Futona”	“light professorial image” - nothing that could upset new students to SL	Yes	No	n/a
Brad “SurferDude”	Experiment with different selves, moods, interests	Yes, the clothing	Yes	Yes, Yes
Frankie “RJ Goodfellow”	Experiment with different selves, moods, interests	Yes	Yes	Yes, Yes
Caitlin “Nebraska Forde”	None – put little thought into design	No	Yes	No, Yes
Philip “PT Cruz”	Loosely based on real life self	Yes	Yes	No, No

Three strong patterns emerged in avatar design. The first is that four of the five participants tried to make their first avatar look like their offline selves. Sheila, Brad, Frankie, and Philip all modelled their first avatars after some aspect of their appearance or personality. Sheila's avatar has the same first name as her and has most of the same basic features, such as the same hair and eye colours. Brad and Philip's avatars are loosely based on their real life appearance. Philip has since aged PT somewhat since he first created the avatar to reflect his own aging process, with a fuller body type and grey hair. Brad's SurferDude represents a younger version of Brad, but dresses as he does now

as a retired man. Frankie also tried to make her first avatar look like aspects of her offline self, especially her nose. She recalls spending hours designing the nose of her avatar. According to Frankie's mother, another of her avatars also seems to have a similar personality to Frankie.

In contrast, Caitlin put little thought and time into the design of her avatar, selecting a female form that resembled a "goth" girl. She picked up two items of clothing for her avatar, but otherwise has not changed her appearance since creating her.

The second pattern is that the four out of five participants have alternative avatars that they use for purposes other than teaching. For personal purposes, Brad and Frankie have both experimented with alternative avatars that have different forms and genders. They use these alternative avatars for personal purposes. Caitlin and Philip have also created alternative avatars, but use them for professional reasons. Caitlin uses her alternative avatar to play characters in the game she co-created with her college colleagues.

Although she has not created any for personal reasons, she acknowledges that she might, if she decided to pursue non-professional interests in *Second Life*. Similarly, Philip possesses two other avatars to play in the medical simulations—one is a patient and the other is a nurse. Only Sheila does not have an alternative avatar.

The last strong pattern is that four participants have tried different avatar forms that significantly differ from themselves, either in gender or other than human. Brad has

access to a female avatar that he has tried, but does not have his own. Caitlin plays a male character in the game, although, like Brad's female, is not her own. Frankie's primary avatar, Sir RJ Goodfellow is a male.

One weak pattern in avatar design is that two out of five participants have created alternative avatars as ways to express diverse aspects of themselves. Brad has non-human avatars that he uses in class to express different moods. Frankie has created different avatars for various *Second Life* librarian positions she has held. Each one has a personality and character distinct from her primary avatar, Sir RJ. She has also created other avatars for personal exploration.

The Effect of Teaching in Second Life on Relationships with Colleagues

According to the literature (Jarmon & Sanchez, 2008), teaching in *Second Life* has the potential to affect instructors' relationships with their colleagues. The interviews explored this issue and Table 5-4 summarizes participants' responses to questions about it in the interviews.

Table 5-4: How Participants Perceive Reactions about Teaching in Second Life from their Colleagues

Participants	Other faculty at institution present in SL?	How other faculty perceive him or her	Have provided informal guidance to other faculty on SL?	Have provided formal guidance to other faculty on SL?
Sheila "Sheila Futona"	Yes	SL expert	Yes	No
Brad "SurferDude"	Yes	Faculty SL lead	Yes	Yes
Frankie "RJ Goodfellow"	Yes	SL expert/guide	Yes	Yes
Caitlin "Nebraska Forde"	Yes	Tech savvy	Yes	Yes
Philip "PT Cruz"	Yes	SL expert	Yes	Yes

Several strong patterns emerged. The first is that no participant was the only faculty member from their institution who participated in *Second Life*. These peers often work in other departments, but every participant had institutional peers as educators in *Second Life*. Still, the participants in this study were well regarded and recognized within their institution for their use of *Second Life*.

A second strong pattern is that all participants are regarded by some of their peers at their institution as experts in *Second Life* or as someone to call upon for advice and expertise. Even though peers regard them as experts, not all of the participants saw themselves as experts.

A third strong pattern is that all participants have provided some informal guidance to

other faculty on using *Second Life*. Sheila is the only person in her department teaching in *Second Life*, and the fact that she is known as the “*Second Life* expert” scares her because she admits that she is not comfortable with new technology. At the time of the interview, she was in the process of preparing a presentation to her university colleagues but did not think many would attend. Brad is the lead faculty member on *Second Life* at his university. That means that other faculty members at his university who are interested in using *Second Life* and the university island must consult with him first. He offers pedagogical advice on using *Second Life* for their discipline, as well as advice on designing the learning space to suit their needs. Frankie plays an informal role at her university as an experienced *Second Life* educator, offering advice and guidance when asked. Philip is active in the nursing education community, giving presentations and workshops, and working with Linden Lab to address his needs for advanced medical simulations. Caitlin, another faculty member and some instructional designers at her university, established a think tank to advance their work in *Second Life*, online games, and with Web 2.0 collaborative technologies. As Research Director of the think tank, she, too, is known for her work in *Second Life*, and in particular for the game she is currently pilot testing.

In addition, Brad, Frankie, and Philip have all taught or offered workshops on using *Second Life* to their faculty peers and have also given presentations on *Second Life* at conferences.

The Effect of Teaching in Second Life on Relationships with Students

In addition to its effects on relationships with colleagues, the literature (Robbins, 2006; Jarmon, 2009) also suggests that teaching in *Second Life* has the potential to affect instructors' relationships with students. The interviews explored this issue and Table 5-5 summarizes participants' responses to questions about it in the interviews.

Table 5-5: How Participants Perceive Reactions about Teaching in *Second Life* from their Students

Participants	Had face-to-face contact with students before meeting in SL?	Avatar design discussed in class?	Impact on relationship with students
Sheila "Sheila Futona"	No	No	Mixed/Positive
Brad "SurferDude"	No	Yes	Positive
Frankie "RJ Goodfellow"	No	Yes	Mixed/Positive
Caitlin "Nebraska Forde"	No	No	Positive
Philip "PT Cruz"	No	No	Positive

Two strong patterns emerged when considering the effect of teaching in *Second Life* on relationships with students. The first is that the instructors had no in-person relationship with their students. None of the participants had ever met or, to their knowledge, had face-to-face contact with their students before class in *Second Life*. All of their classes were completely online. In some cases participants met students after class either in real

life or in *Second Life*.

The second strong pattern is that all participants felt that teaching in *Second Life* had a positive impact on their relationships with students, although initial reactions were not always positive. For example, Sheila commented that she experienced some negative feedback initially from students. Her online course description did not specify that part of the course would be conducted in *Second Life*, as a result, some students dropped out of the course and others complained to her. Attitudes changed during the term and, by the end of the course, she did not receive any negative feedback about *Second Life*. Once students persevered through the learning curve with her, she saw that she was able to keep them engaged through *Second Life*. Frankie experienced some relationship issues regarding her alternate avatar, Sir RJ. The course description suggested that the instructor was female, so Sir RJ surprised them. Students felt Frankie was playing a character. But she turned questions about Sir RJ into “teachable moments” to discuss gender and identity issues in *Second Life*. She also used those moments to demonstrate that avatars themselves can be seen as instructional tools, by showing students a range of avatars, from avatars of the opposite gender to those who are non-human. The question of identity, and identification with avatars was discussed in the class that I observed. As we stood in a circle and touched a script that made our avatars dance, the class talked about how they felt watching their avatars perform, and how it impacted identification with their avatars. Frankie mentioned that, in addition to being a social activity, she uses the dance script in her instructional tools class especially for this reason: to stimulate

discussion about avatars and identity.

Like Frankie, Brad uses avatar design as a way to stimulate discussion. The first time he appeared in class as a non-human, his students thought it was “cool” and wanted to know how to do the same. In fact, Brad used avatars to communicate his mood to students and he noted that they can read his mood depending on which avatar shows up for class. Also following his lead, some of his students have appeared as non-human forms. One educator in *Second Life* whom Brad met had his students design his avatar for him. Such incidents seem to bring educators closer to their students. Educators can learn a lot from their students, Brad believes, especially from their experiences in *Second Life*, and these interactions have benefited his own professional development. *Second Life* also has the potential for offering more informal learning spaces for “multi-age learning”, where students and instructors, and people across generations can interact and learn from each other.

Caitlin believed offered a pirate-themed student orientation day in *Second Life* and believes it brought her closer to students. Although some students needed little assistance and were happy to explore on their own, others did not let her out of their sight. She recalled that one incident, in particular, seemed to break the ice and put students at ease. She was showing students some free accessories, including a parrot that she tried to attach to her shoulder. She had problems attaching the parrot to her shoulder, and instead attached it to her butt.

Philip, too, feels that teaching in *Second Life* has also brought him closer to his students. He feels that, *Second Life* has given him the opportunity to interact with students after class, allowing those who do to see different sides of him. In doing so, however, he has found that boundary issues have arisen and he has found that he needs to set some boundaries around when he can be contacted in *Second Life*.

THEMES EMERGING FROM THE CLASS OBSERVATIONS

This section presents themes that emerged in the class observations. These observations provided an opportunity to view teachers at work in *Second Life*, using their avatars and interactions with others to forge their professional roles, and contrast what they said about their roles with how they actually exhibited them. Categories of issues observed included:

- The appearance of educators' avatars
- Design of the teaching environment
- Communication methods

When considering the information in this section, also note that, in some instances, I conducted the interviews before the observations and, in others, I observed instructors first, then conducted the interviews. Specifically, I interviewed Brad and Frankie before observing their classes. In contrast, I interviewed Caitlin, Philip, and Sheila (whom I had met but not interviewed before the observation) after their classroom observations.

