SARAH & EMMA: CASE STUDIES OF TWO INSTRUCTORS AND HOW THEY USE SOCIAL PRESENCE IN SECOND LIFE

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SARAH & EMMA: CASE STUDIES OF TWO INSTRUCTORS AND HOW THEY USE SOCIAL PRESENCE IN SECOND LIFE

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ABSTRACT

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The focus of this qualitative multiple case study is on two higher-education instructors who teach online in virtual worlds, specifically in Second Life, and how they think about and implement social presence strategies in their courses. The study also offers a view into the student learning experience in the virtual world of Second Life. The results of the study are in agreement with previous research that shows that developing social presence is important in online teaching and learning. It provides evidence at least in the two cases under study that communication and interactivity, which are components of social presence, can be fostered in a virtual world. It also indicates that faculty development for instructors who teach online may need to consider instructor characteristics and that institutional support is essential for online courses in virtual worlds.

CHAPTER ONE

INTRODUCTION

It is a dark and chilly night in early November, but in a warm office on the campus of a southeastern public university, the lights are on as Sarah conducts her fully online class. Several computer screens are arrayed around her on an L-shaped desk. One displays her virtual classroom where students are seated in chairs, awaiting her instructions. Another screen displays a document that provides an outline of class activities and a third smaller screen on her laptop shows an alternate view of the classroom and students.

Sarah sits in a high-backed office chair, swinging effortlessly between the screens, tapping out a text message on one of the keyboards, concentrating for a moment on the class outline, and the next moment using the arrow keys on another computer to zoom in on a particular area of the class, as she addresses a student by name. Sarah is wearing a headset with an attached microphone over her long hair and as she moves, she listens and responds to student questions.

In this session, Sarah is helping her students who are located many miles away to build furniture with which to decorate their virtual student cubicles. Each student in the class is represented by an avatar, a surrogate figure that appears onscreen when the user logs into the online classroom. The instructor too appears onscreen in avatar form, dressed conservatively in a black and white checked blazer and dark skirt with high heels.

This classroom is in the online virtual world of Second Life. Sarah has been teaching in Second Life for more than four years.

In a suburban red brick house in the northeast U.S., Emma, who teaches at a large public university, sits at her sturdy wooden dining room table facing her computer screen and manipulating her avatar in her Second Life class meeting space as she challenges students with questions on course topics. Like Sarah, Emma is outfitted with a headset and microphone so that she can talk to her students and hear their responses, although some students prefer to type their comments into an onscreen text box. In her Second Life class, the students and Emma, all in avatar form, sit in an outdoor area on large green rocks arranged in a circle. A big screen on which discussion questions are displayed appears on the outer edge of the circle, placed so that students can view it. Virtual trees shelter the area and their limbs sway in a virtual breeze. Ocean surf sounds can be heard along with the cries of seagulls, and occasionally butterflies waft by.

Sarah and Emma are part of a small group of educators who have chosen to use Second Life as a meeting place for their fully online classes. Why? Sarah says her aim is to try to make students that are isolated by distance, feel as though they are part of a community. Emma concurs, saying learning is social and for students separated by distance, Second Life provides a virtual space where students can meet, interact, carry out activities together, discuss issues and get to know one another using audio, video and textual communication channels.

These are activities that may be taken for granted in a face-to-face class. In an online class where students may never meet in person and may never meet their instructor, creating learning spaces such as these requires additional thought and

planning, additional resources and time. However, both Sarah and Emma agree that the learning experience that results is richer, more engaging and more social than an online course that uses traditional technologies such as discussion forums, chat, or videoconferencing software.

These instructors are part of a trend in teaching and learning in online virtual environments such as Second Life (Callaghan, McCusker, Lopez Losada, Harkin & Wilson, 2009; Chang, Gutl, Kopeinik, & Williams, 2009). Sarah, Emma and other educators believe the virtual world provides an important added social dimension to the online learning experience (Hew & Cheung, 2010). As such, it may function as a missing piece in online courses that use a learning management system such as Sakai, Blackboard or Moodle where instructor to student and student-to-student communication is limited largely to text. In the virtual environment, interacting with other avatars may break down barriers between students and teachers, introduce additional social elements that are missing in forums or chat and more closely mimic the social relationships that develop in a brick and mortar classroom.

The sense of relationship, connection and closeness that develops through social interactions between instructor and students and between and among students is called *social presence* and is generally accepted as being an important element in motivating students to participate in learning (Picciano, 2002). We humans are social creatures and need to feel connected to others in order to feel comfortable in any environment, including the classroom.

Social presence is a psychological connection to another person or persons (Biocca,1997) that develops through regular interactions between an instructor and

students and helps to overcome feelings of isolation and distance. This sense of belonging and connection to others can occur naturally in a physical classroom but must be consciously built into online courses. Studies have repeatedly shown that in online courses that incorporate technologies allowing for student to teacher and student-to-student communication, a sense of social presence develops that contributes to learner satisfaction (Gunawardena, Lowe & Anderson, 1997; Richardson & Swan, 2003; Swan & Shih, 2005; Tu, 2002) and to student's perceived learning (Gunawardena, 1995; Picciano, 2002; Swan & Shih, 2005; Walther 1994).

Statement of the Problem

As cited above, research over the years has established social presence as a factor that enhances the faculty and student experience in online learning and that therefore appears to contribute to more effective teaching and learning. Virtual worlds are a newer technology that may give educators the ability to increase social presence in their online courses and some faculty members like Sarah and Emma are experimenting with using environments such as Second Life. If virtual worlds have the potential to improve the online learning experience, it is important to understand the beliefs and perceptions about social presence that these instructors hold, what influences their beliefs and perceptions and how they manifest those beliefs and perceptions in real-life practice.

The problem this study deals with is that there is little information on whether instructors that teach online courses using virtual worlds are even aware of social presence theory, whether they apply its principles in their day-to-day teaching, or how they think about establishing social presence when teaching online and whether or not they have institutional support and training. This study seeks to begin to remedy the

problem by examining the lived experience of two university instructors who use virtual worlds in their online courses.

Background to the Problem

To understand the problem better, it is necessary to further discuss three areas of concern. They are:

a.) Social presence.

b.) Online teaching and learning.

c.) Faculty development and support for teaching online.

Social Presence

Social presence has its roots in learning theories that see learning as part of a social process in which individuals engage with each other and learn from one another. Thus, at a very basic level, social presence assumes that learning is social. It begins with the belief that human beings are social and that most learning occurs in social settings through interactions with others and with the environment which leads to an individual learner's meaning-making. From infancy on, we learn by listening to, studying, imitating and interacting with others. Several social scientists have noted this interactive quality of learning, perhaps most notably Vygotsky who theorized that we learn from more knowledgeable others in social interactions and that these encounters are fundamental to learning (1978). It is through active engagement or interactions that learners construct meaningful knowledge (Bruner, 1996; Vygotsky, 1978; Wanstreet, 2006).

By actively engaging with ideas and concepts, and by communicating with and responding to others who are similarly engaged, learners create their own understandings

and may even transform their own thinking (Anderson, 2003; Mezirow, 1997).

Learning is also situated in a context and setting which incorporates a culture. The concept of situated learning developed by Lave (1988) and later extended by Lave and Wenger (1990) emphasizes the important role of an authentic context, but also considers social interaction as a critical component of learning. Situated learning proposes that through social interaction, learners become part of a community of practice within which they acquire knowledge and skills. Learners gradually move from being novices to experts.

Social presence appears to have a natural fit with principles of good pedagogy. For example, the widely respected "Seven Principles for Good Practice in Undergraduate Education" emphasizes communication and interactivity between instructor and students and between and among students as vital to good teaching and learning. Contact between students and faculty is in fact the first principle and principle number two is about social and collaborative learning among students and about students working together as a group (Chickering and Gamson, 1987). The principles are based on research on good teaching in higher education.

It is safe to assume that not all instructors in a physical classroom will put these principles into practice, or that all students will feel a sense of belonging, but the opportunities do exist for relationship building simply because students and instructors see each other face to face on a somewhat regular basis. For an instructor, a simple "hello, how are you?", as students walk into class, can serve as the foundation for establishing approachability and caring. In most classrooms, students are likely to chat with at least one or two other students before the class is called to order and then possibly

continue the conversation outside the classroom. These activities allow students and educators to better know and understand each other, to establish feelings of trust, connectedness and intimacy. In this kind of atmosphere, students are more likely to be open to evaluating and synthesizing educational content and to communicating their thoughts to others in the class (Picciano, 2002; Swan, 2002; Swan & Shih, 2005).

On the other hand, where there is an absence of such feelings, learning becomes more difficult. A lack of interaction generally produces feelings of isolation and alienation. Students in such a situation may withdraw, thereby removing themselves from the interaction that can lead to learning (Bibeau, 2001; Howland & Moore, 2002; Mann, 2005; Wanstreet, 2006). This disruption of learning can be seen in a study where researchers looked at how 382 undergraduate students in large face-to-face lecture classes perceived teachers who were distant and non-responsive. The study found these teachers were perceived as being bad teachers even though they were prepared for classes and were competent in their discipline (Thweatt & McCroskey, 1996).

A more extensive history of the development of the concept of social presence is provided in Chapter Two of this report.

Online Teaching and Learning

The increase in Web-based distance learning is well documented. The number of faculty teaching courses either fully online or in a hybrid or blended format in higher education in the United States has been increasingly steadily over the past ten years (Green, 2009; NCES, 2007; Shea, 2007). In a recent survey of 182 colleges and universities, 94 percent of higher education administrators reported enrollment gains in distance education courses between 2006 and 2009 and 47 percent expect additional

gains of at least 15 percent in the next few years (Green, 2009).

The National Center for Education Statistics (NCES), which is part of the U.S. Department of Education, compiles data on the use of online courses. It surveyed 4000 institutions in 2006, and reports 97 percent of public 2-year institutions, 18 percent of private 2-year institutions, 89 percent of public 4-year institutions, and 70 percent of private 4-year institutions offered college-level online courses (2006). A 1997 survey by NCES showed a total enrollment of 1.6 million students in distance education courses (U.S. Department of Education, NCES, 1998), but by 2001, that number had nearly doubled to 2.9 million students.

A more recent survey of 2500 colleges and universities in the U.S. by the Sloan Consortium, a community for higher education professionals dedicated to online education, finds a total of 4.6 million students enrolled in at least one online course in the fall of 2008, a 17-percent increase over the previous year (Sloan-C web site, 2010).

Definition of Online Learning. Several different terms are used to refer to the educational process in which the students and instructor are not physically in the same place, whether the instruction takes place synchronously or asynchronously and whether it is completely online or in a hybrid format where some instruction is online and some is face-to-face. Such anywhere and possibly anytime instruction may take place through the use of audio, video, text, web page and/or correspondence and is called variously *web-based learning, distance education, distance learning, e-learning, distributed learning, online education,* and *online learning* (Dabbagh & Benson, 2007; Dede, 2000; Oblinger, Barone & Hawkins, 2001; Tallent-Runnels et al., 2006; Yoon, 2003).

A somewhat common standard used by institutions to designate a course as a

distance learning course is that the majority of instruction is offered when students and instructor are separated by distance (SACS, 2000). The terms online learning and web-based learning are considered generic terms and will be employed most often in this document as they encompass hybrid or blended as well as completely online courses, as long as the technology used is accessed through the Internet (Sloan-C web site, 2003).

Why Learn Online? The impetus to move courses online may be partly driven by so-called digital natives, the population born since 1980 which has grown up with computers and social media (Prensky, 2001), also referred to as the millennial generation of students. These students expect interaction, immediate results and prompt feedback (French, 2006; Prensky, 2001) and favor new technologies that allow them to connect and communicate easily and instantly anywhere, and to access course materials and work on assignments any time of the night or day (Coomes & deBard, 2004; French, 2006; Mastrodicasa, 2007).

An additional important factor is the population of older students consisting of working adults and retirees who appreciate more flexible learning schedules and may find online classes more convenient than classes that require an on-campus classroom presence (Shea, 2007). Older students may also be more demanding in how they are taught preferring learning activities that are relevant to their working lives and that allow them to be active rather than passive learners (Brancato, 2003; Knowles, 1980). As we will see, active learning strategies are more likely to be part of an online course than a classroom-based course.

A third factor that supports the growth of online learning is the existence of the necessary technical infrastructure with fairly wide availability of broadband and wireless

internet connectivity in the United States (Curran, 2004; Greenhow, Robelia & Hughes, 2009). Beyond that is the impulse to widen access to education, and for university administrators, a belief that online education may help contain costs (Curran, 2004).

These factors, coupled with an appeal for teachers who value active situated learning, have encouraged the use in online courses of newer and free Web 2.0 tools, such as wikis, blogs, social networking, tagging and virtual online environments. These technologies may be tools within learning management systems such as Sakai, Blackboard or Moodle, or they may be standalone applications that are freely available. They may be existing online communities such as Facebook and Twitter, or virtual worlds such as Second Life that facilitate online community-building, collaboration on tasks and communication between faculty and students. Wikis, blogs or social networks can be used to create learning activities and projects in which students that are physically at a distance from one another discover new information and then collaboratively create content (Maloney, 2007). In a virtual world such as Second Life, physically distant students can practice skills together, collaboratively build environments and objects, travel distances, visit new places and meet people who are continents away.

Summary of Online Learning Trend

Teaching and learning online in higher education is on the increase in the United States and the increase is expected to continue. Several different terms are used to describe accessing educational opportunities through the Internet including online learning and web-based learning. The factors that appear to be driving the increasing trend in online learning are:

1. The millennial generation of students, as well as older working students, who favor anytime anywhere learning.
2. The increased availability of a technology infrastructure that facilitates online teaching and learning.
3. Teachers who value online learning for the affordances different technologies provide.

Faculty Development for Online Educators

Differences have been identified in the research in course preparation and teaching strategies for courses taught in the classroom versus those taught online. Studies of faculty members that teach online have shown that course preparation for online teaching requires more time, planning and forethought (Goldberg, 2005; Jaffee, 2003; Pfeil, Ang & Zaphiris, 2009; Shea, 2007; Wingard, 2004). There are several factors that make this necessary.

In a face-to-face environment, most teachers and students can see each other and through eye contact, facial expressions, gestures and vocalizations gain some understanding of each other's affective and cognitive state. Instructors can improvise both with content and with how they create personal connections to their students.

For online learners, the sense of separation and distance is a stark reality. Learners are physically separated both from other students and from their instructors. In the online environment, many of the social cues taken for granted in a classroom are missing. Teachers cannot judge student interest or understanding of content through visual cues. Eye contact is impossible, as are observations of facial expressions or behavior that indicates discomfort, shyness, understanding, or amusement. This is a reality of teaching

in an online environment (Jaffee, 2003).

For online learners, the physical separation and a lack of social interaction that can result does more than create a feeling of isolation. It can also de-motivate students and negatively affect student retention and completion of courses (Allen, Witt & Wheeless, 2006; Picciano, 2002; Rourke, Anderson, Garrison, & Archer, 2001).

Faculty Challenges

Online teaching compels instructors "to spend more time thinking about instructional design" (Jaffee, 2003, p. 9). Instructors must think through the details of course assignments and activities and create explicit structures to guide student work. Communication and relationship-building cannot be taken for granted as it may be in some face-to-face classrooms. It must be planned, and strategies that promote good communication must be built into the course.

With more and more students in higher education attending online, instructors are faced with the challenge of incorporating principles of good pedagogy such as communication and interactivity into an online environment using the technology tools and the knowledge and training that are available to them.

In order to provide technology training and online course delivery pedagogical skills, most universities recognize the need for faculty development units consisting of instructional designers and/or instructional technologists that work with faculty members to provide training and ongoing support (Ajjan & Hartshorne, 2008; Curran, 2004; Kim & Bonk, 2006). Many higher education institutions offer faculty workshops or one-on-one training. In fact, more than half of the higher education institutions in a recent survey provide an average of 27 hours of mandatory training before faculty can teach online

(Green, 2009). Thus, we know that training may be available to some faculty who teach online, but we also see that many educators do not receive any formal training at all.

For those faculty that do receive training, the available literature on the topic shows that the training most commonly offered in colleges and universities generally includes research-based models of effective online teaching that emphasize curriculum development, teaching methods and technical proficiency (Bower, 2001; Kosak et al., 2004). Research on faculty development for effective online learning generally recommends that technical, pedagogical and design issues be addressed (Brown, Benson & Uhde, 2004; Georgina & Olson, 2008; Georgina, & Hosford, 2009; Goldberg, 2005; Meyer, & Xu, 2007, Otero et al., 2005, Wang & Braman, 2009). Instructors may be shown how to create a course in an online learning management system, how to set up discussions and provide feedback in online chat or forums, or how to create online activities (Ajjan & Hartshorne, 2008; Johnson and Aragon, 2003; Wingard, 2004) but the social dimension of online learning is rarely addressed (McQuiggan, 2007). Existing research recognizes the importance of the social aspect of learning in online classes (Bower, 2001; Conceicao, 2006; Dede, 2000; Kosak et al., 2004; Jaffee, 2003), but the focus on technology and course content has allowed for a "silence around social issues" (Conrad, 2004, p. 37).

Even for faculty who use tools such as forums, chat, blogs or wikis which can supply a part of the missing social element, those technologies cannot really take the place of face-to-face interaction. Neither can videos in which faculty introduce themselves to students or even video-conferencing where a teacher lectures to students located at a distance. In fact, there is probably no technology yet invented that can match

the face-to-face classroom experience.

That has not stopped technologists and faculty members from searching for something that more closely resembles a face-to-face interaction. Virtual worlds may come closer to that ideal than forums, chat, blogs and wikis, because they allow students and faculty to be immersed together at the same time in a three-dimensional space where they can see each other (in avatar form) and synchronously talk to each other using text-based chat or with a voice tool using a microphone and speakers. Class trips to educational sites can be undertaken and experienced together just as a real-life trip is experienced. Simulations can be created in which students can practice skills together, or students can build things collaboratively while the teacher stands by and provides guidance. This type of immersion in an environment, synchronous communication and the visual aspect of virtual worlds create opportunities for greater social interaction and the development of a sense of belonging and community in an online course.

Rationale for the Study

As an individual involved in instructional technologies support and faculty development at a large southwestern public university, I see an increasing number of faculty members moving their courses online. Some of these courses are well thought out, engaging, and designed to incorporate the social aspects of learning through the use of discussion forums or online office hours using a chat tool. Others may be a collection of electronic files such as Word documents, PowerPoint slide shows and perhaps a syllabus which provides a basic structure for readings and assignments. At another extreme, an online course may simply be a series of recorded lectures and online multiple-choice tests that provide little to no opportunity for student to student or student

to teacher interaction.

The department in which I am employed provides workshops on creating and presenting effective online courses, including issues around creating connections with students. (I should note that this training does not generally include the use of virtual worlds as a way of establishing social presence.) However, only a small number of faculty members attend compared to the number that are putting courses online. A variety of institutional obstacles may prevent our faculty from knowing about these workshops. It is possible that even if they are aware of such assistance, they cannot attend because of schedule conflicts. It is possible that they do not believe they need any help. No doubt, there are many other possibilities.

My on the job reading exposes me to many new technologies and one which I find of great interest is that of online games and virtual worlds because of the powerful attraction they seem to hold for many people. A few minutes of observing a child or adult completely absorbed in an online game or virtual world makes me wonder how we might replicate that concentrated attention and interest in a formal learning setting such as an online class.

I began investigating virtual worlds used in education and very soon came across Second Life because it has a persistent population of educators who use it in their teaching. More research into the topic revealed a number of articles that suggested that the use of Second Life and other virtual spaces in teaching increases the sense of connection between students and teachers. A meeting in a virtual space like Second Life, called *in-world,* can have many of the characteristics of a meeting in a face to face class. This is because students can see the instructor and vice versa, although in avatar form,

and they can carry out activities together, take field trips together, talk to each other, demonstrate processes, have discussions, and work through simulations together.

The confluence of these three things, an increase in online courses at my university (and at others), the importance of the social aspect of learning and my research into Second Life sparked my interest in this research study.

While much has been written about effective online course design, there is little that focuses on the essential ingredient of social presence in online teaching or how virtual worlds could be used in online courses to establish social presence. Such information would be extremely useful for those of us involved in faculty development, for all educators that will be teaching online, and for those who choose to teach in virtual worlds.

Purpose of the Study

The purpose of my qualitative study was to examine, through observation, interviews and the collection of documents, the real-life course preparation and online teaching activities and experiences of two instructors, their views on the value of social presence and whether and how they considered social presence in their online courses. A case-study methodology was used over the length of a fall semester.

In addition to multiple interviews with the two instructors, five students from the two instructor's classes were interviewed. Numerous class observations were carried out in which teacher and student, and student-to-student interaction took place.

For my study, I began with three categories of social presence, which have been identified in the research, as lenses through which to view faculty beliefs and perceptions. They are the *affective, cohesive* and *interactive* categories and each includes specific

activities (Rourke, Anderson, Garrison & Archer, 2001).

Research Questions

The key questions of the research study are:

1. What beliefs and perceptions about establishing a sense of social presence are held by faculty members who teach in Second Life?
2. What influences faculty member's beliefs and perceptions about social presence strategies?
3. How are their beliefs and perceptions manifested in practice?
4. What are their student's perceptions of social presence within the context of their learning experience in the Second Life online classroom?

I have tried throughout the research, analysis and writing process to be as objective as possible, but I am aware all the time that what I report is colored to some extent by things I have come to accept as true, in other words, my own beliefs. I ask that you take that into consideration. So that you know what those feelings and beliefs are, I will now address that issue.

Researcher Beliefs

My beliefs stem from my own experience as a child in school, and then as an older student in college and through my doctoral studies. Another sector of influence comes from being a parent and a home-school teacher for two years for my son. I am influenced by what I saw and did as a teacher in a small-town Texas high school and as an instructor at the university where I am now employed (in another capacity). Finally, in my work with faculty, I have gathered yet more experiences to fuel new beliefs and to

consolidate others.

Out of all this, I have emerged with several beliefs, some of which go as far back as grammar school and some of which are of newer minting.

Belief 1: Making students feel connected, valued and comfortable is essential to learning. Discomfort and anxiety whether in a face-to-face setting or in a virtual classroom interferes with learning.

This belief is the result of my own experience as a student. I learn best when I feel comfortable in a classroom. Being comfortable for me means feeling the teacher and other students in the class value what I say and would like to be my friend. Feeling connected to others because they like me and I like them engenders a sense of comfort which allows me to concentrate on the class content, discussion, or activity. Being uncomfortable means feeling awkward, stupid, out of place, or sensing dislike, even hostility. If present, these emotions more or less take over and interfere with my concentration on learning.

Belief 2: Doing makes learning stick. In my experience as a student, I find I learn best when I can practice an activity or skill that I have seen demonstrated or can "teach" someone else a concept that is being presented. As an instructor, I designed activities so that students could create something with their new skills and knowledge.

Belief 3: Students will be motivated to work harder and will learn more if they are involved in learning activities that are part of their real world rather than in activities that appear to be irrelevant to their lives. Taking part in real-world activities makes me feel that I am contributing something worthwhile and is very motivating. Again, as a teacher, I look for opportunities to connect learning to real-life and to design assignments

that have value and use in the student's life or career.

These three beliefs underlie my interest in the use of virtual worlds for teaching and learning online because I believe if used effectively, they accommodate and facilitate the development of social presence and allow instructors to design learning activities that are experiential and which have real-world application.

These beliefs have been part of me for a long time and as a result I tend to look favorably on situations and people who use what I have described and unfavorably on those who do not. It is important as the researcher in this study to be aware of my own beliefs and the effect they may have on my research. I have described them here so that the reader can proceed well aware of how, despite my attempt to be objective, they may influence my report.

Importance of the Study

Whether educators who are using online virtual worlds incorporate explicit strategies that promote a sense of connection and personal rapport with students is important to explore as it directly impacts the perceived quality of an online course and may affect student learning (Christophel,1990; Gorham, 1988).

The study addresses this question by examining how higher education faculty members who teach in Second Life develop and manifest social presence with students. In this way, it adds to the literature on the effective use of virtual environments as learning spaces and could therefore impact pedagogical policy and practice. This report will be of interest to individuals involved in faculty technology development for teaching in online environments and in virtual worlds. The study provides insights into the thought process of educators starting with whether and how they think about social presence

issues and their courses as they prepare to teach in the online virtual environment of Second Life, and then what they actually do to develop social presence as they deliver their online courses.

By contributing to the understanding of these factors, I believe the study will be useful to those involved in faculty technology training both on a policy and practical level. The findings will assist faculty development personnel in identifying elements, particularly the element of social presence, that could be included in workshops for educators who will be teaching online, whether or not they use virtual worlds. It will also shed light on how much support educators need from university instructional technology departments so that they can construct and conduct meaningful online learning experiences for their students.

It is especially pertinent to faculty that teach online or who teach in virtual worlds or to those that plan to do so in the future as it offers a window into the lives of instructors who teach in a virtual world.

CHAPTER TWO

SECOND LIFE & SOCIAL PRESENCE

Two broad contexts are important to understand in this research study and will be described in this chapter. The first is Second Life which is the online three-dimensional virtual world used by Sarah and Emma. The second part of this chapter provides a comprehensive look at the history and development of the construct of social presence which forms the theoretical framework for the study.

Second Life

Second Life (SL) provides the context and setting for this study. Second Life is an online three-dimensional, multi-user virtual environment or MUVE which is used for recreation, by businesses, and for teaching and learning. A virtual environment is computer software that creates a video game-like world in which users interact with each other.

Several aspects of Second Life will be covered in this section beginning with a short history of Second Life. A discussion of the advantages of using Second Life or other virtual worlds as a learning environment, of the social aspects of Second Life, of how Second Life functions and about the avatar, which is each user's surrogate in SL, follows. The drawbacks of using Second Life and how Second Life is being used by instructors and institutions in higher education closes this section.

History of Second Life

Second Life came into existence in 2003 and is possibly the most widely used virtual world in higher education (Pfeil, Ang & Zaphiris, 2009). It has been observed that Second Life has "interactivity, connectivity and access", three critical elements for engaging learning (Jarmon, 2009, p. 1).