The Appearance of Educators' Avatars

Avatar appearance describes the physical characteristics and dress of the avatar or avatars that participants appeared as during the class observations. According to the literature (Robbins, 2006; Cheal, 2007) as well as comments in the interviews, this seems to be an important issue because appearance is critical to establishing a professional identity, and creating the desired learning environment in *Second Life*. Literature from classroom teaching also supports the view that educator identity is influenced by appearance, and in particular, stereotypical images of educators (Weber & Mitchell, 1995). I observed several of these issues when I observed the teachers teaching. Table 5-6 summarizes what I found.

Table 5-6: Characteristics of the Appearance of Avatars Observed in Class

Participants	Avatar form: human/non human?	Avatar form: gender same as in real life?	Change in avatar/avatar appearance during class?	Reveals real life information in class?
Sheila "Sheila Futona"	Human	Yes	No	No
Brad "SurferDude"	Human	Yes	No	No
Frankie "RJ Goodfellow"	Human	No	Yes	No
Caitlin "Nebraska Forde"	Human	Yes	Yes	Yes
Philip "PT Cruz"	Human	Yes	Yes	Yes

Two strong patterns emerged from my observations. The first strong pattern was observed

in all 5 class sessions: the avatar appeared in human form, and not as an inanimate object, furry creature, or other non-human form. Although all participants except for Sheila have alternative avatars, some non-human, they all chose to appear in human form for their classes.

The second strong pattern is that all but one participant used an avatar of their gender in offline life. Only Frankie used an avatar of a different gender. Long before the class session that I observed, Frankie initially created her teaching avatar RJ Goodfellow as a female. She switched RJ Goodfellow to a male to accommodate a village librarian role in the region of Selkirk. But when she wanted to revert RJ back to a female form, RJ had already established a reputation in the community as a male and was still referred to as “Mr.”. As RJ had, by then, an established identity, Frankie kept him as a male.

A weak pattern emerged as Frankie, Philip, and Caitlin all changed avatars, or changed the appearance of their avatars during the class observation. This was purposeful, and responded to changing requirements and classroom environments that they perceived during the class session. Frankie's avatar, RJ Goodfellow, appeared in a kilt in the first half of the class in the Shakespeare themed simulation to demonstrate how the design of an environment can embody text. RJ then changed to his regular clothing of a tuxedo and top hat upon returning to Selkirk for the second half of the class. Philip changed into scrubs when demonstrating a simulation of a patient diagnosis in a medical clinic. Caitlin switched avatars while demonstrating the immersive game based on the religious text.

She introduced the activity using teaching avatar Nebraska Forde. But once students were engaged in the simulation, Caitlin assumed the role of a character in the game. She announced to her class that she would be doing so, and continued the rest of the simulation as avatar of the player in the game.

One last weak pattern was that three of the five participants did not reveal their offline identities or contact information during their classes: Sheila, Brad, and Frankie. Sheila, in particular, was adamant about preserving the anonymity of herself and her students, given the sensitive nature of the course. She wanted to create an environment where students would feel comfortable sharing details of their work and the types of issues that they encounter as special education professionals. Only Sheila knows the real names and locations of her students. Neither Frankie nor Brad revealed their real life names in class, but Frankie does not try to hide her real life identity. As RJ is well-known in Selkirk, and through her professional activities in *Second Life*, she lists her real life name in the profile tab of RJ. To maintain some privacy in *Second Life* for personal exploration, and without having to respond to the numerous instant messages she receives in-world, Frankie has created alternative avatars whose names are not linked to her in real life.

In contrast, Philip and Caitlin revealed their real identities during the class sessions that I observed. Philip's situation is similar to Frankie's as he is well-known in the nursing community for his activities in *Second Life*. He gives many presentations and his work is visible so he felt no need to hide his offline identity. He also lists his offline contact

information in the profile tab of his avatar, PT Cruz. Caitlin feels she has nothing to hide so did not hesitate to reveal her real life contact information during the class session. However, she does not list her contact information in the profile tab of her avatar.

Design of the Teaching Environment

The design of the teaching environment refers to the physical location in *Second Life* in which the class takes place, as well as the interaction in that environment. This topic specifically explores where the class took place, the objects in that space, and the interactivity observed between the instructor and the environment and between students and the environment, as well as the presence of disturbances during class. Table 5-7 summarizes what I found.

Table 5-7: Characteristics of the Teaching Environment

Participants	Environment is designed or chosen for this class	Environment location	Interacts with objects in the environment	Students interact with objects in the environment	Presence of griefers and disturbances
Sheila “Sheila Futona”	Yes	University island	No	No	No
Brad “SurferDude”	Yes	University island	Yes	No	No
Frankie “RJ Goodfellow”	Yes	Simulation/ Selkirk region	Yes	Yes	No
Caitlin “Nebraska Forde”	Yes	University island	Yes	Yes	No
Philip “PT Cruz”	Yes	University island	Yes	Yes	No

Several patterns emerged when analyzing data about the design of the teaching environment. Four were strong; one was weak.

The first theme, a strong one observed in all 5 classes, is that classes were held in environments designed or chosen for particular characteristics. Brad's group discussion class was held in an area on his university's island that was specifically designed for group discussion, including the ability to provide more chairs around the fire pit if class participation exceeded the initial capacity. Sheila deliberately chose an outdoor environment with views of water and trees for her class. Given the subject matter of her course, characteristics of her students, and her desire to create a comfortable, non-threatening environment, she chose an environment that would meet these needs. Frankie deliberately chose the Shakespeare-themed simulation as an example of using the learning environment as an instructional tool—in this case, to embody literary text. Philip's class was similar to Frankie's as his was designed to introduce students to potential teaching tools so he selected locations that featured tools of interest for nursing educators. Caitlin's demonstration of her immersive game featured five different locations, or navigation options, that were specifically designed so participants could experience a religious text.

The second was a strong pattern observed in four of the five class sessions. In them, participants interacted with some element of the teaching environment. Interactions with the environment refer to touching objects, which then enables a script in *Second Life* to

cause movement, make other objects appear or disappear, or send objects to other avatars. Brad interacted with a script that created more chairs around the fire pit when more students arrived. Frankie touched a ball that made her avatar dance. During the demonstration of the game, Caitlin sent notecards and other navigational cues to students to lead them through the game. Philip demonstrated a number of objects for teaching, including a voting simulation. In this simulation, avatars stood in a circle with a particular colour that represented one of five possible responses. As soon as avatars stand in a particular area, the simulation script automatically calculated the percentage, or “votes” for each area. Participants could then move from one coloured area to another to see how the percentages changed. Sheila did not interact with objects to initiate scripts, or send objects to participants during her quiz game class.

The second pattern was a weak pattern observed in three classes, and in which students interacted with the environment in some form. The interactions that Frankie, Caitlin, and Philip demonstrated were also available for the class to experiment with. When Frankie's class moved from the Shakespeare-themed simulation to Selkirk, all students in the class and Frankie stood in a circle and touched a ball above their heads, which caused their avatars to dance in a repetitive loop. There were many opportunities to interact with objects in the immersive game environment that Caitlin demonstrated, including other characters in the game. Philip's demonstration of teaching tools in *Second Life* was interactive, allowing students to experiment with the voting simulation. Students were also asked to initiate a script that enabled them to watch the simulation of a patient

diagnosis. Brad and Sheila did not have their classes interact with any objects. But doing so might not have been appropriate as both of their classes were focused primarily on conversational, question and answer-style exchange.

The literature on teaching in *Second Life* advises instructors to be prepared for *griefers*, avatars whose primary goal is to disrupt the experience of others (Cheal, 2007). Similarly, other accounts of teaching in *Second Life* suggest that privacy could be a potential issue unless group or land permissions are used (Robbins, 2006); or uninvited guests could show up in class. But these concerns did not emerge in any of the classes observed, a strong pattern. Indeed, none of the five participants had griefers, or other disturbances from uninvited guests during their class. The only related incident occurred in Sheila's class. Someone who was not in the class approached the area used by the class. But he promptly left after asking what the class was discussing.

Communication Methods Observed in the Class Session

Participants employed various tools and techniques to communicate with students during the class sessions that I observed. Table 5-8 summarizes those communication methods.

Table 5-8: Communication Methods Observed in Class Sessions

Participants	Communication	PowerPoint used	Use of gestures	Presence of a co-instructor/assistant
Sheila "Sheila Futona"	Voice and chat	No	No	No
Brad "SurferDude"	Voice and chat	No	Yes	No
Frankie "RJ Goodfellow"	Chat	No	Yes	Yes
Caitlin "Nebraska Forde"	Voice and chat	No	Yes	Yes
Philip "PT Cruz"	Voice and chat	No	Yes	Yes

Several themes emerged. One of the strongest patterns observed was the absence of PowerPoint slides in the class sessions. In fact, none of the participants used PowerPoint slides. This surprised me as I had entered the study with a belief that many first efforts in teaching in *Second Life* involved the use of existing PowerPoint slides. This belief emerged from posts to the *Second Life* Educator mailing list between 2006 to 2007. In fact, Brad—who stated in his interview that he did not like to teach with PowerPoint—admitted to building a PowerPoint projector in *Second Life*. He laughed, adding that now he would like to blow up that projector in *Second Life* as a ceremonial gesture.

A second pattern, also a strong one, is that instructors used both voice and text chat as communication tools in class. I observed this pattern in four of the five classes. The fifth only used chat.

A related and strong pattern was that, in all four classes that used voice, instructors needed to troubleshoot problems with voice technology that arose during the class or advise students on how to adjust their microphones and volumes. Brad spent the least amount of time attending to the voice technology in his class. In the class I observed, he provided advice to students on adjusting the volume settings for particular users. Philip also spent just a few minutes to start the class to make sure everyone could hear him. He inquired about the audibility of the voice in the chat window. Students replied either by voice or chat. Sheila and Caitlin spent more time, about 10 to 15 minutes each, at the beginning of their classes troubleshooting issues with the voice technology. Sheila had to test her own microphone a number of times, which caused her to panic as she was not yet comfortable managing the technology and tools in *Second Life*. Caitlin also struggled with using the voice technology to start her class. Some participants could not hear her so she asked for a volunteer to type what she was saying into the chat window. While she was trying to adjust her microphone, she addressed me specifically to say that she regularly encountered problems with the voice technology, and this was not an unusual incident at all.