Second Life was created by Linden Lab in San Francisco, California. The company has developed a number of case studies of higher education institutions that use Second Life. These are available on its web site, where it also provides specialized help for educators. Second Life has an active and growing community of educators both in K-12 and higher education (Dede, 2000; Jarmon, 2009; Robbins & Butler, 2009; Wang & Braman, 2009). A list-serve for educators who use Second Life called SLED (Second Life Educators) provides evidence of educator interest and is active daily with reports from instructors across the United States and in other countries, seeking help from each other and sharing experiences and best practices about teaching and learning in Second Life.

A recent study found a total of 170 educational institutions including colleges, universities and schools with an educational presence in Second Life. These institutions had created virtual learning spaces such as classrooms, activity areas, lecture spaces, art galleries, libraries, offices, gardens, eating places and more (Jennings & Collins, 2007). The researchers acknowledge the difficulty of insuring that all institutions were counted and note that the number fluctuates over time.

As to the future, research finds that the use of virtual worlds as an online teaching environment is expected to increase in the coming years (Pfeil, Ang & Zaphiris, 2009;

Wang & Braman, 2009).

Advantages of Learning in Second Life

Researchers have studied various forms of online learning including the use of games and simulated virtual worlds and have found evidence that learning takes place in these places. The advantage of teaching in Second Life or in other virtual environments has been reported in various studies:

- Virtual worlds introduce elements of fun, choice and interactivity and can therefore be more engaging and attractive to learners (Cameron & Dwyer, 2008; Howard-Jones & Demetriou, 2007; Shaffer, Squire, Halverson & Gee, 2004; Squire, 2006).
- Virtual worlds can replicate real-world spaces and experiences where social, political and cultural issues can be observed and discussed (Dede, 2000; Delwiche, 2006; Dickey, 2005).
- Virtual worlds allow for the construction of simulated environments where learners can practice skills, make mistakes and acquire knowledge in safe circumstances (Delwiche, 2006).
- Virtual environments provide situated learning where the context and setting are an integral part of the learning experience and where expert practitioners (instructors) can guide novices (students) toward greater understanding (Dobbs, 2007; Frazer, 2007; Lave & Wenger, 1991; Ondrejka, 2004; Squire, 2006; Yee, 2006). In fact several simulations have been constructed in Second Life where students can practice skills or experience environments that they will someday experience in real life,

such as a clinic or other medical facilities. Students can role-play as an anthropologist, engineer or doctor and learn how to behave and interact with other professionals. They can even learn how to speak the unique lingo associated with that particular community of practice.

- Virtual environments offer students the opportunity to examine issues from different perspectives, to visit faraway places, to meet and talk to people from other societies in a contextual setting (Dickey, 1999; Lee, 2009).
- Virtual environments are thought to be conducive to the use of teaching strategies that require higher-order thinking and collaborative skills (Conceicao, 2006; Shea, 2007).

Several of the advantages mentioned in the research became apparent to me during my observations of classes held in Second Life. In addition, the instructors who took part in the study readily cited what they saw as advantages of using a virtual world. These included the ability to meet people from different countries and cultures, to learn by entering simulations and experiencing events that would not be possible in real-life, or even to put on the clothing of another culture and discuss what you experience as a result.

Social Aspects of Second Life

In Second Life, participants cannot see others in human form, but they can see and interact with others' avatars, which are representations of the individual user. According to research, this interaction appears to generate feelings of social connection (Bente, Ruggenberg, Kramer & Eschenburg, 2008; Jarmon, 2009; Pfeil, Ang & Zaphiris, 2009), even though communication in SL generally takes place through text-based chat.

In Second Life, an avatar talks to other avatars by typing on a keyboard through on-screen interactive text chat, by using a computer headset with attached microphone, or by using the internal microphone and speakers on a computer for voice chat. Some educators believe they can make more interactive connections with students and more easily create a sense of community and belonging in Second Life which enables the social aspect of learning more effectively than a blog, forum, chat-room or wiki (Poggi & de Blas, 2006; Robbins & Butler, 2009; Wuensch, Aziz, Ozan, Kishore, & Tabrizi, 2009). This is especially important with online learners who are physically distant from one another and are not sharing the contextual social environment of a classroom (Biocca, 1997; Biocca, Harms & Burgoon, 2001; Lombard & Ditton, 1997; Yee et al., 2008).

This affordance in Second Life was of great importance to both Sarah and Emma as they believe the virtual world in which students and teachers can interact greatly facilitates a sense of togetherness and closeness with students. For them, it facilitates social presence when used as part of an online course.

Using Second Life: How It Functions

Second Life can be used synchronously, in real-time, where students and teacher all meet "in-world" or collaborate in small groups to explore virtual places, build objects using graphic tools, or experience environments. It can also be used asynchronously where students work individually or collaborate in small groups at a time of their choosing.

Unlike commercial simulations or games which have storylines and fixed rules and goals, Second Life is simply an environment made up of islands in an ocean and it is

malleable. Users can construct virtually anything they can imagine, within the limits of the software. All objects are made from basic geometric shapes known as "prims" that are linked together to create more complex shapes. The ability of users to build objects in Second Life makes it valuable for instructors who prize experiential learning and for those whose discipline lends itself to the active creation of products. Scripting tools are available that allow users to write code that is used to animate an avatar or an object. Users have created entire college campuses, libraries, art galleries, clinics, beaches, forests, gardens and commercial spaces complete with stores and an array of goods.

A fairly well-developed SL economy exists that uses Linden Labs' created currency which is called the *Linden dollar*. One U.S. dollar will buy 270 Linden dollars which can be used in-world to buy products and services from others. There are also a number of Second Life locations where users have collaborated to offer free items, including clothing, avatar hair, shoes, furniture, trees and other objects that can be used in Second Life.

While SL is distributed as a free download, there is a cost associated with "owning" an island in Second Life which is necessary in order to create a space for student and instructor avatars to meet. However, buying an island in Second Life is not the only cost; constructing simulated environments is costly in terms of time and effort and may require the services of an expert which is an additional expense.

The Avatar in Second Life

Anyone can create an account and an avatar in Second Life. Each person who signs up for an account fashions an *avatar* which is a simulated representation of its human creator. The word avatar is derived from Sanskrit and originally meant the

incarnation of a Hindu deity (Bailenson & Blascovich, 2004). Through popular usage in games and simulations, it has come to mean the surrogate being through which participants interact with others in a simulated environment.

A key quality of avatars is that they are customizable. The user is able to design his or her avatar using basic forms which can be adjusted to create, for example, particular eye shapes and eye-color or particular body types. A user can reinvent herself in terms of looks, type of clothing, stature, behavior, even gender. There is no requirement that the avatar resemble the human participant or humans in general. A substantial number of Second Life users create avatars resembling animals or small furry creatures. In this way, as Turkle (1995) suggests, avatars allow individuals to experiment with different identities.

The avatar is manipulated and controlled through the user's keyboard and mouse by its human and within the virtual environment it can walk, talk, sit or stand, dance, wave, teleport to different locations and even fly. One drawback of avatars in Second Life is that facial expressions are limited although a number of "gestures" are available for avatars to use. For example an avatar can clap, shrug its shoulders, bow, do a happy dance, shake its head yes or no, yawn, stretch, or act embarrassed.

Avatars in Second Life generally communicate with each other by typing text into a chat window on the screen. As the person types, his/her avatar is seen in Second Life typing in the air. Second Life does have voice chat capabilities where each participant speaks into a computer microphone but that can result in chaos, much as might occur in a telephone conference with multiple participants. Without visual feedback to signal that a speaker has finished, participants may talk over each other, pause awkwardly and then all

speak together again.

Creating and using an avatar in Second Life can be a challenge for both students and instructors. In part, this is because of the variety of choices available for everything from the shape of one's avatar's nose to the color and style of its hair, and because fine-tuning an avatar's appearance takes a lot of time.

Learning how to move one's avatar in Second Life can also be difficult and time-consuming, and perhaps worse result in embarrassment as when during an excursion, one's avatar walks off a cliff and splashes into the ever-present Second Life ocean.

Drawbacks to Using Second Life

A major drawback to using Second Life is the fairly steep learning curve that is required in learning to use the software, especially for those unfamiliar with virtual worlds or gaming (Pfeil, Ang, & Zaphiris, 2009).

Another complaint heard often is that SL requires higher end computer hardware and network speeds which may not be available to some students using their home computers. In addition, the Second Life software does not meet accessibility standards for people with disabilities.

Finally, the Second Life platform itself has been criticized for freezing up when a large number of avatars congregate in one place.

Despite these drawbacks, the New Media Consortium (NMC) and the Educause Learning Initiative (ELI) which track what are considered emerging technologies that are used in higher education predict that Second Life and other immersive virtual worlds will continue to grow in popularity in higher education and will become more sophisticated in their capabilities (NMC Horizon Report, 2007). They note the increase in the numbers of

virtual educational spaces that are being created as more institutions become involved in Second Life.

Educational Uses of Second Life

The educational spaces and activities that are conducted within Second Life vary widely both in appearance and in function. Some universities create simulated representations of real-life facilities including lecture halls and classrooms where instructors and distance learning students meet and conduct class. Some create art galleries where paintings, photographs and sculptures are displayed thus allowing those at a distance to walk through and view the art in the same way they would in a real world art gallery. At other institutions, prospective students can have their avatar explore a representation of the real-world campus to get a feeling for what it would be like to actually be there.

Summary of Second Life

Second Life is a virtual three-dimensional multi-user world that is accessed through the internet and which provides an immersive environment in which educators with the appropriate skills and resources can create virtually anything they can imagine. There are numerous advantages that have been identified in research studies to using Second Life as a learning space such as its ability to provide a context for situated learning and to allow for engaging interaction and communication with others at a distance. There are also several disadvantages including cost in time and resources, a fairly steep curve in learning to use the software, and technical barriers. Educators and institutions are using Second Life as a teaching and learning environment and this use is expected to increase.

Theoretical Framework

The construct of social presence is central to the study. It is the construct that was examined, discussed and observed throughout the study with Sarah and Emma. What follows is a short history of the development of the construct and the influences that have affected its definition and application to education.

Roots of Social Presence

The feeling of connection between teacher and student that was first theorized to increase student motivation, interest and persistence in learning was called *teacher immediacy* and was studied in face-to-face classrooms. Weiner and Mehrabian (1969), who were instrumental in defining this aspect of teacher behavior in communication theory, described it as interactions that students find attractive and rewarding. Immediacy was initially composed of nonverbal behaviors such as making eye contact, smiling, nodding, and having a relaxed body posture or standing in front of the desk rather than behind it. Such behaviors reduce both the physical and psychological distance between people making them appear more friendly and approachable. In a study of 700 undergraduate college students, such behaviors were found to reduce student discomfort and anxiety while increasing motivation which produces a greater (perceived) level of cognitive learning (Richmond, Gorham & McCroskey, 1987).

Later immediacy theory was broadened to encompass verbal behaviors that encourage feelings of closeness and comfort such as when a teacher responds quickly to student questions and comments, or when she calls a student by name, when a teacher shares personal experiences with students, a behavior called self-disclosure, or when an instructor uses humor (Gorham, 1988). In her study of 387 college students in classroom

settings, Gorham found that both verbal and nonverbal immediacy behaviors were significantly related to increased student learning. A more recent study examined the effect of teacher immediacy on a student's affective state. This meta-analysis of 8 studies involving 1500 students predicts that increased teacher immediacy increases the motivation of students to learn and will result in greater cognitive learning (Allen, Witt, & Wheeless, 2006).

Around the same time that the theory of teacher immediacy was being developed, a related communication theory arose that takes the concept of immediacy a step further, into the realm of communications media. Short, Williams, and Christie (1976), who are credited with the initial development of the term *social presence,* considered it a quality of the technology being used. It was theorized that particular mediums were judged by those using them to have more or less social presence which determined how people using it would interact and communicate. Short et al. described social presence as "the degree of salience" (p. 65) between individuals using a particular communications medium, as perceived by the individuals. Certain media, such as those that provide a visual channel, according to Short et al., were generally perceived as having a greater degree of social presence than media that only provide audio. Those with a high degree of social presence were perceived as warm and more personal than those at the low end. Short et al. state, "Thus, the capacity to transmit information about facial expression, direction of looking, posture, dress and non-verbal vocal cues, all contribute to the Social Presence of a communications medium" (p. 65).

In a related development, some researchers on communications technologies focused more directly on the qualities of the medium being used and coined a term to

describe differences in the affordances of various technologies. The term is *richness* of media (Daft & Lengel, 1984, 1986). These researchers took the view that certain types of media are more limiting than others in providing a way for individuals to project their personality or to communicate an emotional state and therefore more limiting in the social aspect of interpersonal communication. Types of media were classified according to how many channels of communication they offered with the aim of determining what types of communication medium best fit particular tasks within organizations. (Please note that at the time of this research, electronic mail was fairly new, and many of the Web 2.0 technologies we use today were unknown.) Face to face communication was found to be the richest form of communication because of the numerous cues and channels that are available; not just speech, but also nonverbal cues including facial expressions and body language and the opportunity for immediate feedback. The telephone and electronic mail were found to be richer than memos or fliers.

It is interesting to note that even in mediums that at first glance may seem less rich, people have found ways to introduce the social and emotional element. For example, in a chat room, communication is purely text-based and participants cannot see each other which may reduce feelings of emotional closeness. The development of emoticons such as smiley faces is seen as an answer to the relative thinness of both chat and email and has been shown to help bridge this gap in text-based communication (Joinson, 2003).

The term richness of media can be applied to the current plethora of communications technologies available via the Internet including text-based technologies such as chat, blogs, community-authored web-pages (for example, wikis or social networks), video-conferencing and virtual worlds. Technologies with a visual element

that provide more than a single channel of communication, such as virtual worlds, would probably be found to offer a richer experience than discussion forums or online chat that provide a single channel, namely text.

The Evolution of Social Presence Theory

Teaching is all about interaction among and between students and teachers, and traditionally it has been in face-to-face settings. While face-to-face teaching persists, today, teaching can involve many different communications media including teleconferencing, video, audio, text-based online chat or discussions, collaborative web-pages such as wikis or social networks and virtual worlds, so it is not surprising that social presence has been applied to educational interactions that are mediated by technology. The development of the Internet and the increasing use of text-based computer mediated communication (CMC) technologies in business and education resulted in interest in how individuals interacting through such media, perceive the interaction. It was posited by some researchers that without "relational information" such as visual, audio and social cues that would be present in a face-to-face encounter, without feedback such as facial expressions, nods or tone of voice, the encounter would be sterile and even unproductive (Walther, 1992, p. 53).

Contrary to earlier studies that suggested online interactions would be cold and impersonal, more recent researchers have found that CMC can be social and personal through the use of particular strategies and behaviors that enhance feelings of connection (Gunawardena & Zittle, 1997; Swan, 2002; Swan & Richardson, 2003; Swan & Shih, 2005; Tu & McIsaac, 2002).

Studies have been done to evaluate different technologies, for example online

forums or chat tools, to determine whether teachers and students experience a sense of presence in a virtual place with other real people, and what behaviors and strategies promote this feeling (Bente, Ruggenberg, Kramer & Eschenburg, 2008; Johnston et al., 2007; Ling, 2007; Stein, Wanstreet, Glazer, Engle & Harris, 2007).

In these studies, social presence is described as the subjective sense one gets in a computer-mediated communication environment, such as a virtual world, of connection and closeness to others. It is a feeling of being in a place with other people and being jointly engaged in an activity. The literature shows that while measures of social presence differ, there seems to be general agreement that a perceived higher level of social presence results in a greater feeling of engagement and of interdependence with others which positively influences learning (Biocca, 1997; Biocca, Harms & Burgoon, 2001; Lombard & Ditton, 1997). While the measure used to evaluate student learning in most of these studies is the student's self-perception, a perception of greater learning is thought to lead to a higher level of persistence in pursuing educational opportunities and therefore has real value (Picciano, 2002; Tinto, 1993).

For example, Gunawardena's 1995 study of graduate students who took part in an online conference using text-based communications found that participants considered their interactions active and stimulating despite the lack of visual cues. One student observed that humor and social messages livened up the event, while another said what was most interesting was learning about other participant's personalities and passions. Gunawardena concludes that the moderators of the conference were able to create a sense of connection and community through the kinds of interactions that took place. She further proposes that participants in online learning communities can be trained to "create

social presence in a text-based medium and build a sense of community" (p. 163).

In another study that used mixed-methods with 50 students ranging in age from 21 to 50 who participated in regular online discussions as a part of their coursework, Swan and Shih (2005) found a significant relationship between higher perceptions of social presence and perceived learning. Swan and Shih indicate that the instructors in the courses studied were aware of social presence issues and made a concerted effort to promote feelings of group cohesion and connectedness. They note the effect this may have had on learners and point to the importance of "faculty development focusing on social presence issues" (p. 131).

A study of 97 online students who ranged in age from 19 to 63 years old which used correlation analysis also showed a clear relationship between students' perceived social presence and their perceived learning (Richardson & Swan, 2003). The same study produced a strong correlation between perceived social presence and satisfaction with the instructor. The study used a survey instrument which provided a social presence scale as well as questions related to student satisfaction with the instructor and student perceived learning. Another recent study of learners in a self-paced online learning environment concluded that interactions with the instructor and the course content (in this case through a blogging tool), were critical in creating a quality learning experience and should not be "diminished or eliminated" (Rhode, 2009, p. 14).

Shea et al.'s study (2003) found that students who reported low levels of interaction with their online instructors also reported low levels of perceived learning. The study proposes that instructors learn how to improve their facilitation of online discussions and their communication with students to improve their instructional

effectiveness.

The importance of creating a culture of social presence in an online course is also demonstrated in studies that produced outwardly negative results. For example, Dow (2008) found that library science students interacting online ran into difficulties that made learning an unsatisfactory experience. In this qualitative study which was conducted through a series of focus groups with 102 graduate students who used a learning management system for their online course, students found the lack of direct human contact anxiety-provoking and uncomfortable. Students commented about feelings of isolation, about not feeling part of the class and about having difficulty judging another's meaning because of the lack of facial expressions and other visual cues. Students indicated group work was a struggle because they had little to no knowledge about the people in their assigned group. These results, according to Dow, demonstrate the importance of cultivating social presence in online courses.

Another study that examined student performance on an exam and on a written assignment in relation to student interaction in a discussion forum and student's sense of social presence showed mixed results (Picciano, 2002). Twenty-three adult students enrolled in an online course that was completely asynchronous took part in the study. Student performance on the exam was not significantly affected by the level of a student's perception of social presence within the discussion forum. Students who perceived a high level of social presence did no better on the exam than those who perceived a low level of social presence. However, on the written assignment, students who perceived a higher level of social presence scored higher on the written paper.

Defining Social Presence

Over the years, researchers have defined different aspects of social presence, for example as *a community of inquiry* with cognitive, teaching and social components that overlap in practice (Rourke, Anderson, Garrison & Archer, 2001). In this view, cognitive presence refers to how learners construct meaning in an online setting. Teaching presence consists of designing, facilitating and managing learning sequences and providing content expertise. Social presence is about how participants emotionally and socially project themselves within an online learning community.

Another researcher conceptualizes presence as having the following three parts, spatial, self-reflexive and social presence (Biocca, 1995). Spatial presence is the sense one has of being in a virtual space, while self-reflexive presence refers to the perception that objects in the virtual space will function as they do in the real world; thus a clock has hands that move clockwise to tell time and a trash can is used to dispose of unwanted items. Social presence is the sense of being present with another person or persons while using a communications medium.

Still another definition of social presence comes from research by Tu and McIsaac, (2002) who evaluate it in terms of the degree to which one feels or perceives being connected to another person through a computer mediated technology.

Finally, Bente, Ruggenberg, Kramer and Eschenburg (2008) see social presence as a multidimensional construct consisting of feelings of co-presence (being in a space with another person), mutual comprehension, emotional closeness, and social relatedness which lead to cooperative and interdependent behaviors.

When applied to an educational setting then, most of the literature agrees in

essence that social presence is the social dimension of learning that occurs through interactions between teachers and students and that the aim of cultivating social presence is to engender a feeling of community which in turn enhances learning. In fact, several researchers have extended this understanding of social presence into a description of the online learning participant's experience as a community of inquiry or a community of learners (Picciano, 2002; Rourke et al., 2001).

It is important to note however that just designing an online learning community is not enough. The community must be actively nurtured using techniques that enhance social presence throughout the course, else it can wither away leaving students feeling alienated and isolated, and such students are less likely to persist in their studies (Rovai, 2002). Aragon (2003) delineates specific strategies educators can use to create a sense of social presence such as responding promptly to student email queries, sharing personal experiences and stories, using humor, and addressing students by name. Aragon notes that such strategies may seem obvious and simple, but that rather than taking them for granted, they should be cultivated in educators. Using such strategies has an additional benefit in that it allows instructors to model behaviors that students can adopt and use with their peers thereby further enhancing the overall sense of social presence within an online class.

Measuring Social Presence

Measuring social presence is as difficult as defining it. In the academic and research community there is no one accepted definition and no one accepted way to measure it.

Despite that, different researchers have studied the construct in its generally

accepted form in an attempt to measure it and to determine its usefulness in online learning. Gunawardena (1995) and Gunawardena and Zittle (1997) developed a survey and carried out interviews of students to evaluate the degree of social presence in computer mediated environments. However, Tu (2002) is critical of their survey saying it lacks certain elements he considers important, such as the degree of privacy afforded by a particular form of CMC. He developed his own survey to measure social presence which contains items classified into three areas; these are social context, online communication and interactivity, and online privacy.

Rourke et al. (2001) took a different tack choosing to measure social presence by identifying observable behaviors that are used by individuals to project social presence in an online setting. Twelve behaviors were selected and classified into three categories. They are the *affective, cohesive* and *interactive*. Rourke et al. propose that low frequencies of such behaviors indicate a cold, impersonal social environment and high frequencies indicate a warm, collegial environment. See Table 1.

Table 1

Indicators of Social Presence Adapted from Rourke et al.

Category	Indicator
Affective	Expressions of emotions (I like this, I can't stand that)
	Humor (includes teasing, irony, sarcasm, understatements)
	Self-disclosure (stories about oneself that may indicate vulnerability)
Cohesive	Vocatives (addressing others by name)
	Referring to the group using inclusive pronouns
	Phatics (social greetings, remarks that share feelings and salutations)
Interactive	Continuing a discussion thread
	Asking questions
	Quoting from others' statements or messages in a discussion
	Making explicit reference to others' messages
	Giving compliments, expressing agreement or appreciation

In their 2001 study, Rourke et al. provide examples of each of these verbal or text-based behaviors and a sample of text that is coded using the provided indicators. At the same time, they concede that some of these indicators can present problems,

specifically “expressions of emotion” or “humor” because coders could have subjective interpretations of such behaviors (Rourke et al., 2001, p. 68). They therefore suggest that researchers may want to exclude them from analysis.

On the whole, however, these indicators provide researchers a way to evaluate the level of social presence in an online course and have influenced a number of subsequent studies (Richardson & Swan, 2003; Swan, 2002; Swan & Shih, 2005). For this study, the affective, cohesive and interactive indicators were used as a starting point in coding interviews and transcripts of observations.

Summary of Social Presence

Despite years of research, there is no one definition of social presence that is accepted in the research community. There is agreement, however, that social presence, when applied to education, generally describes the social dimension of learning that occurs through interactions between and among teachers and students and that the aim of cultivating social presence is to engender a feeling of community and personal connection, which in turn is thought to enhance learning.

While the history of social presence shows that the construct was at first thought to be solely dependent upon the affordances of the technology and by the user’s perceptions of the medium, later research showed that perceptions of social presence are also affected by how the medium is used. In this view, the activities and communication strategies used by the instructor (Tu, 2002) significantly affect the level of social presence that is experienced by course participants. Further, these strategies can be learned (Aragon, 2003; Rourke et al., 2001).

Social presence is not the only factor in an online course that contributes to a quality learning experience. However, it is an important factor and according to the research, when it is missing, has a significant negative effect.

CHAPTER THREE

METHODOLOGY

In this chapter, I will describe the research approach and processes that were used for the study and why they are useful and appropriate methods for achieving the goals of the research.

The goal of the study is to expose others to the lived experience of instructors who use virtual worlds and to understand their beliefs, perceptions and practices related to social presence. In this way, the goal is illustrative. The study attempts to provide information that may lay the foundation for future research, but may also have a practical application for both faculty and individuals who provide instructional technology advice and training to faculty.

The study is exploratory because there is very little information available in the research about the day-to-day teaching lives of instructors in virtual worlds and about how they create connections with their students.

The research questions seek to describe and better understand a particular segment of educators. For this reason, a qualitative approach is appropriate because qualitative methods "…facilitate study of issues in depth and detail" (Patton, 2002, p. 14). Most qualitative researchers, and I include myself in that group, are fascinated by people and how they interact and "…by the meanings that the participants themselves

attribute to these interactions (Marshall & Rossman, 2006, p. 2).

The epistemology and research methods have coherence in that the study is guided by a social constructionist epistemology which proposes that meaning is constructed by people as they view experience and engage with people, objects and events in the world. A naturalistic inquiry paradigm is used which highly values the particular context in which people interact and which views the researcher as a human instrument, gathering data through contact with others. The case-study approach which is consistent with naturalistic inquiry was employed with the aim of getting to know the individuals in the study. Social presence which concerns interactions between people is its theoretical framework.

The next section of this chapter provides greater detail on all these aspects of the research design and methodology.

Social Constructionist Epistemology

My study draws on a philosophy of social constructionism. The constructionist position sees each human being as constructing and making knowledge or meaning in his or her mind, rather than discovering it in an objective world (Crotty, 2006). This meaning-making takes place through contacts with others in our "interactive human community" (Crotty, 2006, p. 55) and through engagement with the world and the objects and places within it. It proposes that a person's interpretation of the world is influenced by culture, personal background and by the setting in which the individual finds himself. In this view, different people experiencing the same phenomenon may construct meaning in different ways, because each has had a different journey through life.

Constructionist thinking proposes that understandings and interpretations of

events and experiences change through the mediation of events, through other people with whom we have contact, and through our experiences. An individual's perspective and interpretation of events may change over time perhaps as the result of the infusion of new ideas, experiences and interactions.

Social constructionism encompasses our interpretations of human society, that is, the social world, and also of the natural world. In this view, "All meaningful reality…is socially constructed" (Crotty, 2006, p. 55). Even our interaction with nature, for example with a flower or a tree, is affected by culture. An object has meaning for us not simply because it exists but because we (and others in our culture) have given it meaning. A flower that is prized for its beauty in one culture may be considered an ugly weed in another.

Crotty distinguishes between constructivism and constructionism, saying constructivism simply accepts all views as products of experience and culture, thereby accepting the underlying culture while constructionism turns a critical eye on culture and questions its core beliefs and understandings. In this way, constructionism sees culture as a possible impediment to the realities of the world. Culture teaches us how to see things and even whether or not to see them at all. In Crotty's view, constructivism emphasizes the unique perspective and experience of each person, whereas constructionism emphasizes the hold culture has on us and acknowledges the limitations culture may impose on our view of reality.

The role of culture in shaping one's view of reality and in how people make meaning is important in this study. Our background and the culture or cultures in which we live also affects the beliefs we hold and that we bring to our encounters with others.

The culture of a university or college affects what technologies are valued in the professional development of faculty, and even whether faculty members are provided training before teaching online and in virtual worlds. In this study, it was evident to me through the descriptions provided by Sarah and Emma that the two instructor's technology support departments viewed the use of Second Life differently and this had a significant impact on the instructor's use of Second Life. In addition, Sarah and Emma each have a unique set of life experiences and ideas about teaching that colors their perspectives and how they use technology. Similarly, the student participants that I interviewed have distinctive backgrounds and goals that play a role in their view of their learning experiences.

Much of my report is a description of events that I observed and I have tried to take care to be as true as I can be to what I think was the intent of the participants. To quote Crotty on the use of description in social constructionist research, "When we describe something, we are, in the normal course of events, reporting on how something is seen and reacted to, and thereby meaningfully constructed, within a community or set of communities" (2006, p. 64). In this research, my aim as a social constructionist, is to describe how the faculty members and students who took part in the study, reacted to issues related to creating connectedness in Second Life, while recognizing that their constructions of reality are imbued with the effects of the various cultures that make up their background and community.

For me, as the researcher, this has implications not just when examining the thoughts and interpretations of study participants, but also for myself. I have attempted to be conscious of the role of my own culture and background that may make me blind to

certain phenomena. I have acknowledged that my own beliefs will inevitably be a part of my report. I hope to be able to catch myself being me and take note in my report of such instances.

Research Paradigm of Naturalistic Inquiry

Epistemology guides and influences the choice of a research paradigm and methods. It determines how population sampling, data collection and data analysis is handled and how the researcher views her relationship with participants (Carter & Little, 2007; Schwandt, 2007).

A research paradigm is a set of assumptions that guide the research methods that will be used in a study. In this study, the research paradigm of naturalistic inquiry was utilized to examine, through observation and interviews, and the collection of documents the real-life course preparation and online teaching activities and experiences of two faculty members that teach in Second Life at two universities in the United States.

Naturalistic Inquiry and Social Constructionism

The research paradigm of naturalistic inquiry has a natural fit with a social constructionist view for two main reasons. First, naturalistic inquiry highly values the particular context in which people interact. Similarly, for a social constructionist, context is significant because each person makes meaning in a particular culture and place, with experiences that are set in particular contexts. Second, naturalistic inquiry requires the researcher to be a human *instrument* as s/he interacts with participants. It is through such interaction that data is collected and meaning is made. This view dovetails with a social constructionist philosophy in which meaning is constructed through social interaction.

Naturalistic Inquiry

As indicated earlier, naturalistic inquiry proposes that whatever issues are being examined "takes their meaning as much from their contexts as they do from themselves" (Lincoln & Guba, 1985, p. 189). Constructions of reality cannot be separated from the setting in which they occur. Phenomena must be understood in relation to the natural context in which they live; they are in fact "bound by those contexts" (Erlandson, Harris, Skipper & Allen, 1993, p. 13). The researcher must be attentive to all factors and influences in the natural setting as any one or all of them may affect what is being observed and what is being said by study participants, and by the researcher herself. Being attentive to all factors within any given environment requires a conscious effort on the part of the researcher to see and to notice, as events unfold, and subsequently as observation and interview notes, transcripts, videotapes and other documents are read, re-read, reviewed and annotated.

While some forms of inquiry commonly use written instruments such as surveys, the naturalistic inquiry paradigm emphasizes the role of the researcher as the human instrument. Lincoln and Guba (1985) state naturalistic inquiry *demands* a human instrument who can adapt to the changing circumstances s/he encounters in the field. They go on to detail qualities of the human-as-instrument:

1. Responsive to people and the environment
2. Adaptable to circumstances
3. Able to see things holistically, as a whole
4. Able to expand the base of knowledge
5. Has processual immediacy; able to process data and pose hypotheses on the spot

6. Able to ask for clarification or correction on the spot
7. Able to explore the idiosyncratic response

These qualities of the human-as-instrument can produce a higher level of understanding of research issues than might be achieved with a paper and pencil instrument (Lincoln & Guba, 1985).

Collecting Data in a Naturalistic Inquiry

Within the naturalistic inquiry paradigm, the researcher as human instrument favors data collection methods that are extensions of normal human activities. These are activities such as talking to people and listening to their responses (interviewing) or looking at things, people and events (observation), or collecting documents to read and examine (document and record collection).

Data collection in the study was accomplished through multiple interviews with the instructors Sarah and Emma, and with some of their students, observations of classes conducted in Second Life and the collection of course documents and materials, including some student work.

Case-Study Method

The research method or strategy selected for a research study comprises the skills, assumptions and methods that the researcher will put into practice to gather and analyze data. “Strategies of inquiry put paradigms of interpretation into motion” (Denzin & Lincoln, 2000, p. 22).

Case-study is an accepted method used in qualitative research and in naturalistic inquiry (Lincoln & Guba, 1986; Stake,1995) and therefore a good fit for this study. Case-study is useful when we want to gain insight into a question or better understand what is

going on in a particular situation. (Yin, 2008). Stake describes a case as an "integrated system" (1995, p. 2), and states both people and programs could serve as a case because both are complex functioning things.

My research questions involve a phenomenon that takes place in online classrooms every day, namely the effort by students and teachers located in different physical spaces to communicate and interact over long distances in the pursuit of teaching and learning. My aim was to study the phenomenon in its natural setting and context and to better understand the complexities involved. For this reason, I selected the case study method.

The case-study method is compatible with naturalistic inquiry because it requires that the researcher spend a considerable amount of time in the natural setting, observing, interacting with and listening to individuals. The aim is to allow the reader to experience a situation in all its intricacies without actually being there and thereby to gain a more complete understanding of it (Lincoln & Guba, 1985). As a result, the eventual case report offers a thick description of the situation that is full of rich detail, nuance and complexity. Rather than providing a definitive conclusion or attempting to prove or disprove a hypothesis, it offers a picture of the multiple realities that exist within any context.

Case-studies are not about coming up with generalizations. Rather they are about particularization. According to Stake, "We take a particular case and come to know it well" (1995, p. 8). The results of a case-study are useful in reaching new understandings about how things within a particular space work or do not work. Those understandings may be useful in confirming similar findings elsewhere, in modifying previous

generalizations or even in opening up new avenues of exploration.

The case study method generally involves collecting multiple sources of evidence (Yin, 1994). For this research, I chose to do in-depth interviews and observations as the main data collection method. I was able to spend time developing a relationship with the instructors through repeated interviews and through observation of their teaching methods in their Second Life classrooms. During observations, I could watch the delicate teaching and learning dance between instructor and student. I also collected course documents, viewed examples of student work, and had access to parts of one instructor's course management system. In addition, I interviewed a total of five students; three from one instructor's class and two from the other's class. Throughout the research process, I kept a journal of my research experiences in a blog which helped me chronicle my research activities, my reactions to the research process and to events as they unfolded.

To summarize, the case-study method was selected for this study because it fits within the naturalistic inquiry paradigm and because it will allow the researcher to focus on particular criterion-selected cases in an effort to gain a better understanding of the stated aims of the research.

Selection of Participants

A criterion-based purposeful sampling technique was employed for this study. A purposeful sample as described by Patton (2002) is a non-random method of sampling in which the researcher selects information-rich cases. Patton states a purposeful sample is useful when researchers want to learn more about issues central to the purpose of the study.

Keeping in mind the importance of context in naturalistic inquiry, sampling is

based on "informational, not statistical, considerations" (Lincoln & Guba, 1985, p. 202). The purpose of selecting a particular sample or participant in this study was to maximize the amount of information that may be drawn. The aim is to uncover insights and to generate in-depth understandings about issues that are the focus of the research study. This is unlike probability-based sampling in which the goal is to generalize findings from the sample to a larger population (Patton, 2002).

My objective was to select a total of two instructors and a total of four to six students as study participants. The small number of instructors would allow me to gain an in-depth understanding of their beliefs, perceptions and practices. I set the number of students as relatively low thinking that during the research process I could expand the number. I would have preferred a larger number of students and in fact sought to enlist more than a total of six. However, that attempt was not successful and I ended up with five student interviews.

As stated earlier, with a purposeful sampling strategy, participants are chosen because they have certain characteristics that relate to the purpose of the study. They are knowledgeable about the area of interest. They therefore meet a "predetermined criterion of importance" (Patton, 2002, p. 238).

For this study, individual instructors who met a predetermined criterion of importance were invited to participate. The criteria that I used to select participants are the following: a) Higher education instructors who are using Second Life as part of a fully online or hybrid course in the United States. b) Students who are over the age of 18 and enrolled and participating in the instructor's course that uses Second Life.

I began the search for participants through an email list-serve for educators that

use Second Life. I sent an open invitation to the list-serve and received a total of 15 responses. However, some of the individuals who responded simply had questions about the research, or suggested others I might contact, or said they had used a virtual world in the past but would not be doing so during the period of time I had indicated for my data collection. I corresponded with the six individuals who expressed an interest in participating in the study and provided additional details. I also asked them for details about their courses so that I could determine whether their schedules would fit with mine. Two individuals failed to respond to my additional inquiries. Of the four remaining, two were teaching courses that met during the day which would have been difficult for me to accommodate due to my work hours. Two individuals held classes in the evening and occasionally on weekends and these two individuals were Sarah and Emma.

Sarah is located in the southeastern United States at a state university with a population of 27,000 students where she currently teaches several courses partly in Second Life and partly face-to-face or online. She invited me to observe a combined graduate/undergraduate course on the use of virtual worlds which would have four synchronous meetings in Second Life. Students in the course were teacher candidates, or business students who were interested in exploring and possibly using virtual worlds as part of their work lives.

Emma lives in the northeast part of the United States and is an adjunct faculty member at a state university with a student population of over 50,000. She has taught in Second Life for five years. The course that I would observe was a Women's Studies course which met once a week in Second Life for about two hours during which students engaged in discussions on course topics and carried out various activities.

Both Sarah and Emma were open to my observing classes they held in Second Life, to multiple interviews with them over the semester, to an in-person interview and observation, and to my contacting their students for interviews.

Table 2 provides relevant characteristics of Sarah and Emma.

Table 2

Characteristics of Instructors

Instructor	Age range	Ethnicity	Status	# of years teaching in higher education	# of years using Web 2.0 tools	# of years teaching in SL	Social networking sites used	Comfort level with computers
Sarah	41-50	White	Tenured	11-20	11	4	Facebook, Myspace, LinkedIn, Twitter	Advanced
Emma	50+	White	Not tenure track	21-30	5	5	Facebook, LinkedIn, Twitter	Intermediate

Before proceeding with the research, I received approval of the study from my university Institutional Review Board (IRB) and from the IRBs of the two other universities.

Both faculty and student participants were informed of the purpose of the study, and confidentiality issues, rights and expectations of the participants were discussed prior to data collection. Participants signed a consent form indicating their agreement to take part in the study. The consent form is attached here as Appendix A. All participants have been provided pseudonyms in transcripts, observation notes, other materials and in this report so that their identities can remain confidential.

Data Collection Methods

Data collection for this study took place over a period of several months, beginning in the fall of 2010 and continuing throughout that semester and into the following year. Most of the data were collected through digitally recorded audio of interviews of both instructors and students that were carried out in Second Life and through online observations of Sarah and Emma's classes in Second Life. In addition, I traveled to each instructor's location, interviewed them there and observed them conduct a class in Second Life.

Overall, data collection was accomplished through:

1. A short form that collected basic data on each instructor and student participant
2. Open-ended interviews with instructors and students recorded on audiotape
3. Observations recorded on audiotape and in text-based chat in Second Life
4. Collection of course documents, including syllabi, video tutorials, PowerPoints
5. Researcher's reflective writing in a blog
6. Collection of still images in Second Life

What follows is a detailed description of each method used in data collection.

Short Form

Before the beginning of the fall semester, each instructor completed a short form that provides basic information on the instructor's background in teaching and on their level of experience and expertise in Second Life, and in online teaching. The form was emailed to each instructor and returned the same way. This information helped me

customize interview questions to fit the background and experiences of the participant. In addition, it provides data for Table 2 which describes some of the instructor characteristics. The form is attached here as Appendix B.

I used another similar short form to collect background information from each student participant. The form is attached here as Appendix C.

Interviews

The interviews that were conducted for this study were open-ended, but followed a set protocol and a pre-determined set of questions was used in every interview. Participants were asked at the beginning of every interview whether their participation was voluntary and whether they had any questions about the consent form that they had signed before the start of the interview. They were reminded that they could withdraw their participation at any point and that they were not compelled to answer all the questions.

Unlike a survey questionnaire, open-ended interviews allow for responses that spring directly from the participant's experience and understandings (Holstein & Gubrium, 1995). A drawback of surveys is that the questions restrict answers to those selected by the researcher and in the process constrict contextual shifts that occur in interviews where participants have an opportunity to reflect on their experiences.

The use of an active interview method as described by Holstein and Gubrium, was utilized in all the interviews which required me as the researcher to be actively involved in the conversation, asking for clarification and encouraging the exploration of alternative views. This type of interview flows as a conversation, but at the same time the researcher clearly becomes a co-constructor of the narrative that emerges and this should be

recognized.

Instructor interviews. Each instructor was interviewed a total of three times, once before the start of classes, once at about the midway point of the semester and once at the end of the semester. For the first and last interviews, I met each instructor on their virtual Second Life campus and using voice chat we talked to each other avatar to avatar (and simultaneously person to person though separated by distance). The interview that took place about midway through the course was conducted in-person. I flew to each instructor's city and interviewed them face to face. I also observed them in-person as they conducted their online class, sitting with Sarah in her university office and with Emma in her dining room. Interview questions are attached as Appendices E, F and G.

It was important to me to conduct multiple interviews for two major reasons; first, multiple interviews gave me the opportunity to get to know and understand each instructor better. This technique helps to achieve a goal of the case-study method to "illuminate a particular situation, to get a close (i.e., in-depth and first-hand) understanding of it" (Yin, 2004, p. 3).

In addition, in the second and third interviews, I asked selected questions that were central to the research questions but that I had asked in the preceding interview. This allowed me to check the consistency of instructor responses. I looked for inconsistencies so that I could modify my questions and follow-up in the subsequent interviews. However, there were no major inconsistencies in the instructor responses although in almost every case, the re-telling produced additional details.

As stated earlier, two interviews were carried out in Second Life with each instructor. Prior to the first meeting in Second Life, I had only communicated by email

with both Sarah and Emma, and had one phone conversation with Sarah. For each interview I had a list of questions (see appendices E, F, G) that I used almost always in the same order with each instructor. Occasionally, depending on how the conversation was going, the order of the questions was changed.

Both Sarah and Emma used the voice chat function in Second Life and, in both cases, we met at a location on their university's virtual campus. Sarah met me in a building in Second Life where she would be holding the class sessions that I would observe. Emma met me in an outdoor area on an island where the class I would observe was held. Each had sent me the location in what is called a SLURL, or Second Life URL. I would log into to Second Life at the appointed time, enter the SLURL and be teleported to the location.

With each instructor, at our first meeting in-world, we started out by making small talk as we would when we met in person. At the first meeting, I went over issues such as confidentiality, how they would introduce me to students for my class observations, whether and how I would approach students for interviews, the consent form which they had already signed and sent me, and how I expected the interview to proceed.

I also used the voice chat function, so for these interviews, we sat together in Second Life and talked to each other much as we might in-person. I had planned to videotape each interview using a small digital video Flip camera pointed at the computer screen and in fact did videotape my first interview with both Sarah and Emma. Separately, I recorded audio on a digital audio recorder placed near my laptop computer's speakers.

I found the audio quality of the videotape to be noisy and sometimes difficult to decipher whereas the audio recording was wonderfully clear. This was because the video camera had to be placed some distance from the computer so that it could capture the screen. In addition the video file was many times larger than the audio recording and took time to transfer from the camera to the computer. By this time, I had also discovered that the Second Life application includes a function that allows users to take snapshots of the screen. I decided that I would continue to make audio recordings which I would use for transcription, and take several snapshots during any one session in Second Life, both for interviews and for class observations, instead of videotaping the session as well.

This worked out to be much more satisfactory especially as the purpose of recording interviews and observations was simply to memorialize the events and provide documentation for later transcription, examination and analysis. All but two of the recordings of interviews and observations were transcribed by me. I employed another graduate student at my university to transcribe an interview and an observation, but in the end found that doing the transcribing myself, although time-consuming was a superior process. This is because in transcribing, I was able to hear and pay attention to things that I meant to follow up on during the live conversation, or that may have slipped by me completely that I could now follow up on with the instructor. Not only that, but playing back the recording allowed me to experience the event again and allow me to examine it for other details I may have missed at the time of the interview, such as voice inflections, pauses and hesitations.

In-person instructor interviews. A little past the halfway point in the semester, I arranged to meet in person with Sarah and Emma. I flew first to meet Emma in a city in

the northeast and the following morning flew to Sarah's city in the southeast, returning home the next day. Although it was exhausting, I felt it was very worthwhile because I learned so much about each of these individuals.

Despite a canceled connecting flight, I made it to the Emma's city by our arranged meeting time. Emma was kind enough to pick me up at the airport, but having never seen her in person, I was not sure how we would know each other. I stood for a while in the airport pick-up area while cars arrived, picked up passengers and left. After about 15 minutes, I saw an older model bright red Volvo stop at the pick-up entrance. The woman inside was looking around tentatively. She was fair-skinned with chin length graying hair and had on a lavender-colored polo shirt. On instinct, I approached the car and she rolled down the window so I could ask her name. It was in fact Emma, so I got into the car with my suitcase and on the way to her house in the suburbs, we got to know each other a little better. From her house, we walked to a local restaurant for soup and salad, while talking about various topics related to education, technology and to her adjunct position at the university.

Emma is in her fifties and has an open manner and ready smile. She has been teaching in the Women's Studies program for over 20 years. She says she is generally quite comfortable with computers and technology and tends to seek out new technologies. When she heard about Second Life, she chose to try it out because she thought it had great potential for online teaching. Emma has also investigated other popular technologies and personally uses social networking sites such as Facebook, Twitter and Linked in.

Back at her red brick house, despite the chilly air, we walked around her small

garden where I admired her many lavender bushes. Then we went in and sat down in her living room for the interview. It was dusk and through the white painted windows I could see tree branches moving slightly in a breeze. The living room has a sofa facing a large fireplace, along with several smaller chairs and a long coffee table. In one corner, there was a wooden table being used as a desk for a computer and alongside it a student's wooden chair. Emma's brown and white cocker-spaniel at first persisted in trying to place its head in my lap. At one point, Emma commanded the dog to lie down which it did for a while. A large sleek dark gray cat also made an appearance and in a good-natured manner let me pet him.

I recorded the interview on my digital audio recorder which I placed on a small wooden table near the comfortable dark yellow wing chair in which Emma sat. I sat at an angle somewhat opposite her in a wooden armchair, with my list of questions ready. I had brought along my Flip camera and although I did not record the entire interview or later the observation, I did some videotaping of the setting, so that I would be able to describe it for this report.

I was concerned about a clock on the mantelpiece that ticked away the minutes quite loudly, but as it turned out my little recorder is quite directional and did a great job picking up Emma's voice, relegating the clock to a minor background role. Emma was very animated during our conversation, using her hands as she spoke and making points with emphatic voice inflections. I went down the list of my questions, at times breaking out to follow-up on something or to address an issue which her response had suddenly brought to mind and which I thought pertinent to the topic. The interview lasted about 40 minutes. At that point, she needed to do some preparation for her class which was due to

start in about an hour. She had set up her Mac computer on the long wooden dining table in her dining room. Once it had booted up, she went online to check out resources for the class.

I sat in the living room which is separated from the dining room by a staircase and landing that goes to the upstairs bedrooms and bath. While she did her class prep, I listened to my interview recording using an earpiece, first of all to make sure I had captured it, but also to better absorb what she had said. With Emma out of the room, the spaniel resumed his friendship attempts and so I petted him for a while.

Soon it was time for the class to begin so I joined Emma in the dining room and set up the recorder once again pointing it toward her. She sat at the wooden dining table with her large screen Mac, a wireless mouse, a keyboard and a headset with attached microphone. It was still a few minutes before class was to start, but she, in avatar form, chatted casually with several student avatars who had arrived early, as is usual. Emma addressed students by their avatar names and commented on the dress of one student.

Illustration 1

Emma's Avatar in her Second Life Classroom

Emma's avatar is interesting because she combines modesty with bits of outrageousness. She has purple hair and at one point Emma remarked that people with

purple hair in Second Life generally have gray hair in real life, which is true in her case. Her avatar wears a long-sleeved black sweater over a white collared shirt and a long gray skirt. Fairly demure so far, except that on her feet is a pair of blue lace-up roller skates which she uses to slide swiftly around the in-world meeting space.

During the class, I took a few notes, but mainly watched, listened and took occasional short video clips. My aim was to try to memorialize the setting and the instructor's general style as she spoke using the voice-chat function, and/or typed into the text chat. At times, she did both at the same time and appeared to be very dexterous with the keyboard and mouse, switching between them in an instinctive manner. Occasionally, she would pick up a pen and write a note to herself on a small notepad that lay beside the computer mouse.

The class began on time at 7:30 pm with Emma doing her usual voice-check to make sure all the students could hear her. Emma's students are a mixed group of working adults and younger "traditional" college students. In this class, all were female and all represented themselves as female in Second Life. Emma says she had one male student in a previous class who appeared as a female in Second Life because he was interested to see how women are treated by others in Second Life.

Emma presented an outline of what they would be doing that night, pointing out that they would be reviewing the results of the midterm exam and going over homework and so for once would not be doing anything "fun" such as taking a trip somewhere. These trips to other places in Second Life have traditionally been the way she has ended classes; for example, one trip was to a place called the Garden of Change and on Halloween we all went to a replica of Hamlet's castle where characters from the play,

including of course, ghosts, wander around.

The class was well attended with virtually all the enrolled students present. Emma led them through a review of the online exam they had taken the previous week which led to several discussions about particular questions and apparent student misunderstandings of the intent of some questions. Several students also had questions about an upcoming assignment and about what kinds of sources they could use. Unlike other classes, where Emma had activities so that the students could move about, in this class the students sat on the rocks in their in-world outdoor classroom throughout the session.

In an earlier class, Emma had remarked that they would be getting up and doing an activity that required them to move around because her little pixel bottom was getting sore from sitting. I found this comment fascinating because it assumes that the avatar which is a collection of pixels has the same feelings as Emma. Her remark may simply reflect her level of immersion in Second Life which she stated during interviews was high. The students in the class found her comment quite amusing and there were many who responded with LOL! (laugh out loud) in the text-chat window. I wondered at the time if they felt the same level of immersion in Second Life as Emma did.

At the end of the session, the students said their goodnights and rezzed out of Second Life. To *rez* in Second Life means to make an object or avatar appear or disappear. Emma had a few housekeeping things to do for the class and then I gathered my things and Emma drove me to my hotel. We chatted along the way and I felt quite close to her when we parted. We had gotten along well and she said she enjoyed having someone listen to her talk about Second Life. She confided that her husband, who is an

instructor in Medieval English at the same university, thinks Second Life is a waste of her time and talents. I asked whether her husband had ever met her in Second Life and she said no, he would never do that. Later, I wondered whether his opinion was difficult for Emma who is so excited by Second Life and its' educational applications. Emma said her grown children however have met up with her in Second Life and appeared to enjoy it.

By the afternoon of the next day, I was in the southern city near the east coast where Sarah's university is located. We had arranged to meet at my hotel at 4:30pm. When she walked into the hotel lobby, I immediately recognized her from the photographs she includes in assignments for the online course that includes sessions in Second Life. Each assignment concludes with what she terms a family "tidbit" which is a photograph of her and her husband and children involved in an activity of some sort. The picture is accompanied by a paragraph which talks about the activity, for example, completing a Walk for the Cure, and a personal comment such as why this issue is important to her and her family.

Sarah is in her forties, tall and slender with long blonde hair that drapes over her shoulders. She is wearing a three-quarter sleeved grey and white tweed jacket over a grey skirt and high heels. She is a tenured associate professor at her university in the Education department and has been teaching for over 11 years. She spots me as I make eye contact with her and extend my hand to introduce myself. We find a more or less quiet place at a table in the lobby, away as much as possible from the large-screen television which is blasting Fox News. After some meet and greet, I began the interview hoping my little audio recorder would not pick up the television audio.

The interview went very well as I followed my list of questions and even had time to follow some new leads that came up during our conversation. As with Emma, Sarah and I got along really well and I thought she had a lot of interesting and thought-provoking things to say. Like Emma, Sarah is passionate about her use of Second Life and other technologies that she believes help create a sense of connection with her online students. I found myself admiring her energy in pursuing her technology interests and her inventiveness in designing her courses and in using Second Life.