Frankie was the only participant to only use chat to communicate with her class. As she was an educator who has taught four different courses in *Second Life*, I was curious as to why she did not use voice. She said that she chooses not to use voice technology because the technology is unreliable—exactly the experience of the other four participants. She also likes using chat only so that she can send the chat transcript to the class afterwards as

a record of the discussion. Frankie has taught classes and given presentations using voice before, and for presentations she continues to use voice. Only on one or two occasions has a student specifically asked for voice, and she offered to conduct a one-on-one session with that student using voice.

A fourth strong pattern is the use of custom gestures and animations for avatars, which I observed in four of the five classes. Custom gestures and animations observed include hand and arm movements such as pointing and waving towards students to acknowledge them, and head movements such as nodding and laughing, to replicate the same offline behaviours. Brad, Frankie, Philip, and Caitlin synchronized their gestures and animations with the voice and chat discussion at the time so they did not seem out of place or ill-timed. Sheila did not use gestures or animations during class. When we discussed this afterwards, she said that this was a deliberate decision. She did not feel comfortable multi-tasking while managing the class.

A fifth pattern is the presence of a co-instructor or some instructional assistance, a weak pattern observed in three of the classrooms. Frankie, Caitlin, and Philip each had some instructional assistance. Frankie co-teaches her class in instructional tools with a colleague. Caitlin had a volunteer from the group help her type her speech into the chat window for those who had problems with the voice technology. An instructional designer who had worked with Philip also attended the class to assist Philip with keeping the class together as participants moved to different areas of the island and to the patient diagnosis

simulation. Sheila and Brad, whose classes involved a quiz game and group discussion respectively, did not have co-instructors or instructional assistance in the class sessions that I observed.

THEMES EMERGING FROM THE NARRATIVE ANALYSIS

This section presents themes that emerged in a narrative analysis of the interviews.

Whereas the analysis of the content of the interviews focused on *what* participants said about the construction of their professional identity through their avatar, the narrative analysis of the interviews seeks to uncover *how* participants spoke of the construction of their professional identity through their avatar. I specifically looked for the use of particular terms in the responses. Three questions guided the narrative analysis:

- How do participants refer to their avatars?
- What identity claims are made?
- How do they position themselves and others in their stories?

For each question, I first analyzed the use of terms, then identified whether these responses were consistent throughout the interview, or changed during the course of the interview.

How Do Participants Refer to Their Avatars?

The first question that guided the narrative analysis asked how participants referred to their avatars and in particular, the use of the first person “I” or third person “he/she”.

Table 5-9 summarizes the responses I found.

Table 5-9: How Participants Refer to their Avatars

Participants	Majority of time first person	Majority of time third person	Changes during the interview?
Sheila "Sheila Futona"	Yes	No	Rarely
Brad "SurferDude"	No	Yes	Frequently
Frankie "RJ Goodfellow"	No	Yes	Rarely
Caitlin "Nebraska Forde"	No	No	Frequently
Philip "PT Cruz"	Yes	No	Rarely

Weak patterns emerged as to how participants refer to their avatar. Only Sheila and Philip referred to their avatar in the first person the majority of the time. Brad and Frankie used the third person the majority of the time, while Caitlin used both the first and third person throughout the interview.

Sheila and Philip rarely spoke of their avatars by first name, or in the third person.

Discussing her motivation behind her avatar design, Sheila, who used the pronoun "me" instead of "my avatar" or "her", for example, recalled, "I did not think it was appropriate for me to have green hair, painted face, and look like something out of Kiss."

Philip consistently referred to PT Cruz as "I." Describing how he aged his avatar, he recalled, "I actually went much younger, which is not uncommon... and later on ... much later on in the development process I've been wearing more greyish hair, which is what I have."

Of the five participants, Brad and Frankie most often referred to their avatars by name, or in the third person. In this passage, Brad explained how SurferDude dresses.

But the interesting thing about what I consider my professional self, the avatar ... [SurferDude], is, it's not a professional outfit that I would wear to a conference... I own like three pairs of dress slacks, two pairs of shoes, and maybe four or five dress shirts, and pretty much every time I get dressed up I wear exactly the same thing. And that's [SurferDude], he doesn't change that much.

When asked whether he has alternative avatars for his interest in medieval clothing and dress, he responded no, "I just dress [SurferDude] up like that." Later in the conversation he described the avatars he created for his work in *Teen Second Life*. "I can't find the skin maker that made [SurferDude]'s' skin, I don't know who made it ... but he's just got this kinda look that I like."

Frankie was consistent in her approach to calling her main teaching avatar by his name, RJ Goodfellow or "Sir RJ". Throughout the interview she referred to him in the third person, often in the context of describing his appearance and personality. "[RJ Goodfellow] became a very strong, very iconic, character." "[RJ Goodfellow] has quite a collection of top hats." She also refers to an alternative avatar in the third person, "Apparently [Admiral RJ] telegraphs something that's like me without actually looking like me."

No clear pattern emerged in Caitlin's interview. She used the first person when discussing her avatar's wardrobe. "They had freebies which is where I got the green sweater. When I

put the green sweater on I thought, actually this is quite similar to the way I dress myself.” Later in the interview, while telling a story of participating in a friend's “identity circus” and having her avatar make love to her friend's avatar, she used the third person. “[Nebraska] got on top of her and caressed her and it was all slow moving and very very very sensual.”

Another weak pattern emerged as three of five participants—Sheila, Frankie, and Philip—rarely changed how they referred to their avatar during their interviews. Sheila and Philip rarely deviated from using the first person when speaking of their avatars, while Frankie consistently used the third person when referring to her avatars.

Brad and Caitlin switched more frequently between first and third person when referring to their avatars. Although Brad used the third person the majority of the time, he switched person in one passage describing clothing style. When explaining the similarities in their clothing style, Brad used the personal pronoun “I” to refer to both himself and SurferDude. “...I fell back to dressing the way I dress in real life.” By the end of the passage, he refers to SurferDude in the third person. “He doesn't change that much,” and “I just dress [SurferDude] up like that.”

Caitlin used both first and third person in a story about attending a friend's “identity circus”. In the beginning of the story, she used the third person. “[Nebraska] got on top of her and caressed her and it was all slow moving and very very very sensual.” Later, when

talking about another feature of the “identity circus” that allowed participants to randomly select an avatar from a room, Caitlin used the first person. “I came out as a little female hobbit,” Caitlin laughed, “And I really could not go and make love to her alt as a little female hobbit.” In the beginning of the story, Caitlin calls Nebraska by her name, while later in the story, referring to the random hobbit avatar, she used “I”.

What Identity Claims Are Made?

The second question of the narrative analysis explores what types of identity claims were made by participants for themselves or for their avatars. Identity claims indicate the social positioning of themselves and their avatars in their stories (Riessman, 2002).

An analysis of the identity claims participants described in their interviews revealed diverse subject matter, but a strong pattern in that all participant's identity claims reinforced their pedagogical beliefs and reasons for teaching in *Second Life*. Table 5-10 summarizes the identity claims that participants made about themselves and their avatars.

Table 5-10: Identity Claims That Participants Make about Themselves and Their Avatars

Participants	Description	Changes during the interview?
Sheila "Sheila Futona"	Fearful of technology; pragmatic	No
Brad "SurferDude"	Wise elder; relationship with students	No
Frankie "RJ Goodfellow"	Identity as a performance; identifying with "Sir RJ"	No
Caitlin "Nebraska Forde"	Advocate of introducing students to emerging technology	Yes
Philip "PT Cruz"	Advocate of using simulations	No

Sheila's identity claims position herself as fearful of new technology, and this belief influenced her approach to joining *Second Life* and creating her identity. Consider her first reaction to *Second Life*.

The whole thing was horribly frightening. It goes back to my technophobe ... if anything can go wrong it will go wrong for me ... I was terrified. When I got to the part about creating an avatar I just had six choices. So I chose the avatar that I thought was a little fun but professional. I did not think it was appropriate for me to have green hair, painted face, and look like something out of Kiss.

Earlier in the conversation, Sheila again called herself "a recognized, card-carrying technophobe", and stated that the fact that her faculty colleagues regard her as a *Second Life* expert "scares the bejeebers out of me." When speaking of joining *Second Life*, learning the tools, and trying a game format for the first time in class, she alludes to her fear of new technology, and the panic it caused.

Identity claims regarding avatar design indicate pragmatic decision-making. When asked

if Sheila considered a non-human form, she responded, “I did not. I did not. My reasoning behind it was, in the future I can do that ... I thought maybe taking a non-human form would be too much for them.” When asked if she considered playing the opposite gender, she stated, “No. it would seem to be very fake for me.” These statements give the impression of her as being pragmatic and deliberate in her approach to teaching in *Second Life*.

The identity claims in Brad's stories highlight the importance of his relationship with his students, and his position as a wise, senior educator in *Second Life*. One of his main reasons for joining *Second Life* was a desire to find a technology that extended his contact with students, and provided them with a more interactive experience than either Skype or Adobe Connect. Describing the difference, he said,

I got to the bizarre realization that for me, it's a more authentic experience when I'm talking to my students' avatars than when I'm talking to them in Breeze [Adobe Connect] or on Skype. I know it's a computer-generated model of that person, but there's something about speaking to an avatar and watching what the avatars are doing ... I tease my students that I always know when they've gone away from the computer because their avatars fall asleep. If the avatars start to look bored, I'll think my students are bored ...

In another story, he describes his background in troubleshooting technology, in which he again emphasizes his experience. “I tell my students I consider myself a computer expert, but the expertise is the fact that I've screwed up more computers, in more different ways than they'll ever come up with.” Speaking of his role at his university as *Second Life* faculty lead, he calls himself, “the old man of *Second Life*” and the “elder statesman.”

Frankie's identity claims are a strong indication of her views on identity, and her relationship with her main teaching avatar, “Sir RJ”. She began our conversation by describing how her childhood experiences influenced her views on identity.

Because I'd grown up at the ... Renaissance Faire, I actually think of many types of interaction as performing a character. I'm performing one kind of character when I'm talking to my grandmother, you know. I'm performing another character when I'm teaching a class. I'm not an essentialist about identity. ... in many different ways we prepare a face to meet the faces that we meet, ...

Later, when speaking of one of her alternative avatars, Frankie notes that, “Apparently [Admiral RJ] telegraphs something that's like me without actually looking like me ... more ... confirmation that identity is constructed and not ... essential.” Throughout the conversation, she reinforces her view of avatars as characters that people perform for different audiences in different contexts. “We project ourselves into our characters; we project ourselves into our avatars.” Clothes, gestures, and speech patterns are all part of the identity performance for Frankie. “When I am playing [RJ Goodfellow], I think of things to say that I wouldn't otherwise.”

She recalled with pride of RJ now being “Sir RJ” in Selkirk:

I've very much enjoyed, you know, being, first Mr. [Goodfellow]... and now because [Selkirk] is a real community and ... functions as a community and rewards members for service to the community so now it's Sir [RJ], one of four or five community members who has been knighted for service to the community.

Caitlin's strongest identity claims focused on her belief in introducing different technologies to students to prepare them for the workplace, and her relationship with her students. After watching the "Did You Know?" videos (Fisch & McLeod, 2007), she recognized the importance of sharing her enthusiasm for learning new technology with her students. "I really love running after the cutting edge and being delighted by the world. And why not pass that on to the students?" Later in the conversation she reiterated the importance of preparing her students for the workplace. "... if I'm not preparing them to be able to adapt and to be flexible to the technological changes in the work environment then I feel like I'm letting them down. ... Whatever tool is there, whatever innovation is in place ... I just want to expose them to it so when they get to the work world ... they're actually at an advantage over people they might be competing with ..."

In his identity claims, Philip positions himself as an advocate of the use of simulations and *Second Life* for nursing education. "The college has been amazed that I've become so popular, so well-known for this." Describing why he revealed his real life contact information in class, he stated "Everybody knows my avatar." His stories reveal his enthusiasm for using simulations and virtual worlds. "Trying to get people to learn in here ... and it's a highly emotional medium too, you can make someone cry, you can make someone laugh, you can make someone go, wow, I wonder where I'm going with my life ... can do all of this in a virtual world."

How Do They Position Themselves and Others in Their Stories?

The third question of the narrative analysis seeks to understand the relationship between the participants and other people in their stories. More specifically, do participants seem themselves as protagonists? Who are the main characters in their stories? Table 5-11 summarizes the ways that participants positioned themselves and others in their stories.

Table 5-11: Positioning of Participants in Their Stories about their Avatars

Participants	Protagonist?	Other main characters
Sheila "Sheila Futona"	Yes	Staff at the university teaching and learning <i>centre</i>
Brad "SurferDude"	Yes	"SurferDude"
Frankie "RJ Goodfellow"	Yes	Her avatars
Caitlin "Nebraska Forde"	Yes	"Nebraska"
Philip "PT Cruz"	Yes	"PT Cruz"

A strong pattern emerged as all participants positioned themselves as the main character in their stories. Brad, Frankie, Caitlin, and Philip shared the role of protagonist with their avatars in some stories.

Sheila positioned herself as a co-main character, giving equal voice to the staff at the learning technologies centre, which played a significant role in her learning to use *Second Life*. She positions herself as the main character in all of her stories, with the learning technologies centre at her university also playing a central role in her stories as

her main source of support from the start for her endeavours in *Second Life*. She states that she is “in a wonderful position here” working with the centre's staff, and considers herself “part of a *Second Life* team.” Because she is uncomfortable with her reputation as a *Second Life* expert at her university, she switches the focus to the expertise at the center.

Brad is the protagonist in many of his narratives, although he would sometimes tell stories that he heard from other *Second Life* educators. In his own stories about teaching in *Second Life*, he plays the role of protagonist; in stories he retells from others, he plays the role of narrator. The stories that he retold always revealed a theme about avatars and identity that was relevant to the conversation. He told the story of a fellow professor who was mistaken for a vagrant in his office to illustrate a point about how we often rely on stereotypes about dress and appearance to judge others. He also told a story that he heard about the disappearance of many female avatars following the introduction of voice technology in *Second Life*, which suggests the degree to which men may have been playing female avatars. And he told the story about a fellow professor who had his students design his avatar. This illustrated the type of relationships that can form between students and educators exploring *Second Life* together.

Frankie, or one of her avatars, is always the main character in her stories. She gives her avatars a voice when the conversation is about them. In a section from a story about her identification with RJ, they both play main roles.

I really like [RJ Goodfellow]. I don't know if many people admit it

about their avatar (laughing). I really like the funny little librarian, so I maintain it when I teach. And his somewhat archaic manner, ... somewhat archaic speech, ... when I'm teaching, [RJ Goodfellow]'s vocabulary and so forth is more modern. ... occasional ... formalities of phrasing and things come into play.”

RJ is the main character in the following description about his appearance. He is “neatly dressed, not outrageous, or outrageous within ... only within bounds that are agreeable to people.” He “has always been deliberately respectable but certainly never conservative.” By sharing the stage with RJ, she illustrates her belief that he has taken on a life of his own, including a vocabulary that is distinctively his own, and not her's.

Caitlin positions herself as the main character in most of her stories, although she sometimes shares this role with her avatar, Nebraska as in this passage:

I don't remember where the bunny hat came from but I really like that bunny hat. It's the first time I realized that I might have a bit of an attachment to my avatar was at our first comic-con.. ... Somebody ... had brought these little bombs that you could use to blow up your head. ... So we spent time blowing up our heads. But everyone was like, [Nebraska], blow up your head. And I was like, no, I like my bunny hat. And I wouldn't do it. ... I thought if I blew it up I'd have to go and find another one. ... I don't want to lose my bunny hat. I love that thing.

Although she admitted to putting little effort into Nebraska's design, this story another one about the “identity circus” she attended illustrate her growing identification with some aspects of Nebraska.

Philip also positions himself as main character in his stories. Like Frankie, he sometimes

shares the role of main character with his avatar, but unlike Frankie, does not refer to his avatar by name. Speaking of his decision to stick with his initial avatar after creating one that he intended to be his professional teaching avatar, he said,

This was not intended necessarily to be my professional avatar. This is my first avatar, which turned out to be my professional one. ... I picked it and I thought well, this is better than anything else in there.... I got it .. I started seeing that I was going to be using it for teaching, this particular avatar, I thought I'm going to change my avatar ... so I created another avatar ... but people already know me pretty well by [PT Cruz] ... so that's not going to make a lot of sense.

Although some of his stories feature other participants who play a significant role in the story, such as his stories about his struggles to get adequate bandwidth from his college to run his simulations, the stories are always from his perspective.

ANSWERING THE RESEARCH QUESTIONS

The following section uses the data and analysis to provide explicit answers to the research questions that guided this study.

Research Question 1

How do educators using *Second Life* in university-affiliated teaching use the available tools and technology in *Second Life* to construct their identity?

Participants used the available tools and technology to construct their visual identity through their avatar(s), and their teaching identity through their choice of instructional strategy, media, and class location in *Second Life*.

The tools and technology participants used to construct their visual identity include the choice of pre-designed avatars, use of the avatar design palette, purchase of custom features, use of multiple avatars, and use of gestures in class. Key themes emerging from the data analysis reveal that participants are using the tools and technology frequently, extensively, and deliberately to construct their visual identity.

Most participants spent time using the avatar design palette to customize certain features of their avatars, and acquired custom clothing, skin, or hair in the *Second Life* community. Custom avatar features, including free items, are available at numerous locations across *Second Life*, and experienced residents are often happy to share this knowledge with new residents. Both Brad and Frankie had more experienced educators help them initially design their avatars by suggesting features to customize or by providing an example of a fully customized avatar. Sheila did not spend as much time as other participants designing her avatar, but was very clear about the image she wanted to project to her students through her avatar.

All participants except for Sheila have alternative avatars. Caitlin and Philip have alternative avatars to support their teaching. Philip's alternative avatar supports the patient-diagnosis simulation he demonstrated, and Caitlin's alternative avatar is a character in the immersive game she demonstrated. Frankie and Brad have alternative avatars for both professional and personal reasons.

The tools and technology participants used to construct their teaching identity include the use of voice technology, gestures, and custom scripts to provide interactivity; and the selection and design of the teaching location. Key themes emerging from the data analysis reveal that despite some challenges with the voice technology, participants are innovative in their use of the tools and technology to construct their teaching identity.

Second Life technology proved to be challenging for all participants initially, regardless of their previous experience and comfort level using instructional technology. All participants felt unsure of themselves at first and, in Philip's case, unconvinced of its usefulness for education. All participants except for Frankie used voice technology in class, and the class observations revealed that all needed to test and troubleshoot that technology before or during class. Because of the unreliability of the voice technology, Frankie limited her communication with students to chat.

The class observations also revealed that none of the participants used PowerPoint slides in class. This is noteworthy given that when *Second Life* was first being used for education, much of the discussion on the *Second Life* Educators mailing list was about importing existing teaching materials into *Second Life*. Most of the participants, instead, used the unique affordances of *Second Life's* environment to construct their teaching identity. They added gestures to their avatar such as nodding, pointing, or laughing, to augment non-verbal communication with students. They also used scripts to interact with

the environment in some manner. Brad used a script that created more chairs when students arrived, and Frankie used a script that made avatars dance. All participants deliberately chose or designed their teaching space to fit their pedagogical requirements and goals. Caitlin and Philip changed location during class to support their game, and simulation demonstrations, while Frankie changed location to show how different locations can be used as instructional tools.

These themes support Goffman's (1959) notion of identity as being performed for an audience. Extending the theatre performance metaphor, participants used the tools and technology to create their instructor character; and to design the set upon which the performance was staged. These design decisions were deliberately made to support the pedagogical foundation of the performance. These themes also support the belief that games and virtual worlds can be used to empower learners, and to understand the environment as models for larger systems (Gee, 2005; Steinkuehler, 2004). Simply having a class in *Second Life* empowered their students to become familiar with new technology. And the innovative uses of the teaching environment required students to make analogies between the subject matter and their environment, and themselves and their environment.