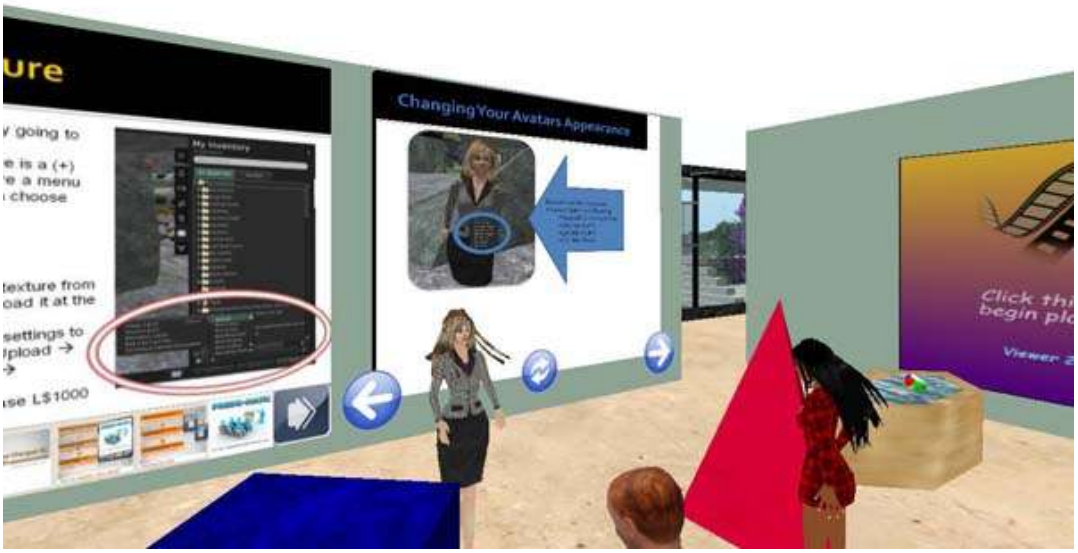
After the interview, we got in her black SUV and she drove us to a restaurant in the downtown area near the university campus. We had about an hour for dinner and so had time to talk about her work and mine and to discuss what she hoped to cover in that evening's class. As during the interview, Sarah was full of energy and spoke with obvious enthusiasm about her plans for another course that included a Second Life component. After dinner, she drove us to her building on campus.

We walked up two sweeping flights of stairs in a large fairly modern looking building, through wide spacious halls to her office. On entering the room, my overall impression was that it was filled to capacity so I entered carefully fearing I might knock something over. On two sides there were large multi-tiered shelves stacked thickly with books, books and more books. A small sofa abuts the large L-shaped wooden desk on which stand two flat screen computer monitors that connect to her desktop computer. Beside that is a large printer. Opposite the sofa is a long multi-drawer filing cabinet. The walls are a uniform gray except for the wall that frames the door which is a bright green. All around there are pictures of her husband and her children, in picture frames, on small and large posters, and in snapshots attached to the door by scotch tape. A large bumper

sticker is pasted to the front of the filing cabinet which states “PHinally Done” and below that the name of the college she attended for her PhD degree.

I set up my digital audio recorder near her laptop with the microphone facing her and pulled out my Flip camera so that I could shoot short video clips of the room and of her as she conducted her class.

Illustration 2 Sarah’s Avatar in her Second Life Classroom



Sarah (in the grey jacket) explains how to change your avatar’s appearance in Second Life

From her leather briefcase, she pulled out a small laptop Dell computer and after connecting up to the power supply, turned it on and navigated to Second Life and to her classroom in-world. It was early, so the classroom was empty. Sarah’s avatar was dressed much as she was dressed in real-life with a checked grey jacket over a dark skirt and high heels and with long yellow hair. On her screen Sarah had a view of her avatar from the rear as she stood facing the empty rows of seats.

Sarah settled into her office chair and put on a headset with an attached

microphone. It was not long before five students rezzed in. Sarah's students are working adults, many with families, who appreciate evening classes that they can attend from home. In this class, Sarah will meet with students a total of four times in Second Life over the semester. For each meeting she offers two possible dates and times to accommodate their schedules; thus for her, she will be holding a total of eight meetings. Students can also attend both sessions if they wish, but they must attend at least one of the two possible sessions. Students also have several structured activities in Second Life that they can do on their own, or by partnering with other students.

Sarah greets the students warmly and by their avatar name and chats for a few minutes before giving the students the outline for the evening. After a mini-lecture of a few minutes duration, Sarah teleported to each of the five students' cubicles or *cubes* where she worked with each person on setting up their in-world presentations. Each student had the opportunity to ask questions and get help with any problems they had encountered. Sarah spent about ten to fifteen minutes with each student and after ascertaining that they had no more questions, returned to the classroom to meet up with the next student. Sarah explained to me that the students were to make their final presentations in a few weeks in which they had to describe their semester long project to the other students. Each student made their presentation in their own cube which they had decorated and each had to use the in-world slide presentation board which is like PowerPoint.

It was almost 9 P.M. when she said goodnight to the last students and after gathering up her laptop and personal belongings, she drove me back to my hotel. I thanked her and told her I would be attending the student presentations as well as setting

up our last interview in Second Life at the end of the semester.

Student interviews. Towards the end of the semester, I began soliciting students in both instructors' classes to interview in Second Life. During my first interview with both Sarah and Emma, I had asked their permission to do this. I made it clear that they and other students would not know which students volunteered to be interviewed as part of the research. This was to insure that student participation was not affected either positively or negatively and to insure that student identities remained confidential.

These solicitations were made in Second Life before a particular class session began. Second Life provides an instant messaging (IM) function. Clicking on an avatar produces a menu which allows you to select a private IM text-chat which is only visible to the individual that initiates the chat and the individual avatar that was clicked and thus selected.

I had written an introductory text-message which I saved on my computer desktop and which I was able to copy and paste into the IM chat window when there were a few minutes before the class was to start. This message is included in the appendix section of this report as Appendix D.

I made it clear that the individual did not need to respond at all to my message and that the instructor would not be told that they had responded, nor would anything they say be provided to the instructor. Again, this was to insure that the instructor would not be affected either positively or negatively by a student's comments and that there would be no effect on a student's grade. Several students declined to participate.

In the end, five students, out of 15 that I approached in the two instructor's classes, agreed to be interviewed. In each case, I asked they contact me later by email

which they did. Each was asked to fill out the short student form and a consent form which I emailed to them and which they filled out and emailed back to me. Table 3 describes some of the characteristics of the students who were interviewed for the study.

Table 3

Characteristics of Students

In which instructor's class?	Age	Gender	Ethnicity	Academic year	Used SL before this class	Play video games	Social networking sites
Sarah	Not provided	Female	White	4th year	Yes	Yes	Facebook, Linked in, Twitter
Sarah	58	Female	White	4th year	No	No	Facebook
Sarah	39	Female	African-American	Graduate student	Yes	No	Facebook, Twitter, Myspace, Friendster
Emma	30	Female	African-American	3rd year	No	No	No
Emma	21	Female	White	4th year	No	No	Facebook, Twitter

Interviews with students were carried out either on the student's home campus in Second Life, or in one case, on my university campus in Second Life. We met at a specific SLURL at an appointed time. Most of the students arrived on time, although one was almost 15 minutes late. Two students did not want to use the voice chat function and so we used text chat instead. This had an advantage as the text chat served as my transcript of the interview. With three of the students who used voice chat, I audio recorded the session and later transcribed the interview. Each of these interviews ran between 20 to 30 minutes in length. In some cases, I would have liked to extend the interview, but I was cognizant of their limited time. Several of the students also explicitly

said they had other things they had to get to including husbands and children.

Observations

Observations of participants are an important part of the qualitative method and of naturalistic inquiry as it allows the researcher to see participants in the natural setting as they go about their activities. I conducted observations of a total of twelve class sessions, eight in Emma's class and the four sessions held by Sarah. I also attended several of Sarah's student's presentations which were held in-world during an extended session.

As the semester began and classes convened, I attended the Second Life class sessions online along with enrolled students and the instructor. For these class sessions, I was in Second Life in the same virtual space with the students and instructor for the duration of each class session. Both Emma and Sarah allowed me to introduce myself to their students although both first pointed me out and told students I was a graduate student involved in a research study.

Although in Second Life, my avatar name is Toad Insoo, I used my real name to introduce myself.

Illustration 3 My Avatar Toad in Second Life

In my introduction which I carried out using voice chat, I told the class my study involved instructors who teach in virtual worlds like Second Life and that their instructor had given me permission to observe the class sessions. I said I would like to be able to video and audio record the sessions so that I could transcribe and study details of the session. I then asked the students for their verbal permission to allow me to record the classes. I should note that the instructors made the point as did I that students did not have to give permission. I noted that if anyone objected to being recorded or being part of the study, I would delete their comments from the transcript and not record their avatar on my video recording. In both Sarah and Emma's classes, none of the students had any objection. All gave their verbal permission for my recordings. As noted earlier however, I did not videotape these sessions, but did record audio and take in-world snapshots.

As an observer, I, in the form of my avatar Toad, sat on a rock in the outdoor circle with Emma's students and teleported with them to various class activities. I did not take part in any discussions nor did I take part in the activities. In Sarah's class, I sat in a back row while the session was going on in the Second Life classroom. At these times, Sarah presented mini-lectures on a particular aspect of Second Life, for example, how to build an object in Second Life. Then she would lead students through the process of building a simple object such as a box. Most of her sessions involved actively learning how to do something in Second Life. As in Emma's classes, I simply watched and listened.

Both Emma and Sarah used voice-chat during their class sessions. One or two students in their classes also used voice-chat, but all the others used text-chat. Students who used text-chat typed their comments in the text-chat window which is located by

default in a lower left window of the Second Life screen. The text-chat in Second Life can be saved, or copied and pasted into a text or Word doc file.

During these observations, I recorded the audio with my digital audio recorder pointed towards my laptop speakers. I also copied and pasted the text-chat from Second Life in chunks as it occurred, into a Word document and inserted notes in the Word doc where the instructor or a student spoke and the gist of what they said. Once I had transcribed the audio, I would insert the transcribed audio into the text chat transcript to create a complete transcript. It sounds messy, but in fact worked out well. The audio recording was also useful in providing clues as to when students were typing comments. Second Life generates audio of typing which was recorded. This made it easier to find the chunks of voice audio of either Emma or a student using voice-chat. This process while time-consuming was useful as it allowed me to revisit the session and absorb more of what had been said and done.

My sense as an observer was that students accepted my presence quite easily. My avatar is somewhat nondescript and I felt as though I blended into the background largely. Once, a student in Emma's class asked me why I was so quiet. I responded that I was only there to observe, not to participate.

Collection of Documents

The collection of documents related to the phenomenon being studied helps to amplify and guide the researcher in the process of data analysis. Certainly, I found the documents I collected and studied instructive. Overall, the impression they give an observer is that these instructors spend a lot of time in preparing for their courses. This impression was confirmed in interviews with Sarah and Emma. Both talked about the

need for extensive preparation partly because they were using Second Life, a technology that would be new to their students, but also because their courses are online. The need for greater preparation for online courses is noted in existing research (Diekelmann, Schuster & Nosek, 1998; McQuiggan, 2007; Shea, 2007). Both instructors used a course management system as part of their classes and course documents including the syllabus, readings, and other course materials were made available to students in these systems.

Sarah provided me direct access to her course in the course management system so I was able to view all the materials that students could access. These included numerous video tutorials on different aspects of the use of Second Life and the use of the PowerPoint-like tool that students would use for their final presentations.

Sarah also provided a document that covered each major assignment which included detailed descriptions and outlines for what students would need to do. It was clear that a great deal of thought, time and effort had gone into creating these documents and the video tutorials. Sarah created most of the materials herself although a few tutorials, such as one on the use of the HUD or heads-up-display, were created by her instructional technology support people.

Each of the assignments ended with a personal picture of Sarah and her family and included a short paragraph about the event in the picture. Sarah included these "family tidbits" as a way of making herself more human and accessible to her students in this class. The students are almost all located at a distance and would otherwise not see Sarah except in avatar form in Second Life.

Emma also used a course management system in which students could access the syllabus, course readings, video clips and other materials. Readings and video clips were

organized in folders and each meeting in Second Life had a corresponding folder with materials that would be discussed that evening. Students could access the folders in Second Life.

Emma also used a Google word document that she shared with students in the class and that was projected onto a whiteboard in Second Life in the outdoor area where the class met. The document displayed discussion questions and referenced particular readings or video clips that students were expected to have read or viewed prior to the class meeting in SL. During the class session, students and Emma sat on rocks in a large circle and discussed what they had read or viewed, guided by the discussion questions and by Emma. Emma encouraged students to add notes to each discussion question and most often, a student would volunteer to be the scribe. At the end of the class, Emma saved the document and made it available to students to use as a review for exams.

Researcher's Reflective Writing

I have been involved for five years in faculty technology development at a large southwestern public university. Therefore, I have pre-conceived notions and beliefs about faculty technology development issues and about faculty use of technology for teaching. A last source of data is my reflections in an online blog which helps me identify and note personal perspectives. The blog became a useful way for me to organize my thoughts about the research process and to note the problems that came up and how they were resolved. It also served as an outlet for my worries and anxiety about the whole process. This blog was activated during the proposal process of my research study and continues through data collection, data analysis and the writing of the dissertation report.

Data Analysis

Robert Stake states about case study research, "There is no particular moment when data analysis begins" (1995, p. 71). For me, during the research phase, elements of analysis were evident, as when I revised my list of interview questions to more closely fit with my research goals, or when I read through an interview transcript and found a question I had written in the margins that had not been answered. Analysis, Stake says, is taking things apart and trying to understand the parts. How do they fit together? Do they fit at all? In pondering these questions, the researcher attempts to understand and then to convey a picture to readers so that they can perhaps gain a deeper understanding.

While analysis is ongoing, there is a formal phase when the process of analyzing sources of data begins. I had begun organizing my data before the research phase. I had created a structure of folders on my computer by case and on a separate backup drive that was ready to receive the data. The two cases at the highest level were the two universities. Anything having to do with a particular school was in that main folder.

As I gathered data, for example observation and interview notes, recordings, and documents, I named the files, according to the case and deposited them in the appropriate folder. This was tedious at times, but having an organized set of data paid off. I am now easily able to find transcripts, consent forms, and numerous other documents when I need them.

A process of inductive data analysis is generally used in a naturalistic inquiry. I considered the two sub-processes of unitizing and categorizing as essential parts of this process. *Unitizing* is the process of coding the data, where a single piece of information, such as a sentence or a paragraph, is coded according to what it appears to express. Thus

raw data are "systematically transformed and aggregated into units which permit precise descriptions of relevant content characteristics" (Lincoln & Guba, 1985, p. 203).

I carried out the coding process used HyperRESEARCH software. To use the coding feature, I had to first save my interview and observation transcripts and other documents as simple text files. I then created two cases, one for Sarah whom I titled Instructor 1 and one for Emma titled Instructor 2. I created a folder in HyperRESEARCH for each case and put the corresponding text files in that folder as what HyperRESEARCH calls *source* files. Thus interviews and observations with Sarah were organized under the case titled Instructor 1 and those from Emma's classes were organized under Instructor 2.

I started coding with the three social presence categories that came from previous research and which I had used as my theoretical perspective. These were the *Affective, Cohesive* and *Interactive* categories each of which referred to behaviors which instructors and students might display in an online or virtual environment.

However, there were many other categories that were needed. I developed these as I read through transcripts and as I was coding. Codes were changed, amended, dropped, and new ones created throughout the process. I found that I needed to be open to change and revision as new insights and understandings developed. In that way, it was a very organic process.

To code a transcript, the document was called up in HyperRESEARCH which displays the text on one side of the screen and the coding categories beside it in a separate window. I would highlight a text passage and select and apply a code. In a few cases, I deleted a code which did not seem on second or third reading to capture the meaning of

the coded text. I then attributed the previously coded text to an existing or replacement code.

I ended up with a total of 45 codes, many of which overlapped and some of which were duplications, but phrased differently. In some cases, I coded a paragraph with more than one code as it appeared to fit more than one category. I was concerned at first that having so many codes would be inefficient and would make analysis more difficult. However, this did not turn out to be the case. A complete set of codes that were used is included as Appendix I.

I next took my coded data and printed it out. HyperRESEARCH did the organizing work for me as I was able to print out the coded text organized by code. Thus all paragraphs coded *Affective* were clumped together in one document, all coded *Interactive* in another document and so on.

Each document included comments from both instructors and students. The software however organizes each document by case. This makes it easy to see all comments by Sarah that I coded *Affective* grouped together and then all of Emma's comments that were coded *Affective* grouped together, even though they are all in one document.

At the end I had 45 documents some running up to 25 pages long. Each document included all the coded text for a particular code. Each paragraph of coded text showed the case name, the code, the location of the source text in HyperRESEARCH's numbered format and the name of the source material's file which might be something like "first observation_instructor 2".

I first read through each document and used a highlighter to mark those sentences

and paragraphs that I thought best represented that particular code. For example, one code was *Second Life vs face-to-face.* This code was for instructor and student comments in which any sort of comparison was made between Second Life and face-to-face classes. There were a total of nine paragraphs that I had coded *Second Life vs face-to-face.* Six paragraphs were from Sarah, one from Emma and two from students. Each paragraph might run one sentence or multiple sentences.

Using a yellow highlighter to mark instructor passages and a pink highlighter for student remarks, I marked up the document choosing those few paragraphs that I thought most cogent or effective in making a point about similarities or differences between classes in Second Life and those in a face-to-face setting. As I did this, I was aware that I was making editorial choices that no doubt were influenced by my beliefs and values. However, this process of making judgments is part and parcel of the whole case study process, beginning with selecting participants through the analysis phase. Stake remarks "In my analysis…I seek to make sense of certain observations of the case by watching as closely as I can and by thinking about it as deeply as I can. It is greatly subjective" (1995, p. 76-77).

The sheer number of printed pages was overwhelming at first, but I had an organizing principle in mind and that was to eventually assign each code and the related text to a key issue that I think emerged from the data and its related research question. This was a challenge as there are numerous discoveries and interesting ideas that arose during the interviews and observations, but that did not necessarily contribute to the goals of my study. Keeping in mind that the case and key issues must be kept in focus, and that "full coverage [of data collected] is impossible" (Stake, 1995, p. 84), I reduced my focus

to data that fit the purpose of the research.

To do this, I considered each of the 45 documents to see whether it addressed one of the research questions. This clustering by question was a way to create an overall structure and then to winnow down the total number of clusters by those issues that are most pertinent to the goals of the research study.

Themes

Over a period of many weeks and by repeatedly reading through the documents, I began to see places where issues overlapped but where at the same time, they pointed to the same emergent theme. Using the four research questions as areas of interest, I began to see themes that addressed each area. Eventually, I developed six themes that I thought were strongly supported by the data and that addressed the four research questions. These are the themes I chose to advance to finalist status. The themes are as follows:

1. Virtual environments can offer a more powerful social experience for online learners by introducing elements of real-life social interactions that are difficult to reproduce in text-based technologies. This is a belief that both instructors in this study hold true and relates to my first research question. The question is "What beliefs and perceptions about establishing a sense of social presence are held by faculty members who teach in Second Life?"

2. Two themes emerged from the second and third research questions which are "What influences faculty member's beliefs and perceptions about social presence strategies?" and "How are their beliefs and perceptions manifested in practice? These both relate to in some way to the characteristics of an instructor. The first

is that the influences on instructor's beliefs and perceptions about social presence strategies are largely internal and drawn from experience.

3. A second theme is that faculty members who are attracted to virtual worlds have an innate desire to try new technologies and are willing to jump in and learn through a combination of on-the-fly mentoring and trial and error.

4. Another theme emerged from the data in response to the third research question which is "How are their [faculty members'] beliefs and perceptions manifested in practice? This theme can be stated as follows: Good pedagogical practices such as communication and interactivity can transfer to the Second Life classroom which mimics many of the conditions that exist in a face-to-face classroom.

5. Faculty that teach in virtual worlds require institutional support to ensure effective learning for students. Again, this is a theme that relates to question three which is "How are their beliefs and perceptions manifested in practice? It arises from observations of Sarah and Emma classes and from their thoughts as expressed in interviews.

6. Student awareness and familiarity with virtual worlds is minimal and that can create problems for instructors who use virtual worlds. This theme addresses research question four which is "What are their student's perceptions of social presence within the context of their learning experience in the Second Life online classroom?"

Ethical Issues

The study presented minimal risks for participants. All participants have been

provided pseudonyms and their identities will remain confidential. Original recordings of digital audio and video and transcripts of interviews and Second Life chat transcripts, as well as course documents and all other related written materials in paper or electronic form have been secured by me and will not be shared with anyone. All references to real-life identities have been removed and have not been shared with my dissertation chair, committee, or anyone else.

Participants were required to complete a written consent form before participating in the study. The consent form detailed participant rights and specified that the individual could withdraw from the study at any time. The forms for both student and instructor participants are included as Appendix A.

Permission was requested at the beginning of class observations so that I could make an audio and in some cases a video recording of the session. In both cases at both institutions, students gave their verbal and in some cases, text permission, using the Second Life text-chat.

At the beginning of every interview with students (which were conducted in Second Life), I asked whether the individual's participation was voluntary and whether the person had any questions about the consent form before the start of the interview. None of the students had any questions. Getting permission forms back from two students took several email reminders, but in the end, I was able to secure permission forms from each of the five students who were interviewed.

When making initial contact with students to set up interviews, I indicated to them that it would be best if they did not mention their participation in the study to their instructor or to other students. My aim in this was to protect them from any consequence

either positive or negative.

I had thought that some participants might feel uncomfortable because of the video, and later audio only, recording of interviews and observations. All class observations took place in Second Life, so it is possible that some students may have felt discomfort because they knew I was present and recording the session. However, I was unable to detect this through their verbal or text comments or through their avatar behavior. No student or either instructor ever asked me to stop recording, although it is possible that after the first few sessions, they simply became acclimated to my silent presence with them in SL and forgot about the recording.

I conducted an interview with each instructor in person and as described earlier, found myself feeling very comfortable with them. While I cannot speak for them, they appeared to have a level of comfort with me that allowed them to speak openly and freely. My view is based on the hospitality they extended to me and their welcoming attitude during my visit. Of course, this was my perception of events.

Validity

Validity is an attempt to judge the authenticity and reliability of a qualitative study such as this one (Denzin & Lincoln, 2008). Schwandt defines validity as criteria used as a benchmark to determine whether the findings of the research inquiry "accurately reflect the phenomena to which they refer" (Schwandt, 2007, p. 309). Hammersley (1990) proposes checking the credibility of a research claim by following particular procedures such as member checks or by inspecting fieldwork evidence. These definitions and practices appear to be based somewhat on the naturalistic paradigm as proposed by Lincoln and Guba (1985), which sets out four criteria to establish the

trustworthiness of a research report; they are credibility, transferability, dependability and confirmability. Trustworthiness refers to whether the readers of the research study have confidence in its findings.

These four criteria were utilized a as a framework for the study. Practices were implemented that support each criterion with the intent of producing a trustworthy report, one which is persuasive in convincing readers that it is worth being taken into account.

1. Credibility: To establish credibility, the three recommended techniques of *prolonged engagement* through the case-study method, *persistent observation* and *member checks* were used in the study.

   The value in prolonged engagement is that it allows the development of a level of trust between the researcher and participants. Prolonged engagement is demonstrated by my involvement with the two instructors over a period of more than a year. In both cases, my contact with them began six to eight months before undertaking the research. Initial contacts were established to determine their suitability for the study and their agreement to participate. I made it clear from the beginning that our contacts would continue through the semester during which I was gathering data and afterwards as needed for additional information and for the process of member checks. This was necessary to determine whether they were willing to commit to a relationship that would last over an extended period of time.

   At the beginning of the study, in an attempt to learn more about the instructors, I collected background information from each related to their teaching experience and their experience with social media and Second Life. I also collected basic demographic information.

During data collection, I was in constant contact with the instructors either through my observations of their Second Life sessions or in interviews. Three interviews were conducted with each instructor, two in Second Life and one in person. The in-person interview and observation was especially valuable in establishing a closer relationship with both instructors.

The examination of course documents, course content, and transcripts of either interviews or observations also kept me thinking about and evaluating the instructor's remarks. Course materials and other documents provided an opportunity for further immersion in the thought process of the instructor.

While prolonged engagement provides scope, *persistent observation* provides depth (Lincoln & Guba, 1985). Audio recordings, video recordings, and transcripts of the 12 in-world class sessions and a total of eleven interviews (with instructors and students) provide a source of evidence for persistent observation, as do the collected documents. Persistent observation was demonstrated in the study by the analysis process in which data were examined multiple times in detail. From this analysis, findings were developed and the data reviewed again to ensure that the judgments made will stand up to scrutiny.

Member checks involve checking analytic categories, interpretations and findings with study participants. Informal member checks were designed to occur during the course of the study. For example, responses to previous questions were summarized for the instructor's during subsequent interviews in part to ensure that I had correctly understood their meaning and in part to look for consistency in their reaction. The

two instructors reviewed the drafts of the chapters which detailed their stories and the themes that emerged. Both said the report was accurate and on target.

2. Transferability is established through the use of thick description constructed with data collected from multiple sources. In effect, this provides the reader a database on which s/he can reach a conclusion about whether findings can be transferred to other situations. By providing an in depth understanding of the experiences of study participants, the reader can decide whether comparable processes occur at their work site. In other words, transferability is about a fit between what is described in the research and what the reader has experienced.

   As described throughout, multiple sources of data have been collected for the study. I have constructed this report with detailed thick descriptions of the interviews and observations and have supplied numerous verbatim quotes taken from the transcripts of both instructors and students. I believe it is important to include these so that readers can make a judgment about whether my findings are substantiated.

3. Dependability will be established by constructing an audit trail. My audit trail consists of the following elements:

   a. raw data in the form digital audio and video recordings, transcripts, other course documents and my own reflective and descriptive blog of the research process.

   b. data reduction and analysis products such as documents involving the compilation and discussion of themes and coding categories used in THE HyperRESEARCH software.

c. data reconstruction and synthesis including the clustering of identified themes, written interpretations and draft reports.

d. process notes such as statements about methodology and about ways of establishing trustworthiness.

e. information about my intentions and disposition such as my written proposal, personal notes and reflections.

f. instrument development information such as surveys, interview questions.

4. Confirmability is dependent largely upon the elements in the audit trail. A solid trail provides evidence of the rigor exercised by the researcher. It allows a judgment to be made about whether or not the findings are grounded in data.

An audit trail consisting of these items has been established and stored in electronic form on my computer disk drive and on a portable backup drive. The audit trail satisfies the criteria for establishing the trustworthiness of this report.

As noted earlier, a trustworthy report in naturalistic inquiry is meant at best, to persuade. According to Lincoln and Guba, naturalistic inquiry cannot compel agreement with its results. Rather, naturalistic criteria of trustworthiness , "are open-ended; they can never be satisfied to such an extent that the trustworthiness of the inquiry could be labeled as unassailable" (Lincoln & Guba, 1985, p. 329).