Research question 2

To what degree are they influenced by their real life identity and practice as they construct their *Second Life* identity and practice?

Key themes emerging from the data analysis reveal that participants were heavily influenced by their real life identity and practice in constructing both their visual identity and teaching identity.

In terms of visual identity, all participants except Caitlin tried to make their avatars look like some aspect of their offline selves. Caitlin selected a pre-designed avatar, and made few modifications to her appearance. Sheila, Brad, and Philip based decisions on physical features and styles of clothing, on their offline selves. Although Frankie's teaching avatar, "Sir RJ" is a male, she initially tried to recreate her nose using the avatar design palette. The class observations revealed that Frankie is the only participant whose avatar is the opposite gender, and all participants appeared as human in class, even if like Brad, they have experimented with non-human avatars.

All participants were influenced by their teaching beliefs and practices in how they constructed their teaching identity in *Second Life*. They all used teaching in *Second Life* to put these beliefs into practice or extend their existing beliefs. Sheila was guided by Bloom's Taxonomy in selecting the most appropriate technology for delivering her online course. Brad wanted a tool to extend his ability to communicate with students, and Caitlin believes it is important for her students to be exposed to emerging technology to prepare them for the workplace. Philip is a long-time advocate of using simulations in nursing education, and Frankie, through Sir RJ's distinct clothing and manners, extended her belief that identity is performed for different audiences. The narrative analysis of the

interviews supports this conclusion as most frequently occurring identity claims made by participants refer to these beliefs.

These conclusions reinforce existing literature on the influence of real life identity on the construction of virtual identities. Gee's (2003) definition of the projective identity as the identity that we project onto our virtual identity is a useful concept for understanding how all participants, in their various ways, used their projective identity as a blueprint for their teaching avatars. Two variations on his definition-- as an ongoing project and as a projection of real life beliefs, desires, and practices – are evident in the projective identities used by participants. Sir RJ, Frankie's teaching avatar, can be seen as an ongoing project as he, as a projection of Frankie's beliefs and desires, continues to strengthen his identity first as a community librarian, and then as a knighted member of the community. Similarly, the other participants used their avatars to project, and to embody, their real life teaching identity in *Second Life*.

Existing literature on virtual identities, social commitment and responsibility for one's avatar, and reputation (Boudreau, 2007; Dibbell, 1993) informs the avatar design decisions made by Frankie and Philip. When Philip first created his avatar it was to explore *Second Life*. When he began to explore *Second Life* for teaching purposes, he created another avatar specifically for this purpose. By that point, however, he was already known by his colleagues and friends as his first avatar, so he kept his first avatar as his teaching avatar. Frankie had also tried to change Sir RJ back to a female form once

she realized that a male form was not necessary for her new role as Selkirk's librarian, but again, Sir RJ had already established himself as male. In both cases, Philip and Frankie were influenced by social commitment to the identities that their avatars had already assumed in their respective *Second Life* communities. For Caitlin, the social context played a large part in her growing attachment towards Nebraska. She spent little time initially considering her relationship with her avatar. But after a identity party that she attended in which she first watched Nebraska make love to another avatar, then had the opportunity to switch to a female hobbit avatar, she realized she could not make love to another avatar as the hobbit avatar.

Sheila's decision to create a "light, professorial image" for her avatar shows consideration for prevailing beliefs about the professional image of a professor. This is a concern that also extends to classroom teaching. Steenbergen (2004) described her anxiety in selecting a wardrobe as a graduate student preparing to teach her first course. The clothing she wore, she realized, spoke to her own sense of self, pedagogical beliefs, and personal and professional expression.

Research question 3

How has using *Second Life* in university-affiliated teaching affected the way in which educators seek to identify with their students, and their students identify with them?

Key themes emerging from the data analysis reveal that teaching in *Second Life* has had a positive impact overall on how participants and their students identify with each other.

Sheila and Frankie faced some misconceptions stemming from their course descriptions, but both seemed to overcome those obstacles. Some of Sheila's students dropped out or complained because some of the class would be conducted in *Second Life*, and some of Frankie's students were confused by the male avatar “Sir RJ” when her course description stated that the instructor is female. By the end of Sheila's course however, she stopped receiving negative feedback about *Second Life*. She worked closely with students during class to work through technical issues together, and received a lot of assistance from the learning and technology group at her university. As a newcomer to *Second Life* herself, she was able to relate to many of their frustrations. Similarly, helping her students work through their orientation to *Second Life* helped to bring Caitlin closer to students. A pirate-themed student orientation day, in particular, made Caitlin more popular with her students.

Frankie, like Brad, used discussions about the design of the avatar as “teachable moments”, and as a way to identify with students. Frankie has shown her various avatars to students to demonstrate the fact that avatars can be instructional tools, and Brad has appeared in class as different avatars that indicate his current mood. Teaching in *Second Life* has led to greater connectivity with his students, Philip feels. When he interacts with some of them after class, they see a different side of him. However, given his reputation in the community as being at the forefront of using simulations in nursing education, he has also had to put boundaries around when he can be contacted so he could have private time in *Second Life*. Robbins (2006) experienced a similar merging of public and private

spaces for educators in *Second Life*. It is not as easy to have a private life in *Second Life*, where there are very few private spaces.

Research question 4

How has using *Second Life* in university-affiliated teaching affected the relationship between the educators and their colleagues, and in particular, their reputation and status?

Key themes emerging from the data analysis show that all participants are regarded as *Second Life* pioneers or experts by their peers, even if they do not see themselves as experts.

Sheila does not regard herself as a *Second Life* expert, and admits that she is not comfortable with that label. She worked closely with the learning and technology group at her university to develop her course in *Second Life*, and credits them with helping her learn the technology. Caitlin also worked closely with a team to develop her immersive game, and is a director at a think tank that focuses on social media, *Second Life*, and serious games. Brad, Frankie, and Philip have held, or currently hold more formal roles educating or mentoring other educators on using *Second Life*. Brad is the *Second Life* faculty lead at his university, which means that he works with other faculty to help develop their course and build a suitable environment. Frankie and Philip currently teach courses for other faculty, or those interested in the instructional tools available in *Second Life*.

The professional development opportunities they rely on also reinforce the view of the participants as *Second Life* pioneers. Brad, Frankie, and Philip have attended *Second Life* educator conferences in the past, but admit that they learned little from the presentations and workshops. They are the ones now giving presentations and educating others, which, as Brad pointed out, is a valuable form of professional development itself as he has to answer the questions and concerns of others.

PROFILE OF A POST-SECONDARY EDUCATOR IN SECOND LIFE

The patterns identified in this analysis identify an emerging portrait of a post-secondary educator in *Second Life*.

The typical post-secondary instructor starts teaching in *Second Life* because it provides a learning environment that meets a set of pedagogical requirements. Brad and Philip started teaching in *Second Life* on their own initiative because it offered capabilities for advanced simulations, and ways to communicate with students beyond other tools they had used. Frankie joined because it offered opportunities for advancement for tenure and promotion, and also because she had always been interested in role-playing. Caitlin and Sheila did not seek out *Second Life* on their own initiative. The teaching and learning center at Sheila's institution helped her select *Second Life* as a learning environment based on a set of criteria she provided for her online course. Caitlin was asked to join *Second Life* because she was known to be technologically savvy, and because her

institution's island was not being used to its full capability. Caitlin also believed that it was important to expose her students to innovative technology to better prepare them for the workplace. A typical post-secondary instructor in *Second Life* may not always consider themselves to be a technology expert. Sheila admitted to being fearful of *Second Life* at first. In terms of the subject to be taught, the majority of participants in this study taught a course in education, or on instructional tools in *Second Life*. Brad and Sheila taught courses from education programs. Philip and Frankie are from nursing and library sciences faculties, respectively, but taught courses on instructional tools. Only Caitlin is from outside the education discipline. She teaches religious studies.

Instructors typically learn how to teach in *Second Life* by informal methods. The majority of participants in this study learned from other instructors in *Second Life*, independent research online, through experimentation, and from teaching others about *Second Life*. Only Sheila relied on the teaching and learning center at her university. They enhance their skills by similar, more informal methods. The majority of participants in this study have attended formal conferences on teaching and learning in *Second Life*, but did not find them useful for their own professional development. Brad, Frankie, and Philip rely on other colleagues or their own research for professional development. They have all also offered formal or informal professional development courses or workshops on *Second Life* for others, which Brad finds helpful for his own professional development. Caitlin continues her professional development through the think tank at her institution where she is a director.

When teaching, post-secondary instructors in *Second Life* typically design, or seek out learning environments that meet their pedagogical requirements. *Second Life* provides many choices for instructors because almost whatever they require can be created using the free building and scripting tools. Brad and Sheila required a simpler environment for their discussion-based classes. Brad used an informal discussion format for his class, while Sheila used a quiz game format to present and reinforce content in her class. Frankie, Philip, and Caitlin all showcased more elaborate simulations and interactions that could only be possible in a virtual world. Frankie and Philip gave their students a tour of different educational locations in *Second Life*, and demonstrated different interactions and scripts. Caitlin gave a demonstration of an immersive game. The majority of participants used both voice and chat technology to communicate with students. The voice technology proved troublesome for all four participants, which is why Frankie does not use voice technology in her classes.

When creating their avatars, the characters with whom students will interact, post-secondary instructors in *Second Life* typically design their avatar to look like some aspect of their offline selves. The avatars all of the participants in this study first designed reflect some physical feature. Sheila wanted to make her avatar look like herself. Frankie tried hard to design her nose. Brad and Philip's avatars at some point looked like more youthful versions of themselves. Caitlin confessed to not putting much thought into the design of Nebraska at all, but admitted that in terms of clothing style, both her and her

avatar are not very fashionable.

Teaching in *Second Life* typically affects post-secondary instructors' relationships with students in a positive manner. Instructors and their students may have to weather some technical challenges with the environment together, as did Sheila and her students. Brad felt he was able to learn more about *Second Life* from his students' experiences. The openness of the environment also brought Philip closer to his students as they were able to see a different side of him outside of class. Teaching in *Second Life* typically affects how post-secondary instructors in *Second Life* are perceived by their colleagues. All of the participants in this study are perceived by colleagues as being *Second Life* experts, even if they are not the only faculty member at their institution working in *Second Life*, or if they participants themselves consider themselves experts. While Brad, Frankie, and Philip have all offered some formal or informal guidance to other instructors in using *Second Life*, and felt comfortable in that role, Sheila did not consider herself an expert. She relied heavily on the teaching and learning center at her institution for support, and considers herself part of a *Second Life* team.

Figure 5-12 summarizes the profile of an instructor in *Second Life*.

Figure 5-12: Profile of an Instructor in *Second Life*

An instructor in <i>Second Life</i> ...	Response
Decides to teach there:	<ul style="list-style-type: none"> • To meet pedagogical needs

	<ul style="list-style-type: none"> • To extend communication and interaction with students • To advance opportunities for tenure and promotion
Learns how to teach there:	<ul style="list-style-type: none"> • From other instructors in <i>Second Life</i> • Independent research and exploration • From teaching others
Designs/selects the learning environment:	<ul style="list-style-type: none"> • To meet class requirements • To demonstrate and highlight the unique affordances of <i>Second Life</i>
Designs their teaching avatar:	<ul style="list-style-type: none"> • To look like some aspect of their offline self • To meet class requirements
Is regarded by colleagues:	<ul style="list-style-type: none"> • As a <i>Second Life</i> expert
Is regarded by students:	<ul style="list-style-type: none"> • In a more positive manner because <ul style="list-style-type: none"> ○ Students have been through the technical challenges of using <i>Second Life</i> together with the instructor ○ Students see a different side of them outside of class ○ They can learn new things about <i>Second Life</i> together

The next chapter expands on the key themes from the interviews and class observations. These themes, along with the results from the narrative analysis of the interview data, provide answers to the research questions posed by this study.

CHAPTER 6. CONCLUSIONS

This chapter presents the conclusions for the study. It first discusses the implications of these results for educators, instructional designers, and administrators using *Second Life* for post-secondary education. Next, it presents the broader implications to post-secondary teaching posed by teaching in *Second Life*. The chapter closes with a discussion on the limitations of this study, and suggestions for further research.

IMPLICATIONS FOR TEACHING IN VIRTUAL WORLDS

Bruner (1991) cautioned against making causal explanations with narrative research. Narratives are fluid in nature. The accounts told to me represent a particular moment in time, for a particular audience, and in a particular setting. Although the grounded theory and narrative analysis revealed certain patterns of behaviour and avatar design that are consistent with relevant research in online identity and teacher identity, it is difficult to state with any confidence any causal relationship. Riessman (2002) also cautioned that multiple truths may emerge from narratives. The facts of the events themselves are less important than "understanding the changing meanings of events for the individuals involved, and how these, in turn, are located in history and culture".

A qualitative case study is not designed to produce explanations, but to provide an in-depth portrait of the diversity of educators joining *Second Life*. This research study shows the depth and diversity of the actions, activities, and beliefs that educators reveal through joining and teaching in *Second Life*. The process of "becoming" - becoming an educator

in *Second Life*, becoming an avatar in *Second Life*, or becoming a qualitative researcher, is an idiosyncratic process that defies simple explanations.

However, the key themes resulting from this study point to some general guidelines that educators, instructional designers, and administrators should consider when planning to teach in *Second Life*.

1. Choose tools within *Second Life* that support the pedagogical goals for your course and, at the same time, are manageable. Frankie did not use voice technology in her class, but used the chat window and text to its full extent. Sheila decided not to use gestures, as she was not comfortable multi-tasking in class. Using all of the latest technology available is not necessary for an effective course.
2. Be prepared to troubleshoot *Second Life* technology. Be patient. *Second Life* proved to be challenging for all participants at first, regardless of their technical skills. Voice technology is not consistently reliable yet.
3. Provide orientation activities and resources to help students get comfortable in *Second Life*. Although *Second Life* offers an orientation for all new residents, ongoing assistance from the instructor or university is preferable because it can be targeted to the needs of those students within the context of that institution. Caitlin offered a pirate-themed orientation day. Sheila used her university's learning and technology group to help her and her students get accustomed to *Second Life*. Brad offered orientation-like activities in regular class sessions, such as scavenger hunts, to help familiarize students with the environment.

Orientation days or activities for students new to *Second Life* can also help students identify with educators, and educators with students. Educators and students can share their experiences and frustrations, and help each other with advice on places to visit, and items to buy or create.

4. Consider the teaching avatar as an instructional tool, and as part of the design of the learning environment. A teaching avatar is not simply a tool required for entry into the *Second Life* environment; it is part of the overall message and design of the course. Caitlin and Philip designed alternative avatars as part of the learning environment to support their class requirements. Sheila considered the impact her avatar design would have on her students who were new to *Second Life*. Because not all educators and students may want to spend time customizing an avatar, administrators and instructional designers may want to create avatar forms in advance from which they can select, and then provide orientation activities or tutorials to gradually introduce them to avatar customization options.

5. Use questions about avatar design, and other affordances unique to *Second Life* as teaching moments. Brad used different avatar forms to communicate his mood to his students. Frankie used a script that caused our avatars to dance to stimulate discussion about how we identify with avatars, and changed clothing during the class I observed to suit the different locations. She was able to turn some questions by new students about “Sir RJ”’s gender to opportunities to discuss themes of avatar design and identity in virtual worlds.

6. Use problems with technology during class to provide tips and tricks on troubleshooting, as Brad did in class. Although “griefers” did not appear in any of the classes that I observed, the presence of uninvited visitors to class can be used to discuss issues of privacy in virtual worlds.
7. Be prepared to provide other educators with advice and guidance. The participants in this study all provided their faculty peers and educational professionals at their institution with formal or informal assistance on using *Second Life* because these participants all had experience with it. In some instances, participants volunteered to do so; in others, participants were volunteered. Using *Second Life* and similar 3D virtual worlds is a relatively new technology for teaching and learning, so those involved in *Second Life* now will be regarded as pioneers and role models for others. Providing guidance to others can also be an opportunity for professional development, as Brad discovered.

BROADER IMPLICATIONS TO POST-SECONDARY TEACHING

The results of this study, even though they are based on a single set of cases, could have broader implications to post-secondary teaching and learning beyond *Second Life*. The use of 3D virtual worlds represents another innovation in how technology is transforming post-secondary education. The process by which participants in this study decided to use *Second Life*, and constructed their professional identity and practice in *Second Life* reflects the five stages that Rogers (1943) identified in his theory of how the adoption of

innovations occurs among organizations and individuals.

Rogers (1943) identified the five stages as: knowledge, persuasion, decision, implementation, and confirmation. Individuals first acquire knowledge of the innovation. They then seek more information as they decide whether or not to use the innovation. During the implementation stage, individuals are using the innovation and are determining if it is valuable enough to continue using it. In the confirmation stage, individuals decide to continue using the innovation and may extend the innovation and advance the innovation. It is possible that as future innovations for teaching and learning are developed, similar patterns of diffusion among a community of post-secondary educators to the results of this study will be observed.

LIMITATIONS OF THE RESEARCH

As a qualitative case study, with a sample of five participants, the results from this study are not generalizable to the greater population of post-secondary educators in *Second Life*. Three of the five participants are from education-related disciplines, so the results are skewed towards educators in the social sciences. The sample is limited to post-secondary educators, so the experiences of high school educators in *Teen Second Life*, or educators from corporate, military, or other institutions in *Second Life* were not considered. This study is also focused on English-speaking North America, so the results are linguistically and culturally bound to this geographic area.

But the results might be transferable. Lincoln and Guba (1985) define transferability as the degree to which qualitative research findings can be applied to other contexts.

Qualitative researchers can strengthen the transferability of their findings by providing what Geertz (1973) calls “thick description” or sufficient information about the research context such that readers can decide if the results are applicable to other contexts. Given the description of each case, readers of this study might transfer the results of this study to post-secondary educators in other disciplines in English speaking North America. The results of this study might also be transferred to post-secondary educators in the same disciplines in other regions outside North America.

SUGGESTIONS FOR FURTHER RESEARCH

A quantitative or mixed methods research design would be able to validate the key themes from this study with a larger sample of participants in North America or other regions. A larger sample could also encompass disciplines not covered in this study, such as science, business, or language learning, in which educators have been using *Second Life* for post-secondary education.

This study could be replicated using a sample of educators from disciplines not covered in this study, or from other regions. It would be interesting to see whether educators from other cultures have similar relationships with their faculty peers and students, and whether they would be as influenced by real life factors as the participants in this study.

A longitudinal study using a qualitative research design could follow a small group of participants over a longer period of time. This type of research design could explore the trajectory of post-secondary educators from newcomers to *Second Life* to experienced educators, still focusing on issues of avatar design, identity construction, and the influence of their faculty peers and students. Existing research on teacher identity (MacClure, 1993) indicates that it is fluid and unstable over time, and heavily influenced by socio-economic and cultural factors. A longitudinal study could validate these results to educators in *Second Life*, or in other virtual worlds, and broaden our knowledge of teacher identity to include teachers in virtual environments.

APPENDIX A

Call for Participants

Research Study on the Identity Construction of Educators Using *Second Life* in University-Affiliated Teaching

About the project

The goal of this research study, undertaken in partial fulfillment of an MA in Educational Technology at Concordia University (<http://doe.concordia.ca/>), is to explore the ways in which educators using *Second Life* in university-affiliated teaching are constructing their identity and practice. *Second Life* is a social virtual world in which thousands of users interact simultaneously through an avatar, or digital character representation. In particular, the study seeks to understand how these educators use the tools and technology in *Second Life* to design their professional teaching avatar, how they are influenced by their real life professional identity and practice as they design their avatar's appearance, and how teaching in *Second Life* has affected their relationship with their students and colleagues.

Participants

I am searching for five educators using *Second Life* in university-affiliated teaching to participate in the study. They must be affiliated with a college or university in English-speaking North America, but do not have to be academic tenure track faculty. The course(s)

being taught do not need to be part of a degree program. They many include those in a diploma or certificate program, continuing education, or professional development.