Summary of Validity Issues

This study uses the naturalistic inquiry criteria of credibility, transferability, dependability and confirmability to establish trustworthiness. Specific steps were taken throughout the research process to allow for the construction of an audit trail which I have detailed above. My hope as a researcher is that my report provides persuasive

evidence of the findings that I developed.

Next Chapters

In the next two chapters, I will analyze the six themes that were developed in relation to the two instructors, Sarah and Emma, who are the central cases in the study.

The themes provide insights into my research goals which were to understand the beliefs and perceptions faculty who teach in virtual worlds hold, what influences their beliefs and perceptions and how they manifest them in practice. Another aim was to understand their student's perceptions of the learning experience.

The themes are shown below:

1. Virtual environments can offer a more powerful social experience for online learners by introducing elements of real-life social interactions that are difficult to reproduce in text-based technologies.
2. Good pedagogical practices such as communication and interactivity can transfer to the Second Life classroom which mimics many of the conditions that exist in a face-to-face classroom.
3. The influences on instructor's beliefs and perceptions about social presence strategies are largely internal and drawn from experience.
4. Faculty members who are attracted to virtual worlds have an innate desire to try new technologies and are willing to jump in and learn through a combination of on-the-fly mentoring and trial and error.
5. Faculty that teach in virtual worlds require institutional support to ensure effective learning for students.
6. Student awareness and familiarity with virtual worlds is minimal and that can create

problems for instructors who use virtual worlds.

Chapter Four focuses on Sarah and Chapter Five on Emma. In each case, I will show how the six themes relate to each instructor.

CHAPTER FOUR

SARAH

Both Sarah and Emma, the two instructors in the study, believe that the virtual environment of Second Life encourages social presence and can improve online learning. As their beliefs and perceptions about social presence are a central purpose of the study, it is important to understand what their beliefs and perceptions are, the influences that affect their beliefs and perceptions, and how their beliefs and perceptions affect how they plan, design, and carry out their courses. It is also important to gain insight into student perceptions of the learning experience in Second Life.

That is the purpose of this chapter and the next. I will show how the six themes that respond to the research questions developed from analysis of the data. Data was collected through interviews with Sarah and Emma, interviews with a total of five of their students, as well as a total of twelve class observations and the collection of course documents.

The two cases of Sarah and Emma will be presented separately; Sarah in this chapter, and Emma in the following chapter. I will show how each theme that developed relates to each instructor.

This chapter will be structured as follows:

A brief discussion of the terms “beliefs and perceptions”.

A review of the concept of social presence.

Social Presence in Second Life: Sarah's Story.

Discussion of Terms

Since this case study research looks at instructors' "beliefs and perceptions" it is necessary to understand what I mean by those two terms. I have chosen the following definitions which accord with my understanding of the terms and which I applied during the research and analysis processes.

Belief as defined by the Merriam-Webster online dictionary (2011) is:

1.**:** a state or habit of mind in which trust or confidence is placed in some person or thing

2**:** something believed; especially: a tenet or body of tenets held by a group

3**:** conviction of the truth of some statement or the reality of some being or phenomenon especially when based on examination of evidence

Perception as defined by the Merriam-Webster online dictionary (2011) is:

a **:** a result of perceiving**:** observation (see perceive)

b **:** a mental image **:** concept

I looked up the term *perceive* which produced the following:

a **:** to attain awareness or understanding of

b **:** to regard as being such <*perceived* threats> <was *perceived* as a loser>

Using these definitions as the basis of my understanding of the terms, I will restate them as follows as applied to this research. I understand the term *belief* to be what each instructor or student states as a conviction of the truth of a concept or phenomenon.

I understand the term *perception* to be what study participants believe to be true based on their observations, their experiences and background. Their beliefs and perceptions are neither right nor wrong. They are a reflection of their inner world and the influences upon it. They are important however, because their perceptions influence their behavior as people and as instructors or students.

Definition of Social Presence

Social presence has been defined earlier in Chapter Two as the social dimension of learning that occurs through interactions between and among teachers and students. The aim of cultivating social presence is to engender a feeling of community and personal connection, which in turn is thought to enhance learning. While social presence is not the only factor in an online course that contributes to a quality learning experience, it is an important factor and according to the research, when it is missing, has a significant negative effect.

For this study three indicators are used to measure social presence. They are derived from previous research that identified observable behaviors that are used by individuals to project social presence in an online setting (Rourke, et al., 2001). The indicators are described in the following way. The *Affective* category of indicators includes expressions of emotions (I like this, I can't stand that); humor (includes teasing, irony, sarcasm, understatements); and self-disclosure, such as sharing personal information. *Cohesive* behaviors include vocatives such as addressing others by name; referring to the group using inclusive pronouns; and phatics (social greetings, remarks that share feelings and salutations). The *Interactive* category includes continuing a discussion thread; asking questions; quoting from others' statements or messages in a

discussion; giving compliments, and expressing agreement or appreciation.

These definitions help set the stage for understanding the rest of this chapter and the next.

Social Presence in Second Life: Sarah's Story

Meet Sarah

Sarah is a tenured Associate Professor in the Education department at her university in the southeast United States. Sarah's university is located in a mid-sized town that has a population of about 70,000 people. The university began as a teacher's college but has expanded over the years and now has numerous colleges and schools, and a student population of about 27,000.

Sarah teaches courses in business and information technologies education. She is in her mid-forties and is tall and slender with long blonde hair. She has taught for more than eleven years at the college level and has taught in Second Life for more than four years. She considers herself an advanced computer user. She is very familiar with Web 2.0 tools such as blogs, wikis, discussion forums and more, She belongs to several social network sites including Facebook, LinkedIn, Twitter and MySpace, and says she enjoys playing video games with her children.

Sarah uses multiple technologies in her teaching including videos that she and her students create, text chat and voice chat using Second Life, a course management system, Skype (an Internet-based phone service), and the virtual world of Second Life. She confides that she spends too much time on her computer, working on ideas for activities in Second Life and creating tutorial videos and other materials for her courses.

She currently teaches several courses partly in Second Life and partly face-to-face

or online, and uses a course management system in combination with Second Life or other technologies. She has published a book about the use of Second Life in education and has written several articles on the same topic.

Background of Sarah's Course

I was invited by Sarah to observe a stacked graduate/undergraduate course on the use of virtual worlds. Students in the course were teacher candidates, or business students who were interested in exploring and possibly using virtual worlds as part of their work lives. They vary in age from young (mid-20s) to older (50+) adults. Many of the students in the class lived in the same state as Sarah's university, but in different cities. All the students had jobs and most appeared to have families.

The purpose of the course I observed as described in the syllabus was to explore the use of virtual worlds, for communication, learning, teaching and entrepreneurship. The syllabus states the course is a "hands-on, project-based class where participants will have opportunities to build, design, facilitate, and evaluate virtual reality environments. An emphasis will be placed on participating in, and developing, the growing social network and resources for virtual worlds" (Sarah's course syllabus, fall 2010). Therefore, in this case, the course was not only partially delivered in a virtual world but the course content was also about virtual worlds.

Sarah's course provides an overview of the world of Second Life and requires students to find areas of interest that relate to their real lives and investigate those further. She states in her assignments that the purpose of the course will depend on a student's personal and professional interests. One student who teaches a culinary course at a community college had particular interest in SL locations that focused on food. For her

final project, this student created a presentation about locations in Second Life that she could take her students, for example, to experience a proper English tea. A business student investigated conducting business meetings in Second Life, pointing out that doing this could save money on transportation costs. A student who works in technology support for her company, looked into creating technology workshops in Second Life that employees could take from their desks, or while sitting in their real-life kitchens.

Course materials which included the syllabus, assignments, readings and video tutorials, were available through Moodle, a course management system. Students posted accounts of their Second Life adventures in a forum in Moodle.

Sarah's university technology support department provides essential help by offering student orientation sessions about Second Life for students. The orientation familiarizes students with the Second Life environment and with the basics of entering into and moving about in the virtual world. The purpose of the orientation is so that when students meet with Sarah "in world" (in Second Life) for the first time, they will have a basic understanding of how things work and be prepared to get into course content.

The course had four scheduled synchronous sessions in Second Life over the semester in which Sarah talked about and demonstrated processes that students would need to know in order to complete the project-based assignments. Each session ran from two to three hours. Students were not required to attend every session, but they did have to complete all the assignments.

Sarah used these sessions in her Second Life classroom to deliver mini-lectures either concluding with a hands-on demonstration of her topic, or most often, with an opportunity for students to try it out. For example, in a session about changing your

avatar's appearance, Sarah gave a presentation on the process of creating items that an avatar could use. In the picture, her presentation appears behind her on a *Preso-matic*, which is an in-world PowerPoint tool. Students are building objects while Sarah provides guidance and answers student questions. Her avatar stands facing the class wearing a grey jacket and dark skirt. Behind her is the Preso-matic presentation. Students face Sarah and their objects appear in front of them.

Illustration 4 Sarah Demonstrates How to Create Objects in Second Life

Students also had several assignments in Second Life that they could complete on their own or with other students. To accommodate her student's busy lives (as working adults and in some cases, also as parents), Sarah scheduled two sessions for each of the four class meetings in Second Life. One was usually scheduled in the evening and the other in the morning. Students could choose to go to one or the other, or both. Towards the end of the semester, each student was required to present their course project to fellow students and to Sarah in Second Life. These presentations were scheduled at the

end of the semester during three three-hour long sessions in Second Life. Students signed up for a time slot within the three-hour block of time on one of the offered dates.

Assignments included a scavenger hunt that students were guided through by a *HUD* or heads-up display. This is a scripted object that the avatar/student wears by attaching it to the avatar that shows them locations they must travel to and that provides a means to teleport them to each location. At the end of the scavenger hunt, the HUD software sends Sarah an email which tells her which locations each student visited and which, if any, they skipped.

Sarah made it clear in both her written course materials and when speaking to students in her Second Life classroom that they could contact her anytime they needed help. She provides her email address and phone numbers including her cell phone number and is also available by Skype. Skype is a free internet-based technology through which users can make voice and video phone calls.

In addition to the scheduled meetings in Second Life, Sarah set up several unscheduled tutorial sessions in Second Life during the semester after she heard from students who were having difficulties using the virtual world. In these sessions, students were able to meet her in world where she answered their questions and demonstrated functions about which they were unsure.

In one help session pictured below, several students listen to Sarah as she explains the use of a Sloodle object, namely the vending machine. Sloodle is freely available software that combines and integrates Second Life with Moodle. Sarah uses Sloodle objects in her course which she can customize for her students use. In this case, students retrieve university student policies from the vending machine.

Illustration 5 Sarah Holds an Impromptu Help Session for Students

Sarah's Teaching in Second Life

Sarah arrives at her real-life university campus about half an hour before class is scheduled to begin. Once in her office, she sets up the laptop computer that she has brought with her and turns on a desktop computer on her L-shaped desk. She opens the Second Life application and quickly logs-in. She navigates to the virtual classroom where her class will start that evening, by clicking on the bookmarked location. Onscreen she can see the back of her avatar who is dressed in a similar fashion as the real-life Sarah. Both have on a grey tweed jacket, a dark straight skirt and high heels. Both have long hair which drapes over their shoulders.

In Second Life, the default view is the back of your avatar which makes it easy to walk or fly and to see what is in front of you. Sarah's avatar name is different from her

real-life name and in world her students sometimes address her using her SL first name or using her real last name with the title of Dr.

On another of the three screens on her desk, Sarah has logged in with another of her avatars, her student surrogate. On this screen, Sarah's avatar who is dressed more casually is sitting in a chair facing Sarah's instructor avatar. In the first class session in SL, Sarah introduces students to her student avatar. In this view she can watch herself teaching and interacting with students and can see the presentation screen and presentation slides.

In real-life, Sarah wears a headset with an attached mic and during class talks into the mic to students. This allows her to have her hands free to type or use the keyboard to navigate through her slide presentation or to perform other actions in Second Life.

A third screen displays a Word document that shows an outline for the class. Sarah uses the outline to remind herself of activities that she wants to complete during the class session.

About ten minutes before class begins, students start drifting in, much as they would in a real-life classroom. The process is somewhat different though. The avatar of the student may pop onscreen in bits and over a period of 15 or 20-seconds as the pixels arrive and take their proper places, the avatar figure resolves completely. Once the student's avatar is whole, the student may navigate to a seat, chat with other students or walk up to Sarah and engage her in conversation.

The conversation may be accomplished through voice-chat where both Sarah and the student talk to each other using a headset and mic, or computer speakers and a mic. In this scenario, both Sarah and the student hear each other's voice. Any other students who

are logged on and in Second Life in the same classroom or nearby can also hear the conversation through their computer speakers or a headset.

A more popular option with students is to use Second Life's text chat feature. Text chat simply requires use of the keyboard. The text chat window in Second Life appears by default in a lower left corner of the screen. Although Sarah uses voice-chat most of the time, she will sometime enter a question she has asked into text-chat, or enter clarification of a term. This is not unlike what would happen in a face-to-face class when the instructor writes something on the board to guide the discussion:

> Most of the time, students and myself included will use the text chat feature to enter a question that we have and that way as the student or even myself as I'm presenting something, we can kind of look down in the left-hand corner and see a question come up across the screen, which is a great feature for SL because it allows you not only as you are talking about what you're presenting but also clarify what question is being asked by someone else and it also kind of guides your presentation. (Sarah, personal communication, August 27, 2010).

If a student wishes to talk privately to either Sarah or another student, he/she can use the IM or instant message function which creates a separate and private text-chat window. In this way, Second Life allows for multi-layered conversations and allows students who are not comfortable using voice chat to take part in the discussion via text.

Many of the conventions of computer-based text-chat combined with those of cell-phone texting seem to have merged into an online shorthand language that students use. Thus it is common to see students type LOL (laugh out loud), .02 (My 2-cents) or to

see smiley or frowning faces created by using punctuation marks.

Illustration 6 Sarah Lectures in Second Life

Students are seated in the classroom facing Sarah's avatar

Sarah's Beliefs and Perceptions on Social Presence – Research Question One

The first theme that developed from the data is that both Sarah and Emma, the two instructors in the study, believe that virtual environments can offer a more powerful social experience for online learners by introducing elements of real-life social interactions that are difficult to reproduce in text-based technologies. This theme developed from the first research questions which is "What beliefs and perceptions about establishing a sense of social presence are held by faculty members who teach in Second Life?"

Sarah views social presence as an essential element for student learning, comprehension and application of learning. Her knowledge of social presence developed over a period of years and was the result of her own observations and independent investigation of the topic. Her dissertation centered on distance education policies and

she says that as she began teaching online, she became aware of social presence. She states:

> Once I began teaching online I realized the importance of creating a presence in my online courses. Over the years, I realized how much my students appreciated my willingness to share information about myself, family and interests outside of academia. As I continued to share my personal information I realized the importance of providing the same type of outlet for my students as they were located all over the world. It was at this time that I started researching social presence and the use of a variety of techniques in the online learning environment. I would estimate that I have been actively researching the various ways to incorporate social presence in my courses for ten years (Sarah, personal communication, March 16, 2011).

Sarah describes her understanding of the term social presence as the ability to share either asynchronously or synchronously information about herself, her family, her interests and academic pursuits and to provide her online students with that same ability.

The start of class for Sarah usually consists of a few minutes of casual chat as students arrive and get settled. During these brief conversations and during the course of the class, Sarah often tells stories about herself and her family, uses humor and reveals emotions. These are all social presence behaviors that are classified as being in the *Affective* category of social presence behaviors but most often, even a short exchange can contain multiple indicators of social presence. In the following excerpt from a class

observation Sarah responds to a student who said that his child's birthday was coming up soon. Her comments reveal several different indicator categories of social presence.

> We do share something in common.[Cohesive] My mother's birthday is this Sunday.[Affective] So your daughter is turning one on, what is it, September 19th? [Interactive] That's exciting.[Affective] My son's birthday is the following weekend [Affective], so it sounds like everybody's going to be busy [Cohesive] (Sarah, class observation, September 15, 2010).

In the same class session, Sarah remarks on a student's avatar and makes a comparison to her own experiences when she was starting out in Second Life. This exchange also illustrates the immersive nature of a virtual world and the social presence opportunities that arise as a result of the addition of the visual channel of information.

> So far, I can tell that you're doing great. I mean, look at your hair already. [Interactive] I didn't look that put together until I think I was going into my second semester of teaching in Second Life. [Affective] (Sarah, class observation, September 15, 2010).

Telling stories about herself and her mistakes in Second Life also makes Sarah appear more "human" to her students:

> I think it's great to show students that you are human and that you made mistakes when you started. So relating those stories and misadventures, or non-examples helps them understand that although I hold them to a certain level, to a high-level, I understand that when they make these mistakes and

> try these different things that that's a learning process, and again it helps them relate to what I'm teaching and what they're doing so I think, just be human is the best way to put it (Sarah, personal communication, November 3, 2010).

Jennifer, an adult student who works at a community college found Sarah's references to her own life and experiences in Second Life were effective in creating a sense of closeness with Sarah:

> You know her more than just the avatar in front of you. And the stories is (sic) a good thing because it teaches people that you are not alone in every situation, every person has been through some version of the story told. So it kind of bonds you as a community that your instructor has been through those things also (Jennifer, personal communication, November 19, 2010).

Especially during the first class session in Second Life, Sarah spends time helping students work out technical problems. Students were invited to stand in front of the class and introduce themselves. Some students chose to stand up near the chair in which they had been sitting and spoke from there. Others did make their way to the front of the class and turned their avatar to face the rest of the class. Most of the problems involved students who could not make their microphones work. Some ended up using text-chat instead, others persevered and with Sarah's help were able to use voice-chat. The following passage is taken directly from the Second Life text-chat transcript and again it

illustrates Sarah's use of several social presence indicators as she attempts to keep the flow of student introductions going:

> Sarah: So Paul is having some issues. Jane, I see that you're with us this evening. Do you want to go ahead and introduce yourself?
>
> [17:40] Paul: i think i got it
>
> [17:42] Paul: i don't know what the problem is. it worked last night
>
> [17:42] Sarah: Don't stress over it...we will get it working (Class observation in Second Life, September 15, 2010).

The use of student names is a cohesive behavior, while Sarah's last comment is in the affective category.

During a class in Second Life, Sarah will sometimes ask students whether they can see and hear her. Since she cannot see what students are really doing, only what their avatars are doing, she needs feedback to determine whether students are paying attention. Several times during observations, I would hear her say that this [Second Life] is an environment where the instructor needs either a verbal or text response to ensure students have understood the material and are ready to move on.

> I think in a face to face class because you can see their eyes, you have the ability to narrow in on if a student is understanding the material. In any type of online environment, you need those same cues. So although they can gesture, they often don't. I need to know that they're ready for me to move on. So I will, I mean I constantly ask that question. Do you

> understand the material? Are you ready for me to move on? I need a yes or no. It doesn't have to be a verbal one, but I do need to know that you are still with me (Sarah, personal communication, November 3, 2010).

Most often when asked to respond, students would text their response, whether in the form of a questions about the material or a "yes" to say they had understood and that Sarah could move to the next topic.

Sarah recognizes that while the SL environment can create a sense of connectedness for physically distant students, they remain in fact physically distant from each other and from her. As the instructor, she is therefore still faced with the dilemma facing other instructors who teach online, which is that she doesn't know for sure whether students are paying attention. A student can for example walk away from his computer during class. In Second Life, if an individual does not move the mouse or use the keyboard for a while, their avatar falls asleep onscreen, in plain sight of everyone else. Sarah notes that this gives her a way of knowing whether or not a student is attending. She goes on to say that even in a face-to-face class, there are limits to what she can do to get a student to be attentive:

> I'll often ask little questions about what I just said to get them to respond. If they're not responding, that's a cue to me that that person might not be paying attention. And I'll actually IM them. It's a private IM that no-one else can see, but I'll IM them and say wake up! Are you with me? And they'll be Oh no no no! And you never know, but again, you get out of it what you put into it. I can't make students attend to class in a face to face just as I can't make students attend a session synchronously in SL. I do

> what I think is best, what I believe in. It's my philosophy, but they do with it what they do with it (Sarah, personal communication, November 3, 2010).

Addressing students by name (vocatives) is considered a cohesive behavior in social presence theory (Rourke et al., 2001). As in a face-to-face class, it is a recognition of the individual. In Second Life, Sarah addresses students only by their avatar name. The avatar is after all the student's surrogate in the virtual world. Sarah comments that using the avatar name is recognition of the persona that the individual has taken on in Second Life and further that:

> It establishes some type of connection and it places value on what they've done in the class. It took them time to create their avatar and design what they're wearing, so if I comment on it, they feel accountable. It's that accountability—I did this (Sarah, personal communication, November 3, 2010).

Each student in the course was provided a virtual dorm room on the Second Life university campus which Sarah calls their "cube" or cubicle which they could use as a workspace. A related required activity was a scavenger hunt in SL. Items they gathered on the scavenger hunt included furniture, plants, cushions and other things they could use to decorate their cubes. The scavenger hunt was scripted and used an HUD or heads-up-display. The display which each student would wear on their avatar's head would lead them to particular locations in Second Life where they could either get free items or could buy items with Lindens, which is the currency in SL.

Students used their cube to carry out assignments, as a place to meet with other students, as a safe place they can teleport to if they get into an uncomfortable situation in Second Life, and as an experimental space where they can try out building and placing objects. Each student's end of semester project presentation also takes place in their cube.

Illustration 7 Sarah's Student Presents his Final Project in his Cube

A student begins his project presentation in his "cube" which he has decorated to include an aquarium, plants, furniture and a fireplace. Fellow students sit or stand to watch the presentation.

Sarah's student Jennifer asserts that for her, the cube is a refuge. She says, "That's a place if I go somewhere and I want to get out quickly, I just click my student cube and I'm outta there. And I like that a lot!" (personal communication, November 19, 2010). As with the avatar, Sarah sees the student cubes as a way for students to express themselves and their personalities.

> They have their objects that they built in their dorm room and again that's a personal reflection on them; what they include, how much effort they put into it says something about who they are, not only as a person but as a student. So I think those activities allow them to be the person that they would be if I was teaching them face to face, actually probably more, because I certainly wouldn't see their dorm room if I had them in a face to face class (Sarah, personal communication, November 3, 2010).

Sarah has found that students get very attached to their cubes, viewing them as their personal place and some students do not like to relinquish the space at the end of the semester. Indeed one of Sarah's students remarked, "I really enjoyed getting a room, is the biggest thing, is having my own little space to go to and I hate to give it up when this class is over. But we have to" (Mary, personal communication, Nov 15, 2010).

Creating an avatar in Second Life can be as simple or complex as the individual desires. For Sarah, the instructor avatar is a close representation of her real-life appearance. As far as she is concerned, students can choose to design and dress their avatars as they wish as long as they wear appropriate attire. Sarah says she had to ask one student to cover up her midriff. She comments, "If she were to come to my face-to-face class, I would ask her to put a sweatshirt on" (Sarah, personal communication, November 3, 2010).

Sarah notes that some students do put a lot of time and thought into creating and dressing their avatars. She says the process can be engaging for students and that there may be a lot of emotion attached to the avatar. She has noticed that students are quite

concerned about how they (in avatar form) look when they make their end of semester presentations in world.

> I will say there's a lot of emotion attached to their avatar—so even though I think they can disengage at points, I find that they engage a whole lot more. So when they are doing their presentations, their avatar that may have worn jeans and a sweatshirt, they change their clothes to present. It boggles my mind sometimes how much emotion they feel for their avatar (Sarah, personal communication, November 3, 2010).

Sarah's student Jennifer expressed a feeling I have personally experienced in Second Life which is a sense of awkwardness, especially as a "newbie" or new resident of the virtual world. It is an interesting feeling because it may indicate that Jennifer and I identify closely enough with our avatars that we are embarrassed for them (and for us) when we do something awkward. Jennifer put it this way:

> People can see avatars just like in real-life. If you are walking along and you start tripping, you feel self-conscious and you always feel the whole world can see you do something and it's the same thing even in Second Life for me anyway. I mean I bumped into walls. I walked into people and even though they can't feel me doing this, it's awkward (Jennifer, personal communication, November 19, 2010).

Angela, another of Sarah's students laughs as she says she sees her avatar as a fairly close representation of herself, but "trimmer". Angela says, "I see her as "[avatar name]" She's me, but not me. I do see her as her own person" (personal communication,

November 29, 2010).

While Second Life is a big part of the picture in creating social presence, it is not the only technology that Sarah utilizes. She incorporates a number of strategies using different technologies that she believes helps create social presence.

As mentioned earlier, students had access to course materials in Moodle, and in Sloodle, which is a combination of Second Life and Moodle. Sarah divided the semester's work into four modules each of which came with detailed instructions, readings, assignments, and activities in Second Life. Each assignment ended with a picture of Sarah and some members of her family engaged in an activity. The accompanying text describes the activity. For example, one picture showed Sarah and her family on vacation and included comments from her children. Sarah remarks that the pictures are a way to communicate her real-life appearance to students who would otherwise only see her avatar in Second Life. Taken together, the inclusion of personal information and comments fits with several of the social presence indicators used in the study. Self-disclosure and expressions of emotion are Affective behaviors, Salutations and greetings which are used in these messages are a Cohesive behavior.

For Mary, an adult student in Sarah's class who works for a school system as a computer technician, the family pictures help create a sense of connection. She comments:

> It makes it like there really is another person at the other end specially when you take all online classes like I do, it's easy to forget that there are real people at the other end that I'm dealing with instead of just sitting in front of a computer. Getting information about her life and her children

was just great. It just made it more personal (Mary, personal communication, Nov 15, 2010).

Students in the course were invited to share their real-life picture and/or their avatar picture, on a wall outside their Second Life classroom and to include a few comments about themselves. In this way students can learn something about their classmates with whom they only interact in pixel-flesh rather than in real life. Sarah explains her thinking behind this activity saying, "It's nice to know who you are talking to, who's behind that avatar, so I think that's a great activity" (Sarah, personal communication, August 27, 2010).

Illustration 8 Wall with Student Pictures

My avatar stands in the lobby of the building on the Second Life campus of Sarah's university. Directly ahead and to the right is the room where Sarah conducts class. In the upper center of the picture is a wall displaying student avatar or real-life pictures.

The course management system was a repository of course materials, but also had a forum tool which students used to post written entries and visual snapshots of their activities in Second Life. These included comments about their independent assignments within the virtual world and how they were adjusting to life as an avatar. Students wrote about problems they had with particular assignments, and about the sense of accomplishment and pride they got by persevering and completing the assignment.