What's involved?

There are three parts to the research study.

Part 1: I would like to interview the educators about their experience in getting started and teaching a course in *Second Life*. I am particularly interested in the process of creating the avatar, the impact of their real life identity and practice, and their relationship with their students and colleagues. This interview will be approximately 2 hours, and may be split into two if necessary.

Part 2: I would like to observe the educators teaching in *Second Life*. The goal is to simply observe the educators in a teaching environment, and not to ask questions of the educator or students, or participate in the class in any way.

Part 3: I would like to schedule a short follow-up interview, approximately 30 - 45 minutes, to debrief the observation.

Educators will be provided with full confidentiality. All information given to me in the research context will be confidential. All names and identifying information of participants, their avatars, and educational institutions will be removed from the data before it is used.

Participants are free to remove themselves from the research study at any time.

Reply to:

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tel: 778 846-5871

Supervisors:

Dr. Saul Carliner, Concordia University

Dr. Johannes Strobel, Purdue University

APPENDIX B

CONSENT TO PARTICIPATE IN RESEARCH STUDY ON THE PRESENTATION OF SELF OF EDUCATORS USING SECOND LIFE IN UNIVERSITY-AFFILIATED TEACHING

This is to state that I agree to participate in a program of research being conducted by Marci Araki, in the Graduate Program in Educational Technology at Concordia University, Montreal, Quebec, Canada. Contact information: Marci Araki, marci@portundal.com, tel: 778.846.5871. Supervisor contact information: Dr. Saul Carliner, scarliner@education.concordia.ca, tel: 514-848-2424 x 2038.

A. Purpose

The purpose of the research is to explore the ways in which educators using *Second Life* in university-affiliated teaching are constructing their identity and practice in the virtual world, *Second Life*. *Second Life* is a social virtual world in which thousands of users interact simultaneously through an avatar, or digital character representation. In particular, the study seeks to understand how these educators use the tools and technology in *Second Life* to construct their identity, how they are influenced by their real life identity and practice, and how teaching in *Second Life* has affected the how they relate to their students and colleagues.

B. Procedures

The research study consists of three parts: an interview of approximately 2 hours, followed by an observation of me teaching a class in *Second Life*, and a follow up interview of approximately 30 - 45 minutes to debrief the observation. The researcher will conduct a narrative analysis of the research data. The interviews will be conducted over the phone, unless a face-to-face meeting is possible.

C. Conditions of Participation

I understand the following:

- That I am free to withdraw my consent and discontinue my participation at anytime without negative consequences. Notice to discontinue may be given to Marci Araki or Dr. Saul Carliner by email or phone.
- That my participation in this study is strictly confidential. That means the researcher will know, but will not disclose, my identity, my avatar's identity, or my educational institution. My avatar and I will only be identified by pseudonyms in any research reports.
- The data from this study may be published. No identifying information will be included in any publication. If a quote that I made is presented, it will be with a pseudonym.

I also give consent to the researcher to record the interviews on a digital audio recorder, and take handwritten notes on the observation. No video or audio recording will be taken, and

no identifying information about students or participants other than the instructor in the observation will be noted. The audio recordings and observation notes will not be made available to anyone except the researcher.

I have carefully studied the above statement about the research and understand this agreement. I freely consent and voluntarily agree to participate in this study.

NAME (please print)

SIGNATURE

If at any time you have questions about your rights as a research participant, please contact Adela Reid, Research Ethics and Compliance Officer, Concordia University, at (514) 848-2424 x7481 or by email at areid@alcor.concordia.ca.

APPENDIX C

Research Study on the Identity Construction of Educators Using *Second Life* in University-Affiliated Teaching

Interview Guide

Part 1: Background Information

Please describe your education and work experience, and in particular, the factors that led you to pursue teaching in *Second Life*.

Part 2: Identity Construction

Tell me the story of when you first joined and created your avatar in *Second Life*. Describe how you learned the necessary skills/tools/technology to teach.

Make sure the following points are discussed:

- influence of real life identity and teaching background
- learning the technology and tools to customize your avatar
- ongoing changes and manipulations to avatar appearance
- creating alternative avatars - maintaining a personal as well as professional presence
- challenges that you had to overcome

Part 3: Relationship with students and colleagues

Describe how teaching in *Second Life* has affected the way that you identify with your students, and in turn, how they identify with you. Describe how teaching in *Second Life* has affected your relationship with colleagues, and in particular, your reputation and status.

REFERENCES

- Barab, S., Hay, K.E., Barnett, M., & Squire, K. (2001). Constructing virtual worlds: tracing the historical development of learner practices. *Cognition and Instruction*, 19(1), 47-94.
- Bargh, J.A., McKenna, K.Y.A., & Fitzsimons, G.M. (2002). Can you see the real me? Activation and expression of the "True Self" on the internet. *Journal of Social Issues*, 58(1), 33-48.
- Bartle, R. (1990). Early MUD history. Retrieved July 23, 2007, from <http://mud.co.uk/richard/mudhist.htm>.
- Bathmaker, A. & Avis, J. (2005). Becoming a lecturer in further education in England: the construction of professional identity and the role of communities of practice. *Journal of Education for Teaching*, 31(1), 47-62.
- Bayne, S. (2005). Deceit, desire, and control: the identities of learners and teachers in cyberspace. In R. Land and S. Bayne (Eds), *Education in Cyberspace* (pp. 26-41). New York: RoutledgeFalmer.
- Blaka, G. & Filstad, C. (2007). How does a newcomer construct identity? A socio-cultural approach to workplace learning. *International Journal of Lifelong Learning*, 26(1), 59-73.
- Blizzard Entertainment* (2007, July 24). Retrieved December 4, 2007, from <http://www.blizzard.com/press/070724.shtml>.
- Book, B. (2004, October). Moving beyond the game: social virtual worlds. Paper presented at the State of Play 2 Conference, New York Law School, New York. Retrieved January 22, 2007, from <http://www.virtualworldsreview.com/papers>.
- boyd, d. (2007, June 24). Viewing American class divisions through Facebook and MySpace. Message posted to <http://www.danah.org/papers/essays/ClassDivisions.html>.
- Brown, B. & Bell, M. (2006). Play and sociability in There: some lessons from online games for collaborative virtual environments. In R. Schroeder and A. Axelsson (Eds),

- Avatars at Work and Play: Collaboration and Interaction in Shared Virtual Environments* (pp. 227-245). Dordrecht, Netherlands: Springer.
- Bruner, J. (1987). Life as narrative. *Social Research*, 54(1), 11-32.
- Bruner, J. (1991). The narrative construction of reality. *Critical Inquiry*, 18, 1-21.
- Castronova, E. (2004). The price of bodies: a hedonic pricing model of avatar attributes in a synthetic world. *Kykos*, 57(2), 173-196.
- Castronova, E. (2005). *Synthetic worlds: the business and culture of online games*. Chicago: The University of Chicago Press.
- Castronova, E. (2007, November 27). Two releases: Arden I and Exodus. Message posted to http://terranova.blogs.com/terra_nova/2007/11/two-releases-ar.html#more.
- Cheal, C. (2007). Second Life: hype or hyperlearning? *On the Horizon*, 15(4), 204-210
- Clandinin, D.J. & Connelly, F.M. (1996). Teachers' professional knowledge landscapes: teacher stories-stories of teachers-school stories-stories of schools. *Educational Researcher*, 25(3), 24-30.
- Connelly, F.M. & Clandinin, D.J. (1990). Stories of experience and narrative inquiry. *Educational Researcher*, 19(5), 2-14.
- Day, C., Kington, A., Stobart, G., & Sammons, P. (2006). The personal and professional selves of teachers: stable and unstable identities. *British Educational Research Journal*, 32(4), 601-616.
- Dede, C., Clarke, J., Ketelhut, D., Nelson, B., & Bowman, C. (2005). *Fostering motivation, learning, and transfer in multi-user virtual environments*. Paper presented at the American Educational Research Association, Montreal, QC. Retrieved July 12, 2007, from <http://muve.gse.harvard.edu/rivercityproject/research-publications.htm#2005>.
- Delwiche, A. (2003). MMORPG's in the college classroom. Paper presented at the State of Play I Conference, New York Law School, New York. Retrieved April 3, 2006, from <http://www.nyls.edu/docs/delwiche.pdf>.
- Dibbell, J. (1993, December 21). A rape in cyberspace. *Village Voice*, 38(51). Retrieved May 16, 2006, from http://www.ludd.luth.se/mud/aber/articles/village_voice.html.

- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), article 1. Retrieved November 14, 2007, from <http://jcmc.indiana.edu/vol12/issue4/ellison.html>.
- Fisch, K. & McLeod, S. (2007, January 19). Did you know? Message posted to: http://dangerouslyirrelevant.org/2007/01/gone_fischin.html.
- Fitzgerald, M. (2007, February). How I did it: Philip Rosedale, CEO, Linden Lab. *Inc.com*. Retrieved May 27, 2007, from <http://www.inc.com/magazine/20070201/hidi-roosedale.html>.
- Gee, J.P. (2003). *What video games have to teach us about learning and literacy*. New York: Palgrave & McMillan.
- Gee, J.P. (2005). Learning by design: good video games as learning machines. *E-Learning*, 2(1), 5-16.
- Geertz, C. (1973). *The Interpretation of Cultures: Selected Essays*. New York: Basic.
- Goffman, E. (1959). *The Presentation of Self in Everyday Life*. Garden City, New York: Doubleday
- Goodson, I.F. (1992). Studying teachers' lives: an emergent field of inquiry. In I.F. Goodson (Ed) *Studying Teachers' Lives*. New York: Teachers College Press.
- Gubrium, J.F. & Holstein, J.A. (2003). Analyzing interpretive practice. In N.K. Denzin and Y.S. Lincoln (Eds), *Strategies of Qualitative Inquiry*. Thousand Oaks: Sage Publications Inc.
- Hargittai, E. (2007). Whose space? Differences among users and non-users of social network sites. *Journal of Computer-Mediated Communication*, 13(1), article 14, Retrieved November 16, 2007, from <http://jcmc.indiana.edu/vol13/issue1/hargittai.html>.
- Hayes, E. (2007). Gendered identities at play: case studies of two women playing Morrowind. *Games and Culture*, 2(1), 23-48.
- Hof, R. (2006, March 28). A virtual world's real dollars. *Business Week* [Electronic version]. Retrieved May 27, 2007, from

http://www.businessweek.com/technology/content/mar2006/tc20060328_688225.htm?chan=technology_technology+index+page_more+of+today%27s+top+stories.