One assignment that students appeared to particularly like required them to build an object from scratch in Second Life using *prims*. These are the basic building blocks in SL (for primitives) and start out as cylinders, cubes or spheres. They can be manipulated into more complex shapes and textures can be applied to change the way they look. A student described his sense of accomplishment after struggling with prims but finally building the object he had envisioned. He talked about the excitement of seeing it form as he molded it with his own "bare" but virtual hands.

Another student detailed her discoveries during the building assignment. She described figuring out how to hollow out a prim and create a container and then commented that she was sharing her discoveries with her co-workers.

Setbacks were common as when one student wrote about having her prim fall through the floor. Discussing her experiences, she wrote that her skills could not keep up with her imagination, but also that she didn't give up and finally created an object that she was happy with. Yet another student lost an object she created but later found it. Several students wrote about problems they encountered and about contacting Sarah who was able to help them sort out the issues.

In addition, several students mentioned using the provided tutorials and readings to help them surmount obstacles. This sharing of experience was sometimes very explicit as when students provided tips to other students that would help in the use of Second Life.

While the course management system and other technologies that Sarah uses create a web of networking opportunities and opportunities for creating social presence, they are mostly asynchronous and lack a visual aspect. It is in Second Life where students can be together in a space, complete tasks together and learn about each other. Sarah notes that Second Life provides a formal classroom and workspace, but is also a place where students can meet with each other and with her informally:

> Certainly there's more connection. They have the ability to ask questions. We have the ability to talk about things that don't relate to class, just like you would have in a traditional class, before class starts, or they can stay after class and ask me things, different questions about financial aid, what classes they should take. It becomes very personal (Sarah, personal communication, November 3, 2010).

Face-to-face may be the gold standard in teaching, but Sarah believes the virtual classroom offers some of the aspects of the face-to-face classroom:

> In terms of the face-to-face class there's the one-on-one and group interaction that takes place in the classroom. The same thing happens when you are in the virtual environment and I think that is what brings such huge value to using the Second Life environment because the students are able to interact with me one-on-one, able to interact with the

> class as a group and then also able to interact with one another. So I think that it brings that communication, that social aspect back into the class, whereas when you are in what I call a traditional online environment there isn't that interaction that takes place because a lot of it is asynchronous, meaning the students are accessing it on their own time and there isn't that communication that's between the student and the faculty member as well as the student to student. So I do believe that this really does bring back the social aspect to teaching (Sarah, personal communication, Jan 7, 2011).

Summary of Sarah on Social Presence and Second Life

Returning to the first research question which asks about the beliefs and perceptions about social presence of faculty who teach in Second Life, it is clear that Sarah understands the concept of social presence, considers it important and values Second Life for the opportunities it offers to create a sense of connectedness both between instructor and student and student to student. She says her experience shows that the social aspect that develops in a face-to-face classroom and that creates relationships happens in Second Life.

To Sarah, the sharing of personal information is an important aspect of social presence, a way to break down walls that separate people and create a community of learners by developing a level of comfort and connection. Sarah uses behaviors from all three social presence indicator categories, the Affective, Cohesive and Interactive, in her virtual world classes and in her communications with students.

Influences on Sarah's Beliefs and Perceptions – Research Question Two

As has been shown in the previous section, Sarah's knowledge about social presence developed as a result of her own online teaching experience which led to her to seek out further information about the concept. We have seen that she uses the virtual world of Second Life because she believes it enhances social presence in her online courses.

The second research question asks what are the influences on a faculty member's beliefs and perceptions about social presence strategies? As an individual involved in faculty professional development, it was important to me to understand how a faculty member becomes involved in a new technology. Are influences that drive the faculty member's interest in and use of a technology like a virtual world mainly external or internal or both?

The second key theme that developed from the analysis of interviews, observations and documents is that for Sarah and Emma, the influences on their beliefs and perceptions about social presence strategies are largely internal and drawn from experience. These are characteristics that are recognized in the research literature as those of adult learners (Knowles, 1980; Smith, 2002). Knowles and other researchers in adult education have proposed that adults are generally more responsive to internal rather than external motivators and are especially motivated to learn something new when they perceive the new knowledge or skills will help them with real-life problems they face.

In Sarah's case, the road to Second Life began with her own interest in and research on social presence. She became aware of social presence through her

own experience as an online instructor. She began by sharing some personal information and noticed how students seemed to appreciate that. Gradually she came to recognize that students needed a way to do the same thing and started providing ways for students to share their own stories. Her interest in social presence strategies led her to start reading research studies on the topic, to do her own research and to publish articles and present on the topic.

When she became aware of Second Life, she saw its potential for enhancing social presence in her online courses and began experimenting with it. Her introduction to Second Life came about because of her own interest in new technologies. She explains that she worked with her university's academic outreach and technology group investigating various Web 2.0 technologies. Web 2.0 is not a technical specification. It refers to technologies that provide participants a way to interact, communicate and collaborate with each other and includes such things as social networks, wikis, video-sharing and virtual worlds and communities. One of the most important aspects of Web 2.0 is the ability for participants to create their own content rather than simply being consumers of content.

Sarah says getting involved with her university academic technology group was a result of her "love for technology" which drove her to take advantage of the opportunity when it was offered (Sarah, personal communication, August 27, 2010). As part of this process, she was introduced to Second Life and as she played with it began to see its possibilities as part of her online courses. Sarah

suggests her gravitation towards technology in general and virtual worlds in particular may be influenced by her preference for active forms of learning:

> I guess I've modeled things around experiential learning where I find that students respond better to hands-on activities and I think also that a lot of my courses lend themselves to that type of thinking. So the fact that I try and create simulations, I try and create activities that engage the students. That's been something I've been doing since I began teaching. It was prior even to entering Second Life and I think that's why I ended up in the environment is because those are the types of things that I enjoy and I think it helps them [students]. Anytime that they can apply something and basically authenticate their education through application, they remember it far longer than if it was a drill and kill kind of activity or memorization, regurgitating answers in a multiple choice test. I'm just not that type of professor. I don't like tests that are developed that way. I don't think they really measure a student's knowledge, nor their ability, so I think that's how I ended up in these types of activities and environments (Sarah, personal communication, August 27, 2010).

Sarah says once she saw Second Life and began thinking about ways to use it to improve learning for online students, she became somewhat consumed with learning about SL and with sharing her knowledge with colleagues. Sarah and her university technology group and two colleagues got a grant to set up a Second Life Academy for other instructors. Sarah invited in other speakers, coordinated and taught at the two-week academy. She says by the end of the two weeks, several other faculty members were

incorporating Second Life into their courses.

Investigating the latest technology seems to be characteristic of Sarah. She says if her technology group had not introduced her to Second Life, she would probably have found it on her own. The impulse to see what might be next is, "just who I am as a person. Motivating students, being able to be flexible I think is really important for online education and so for myself, it was a way of working" (Sarah, personal communication, November 3, 2010). She remarks that she is always, "kind of looking to the future to see what's next that can be used in the classroom to enhance learning" (Sarah, personal communication, August 27, 2010).

Simply using a technology is not enough. Sarah spends a lot of time and effort analyzing feedback from students in her classes. She has looked at student perceptions of the various technologies she uses, as well as student engagement and at the student's level of learning in particular courses. She considers this research important because: "where all of this has evolved from is trying to make students that are isolated by distance to make them feel that they're part of a community and really Second Life has in my view bridged that gap" (Sarah, personal communication, November 3, 2010)

Certainly student reaction is an influence on how Sarah designs and organizes her classes, much as it would be for most instructors. Sarah says she usually has a few students who don't understand why they must use Second Life. She remarks, "I think the learning curve for me is when students might not want to come into the environment. I have a hard time wrapping my head around that because I think it is of such great value" (Sarah, personal communication, January, 7, 2011).

Sarah relates the story of one student in the class I observed who went from

recalcitrant participant to enthusiastic supporter of Second Life in education. The student, a teacher candidate, began the semester by repeatedly questioning why class meetings were in the virtual world:

> Then, when he did the building assignment, his perspective changed. He was very excited by the fact that he got to build something, as he put it, with his own two hands and I thought that was great. And it gave me the opportunity to kind of adapt the final that they're working towards to include a building component for him, since he enjoyed that so much (Sarah, personal communication, November 3, 2010).

The building assignment involved constructing objects in Second Life. In this case, the objects were to be used in the student's cube. Sarah concludes that she has found it important at times to trust in her own judgment and push on even if students question her strategies.

Sarah's case demonstrates that her interest in using Second Life and social presence strategies was largely internally driven. Her drive to investigate new technologies and new strategies is motivated by her interest in improving her courses so that students can learn better. It is a long way however between interest in a technology and putting that technology into practice which requires learning how to use it.

The third theme that developed from the second research question is that Sarah (and as we'll see later, Emma) demonstrates an innate desire to try new strategies and technologies and is willing to jump in and learn about them through a combination of on-the-fly mentoring and trial and error. As stated earlier, Sarah's innate desire is motivated by what she views as a practical need, namely the need to enhance students learning. In

this way, she appears to demonstrate the acknowledged adult learner characteristics of self-direction and internal motivation fostered by a need to improve her own practice.

For Sarah, learning is a lifelong process and so while she says it is exhausting trying to keep up with everything, she belongs to several technology groups, reads their publications and networks with educators at her own and other institutions. These contacts are a resource and Sarah says she found them helpful when she was just starting out in Second Life.

Even before she began teaching in Second Life, Sarah who describes herself as a hands-on learner, went in world and explored. There she met people with whom she struck up conversations. By asking questions and by making mistakes and learning from them, she gradually learned how to use the tools within SL. Once she began teaching in the virtual world, she continued her self-education. Sarah says it was not an easy process but she feels what she went through as a student, learning Second Life, has made her a better teacher:

> By jumping in and making mistakes and revisiting the material each semester and improving upon it, I think that's how I grew as a faculty and I think that's also helped my students because to a degree it helped me learn the way they were learning themselves just by example in trudging through it. So in this case I may have gotten a better learning experience because I did just jump in when I was extremely busy and it made me learn it in a different way than if I had a lot of time to plan and think things through. My classes might be different but then I don't think my students would have as many helpful tutorials as they do because I've

> been there and I understand how difficult it can be and how if you are joining SL and you type in one wrong character, you could end up in a different location and so it's very important that they have the tutorials to help them (Sarah, personal communication, January 7, 2011).

Sarah appears to have an inborn drive to persist in pursuit of new tools, to try them out and see what happens. As she describes herself, she is involved in a continuous process of investigation, implementation and improvement based on feedback and research. These are characteristics that are consonant with principles of adult learning as described by Knowles (1980).

Sarah's Practice – Research Question Three

Knowing more about the lived experience of a faculty member who teaches in Second Life and their beliefs and perceptions about establishing a sense of social presence is the starting point for this study. Understanding what influences their beliefs and perceptions is important and leads naturally into what they actually do when they teach. As stated earlier, the first three research questions lead one to the other and it is difficult sometimes to see where one ends and the other begins.

As an example, some of what is included in the previous section that responds to influences on Sarah's beliefs and perceptions touches on how her beliefs and perceptions are manifested in practice. That is in fact the third research question namely. How are their [instructors who teach in virtual worlds] beliefs and perceptions manifested in practice?

The fourth theme that emerges from an analysis of the collected data relating to this question is that for Sarah and Emma, good pedagogical practices such as

communication and interactivity can transfer to the Second Life classroom which mimics many of the conditions that exist in a face-to-face classroom. In this section I will deal more explicitly with how Sarah's beliefs and perceptions affects the way she plans, designs and carries out her course.

Sarah spends a lot of time and thought in planning her courses and in planning for social presence, "From day one, anytime I design a course, it's part of the premise is to connect the students, is to engage them not just with myself as the professor, but also with other students in the class" (Sarah, personal communication, August 27, 2010).

Some of Sarah's time is spent creating assignments, revising syllabi and other course materials, but she also spends time thinking about ways to maximize her use of Second Life. Sarah talks about creating simulations in Second Life so that students can be immersed in a situation that they might encounter in their jobs. For example, students learning instructional methods go through a simulation that puts them in a classroom where students are misbehaving or where potentially disruptive events take place:

> In another simulation for the [instructional] methods class on classroom management behavior, they go into a classroom and are given a HUD which is the overhead display and they are given different scenarios and what happens is in the classroom different things happen, so for one a cell-phone goes off and they have to key in how they would handle that if they were in a real classroom. The fire alarm goes off for a fire drill and how do you handle it? How do you keep the classroom structured and how do you continue class once that ends? A student will be talking. How do you handle that? (Sarah, personal communication, November 3, 2010).

Students key in their responses using the HUD (heads up display) and at the end, the software sends Sarah an email with their answers for grading. The instructional methods class also spends time in a cave in Second Life in which they can experience different time periods in education and see firsthand the progression of educational technologies. The cave is the first classroom, the first setting for education. Students in Sarah's class travel up a path in the cave to a one-room schoolhouse and progress upwards adding more and more technology until at the top they are "exposed to the latest instructional technologies" (Sarah, personal communication, November 3, 2010).

Perhaps not surprisingly, time is an issue. Sarah admits she spends a lot of time thinking about and working on materials for her online courses. She states laughingly, "I have not measured it because I don't want to know! It is a scary amount (personal communication, November 3, 2010). Teaching online in Second Life, she states, is like teaching in a face-to-face class but with the added component of having highly-organized online materials as well:

> I mean when I'm in a face to face class and I'm teaching I have to be very prepared, know very well what I'm going to present on. In an online class you have the ability to prepare the material and post it in an asynchronous format. When you teach in SL, you go back to that same platform as in a face-to-face class where it is synchronous. So not only are you providing the asynchronous material in the virtual environment, you also have to prepare for that face to face interaction, avatar to avatar interaction that takes place (Sarah, personal communication, Jan 7, 2011).

Preparing on online course is time-consuming because it requires thinking ahead and anticipating problems students will face and providing resources to help them surmount those problems. It also requires planning out details of course assignments as for at least some of the time, students will be working independently and need to know exactly what they must do:

> Any time you teach an online class you have to be really proactive and think ahead and think for the students and set up the entire class prior to teaching it. So there's a lot of time spent developing the modules, perfecting them, redoing them. There's also a lot of time that goes into coming up with the ideas that go into it, with some of the simulations (personal communication, November 3, 2010).

For Sarah, course preparation is an ongoing process. Her course management site contained several video tutorials that she has created on carrying out different assignments within Second Life. As I prepared to conduct my third interview with her at the end of the semester, she was in the midst of preparing additional video tutorials for the following semester:

> You want to make sure that you are using the environment for a good purpose. I don't want to just throw the students into the environment and say here we are listen to me lecture. I want there to be value-added, so I want to be able to provide simulations, or videos they can access to help them learn and that I think is maybe not difficult but time-consuming (personal communication, January 7, 2011).

While Sarah hopes that the Second Life environment will be truly immersive for all students, she recognizes that some students will come to class, do what they need to do and leave, without feeling a sense of really being in world. She says there is not much she can do about that:

> In thinking of how I prepare for that—normally when a student comes to your class that's face to face you can't really control the outside factors that they bring into class. The same holds true for when you are in Second Life (Sarah, personal communication, January 7, 2011).

While she plans for immersion and social connections, Sarah realizes the experience will be different for different students depending on their own background, experiences and attitude.

Coming up with ideas for designing new in-world experiences for students is fun for Sarah. Turning them into reality would be difficult, even impossible, without help. Sarah credits the instructional technology group at her university with providing help and support in the creation and scripting of many the simulations she uses with students. Sarah says. "I don't think I can survive without them. They really take my ideas to the next level" (personal communication, November 3, 2010).

Sarah's experience leads to the fifth theme which is that faculty who teach in virtual worlds need institutional support. Sarah states that there is a lot she can do herself, but to ensure effective learning for students, she considers the help she receives from instructional technologists as invaluable.

In addition to help with creating simulations, her school's technology support group has created an orientation island in Second Life that students go through before

their first class session in the virtual world. Students are offered three orientation sessions that they can attend. The orientation addresses a common concern of students who are new to SL. Sarah explains that students find it very threatening because, " Oh my goodness, I have to learn how to create an avatar, learn how to do all these things, how to move it and fly and that type of thing" (personal communication, November 3, 2010). Sarah says when she began teaching in world, she tried to hold orientation sessions herself, but found the task difficult to accomplish along with teaching course content:

> I'm really here to teach them about the theory and the content of the course and so through that we basically learned that if our tech support group provided orientation for our students, they came into my classroom ready to learn and I think that was probably just a huge success (Sarah, personal communication, August 27, 2010).

Sarah's students agree that the orientation helps them acclimate to the Second Life environment because it teaches them the basics of being in and moving around in Second Life. Jennifer found the orientation useful:

> I definitely believe though that the orientation is a positive aspect for students to help find your way, move your avatar and change your avatar's look and all that. So yeah, it was very beneficial. I would have liked it if it had been more than once for me. I would have wanted it to be a little slower for me (personal communication, November 19, 2010).

Summary of Sarah's Experience

On the whole, Sarah sees her students experience in the SL classroom as being positive. She states, "It [Second Life] has changed my outlook on education in believing

or knowing that there are different ways to reach the students that provides them with a better way to learn" (Sarah, personal communication. Jan 7, 2011).

She understands her student's initial discomfort and likes to see them more forward to a place where they enjoy Second Life and see its potential for use in their own careers. As she states:

> I think in the beginning they are very nervous if this is the first time they have been in the environment, but as the class progresses they truly see the need and the ability, especially my teachers are always just amazed at some of the things they'll be able to do with their classes. So that's always exciting to see (personal communication, August 27, 2010).

In this section we have seen that in Sarah's experience, the virtual environment of Second Life offers a way to increase the level of social presence between instructors and students and between and among students. Virtual worlds in this scenario are not the only technology that Sarah uses in her online courses, but she believes it offers a way to create connections and more closely emulate the social presence of a real-life classroom.

Sarah's Students' Experience – Research Question Four

The fourth research question seeks to address the student experience of social presence within Second Life. The fourth research question asks what are their [instructors in the study] student's perceptions of social presence within the context of their learning experience in the Second Life online classroom?

I observed four of Sarah's formal class sessions each of which ran about two hours. I also observed student presentation sessions which ran three hours and a short impromptu help session which several students attended. Through these observations, I

was able to see how students interacted with others and with Sarah and to see how students presented themselves in class through their avatars.

Three of Sarah's students (and two of Emma's students) were interviewed. My hope was to be able to interview more than that number but in the end, that was the number that agreed to be part of the study. Each interview ran from 20 to 30 minutes and the same set of questions was used. See Appendix H

Based on student interviews and observations, the sixth theme in the study is that student awareness and familiarity with virtual worlds is minimal and that instructors who use virtual worlds, must build in many different ways for students to connect and become comfortable in the environment.

Sarah's students respond positively to her social presence strategies in Second Life, but they have a basic unfamiliarity with virtual worlds. This minimal level of knowledge can lead to discomfort. Sarah endeavors to overcome this barrier by building in many different ways for students to connect with her and with other students so that they can develop a level of comfort in the environment.

For social presence strategies to work, the student must be comfortable in the virtual world. This makes it vital for students to get a solid grounding in using SL before being introduced to course content. The orientation sessions that Sarah's school provides become of great importance as a way to overcome students' initial discomfort and unfamiliarity with SL. Again this highlights the importance of institutional support for instructors that teach in virtual worlds.

Even with the student orientation that Sarah's instructional technology group provides, students that were interviewed said it took them a while to get comfortable in

the Second Life environment. Of the three students from Sarah's class who were interviewed, two had used Second Life before the class I observed and one had not. All three were users of social media sites such as Facebook and Twitter, though some more than others.

For Mary, who is a computer technician for a school system, this was the second class she has taken that was partially in Second Life. Mary says she would not have explored SL if she had not had a class in the virtual world because her impression was that it was more of a social gaming site. Her experience in the class was apparently eye opening. She remarked that through the class she learned that Second Life offered many educational opportunities and that she is thinking about using SL when she starts teaching online which is her ambition once she gets her teacher's license.

Mary stated she really enjoyed the class and that meeting in Second Life helped bridge the distance gap because, "I guess it actually makes me feel like I am here. Because in Second Life instead of just hearing another voice, I actually see another person there and it's easier to relate that way" (personal communication, November 15, 2010).

Getting comfortable in Second Life took some time for Mary. She explains that while the class was fun, she found it difficult to communicate with other people that she met in the virtual world. In real-life, she stated she would have no qualms about going up to someone and talking to them, but in Second Life that was difficult. Mary attributes her hesitance to feelings of insecurity about Second Life:

> I would say maybe after the first four or five weeks I got a little more comfortable in Second Life. I understood more about what we were

> doing. I got more into doing more things, especially when we went on the scavenger hunt. That helped me the most of anything, to learn how to travel, to go to other places and different things like that. That made me more comfortable there (Mary, personal communication, November 15, 2010).

Mary also commented on Sarah's inclusion of personal information about herself and her family, saying it helped establish a personal connection and made her think of her instructor as a real person. While Sarah's effort to create a sense of connection between herself and her students appears to have worked, connection with other students was more problematic for Mary.

Sarah does provide several ways for students to connect, but as she stated it is up to students to take advantage of the opportunities. Interestingly, Mary's comments reveal a desire for even more opportunities to connect with other students and to get to know them better. In response to a question about what would help make her more comfortable in Second Life, she responded:

> It's possible, if we had met a few more times. I know that's hard for everybody. Sometimes it's hard for me also. But maybe on the scavenger hunt that we did, if we had been teamed up with somebody so you get to meet with somebody else and go around and travel with them. That might have helped lessen the anxieties of it, I guess (Mary, personal communication, November 15, 2010).

Jennifer and Angela, two other students in Sarah's class agreed that a sense of connection with their instructor and with other students in the class was important to

them because it increased their feeling of comfort in what was to them a strange new world.

By the end of the semester, Jennifer, who is an adult student in the 50+ age range says, she had learned a lot about using Second Life in education and was excited about the prospect of using it in her own work as a lab technician in the culinary department at a community college. She had no knowledge of Second Life before the class and using SL was a struggle at first. Jennifer says she had never played video games and cited her age and lack of experience with virtual environments as possible reasons for her initial discomfort. But after a few weeks, she says, "The light bulb went on about using Second Life in education" (Jennifer, personal communication, November 19, 2010). She began to see opportunities for the students she teaches:

> I did teach as an adjunct, culinary classes, and I was thinking this would be a really good opportunity for culinary students in classes such as international foods where you could go different places in Second Life and view other countries, maybe get a taste of culture of other countries and then the food (personal communication, November 19, 2010).

Jennifer remarked that she felt connected to Sarah in the same way she would in a face-to-face class, but that her connection with other students was different. As did Mary, Jennifer wanted more ways to connect with others in the class and echoed Mary's suggestion of being paired up for the scavenger hunt activity:

> Number one it gives you a partner to do something with and you can converse about it and maybe one might be more adventurous about it than another and so forth and it might bond the group of students and give a

> broader idea of what you are supposed to do in there (Jennifer, personal communication, November 29, 2010).

While on the scavenger hunt which she completed while sitting at home at her computer, Jennifer found she had teleported to the wrong location. Her experience reflects the level of immersion she felt in Second Life:

> I teleport there and I look around and all these people have odd names on top of their avatars. And it's blood this and blood that and this doesn't look very good. And it was a vampire island and the next thing I know I have all these vampires on top of my avatar. And I'm sitting at home but my blood is just like racing and I'm nervous and seeking teleport faster than I could go and I'm afraid that I'm going to take one of these vampire avatars with me. But I didn't. I got out of there. But it felt as if it was real for me which was very odd (Jennifer, personal communication, November 19, 2010).

Jennifer found the orientation useful in getting past her initial discomfort and awkwardness with the virtual environment. She states that any new technology requires time and familiarity before it becomes comfortable. She is also quick to point out that Sarah was always available for additional help with Second Life and was unfailingly patient:

> If I had questions, which I had many, she responded to me right away and if I didn't understand it, she would try and explain it in another way to make it easier for me to understand. And she taught me that in this venue

> you have to just be persistent. You just learn the different tools that you have and practice makes perfect (Jennifer, personal communication, November 19, 2010).

For Angela, this was her second class in Second Life. Angela is a 39-year old graduate student who works at the same university as Sarah. She appeared to be the most experienced and comfortable in the virtual world. Angela says she enjoyed the class and learned a lot about how to use Second Life in education and perhaps as a place to launch a business.

As did Mary and Jennifer, Angela expressed a desire for more connection with other students. Angela says her connection to the instructor was established early on but that she wished for more whole class interaction. "I would suggest having more round table discussions, more interaction with (sic) entire class… to feel more like a real classroom environment, to see the other classmates regardless of them being avatars" (personal communication, November 29, 2010). Angela had another suggestion for Sarah which she felt would help students learn more about each other:' "I would recommend almost like an ice-breaker among the avatars because if we had to talk to each other or do certain activities, it would definitely bring us closer and feel like we could talk to each other" (personal communication, November 29, 2010).

Learning in Second Life is something Angela appreciates for several reasons. She stated the virtual environment and being in class with other students gives a more personable feeling and added, " SL is another additive or category that helps make DE [distance education] learning better in the sense that there is a campus, a teacher, and classmates" (personal communication, November 29, 2010).

The interview with Angela was conducted via text-chat in Second Life. Toad is my avatar name. In the text-chat transcript excerpt below, Angela talks about another reason she likes going to college in Second Life:

> [15:58] Angela: I'm able to relax at home and not get distracted...learn at a slower pace....and of course, look like this gorgeous avatar.
>
> [15:58] Angela: lol
>
> [15:59] Angela: I think being in a classroom makes students more cautious about their looks too
>
> [15:59] Toad: Indeed. Tell me how you see your avatar? It is you, a representation of you?
>
> [15:59] Angela: Yes, I think I
>
> [16:00] Angela: I'm similar to her but of course she's trimmer … she's me but not me.....I do see her as her own person (personal communication, November 29, 2010).

Being able to look slimmer or more attractive by designing your avatar that way was in fact mentioned as a positive aspect of SL by several students that were interviewed for the study.

All three students of Sarah's students who were interviewed understood and appreciated her efforts to create social presence in their Second Life classroom. All three enjoyed their student cube in Second Life which they experienced as their own safe haven and as a place to decorate as they would a real-life space; a way of expressing who

they are. All three felt a sense of immersion in the virtual environment that made the class different than other traditional online classes. All three felt Sarah's personal family information made them feel more connected to her. The one issue that all three remarked on, was in creating more opportunities for connecting with other students, although both Jennifer and Mary noted that the student's real-life obligations might have conflicted with additional student-to-student activities.

Sarah: Six Themes

This section has detailed the six themes that developed in the study as they relate to Sarah. These themes were developed in response to the four research questions posed in the study. The themes as they relate to Sarah's case that were discussed in this section are summarized below.

The first theme is that in Sarah's view, virtual environments can offer a more powerful social presence experience for online learners by introducing elements of real-life social interactions that are difficult to reproduce in text-based technologies. Sarah began using Second Life because she values the social component of learning and because she believes in experiential learning for her students. The sense of social presence and the opportunity to carry out "hands-on" learning in the virtual environment are very attractive to Sarah. She believes the learning experience for her students is superior to what she could offer in a traditional online course that uses text-based technologies for communication and interaction.

The second research question asks what influences a faculty member's beliefs and perceptions about social presence strategies. There are two themes that I have drawn from this question. The first is that in Sarah's case, the strongest influences on her beliefs and

perceptions as she describes them are for the most part internally driven and drawn from personal experience.

The third theme (that responds to the second research question) is that Sarah's own interests draw her to investigate new technologies and she is willing to jump in and learn through a combination of on-the-fly mentoring and trial and error.

Both these themes reflect characteristics that have long been identified with adult education; for example self-direction, self-motivation and interest in learning driven by experience. In addition, the learning that Sarah pursues is problem-centered. In other words, she looks for things that will help her teach so that her students can be more successful.

The third research question asks, How are their [instructors who teach in virtual worlds] beliefs and perceptions manifested in practice? There are two themes that I have drawn from this question. The first, which is also the fourth theme, is that Sarah has transferred good pedagogical practices such as communication and interactivity to her Second Life classroom which mimics many of the conditions that exist in a face-to-face classroom. Sarah's beliefs and perceptions about social presence affect the way she designs her course. Activities in the virtual world, and in other technologies Sarah uses, are designed to encourage social presence opportunities and to increase communication and interactivity with students.

A second theme drawn from this question (the fifth) is that Sarah has found that institutional support is vital to teaching in a virtual world. The assistance she receives from her university instructional technology group, which includes student orientation

sessions and help in building activities, is invaluable. Student experience also supports this finding.

The sixth theme of the study relates to research question four which seeks to discover the student perception of social presence within the context of their learning experience in Second Life. Sarah's students respond positively to her social presence strategies in Second Life, but they have a basic unfamiliarity with virtual worlds. This minimal level of knowledge can lead to student discomfort. Sarah, and other instructors who use virtual worlds, need therefore to build in different ways for students to connect and become comfortable in the environment. This again points up the need for institutional support, especially in providing orientation sessions. All of Sarah's students expressed a desire for more structured opportunities to connect with classmates.

Three Words - Sarah

As part of my last interview with both Emma and Sarah, I asked each of them to give me three words that would describe teaching in Second Life. After I posed the question, Sarah laughed and explained her amusement by saying she gives her students an assignment to create a video that only uses three words. Her response to my question was, "I guess for me three words would be; the first ones that came to mind were exciting and fun. Course that's two words, so now I only have one left. I guess exciting, fun and thought-provoking" (personal communication, January 7, 2011).

In the next chapter, we'll get to know Emma, the second of the two instructors in the study.

CHAPTER FIVE

EMMA

This chapter is devoted to Emma, the second instructor and second case in the study. Here, you will gain a deeper understanding of Emma's beliefs and perceptions about establishing a sense of social presence in Second Life, about what influences her beliefs and perceptions and how those beliefs and perceptions are manifested in practice. I will start by returning to the first research question in the study which is: What beliefs and perceptions about establishing a sense of social presence are held by faculty members who teach in Second Life?

Like Sarah, Emma began using virtual worlds because she felt the virtual environment had greater potential to increase social presence in online courses than traditional online tools. In her view, virtual environments can offer a more powerful social presence experience for online learners by introducing elements of real-life social interactions that are difficult to reproduce in text-based technologies.

Social Presence in Second Life: Emma's Story

Meet Emma

Emma is an adjunct faculty member in Women's, Gender and Sexuality Studies at her university which is located in the northeastern part of the United States. Emma is in her fifties and is fair-skinned with chin-length graying hair. She has taught in higher

education for about 30-years. She has taught in Second Life for five years, considers herself an intermediate computer user and is comfortable with technology in general. She does not play video games, but does belong to several social networking sites including Facebook, LinkedIn and Twitter.

Emma's university has a student population of over 50,000 attending its' numerous colleges, schools and programs. The university is located in the capital of the state and has a population of about 800,000 people. Emma has taught in Second Life for five years and in addition to classes, conducts community meetings in the virtual world. She is involved in Second Life groups that focus on women's and feminist issues. She has published articles on the use of Second Life in education and as a place for activism on women's issues.

Emma teaches an online Women's Studies course for undergraduate students in Second Life. Students in the course could be located almost anywhere in the United States. Course class meetings take place completely in Second Life. The course that I observed met once a week in Second Life for about two hours during which students engaged in discussions on course topics and carried out various activities including visits to locations in Second Life. Students in the course also had several assignments in Second Life that they could complete on their own or in self-selected pairs or larger groups.

Like Sarah, Emma uses additional technologies, including a course management system for the syllabus and course readings, video clips and other materials.

Background of Emma's Course

The syllabus for Emma's course describes it as a distance course, with real-time

meetings in the virtual world of Second Life. The course covers philosophies of modern feminism, and its relationship to issues of race, class, sexual orientation, economic equality, physical ability, violence, and the environment. The affordances of the virtual world are incorporated into the course content in the following way as described in the syllabus:

> Within Second Life, we will see how these issues are reflected in a virtual society where individuals can choose their identity, gender and race, and change them at will. We will also explore the possibilities of this new medium: Is a virtual environment a good base for feminist activism? Is sexual harassment present in Second Life? How does the "digital divide" affect women's participation in this new medium? (Emma, course syllabus, September 2010).

Emma's students are a mixed group. Some are traditional college-age students while others are older working adults, some with families. Students in this class were given a choice: to meet weekly in Second Life for discussion and in world field trips, or to complete a series of written reading response assignments covering the same material that would be covered in the SL class. Both groups had several independent field excursions in Second Life. Ten of 25 students, all of them female, chose to attend the SL class.

To maintain academic rigor in her course while using Second Life as a place to meet, talk and experience things together, Emma uses her university course management system to supply the supporting structure. All the course materials including the syllabus, readings and videos are stored in the course management system along with detailed

questions, guides for review, assignments and assessments which she believes are essential for student learning. Exams were "take-home" exams, but students had only 24 hours to complete them and submit them in the course management system. Students also worked on a paper for the course which they could display in Second Life.

At the time of my observation, the university was on a quarter rather than semester schedule. That has since changed. Emma disliked the quarter system because it compressed the time allowed for the course and thus made it more difficult for students to get fully acclimated to the virtual environment. In all, students had 10 weeks for the course.

Emma was available to her students by email and in Second Life. She held regular weekly office hours in Second Life and invited students to drop in when they needed help. Unlike Sarah, Emma did not have institutional support from her university technology department. She had found Second Life on her own, learned it on her own, acquired an island in Second Life through a grant she received, and built the structures on the island on her own.

Emma has created an introductory video for students in which she takes them on a tour of the island, showing them the various spaces in Second Life where they will meet and work together. The video is hosted by her SL avatar so that students will be familiar with her when they arrive. Emma also shows students how they can communicate using either text or voice-chat. Students are shown the red post in Second Life that they will click at the start of each class meeting to receive course materials for that class. The video serves as a basic introduction to the virtual world as well as a sort of icebreaker for students.

The video, other background materials about Emma and the syllabus and are posted on a web site that students can access even before they sign up for the class. Instructions are provided on signing up for Second Life and there are links to other videos that show students the basics of creating an avatar and moving around in SL.

Emma provides her enrolled students several orientation sessions herself. She schedules a small group of students at a time to meet her on the island where she helps them with the basics of avatar creation, and with learning how to move and navigate in Second Life. In addition to orientation sessions, Emma was usually in world about an hour or so before class began and was available to students at those times.

Emma's Teaching in Second Life

Emma's class met once a week for a two-hour evening session. Following some social patter, the session would begin with a discussion that ran about 50 minutes. Students were expected to have completed particular readings and in some cases to have viewed certain videos so that they could participate in the discussions. Generally following the discussion, Emma would take students on a field trip that related in some way to the topics that had been discussed.

In observing Emma's classes it became apparent almost immediately that she enjoys the social aspect of teaching and values communication and interactivity. Emma logs in to Second Life anywhere from ten minutes to an hour before the class session is set to begin. She is in world to greet early-comers and to chat casually before the start of class.

On the day I observed her conduct her class in person, she was at home and had set up her computer on her large wooden dining room table facing a large brick fireplace.

Her cat and dog wandered through the room during the session, but Emma stayed focused on her students.

In real-life, she was dressed casually in a lavender polo shirt and dark pants. She wore glasses and a headset with an attached mic over her hair. Emma's avatar is a bit more colorful with purple hair pulled loosely in a bun, a black sweater over a white collared shirt, a long grey skirt and bright blue roller skates.

Illustration 9 Emma in her Second Life Classroom

Emma's avatar conducts a class discussion on her Second Life island in an open-air classroom

Emma's Mac computer screen is very large affording her a view of her Second Life classroom. In addition, Emma opens another browser window in which she can quickly do online searches for information. Another smaller window on the screen displays a class document, for example, questions that will be used in the discussion.

Emma has constructed her SL classroom in an open outdoor area on her Second Life island. Big greenish-white rocks are placed in a large circle for students and Emma to sit on. Around the circle there are large trees with branches that sway. Emma has also added colorful butterflies that flit through every so often. A short distance away is the beach.

Once all the students had arrived for the evening session, Emma would outline their work by stating the discussion topic and pointing out the questions on the whiteboard. She would briefly describe any activities she had planned. Some activities took place in the class circle area and some on the beach.

Illustration 10 A Class Discussion in Second Life

Students sit on rocks in the outdoor classroom discussing questions that appear on the whiteboard in Second Life

At one point in the circle, she has placed a large whiteboard with a red border, on which she displays a Google doc that contains the set of questions that students must

answer during the discussion. These questions were based on the readings and/or videos with which students were expected to be familiar. The Google doc was shared with students in the class. During discussions, Emma encouraged students to enter notes on the discussion in the document. At the end of the class, the document would be saved and later served as a review for exams.

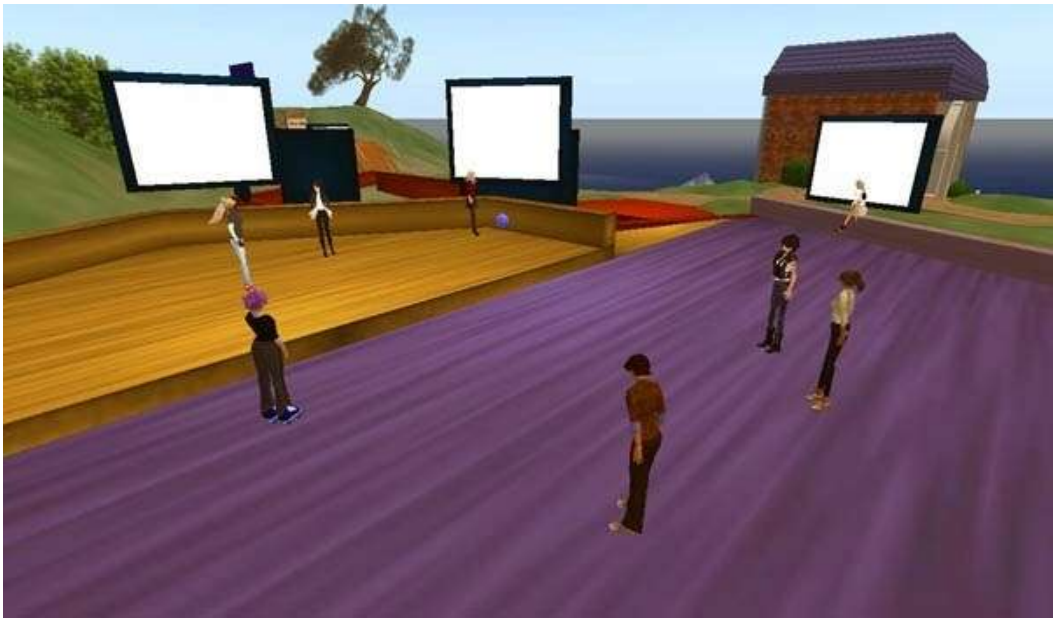
Off in the distance, you can see the ever-present Second Life ocean that surrounds all the islands in this virtual world. For another immersive touch, Emma has applied ocean sounds and so during discussions and other class activities you can hear the cries of seagulls and the sound of ocean waves. There is also a beach area where Emma conducted several class activities. Further back from the beach are a set of billboards displaying information on dressing your avatar. By walking up a wooden boardwalk a short distance, you reach a flashing arrow that points down towards a box. Students were expected to go to the box each day before proceeding to class to retrieve the course documents they would need for the session.

Illustration 11 The Beach on Emma's Island

My avatar stands on the beach facing the red arrow which points students to the box where they can retrieve course materials.

Not far from the classroom area was another open area with walkways and display boards. This is where students shared their final papers. The papers were written by students in a wiki tool and then displayed on the boards in Second Life. All the students in the class were invited to stroll through the area to read their classmates' papers.

Illustration 12 Student Presentation Area for Emma's Class



The display area boards are blank at this point, as students had not yet inserted their papers which were written in a wiki tool.

I observed eight of the class sessions which were generally well attended. Anywhere from six to ten students would be present and most took part in the discussions.

Emma used voice-chat during her classes. As I observed her in real-life, she sat somewhat forward on her wooden dining room chair, facing her computer screen and talked, while gesturing with her hands. On her screen her Second Life avatar could be

seen with sound waves emanating over her head as she spoke. This is how you can tell when someone is speaking in SL. Her avatar also moved her hands in gestures but the movements are more general, unlike the specific coordination that happens in real-life. Emma would also occasionally type a statement, a word, or a question she had just voiced as a way of reinforcing it.

One of Emma's students also used the voice-chat function in Second Life but all the others used text-chat. Class sessions began with Emma checking to see that everyone in attendance could hear her with students responding via text-chat as shown in this excerpt from a Second Life transcript combined with a transcription of voice-chat. The text-chat sections always begin with the brackets containing the time of day which is noted on the Second Life transcript:

> Emma: Everybody hear me, anyone having problems. Oh I love that, when everything works! Just love it.
>
> [16:33] Emma: voice check [typing in text-chat]
>
> [16:33] Pamela: hear ya
>
> [16:33] Yvonne: yup!
>
> [16:33] Emma: everybody hear me?
>
> [16:33] Elizabeth: I can hear you
>
> [16:33] Aylin: i hear you (4th class observation, Second Life transcript, October 19, 2010).

As with Sarah's class, students in Emma's class used a mélange of texting conventions drawn from chat, cell-phone texting and instant messaging including abbreviations, smiley faces and all lower case text.

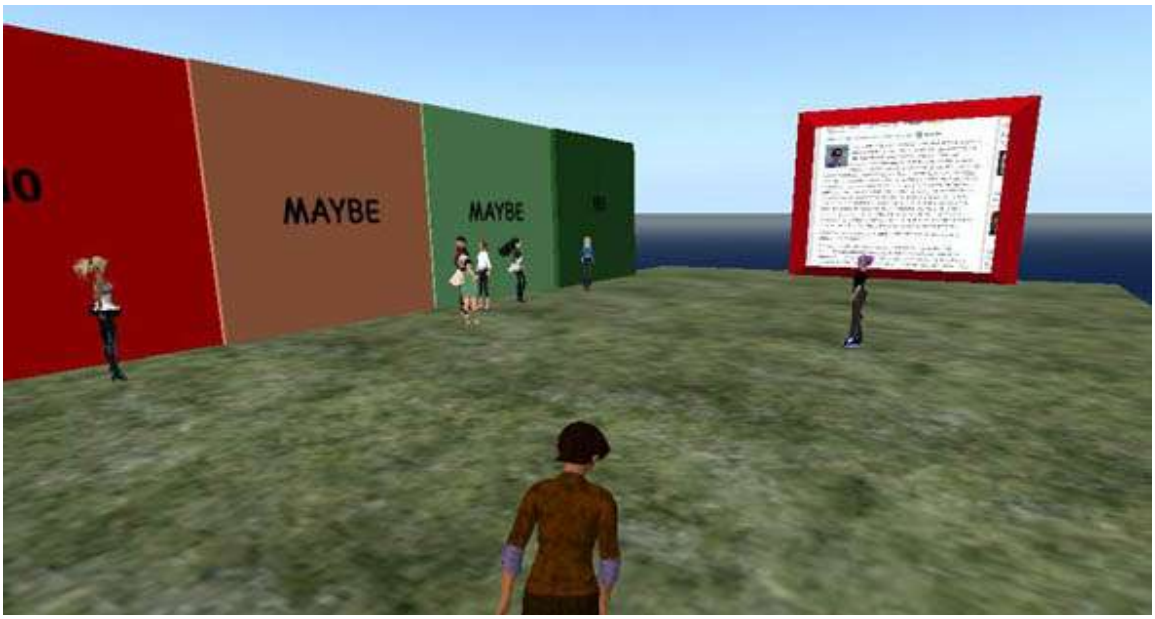
Being able to use both voice and text at the same time is something Emma appreciates for herself and for students. As seen earlier, Emma will sometimes type in a question she has just posed, or type a word that she is trying to reinforce with students. For example, in the quoted section above, she types "voice-check" after asking through voice-chat if everyone can hear her.

Another use of this type of multi-layered conversation can occur with students during discussions. Emma explains that sometimes students who may not feel comfortable speaking and using voice-chat, type their comments instead. She relates the story of a male student who had been silent during a discussion about domestic abuse who suddenly began typing his story involving his experience as an abused child. The discussion had been proceeding for some time and most students and Emma had been using voice-chat. Emma says no one using voice chat acknowledged the conversation as it was very personal, but they did type in response to his story. Emma states," I think that student would not have said that out loud to the group, but because we have this multi-level discussion capability, he could say it in text chat" (Emma, personal communication, September 28, 2010). For Emma, this is another advantage that Second Life offers, the opportunity for participants to type if they feel uncomfortable speaking, but also the opportunity for multi-level conversations (personal communication, November 2, 2010).

Generally both Emma and her students remained seated throughout the discussion portion of the class. There were several times though when an activity was planned as

part of the discussion. In one activity, students expressed their opinion on a topic by walking in Second Life to stand in front of particular colored boards that were located in a space near the discussion circle.

Illustration 13 Class Activity in Emma's Course



My avatar is in the foreground of the picture and Emma's avatar is standing directly ahead of me and to the right facing her students

Students who would have voted no on the topic gathered in front of a red colored board. Those who would have voted yes stood near a green board and those who were undecided had two choices depending on whether they were closer to No or Yes. This was an interesting activity as it forced students to at least consider taking a public stand on a controversial topic. There was quite a bit of wavering as students chose their positions. In the end, most of the students that evening chose to be neutral, but some did take a stand one way or the other and then defended their choice.

Emma's Beliefs and Perceptions on Social Presence – Research Question One

Emma's introduction to the concept of social presence came about through her own interest and independent research. For her, social presence has a natural link with feminist pedagogy, which she says, "places a lot of importance on individual voices, collaboration and consensus" (personal communication, March 14, 2011). She says as a long time educator, who has also taught French language classes, she has always understood the importance of connecting with students:

> I think that learning is social. As a language teacher, I was always struck by the way a student could understand me so much better if I just looked in their eyes when I talked. The big struggle for distance is to achieve that connection, with the teacher, or with other students, by overcoming the barriers set up by impersonal technology. In virtual worlds we can't actually look in their eyes, but it's much closer than anything else we've done so far (Emma, personal communication, March 14, 2011).

For Emma, Second Life provides online students many of the same social presence opportunities that occur in a face-to-face setting:

> I think it's really important that students talk to each other, that they develop a community feel, that they make friends. I guess that might sound silly, but that's social. The social way, and that's the way you learn, socially. I want to develop a social space there [in Second Life] to reinforce the rather independent study of the course management system. I guess if I have a teaching philosophy I guess that's it (Emma, personal communication, November 2, 2010).

Emma's students addressed her exclusively using her Second Life avatar name and she in turn used only their avatar names during their in world class sessions. Emma says using the student's avatar name is another way of establishing a connection with that person. Indeed addressing others by name is a cohesive social presence behavior. For Emma using a student's name is like reaching out and touching them:

> If you do that, there's something that happens when you reach out. You say, "Hello," that means one thing, but if you reach out and touch them on the arm, you've said hello louder. Any little thing you can do to get that electricity flowing in a student works (personal communication, November 2, 2010).

As students start teleporting in for class, Emma greets them and chats. During these conversations, but also during the course of the class, Emma tells stories about herself and her experiences which is an affective social presence behavior. In one discussion with students about listening to diverse opinions on feminism, Emma talks about her own family:

> You know, my mother, I think she's a radical feminist—I don't approve of her at all, but then she's my mom. But even in your family, there'll be different opinions about gender, human rights. Thanksgiving, it's always a big fight at my home (2nd class observation, Second Life transcript and transcription, October 6, 2010).

Emma expresses emotion and uses humor, which are affective social presence behaviors, quite often during class. She believes it breaks down barriers and because, "I don't want to be at the top of a pyramid. I want to be part of a circle, and that's one way

to do it, is to make fun of yourself, hopefully, or just talk about yourself (Emma, personal communication, November 2, 2010).

Emma's use of personal stories is also a way to encourage students to talk about themselves. Emma feels this is important because her class is about women's studies and for her it is important that students find their own voices within it.

As with Sarah, most exchanges that Emma has with students can contain multiple indicators of social presence. In the following excerpt from my observation of the first class session, Emma tells the class she may need to guide students who are lost to the class. Her comments demonstrate several different indicator categories of social presence. Again, this is taken from a transcript of text-chat in SL combined with a transcription of Emma's voice-chat:

> Emma: OK, I'm going to be a little bit distracted tonight because I'm going to be checking for latecomers and lost lambs and everything [Affective].
>
> ...ah Yvonne didn't hear me [Cohesive]. You and I will go off together and fix that [Interactive]
>
> [16:36] Yvonne: Ok, thank you (1st class observation, Second Life transcript and transcription, September 28, 2010).

Emma's last comment refers to helping her student Yvonne adjust a setting in Second Life so that Yvonne can hear voice-chat.

During the first class session, Emma coached students on the process they would use in class for discussions. She showed them how to annotate the whiteboard Google doc with notes based on their discussion and responses to the questions. She also talked to them about the importance of reaching consensus. On several occasions during the first

two class sessions in Second Life, Emma would take a few minutes to go off with a student to help them troubleshoot a technical problem. During these brief absences, Emma would direct students to continue going down the list of questions on the Google doc displayed on the whiteboard, and add their notes.

When this happened, at least in the classes I observed, the students stayed on task and worked together as a group even though prior to this class, they may only have met each other briefly once during an orientation session. In this excerpt from the Second Life transcript, students are moving through the set of questions on the whiteboard and notice that they have spent a large amount of time on the first few questions because they took time for off-topic questions:

[17:04] Pamela: time limits would be good

[17:04] Aylin: i guess we could write what just happened for number 3

[17:04] Aylin: redirecting in a respectful manner

[17:04] Bianca: even things that may be off topic are still important :-)

[17:04]Aylin: allowing for others to provide input

[17:05] Elizabeth: yes engage everyone and redirect the entire goup (sic) back to the discussion

[17:05] Yvonne: I agree with Bianca, but we will just have to find a way to save the off topic discussions for later

[17:05] Yvonne: while respecting everyone

[17:05] Erica: i think it is also important to answer the off topic question if it is about how to use second life

[17:05] Pamela: Maybe we should leave time at the end specifically for off-topic questions?

[17:06] Yvonne: that sounds good to me

[17:06] Bianca: i concur (1st class observation, Second Life transcript, September 28, 2010).

The exchange above demonstrates several social presence behaviors as students addressed each other by name [Cohesive], referred specifically to what others were saying and indicated agreement [Interactive], and expressed emotion as in "that sounds good to me" and the smiley face [Affective].

Students too displayed behaviors in all three social presence indicator categories, but especially Affective and Interactive behaviors. Perhaps because of the immersive aspects of the virtual world, students appeared to bond with each other quite early on in Emma's class. Their level of comfort with each other and with Emma was apparent in their casual chats where they talked about personal issues. For example:

16:31] Paula: sometimes i think i want to stretch my lobes [Affective]

[16:32] Yvonne: I've thought about it, but my track record of healing ear piercings is no good [Affective] [Interactive]

[16:32] Yvonne: I think it would go sour [Affective]

[16:32] Yvonne: for me anyway [Affective]

[16:32] Emma: I can tell by listening in you are all planning to shock me again tonight. [Affective] [Interactive]

[16:32]Paula: really? how so? [Interactive]

[16:32] Emma: Stretching your earlobes. I want to talk to your mother. [Affective] [Interactive]

[16:33]Yvonne: haha [Affective]

[16:33] Paula: lol [Affective] (7th class observation, Second Life transcript, November 9, 2010).

The transcript above reveals a certain level of ease that had developed between Emma and her students and also among and between students. There were also many comments that were made throughout the quarter that indicated students felt part of a cohesive group. For example, at the end of one discussion where students had collaborated in adding notes based on their discussion to the whiteboard document and had answered all the questions, one student typed in "Yay" leading to the following exchange that demonstrates multiple affective and cohesive social presence behaviors:

[17:32] Bianca: good work, everyone

[17:32] Erica: um yeah we are way clever

[17:32] Yvonne: awesome!

[17:32] Erica: go team

[17:32] Pamela: yes, great work team!!

[17:32] Erica: sweet

Emma: Aren't we good? (1st class observation, Second Life transcript, September 28, 2010).

Emma's interjection at the end of the exchange is an interactive social presence behavior, a following up and reinforcement of what a student or students have said. This is something she did often during discussions. At times, it was to bolster or validate a student's case, or to question a problematic statement someone had made. In some cases, it was to commend students. In this transcript excerpt, Emma is facilitating a discussion about societal reactions to women who breastfeed their children in public places:

[17:02] Erica: so we can use the 1st part of the question even though part of it is an opinion? so maybe say as a woman do you feel that it is your right to breastfeed?