- Huizinga, J. (1955, originally published in 1938). *Homo ludens: a study of the play element in culture*. Boston: Beacon Press.
- Jarmon, L. (2009). An ecology of embodied interaction: pedagogy and homo virtualis. *Journal of Virtual Worlds*, 2(1), Retrieved June 14, 2009, from <https://journals.tdl.org/jvwr/article/view/639/470>
- Jarmon, L. & Sanchez, J. (2008). The Educators Coop experience in Second Life: a model for collaboration. *The Journal of the Research Center for Educational Technology*, 4(2), 66-82.
- Jarmon, L., Traphagan, T., & Mayrath, M. (2008). Understanding project-based learning in *Second Life* with a pedagogy, training, and assessment trio. *Educational Media International*, 45(3), 157-176.
- Jonassen, D.H. (1999). Designing constructivist learning environments. In C.M. Reigeluth (Ed.), *Instructional-Design Theories and Models: A New Paradigm of Instructional Theory, Volume II* (pp. 215-239). Mahwah, NJ: Lawrence Erlbaum.
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues*, 58(1), 49-74.
- LambdaMOO. (2008, February 27). In *Wikipedia, The Free Encyclopedia*. Retrieved March 7, 2008, from <http://en.wikipedia.org/w/index.php?title=LambdaMOO&oldid=194451590>
- Lamb, G.M. (2006, October 5). Real learning in a virtual world. *The Christian Science Monitor* [Electronic version]. Retrieved May 28, 2007, from <http://www.csmonitor.com/2006/1005/p13s02-legn.html>
- Lavallee, P. (2006, September 22). Now, virtual fashion. *The Wall Street Journal* [Electronic version]. Retrieved May 27, 2007, from http://online.wsj.com/article_email/SB115888412923570768-1MyQjAxMDE2NTA4MzgwODM0Wj.html.
- Lieblich, A., Tuval-Mashiach, R., Zilber, T. (1998). *Narrative research: reading, analysis*

- and interpretation*. Thousand Oaks, London & New Delhi: Sage Publications Inc.
- Lincoln, Y.S. & Guba, E.G. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.
- Linden, C. (2007, December 21). 'Inside the Lab' podcast with Philip Rosedale. Message posted to <http://blog.secondlife.com/2007/12/21/inside-the-lab-podcast-with-philip-roosedale/>.
- Linden, P. (2007, January 8). Embracing the inevitable. Message posted to <http://blog.secondlife.com/2007/01/08/embracing-the-inevitable/>.
- Linden, R. (2007, July 25). Waging in *Second Life*: new policy. Message posted to <http://blog.secondlife.com/2007/07/25/wagering-in-second-life-new-policy/>
- MacLure, M. (1993). Arguing for your self: identity as an organising principle in teachers' jobs and lives. *Educational Research Journal*, 19(4), 311-322.
- Matsuda, P.K. (2002). Negotiation of identity and power in a Japanese online discourse community. *Computers and Composition*, 19(20), 39-55.
- McDonough, J.P. (1999). Designer selves: construction of technologically mediated identity within graphical, multiuser virtual environments. *Journal of the American Society for Information Science*, 50(10), 855-869.
- Merkel, C.B., Xiao, L., Farooq, U., Ganoe, C.H., Lee, R., Carroll, J.M., & Rosson, M.B. (2004). Participatory design in community computing context: tales from the field. *Proceedings of the Eighth Conference on Participatory Design: Artful Integration: Interweaving Media, Materials and Practices - Volume 1* (pp. 1-10). New York: the Association for Computing Machinery (ACM).
- Nakamura, L. (1999). Race in/for cyberspace: identity tourism and racial passing on the internet. In V. Vitanza (Ed.), *Cyberreader* (2nd ed., pp. 442-452). Needham Heights, MA: Allyn and Bacon.
- Nakamura, L. (2007, October 29). Virtual economies of race and embodiment: the case of Asian 'farmers' in MMORPGs. Presentation at Internet Research 8.0 Conference. Vancouver, Canada.
- Nesson, R. & Nesson, C. (2008). The case for education in virtual worlds. *Space and*

Culture, 11(3), 273-284.

- Riessman, C.K. (2002). Analysis of personal narratives. In J.F. Gubrium & J.A. Holsten (Eds), *Handbook of Interview Research* (pp.695-710). Thousand Oaks, CA: Sage Publications.
- Robbins, S. (2006). "Image slippage": navigating the dichotomies of an academic identity in a non-academic virtual world. In D. Livingstone & J. Kemp (Eds), *Proceedings of the Second Life Education Workshop at the Second Life Community Convention* (pp. 35-38). Paisley, UK: The University of Paisley.
- Rogers, E. M. (1962). *Diffusion of innovations*. Glencoe: Free Press.
- Simteach (2009, October 18). Retrieved October 18, 2009, from http://www.simteach.com/wiki/index.php?title=Institutions_and_Organizations_in_SL#UNIVERSITIES.2C_COLLEGES_.26_SCHOOLS
- Second Life* History Wiki. (n.d.). Retrieved May 27, 2007, from http://SLhistory.org/index.php/Second_Life_Through_The_Ages
- Shepherd, J. (2007, May 8). It's a world of possibilities. *Guardian Unlimited*. Retrieved May 8, 2007, from <http://education.guardian.co.uk/higher/news/story/0,,2074240,00.html>
- Spinuzzi, C. (2004). The methodology of participatory design. *Technical Communication*, 52(2), 163-174.
- Stake, R.E. (2003). Case studies. In N.K. Denzin and Y.S. Lincoln (Eds), *Strategies of Qualitative Inquiry* (pp. 134-164). Thousand Oaks: Sage Publications Inc.
- Steenbergen, C. (2004). In front of the closet: ad(dressing) the academic. In S. Weber & C. Mitchell (Eds), *Not Just Any Dress: Narratives of Memory, Body, and Identity* (pp 73-83). New York, NY: Peter Lang Publishing, Inc.
- Steinkuehler, C. A. (2004). Learning in massively multiplayer online games. In Y. B. Kafai, W. A. Sandoval, N. Enyedy, A. S. Nixon, & F. Herrera (Eds.), *Proceedings of the Sixth International Conference of the Learning Sciences* (pp. 521–528). Mahwah, NJ: Erlbaum.

- Strauss, A. & Corbin, J. (1994). Grounded theory methodology: an overview. In N.K. Denzin & Y.S. Lincoln (Eds), *Handbook of Qualitative Research* (pp. 273-285). Thousand Oaks: CA: Sage Publications Inc.
- Talamo, A. & Ligorio, B. (2001). Strategic identities in cyberspace. *CyberPsychology & Behavior*, 4(1), 109-122.
- Tao of Linden: Our Work Culture. (n.d.). Retrieved May 28, 2007, from <http://lindenlab.com/employment/tao>.
- Taylor, T.L. (2003). Intentional bodies: virtual environments and the designers who shape them. *International Journal of Engineering Education*, 19(1), p. 25-34.
- Taylor, T.L. (2006). Beyond management: considering participatory design and governance in player culture. *First Monday*. Retrieved October 29, 2006, from http://firstmonday.org/issues/special11_9/taylor/index.html
- Terdiman, D. (2006, October 19). Shakespeare coming to a virtual world. *CNET News*. Retrieved August 3, 2007 from http://news.com.com/Shakespeare+coming+to+a+virtual+world/2100-1043_3-6127294.html.
- The Horizon Report (2007). Retrieved from <http://www.nmc.org/horizon/2007/report>.
- Torpel, B. (2005). Participatory design: a multi-voiced effort. In O.W. Bertelsen, N.O. Bouvin, P.G. Krogh, & M. Kyng (Eds), *Proceedings of the 4th decennial conference on critical computing: between sense and sensibility* (pp. 177-181). Aarhus, Denmark.
- Turkle, S. (1995). *Life on screen: identity in the age of the internet*. New York: Simon & Shuster, Inc.
- Tyler, T.R. (2002). Is the internet changing social life? It seems the more things change, the more they stay the same. *Journal of Social Issues*, 58(1), 195-205.
- Virtual Worlds - Best Practices in Education (n.d.). Retrieved October 16, 2009, from <http://www.vwbpe.org/>.
- Wagner, M. (2009). *Second Life Steps into the Enterprise*. *InformationWeek*. Retrieved January 9, 2010, from <http://www.informationweek.com/news/software/enterpriseapps/showArticle.jhtml?>

[articleID=221600198](#)

- Wallace, M. (2007, March 28). Platforms and technology panel at VW 07. Message posted to <http://www.3pointd.com/20070328/platforms-and-technologies-panel-at-vw07/>.
- Warburton, S. (2008, January 28). Loving your avatar: identity, immersion and empathy. Message posted to: <http://warburton.typepad.com/liquidlearning/2008/01/loving-your-ava.html>.
- Warburton, S. (2009). *Second Life* in higher education: assessing the potential for and the barriers to deploying virtual worlds in learning and teaching. *British Journal of Educational Technology*, 40(3), 414-426
- Weber, S. & Mitchell, C. (1995). *That's funny, you don't look like a teacher: interrogating images and identity in popular culture*. London: The Falmer Press.
- Wired travel guide: *Second Life*. (2006, October). *Wired* [Electronic version]. Retrieved May 29, 2007, from <http://www.wired.com/wired/archive/14.10/sloverview.html>.
- Wong, G. (2006, November 14). Educators explore '*Second Life*' online. cnn.com. Retrieved February 5, 2008, from <http://www.cnn.com/2006/TECH/11/13/second.life.university/index.html>