[17:02] Emma: The solutions part is good

[17:02] Erica: yah and then add the solutions part

[17:03] Emma: I love it when students do my work for me.

[17:03] Erica: ahhh we are all your minions!

[17:03] Emma: :-)) (8th class observation, Second Life transcript, November 16, 2010).

Emma's humorous affective remark leads to the student responding in kind to which Emma responds again with humor. Despite these asides, the discussion continued

on topic as other students voiced their suggestions and opinions, much the way it might happen in a face-to-face setting.

In an earlier class observation, the activity following the discussion was to learn how to buy objects in Second Life. Emma had arranged a set of individual orange boxes on the beach area of the island, each of which contained a hat. The plan was to have each student buy a box, then open it, retrieve the hat and put it on. The hat itself was remarkable in that it had flames shooting out of the crown. Students were trying to follow Emma's directions on the process, but for some unknown reason, were finding flamingos instead of flaming hats. Despite their difficulties, students seemed to be in good humor.

As students milled around, some helping each other, some typing out their frustrations, some trying Emma's directions over and over in hopes of success, I felt as an observer, a sense of collective immersion. Each student seemed so intent on the task and so engaged in it, and at the same time, so social. These excerpts of the SL transcript and transcription of Emma's voice-chat comments conveys some of that feeling:

17:38] Aylin: im having trouble

[17:38] Erica: i see it when i hit the box but can't get it :(

[17:38]Erica i have a flamingo! Ha

Emma: can you find it in your inventory?

[17:39] Amanda: no

[17:39]Paula: no

[17:39] Erica: nope only flamingo

[17:39] Amanda: it will let me click buy but then i can't find the hat inside of it

[17:39] Yvonne: no just flamingo

[17:39]Aylin: i see my box but im unable to select anything else

[17:39] Kendall: I have it and when I press wear it just attaches the box to me

[17:39] Amanda: when i wrote in the next box it doesn't say flaming hat just flamingo

[17:40] Erica: can i have the flamingo :)

[17:40] Colby: I DID IT!!

Emma: You can have the flamingo my love (1st class observation, September 28, 2010).

The exchanges which continued for several minutes present numerous examples of social presence behaviors mainly in the affective and interactive categories.

As part of the second meeting, Emma had designed an activity that took advantage of the immersive aspect of Second Life. It involved having students try on the clothes of a different culture to see how they felt in the international garb. The clothing that students tried on was the *chador,* a full body covering, and the *hijab* which is the headscarf or partial veil worn by some women in certain cultures. Emma explained that the exercise was a way to, "use the avatar to try to explore other people's experiences"

(personal communication, September 28, 2010).

Illustration 14 Emma's Students Wear Clothing from Another Culture

Students wear chadors and hijabs to experience another culture's clothing

To carry out the activity, students walked or flew down to the beach area from the circle. Arrayed to one side on the beach were boxes containing the clothing. By clicking on one of the boxes, a student would retrieve a folder that contained the clothing. Emma instructed students to drag the folder onto their avatar in order to wear the clothing object inside. As they donned the item, students described their reactions. The excerpts below are from the Second Life transcript of that class combined with a transcription of the accompanying voice-chat:

[17:45] Paula: I like changing my appearance in here

[17:45]Erica: I like it. I mean if you had to wear this at least you wouldn't have to worry about brand names, designs, etc.

[17:45] Paula: I can dress how I likeea (sic)

Yvonne: For me it's like, like, it's oppressing identity somehow. If you can only see someone's eyes, but then there's so much, that is left to the imagination..

Emma: You ought to try the hijab on. I'm feeling like a powerful woman in this. I'm really quite surprised. I made this thing, but I wasn't thinking when I made it, but I'm watching myself from the back and I feel so powerful, it's surprising!

[17:54] Crystal: I like it, mainly just because it is different. It gives me a new perspective on things.

[17:54] Paula: I want to try it

[17:55] Yvonne: I feel a little surpressed (sic). Peoples (sic) clothes often say a lot about them

[17:55]Erica: yeah i like to express myself w/clothes...not like brand names but just clothes in general

[17:55] Yvonne: it's like a cape

[17:55] Erica: it's like long hair (2nd class observation, Second Life transcript and transcription, October 6, 2010).

As students tried on the two different pieces of clothing, Emma led a discussion about how clothing affects the wearer and the people observing the wearer. She and the students talked about the judgments people are inclined to make about others based on their appearance. She also noted that this exercise demonstrates what the avatar can do in helping, "you think about who you are, and where you stand in society and your relationships to other people" (Emma, Second Life transcript and transcription, October 6, 2010).

The avatar is central to interaction in Second Life and for Emma that is a big part of what makes the experience in SL immersive and similar to real-life encounters. During an interview with her in Second Life, she remarked that by seeing me sitting there with her, "I can look at your avatar and I can look at the choices for your avatar and see your personality there" (personal communication, September 28, 2010). Emma considers the avatar an artistic creation that says something about the person who created it. She states, "People make judgments about you because of your avatar" (personal communication, November 2, 2010).

For some students, the avatar may not be seen as a representation of oneself but rather as a "chess piece" (Emma, personal communication, September 28, 2010). Based on her experience, Emma believes those students are in the minority. However, she also thinks that for them, immersion in the virtual world will be minimal:

> If a student isn't immersed, they're not going to get much out of a field trip and things. If for example they say things like this is stupid and boring. Some students will see the same trip and say this is wonderful, this

> is beautiful. So I know there are different ways of accessing this material (personal communication, December 6, 2010).

Emma is concerned that students who don't find value in Second Life may influence other students who invest more time in creating their avatar and who are more invested in their surrogate and in what the virtual world has to offer. Her enthusiasm for Second Life, she says, is also related to her subject matter of women's studies. She talks about the feminist groups and activists within Second Life as a resource for her students:

> I personally think that for feminists, Second Life is an amazing opportunity, because you can really connect with people in small groups. You can work together. It fits in with the way we work in the world. So it's a learning experience. They can learn from communities of practice. They can learn from other groups of students working on related material. It's just an ideal, very rich environment (personal communication, September 28, 2010).

Almost every class concludes with a field trip to a pre-selected destination in Second Life that was related to the discussion topic. Following a discussion that centered on the oppression of slaves and of women, the class teleported to the Garden for Change, which is a garden designed and built in Second Life by homeless people. The garden which is filled with food crops, animals and many flower gardens is envisioned as a place for healing. Emma urged students to think about whether and how virtual worlds can be used as therapeutic places for healing.

Summary of Emma on Social Presence and Second Life

Emma exhibits multiple social presence behaviors with her students in Second Life. For her, Second Life is essential for creating social presence with distant students. She states,

> It [Second Life] fits in with the way we work in the world. So it's a learning experience. They can learn from communities of practice. They can learn from other groups of students working on related material. It's just an ideal, very rich environment (Emma, personal communication, September 28, 2010).

Emma uses Second Life so that students can feel immersed and connected in a common environment and so that they feel themselves part of a community.

Influences on Emma's Beliefs and Perceptions - Research Question Two

The second research question asks about the influences on a faculty member's beliefs and perceptions about social presence strategies. The knowledge I was seeking here is about where the influences on an instructor's knowledge about social presence originate.

For Emma, the influences on her beliefs and perceptions about social presence strategies are largely internal and drawn from experience. According to Emma, face-to-face teaching is the ideal. Emma's belief is that most distance courses which focus on text-based communications are missing the social component that is more or less natural in face-to-face teaching. She sees Second Life as bridging that gap because students can hear her and see her (in avatar form).

> I think it's much better than a text-based course because a text based course is distanced from the people—it puts a distance between people.

> The best thing is a face to face! I think that's why we go to all the trouble of driving and making these universities because face-to-face adds something to the learning. Otherwise traditionally we would have done it by correspondence and I think that with this technology we're just admitting that there is a need for human communication (personal communication, December 6, 2010).

Emma investigated the concept of social presence independently after hearing about it from her readings, from courses she sought out and took about online learning and from groups with which she is involved. Emma says for her the social component of learning and of creating connection between student and teacher and between students is a foundation for learning. The need to create social presence in her online course was therefore of great importance. She sees a need to overcome the barriers to personal connections set up by, "impersonal technology" (personal communication, March 14, 2010).

Emma started teaching online in 1996. When she arrived at her current university, she discovered there was no distance course in her department of Women's Studies. She thought it important to have online courses for working women or those who needed to stay at home and so proposed one.

> I see distance education as particularly positive for women. I've taught traditional distance courses, and I know that some of my students would never get a chance to learn if we didn't make accommodation for their schedules. Virtual worlds allow an even deeper experience for these

> women, and I'm just committed to that (personal communication, January 3, 2011).

As she began designing the course, she simultaneously began looking at whatever new technologies were available and she came across Second Life. Emma says she was bowled over by what she saw as its potential. "The possibilities just amazed me. It was personal. It wasn't just that, "Oh, here's a nice tool." I felt that I had entered another space. I felt really anchored in that space "(personal communication, November 2, 2010).

The lack of structure in Second Life is one of the things that Emma found most attractive about SL. She saw it as a place where she would be free to create anything she could imagine.

Her excitement about the virtual world drove her to look for grants and after she had secured a few, she was able to pay for an island in Second Life. This is the island she began teaching on. Over a period of years she taught herself to build objects, use scripts and embed sounds. She has developed the island with the open-air classroom area, the beach, a garden space for outdoor displays and a building with a gallery that also highlights student work.

Emma is highly complimentary of the people she met in Second Life who helped her learn, who gave her objects she could use and who mentored her through the early stages of learning about the virtual world. She says what kept her going was partly the SL community support she received and partly, "a vision of what education could be in a virtual world platform. I'm quite evangelical about it" (personal communication, January 3, 2011).

A chance meeting in Second Life with another instructor from Dubai literally opened up a whole new world for Emma. She and the instructor planned a joint meeting for their classes where students talked about what their lives were like in their respective countries and Emma began to see other possibilities for international cooperation.

Cross-cultural experiences are in fact one of the things that Emma finds attractive in Second Life and this was apparent in the classes I observed. In a class discussion of a previous field trip, one student reported meeting a woman from Afghanistan and conversing with her about women's issues. On another field trip, students used a heads-up-display (HUD) that converted their typing in English to French or Spanish and allowed them to "talk" to people from those countries.

Emma's self-direction in learning is evident in how she learned about social presence strategies and how she learned to use Second Life. In fact, both Emma and Sarah took it upon themselves to learn how to use Second Life after discovering the importance of creating connections with students in an online class and this supports the third theme developed in the study. As does Sarah, Emma demonstrates an innate desire to try new strategies and technologies and is willing to jump in and learn about them through a combination of on-the-fly mentoring and trial and error. This finding is also related to the second research question which seeks to understand the influences on instructors beliefs and perceptions about social presence.

In Emma as well as with Sarah, we can see characteristics that have long been identified with adult education; for example self-direction, self-motivation and interest in learning driven by experience. For Emma, her motivation to seek out knowledge about social presence and about Second Life was practical. Her perception was that both these

things when put together would improve her teaching so that her students could be more successful.

Emma describes herself as a leaper by nature, "I'm a two-feet-first, jump-into-it sort of a person" (personal communication, November 2, 2010). She learned Second Life through a combination of jumping in and making mistakes, asking others in world and outside for help and getting some on-the-fly mentoring from those she met. She cites a listserv for educators involved in teaching in Second Life as an important resource. In addition, she follows several education groups that are focused on the use of technology in teaching and has found other groups that she finds supportive in Second Life. Emma says she has picked up her knowledge both about social presence and about Second Life from these sources and from her own investigations. But possibly the best source of information for Emma is her own experience. She has used Second Life for five years.

Making mistakes is part of learning, and Emma is not shy about sharing stories of her own mishaps. She describes one of the first classes where she used the virtual world. The class was partly online and partly taught in a computer lab. On this occasion, she and the students were physically together in real-life in the computer lab and also virtually together in the virtual world. She describes what happened when she inadvertently removed the floor in the virtual classroom:

> They all went and sat down in chairs [in Second Life], and I went to move a chair and I erased the floor. All through the lab, you could hear everybody go, "Gasp," like that. That's when I knew that it was immersive for everybody, not just for me. It was a good thing they were all sitting, because they would have fallen 600 meters. So I had to put the floor back

> and everything, but that was a good lesson. They were shocked. The floor was gone, there was nothing underneath them (personal communication, November 2, 2010).

Emma says after five years of using Second Life as a learning space and as her workplace, she is still energized by its possibilities and by the feeling of being present in a common space with others, what she describes as "presence and immersion" (personal communication, September 28, 2010). While she has learned a lot in those years and has seen the technology fail more than once, she is still enthusiastic with students as she describes what they can see and accomplish in their virtual classroom. Her excitement comes through as she describes the start of class in Second Life:

> I love coming to class and watching those little bodies floating in. I'll be there all by myself setting up and then people start flying in."Oh, the kids are home!"(personal communication, November 2, 2010).

Emma's Practice – Research Question Three

The third research question asks how instructor's beliefs and perceptions about social presence are manifested in practice. Emma's experience provides evidence to support the fourth theme which is that good pedagogical practices such as communication and interactivity can transfer to the Second Life classroom which mimics many of the conditions that exist in a face-to-face classroom. In this section I will show how Emma's beliefs and perceptions affect the way she plans, designs and carries out her course.

Emma's belief about the importance of social presence in teaching and learning has led her to the use of Second Life for her online course. There is a direct relationship

between her belief in the social connections that are necessary for learning and her choice of technology.

Infusing a course with social presence requires ways for teachers and students to communicate and to interact, and communication and interactivity are considered good pedagogical practices in teaching. Communication and interaction is most often achieved in an online course through text-based technologies like forums, chat and wikis. Emma's belief which she manifests in practice is that the virtual space in which students and teacher can communicate and interact together is better because it more closely replicates a real-life face-to-face classroom. She uses a course management system to provide the course structure including the syllabus, assignments, assessments and other course materials. Second Life is there so that students can experience the sense of belonging to a community:

> I think it's really important that students talk to each other, that they develop a community feel, that they make friends. I guess that might sound silly, but that's social. The social way, and that's the way you learn, socially. I want to develop a social space there [in Second Life] to reinforce the rather independent study of the course management system (personal communication, November 2, 2010).

When she first started using Second Life, Emma spent a lot of time building objects and arranging her learning spaces in Second Life. Most of the course preparation activities that Emma does now are in the course management system and in technologies other than Second Life. Emma uses Google docs and a wiki tool that is not part of her

course management system. She explains that because she has created activities and materials in Second Life over the years, it does not take her long to set up for a course:

> I don't do a lot of preparation in Second Life…. To teach a course, really, now that I have my materials together, I typically start with a good set of materials. I only have to spend maybe half an hour more than class time. I just go in and I set up the boards, and I'm ready (personal communication, November 2, 2010).

The boards Emma refers to are the whiteboard that displays discussion prompts and questions and another set of boards that display student work from the wiki. As for the set of materials, Emma has created models and other objects in Second Life that she can re-use. For example, in a discussion about hierarchies in societies, Emma was able to use a model from her Second Life inventory that depicted hierarchies visually and use it with students. She states that, "Once you get a body of material, they're in your inventory so if you file them properly, it makes teaching pretty easy" (personal communication, November 2, 2010).

Emma's experience in Second Life also supports the fifth theme which is that faculty who teach in virtual worlds need institutional support. Whereas Sarah had support from her university instructional technology group, Emma does not. One of the most important services that Sarah's technology group provides for her is an orientation to Second Life for her students. Without institutional support, Emma must provide her own orientation for students and this is both time-consuming and difficult:

> The time I spend in orientation is just phenomenal. I meet them one-on-one, go through things with them, and walk them around and make sure. If

> you don't do that, it doesn't get better. They need to be mothered at the beginning. They need to really be fussed over (personal communication, November 2, 2010).

Emma tries to limit orientation groups to fewer than three and enlists the help of more knowledgeable students to help those with less experience. She is frustrated with the lack of support at her school and dreams of having a university supported system where students would have to go through a two-hour orientation session and get a passing mark and where there would be student mentors available to provide help at other times.

For now, she continues to set aside time before the class formally begins to lead small groups of students through the SL interface and shows them what she considers the most important things, one of which is how to get back to their classroom if they get lost or are in an uncomfortable situation in Second Life.

A lack of familiarity with Second Life is not the only hurdle Emma faces. As does Sarah, she has students who may not be particularly technology-savvy. As an example, she cites the case of a student who couldn't find the Alt key on her computer keyboard:

> I was trying to get her to focus and said right-click and hold down Alt and she said there is no Alt on her PC keyboard. Those sorts of things can throw a whole lesson off if you have one student doing that (Emma, personal communication, September 28, 2010).

Teaching in Second Life, Emma believes, has changed her relationship with students. She considers Second Life as disruptive to the usual academic hierarchy and power structure. Although she maintains her position as the overall authority inasmuch as she controls content and grades, she feels that it is much

harder to dominate the class on a day-to-day basis. Emma thinks this is partly because students see her in avatar form:

> I'm not the teacher in the same way, you know? They don't know how much older I am than them. There are a lot of things that they don't know about me. It's hard to impose yourself on people (personal communication, November 2, 2010).

Observing herself teach as she is teaching is quite an experience and something that is easier to do in the virtual environment, according to Emma. She says it has provided a way for her to think about how she acts in the real world and has led to some interesting discoveries about planning and conducting a class:

> You can observe your avatar trying to take control of the class, a sometimes impossible task. I learned that it is better to plan ahead, set up activities, and let the class run with them. If they don't work, I try to have a fallback plan (personal communication, January 3, 2011).

Emma's Student's Experience – Research Question Four

The fourth research question seeks to try to understand the student experience of social presence in the Second Life classroom. The question asks what are their [instructors in the study] student's perceptions of social presence within the context of their learning experience in the Second Life online classroom?

I was able to interview two of Emma's students. Each interview ran from 20 to 30 minutes and the same set of questions was used. In addition, I observed eight two-hour classes in which Emma's students communicated and interacted within the Second Life

environment. Through these observations, I was able to see what I thought was a certain level of comfort that developed between and among students. I was also able to see how students interacted with others and with Emma and to see how students presented themselves through their avatars.

Similar to the results of student interviews at Sarah's school, the sixth theme of the study is that Emma's students' awareness and familiarity with the virtual world is minimal. This minimal level of knowledge can lead to student discomfort. Emma's Second Life classroom and in world activities are designed to overcome this barrier by building in different ways for students to connect and become comfortable in the environment.

In class sessions, Emma's students appeared to experience a sense of presence. They carried out discussions on course topics sitting in a circle in their open-air virtual classroom and displayed all of the three indicator categories of social presence behaviors with each other and with Emma, the affective, cohesive and interactive. There are multiple examples of students engaged in casual banter with each other and Emma before class begins when personal topics are discussed much as they might be in a face-to-face classroom.

Paula is a 30-year old third year student who doesn't play video games and does not belong to any social networking sites. My interview with Paula took place in Second Life using text-chat. Her comments are excerpted from the transcript. Paula says she was not familiar with Second Life before Emma's class, but enjoyed her experience in the class. She states she "enjoyed creating the avatar and exploring different sims [simulations in Second Life]" (Paula, personal communication, November 30, 2010).

Distance learning was not new to her, but she indicates her experience this time was different. Her comments are excerpted from a Second Life transcript:

> [16:03] Paula: I have taken distance learning before. This time I felt moore (sic) of a connection with the instructor
>
> [16:03] Paula: maybe because i heard her voice and had a chance to talk (personal communication, November 30, 2010).

For Paula, the most difficult part of being a student in Second Life was getting used to the new technology. Paula's lack of experience with SL created problems at the start, but she was able to overcome that with Emma's help:

> [15:56] Paula: Emma is very friendly and patient
>
> [15:56] Paula: I was frustrsted (sic) at the start of the course but she was always there for office hours if I need (sic) something (personal communication, November 30, 2010).

Emma's availability for students is a double-edged sword for Emma. While it is necessary so that students can get their footing in Second Life, it is time-consuming and sometimes difficult to handle. Emma expresses frustration when students don't follow carefully thought out and written instructions, or when students ignore information on course requirements which include having particular computer capabilities. Emma likens that to a student who arrives in a face-to-face class without a notebook and pen.

Again this points up the need for institutional support for faculty teaching in virtual worlds. As described earlier, student orientation itself takes up large quantities of Emma's time as does being the sole technical support person for students.

As with Sarah's students, Emma's students too would have preferred additional opportunities to connect with other students. Paula describes herself as being comfortable in class, but remarks that the class would have been more interesting if she had had more interactions with other students. She did take part in some activities outside of class by going dancing in Second Life and carried out one of the assigned field trips with another student.

Paula's evaluation of her learning experience in Second Life is positive. She is a working student and says she is tired after work when she attends class. Being able to attend from home without having to get dressed and drive somewhere she says is an advantage but no different than any traditional online class. Again, Toad is my avatar name:

> [16:10] Toad: Do you think you learned as much in this class as if it had been face to face?
>
> [16:10] Paula: i think i learned more
>
> [16:10] Paula: i can take me (sic) time
>
> [16:11] Paula: and it felt more comfortable to use an avatar (personal communication, November 30, 2010).

Paula indicates several times in the interview that the avatar in Second Life was important to her and in fact throughout the semester, she [her avatar] appeared dressed differently, and sometimes quite spectacularly, in almost every in world class session:

> [16:12] Paula: i like my avatar
>
> [16:13] Paula: she's a great dresser

[16:13] Paula: she's more outgoing then me (personal communication, November 30, 2010).

Paula's comment indicates a separation between herself and the avatar. This was expressed by another student as the avatar being me, but not me. Paula goes on to say the avatar allowed her to focus on the course content because she didn't have to think about her appearance:

[16:16] Paula: i tend to worry abot (sic) how im (sic) dressed or how i look to others after a long day of work

[16:16] Paula: im (sic) usually dragging myself to class (personal communication, November 30, 2010).

Paula affirms that her avatar frees her from being concerned about how she is dressed. Paradoxically it is clear from the different outfits and hairstyles she appears in that she does spend time "dressing" her avatar before attending her class in Second Life.

Sherry, a 21-year old senior at the time of the interview, was looking forward to graduating with a degree in Spanish and Political Science. She does not play video games, but does belong to the social networking sites of Facebook and Twitter. She stated she does not, "particularly enjoy the virtual world type of thing" (Sherry, personal communication, November 24, 2010). My interview with Sherry was carried out with text-chat in Second Life. Her comments are excerpted from the transcript. Sherry says she found Second Life difficult to understand:

[16:22] Sherry: i haven't devoted that much time to actually trying to get a grasp on it, but it is confusing to me

> [16:23] Sherry: mainly i have issues with moving around, it makes me dizzy. but i think it is difficult because it is not like the sims [simulations] where things are premade and you have specific things you can use
>
> [16:23] Sherry: people can create anything
>
> [16:23] Sherry: and some things function well, others are difficult to understand their purpose (personal communication, November 24, 2010).

Sherry says she feels comfortable in the SL class but that the virtual class setting in Second Life did not necessarily have anything to do with her comfort level. It had more to do with the fact that she was sitting in her living room in sweatpants. Sherry says the Second Life classroom setting, "is aesthetically pleasing but we could be sitting in a room that has nothing in it and I don't think I'd feel any different" (personal communication, November 24, 2010).

Sherry says she thinks Emma's orientation session should be more extensive and provide more hands-on practice:

> [16:25] Sherry: I think she could definitely try and do a lengthier orientation that teaches us different things and have us try them with her there instead of telling us to explore on our own
>
> [16:26] Sherry: and she did try, but i think because it is so easy to her now that she doesn't realize how difficult it is for people new to Second Life (personal communication, November 24, 2010).

Her comments are important for instructors to consider. Instructors may need to put themselves back in their "newbie" shoes to understand the difficulties some students

may face. Again this reinforces my fifth and sixth themes which is that instructors need institutional help perhaps especially so with orienting students because student knowledge of virtual worlds is minimal and in some cases non-existent.

Sherry indicated she did feel a sense of connection with Emma and that she felt she understood something about her and her opinions on issues. For Sherry, the type of connection that occurs in Second Life is quite different from what happens in a face-to-face setting:

> [16:28] Sherry: well i think that it is definitely a different type of connection considering I have never seen her face so its (sic) not like in a classroom where eventually you feel like instructors know you, because I could see her walking down the street and she would never know
>
> [16:29] Sherry: that it was me but I do feel like I know the avatar [representing Emma] because in the classroom obviously she is very opininated (sic) (personal communication, November 24, 2010).

Sherry makes it clear that her opinion about Second Life may be colored by her personal situation but concedes that the avatar may affect how a student feels:

> [16:36] Sherry: I think I have a distorted opinion on this. I'm a senior and I'm only taking this class to remain a full time student. I don't care about feeling connected, just getting the work done. For someone less apathetic at this point in their college career, I can see it being important. Just like in a real classroom, no one wants to give their real opinion unless they feel comfortable. Although it is a little easier for people I think because they might feel safe behind an avatar, students generally don't like to express

> themselves if they feel uncomfortable (personal communication, November 24, 2010).

Again, reflecting the same sentiments as all the other students interviewed in this study, Sherry indicated additional activities with other students would have increased her sense of connection to other students:

> [16:31]Sherry: I mean I think that if we went on field trips together at a set time on a set day, like class, that would help
>
> [16:32] Sherry: because the field trips are due on sundays at midnight and we do them ourselves. To be honest, at that point I'm just doing what I need to do to turn the work in (personal communication, November 24, 2010).

It would appear that Sherry fits the category of students that Emma described as not being immersed in the virtual world. She sees her avatar as a piece of technology with which she interacts in Second Life, but not a representation of herself. Sherry explains that in her opinion:

> The avatar cannot feel. It can't feel awkward or uncomfortable. Its (sic) made out to be like when Tyra Banks dresses in a fat suit and can see the world through someone elses (sic) perspective The avatar doesn't have a perspective because it doesn't exist in real life (personal communication, November 24, 2010).

Despite her reasons for taking the class, so she could remain a full time student and graduate, and her opinion about the avatar, Sherry says the in-world class is, “not that

different from a regular class, as far as the discussions go" and that the field trips were "kind of interesting"(personal communication, November 24, 2010).

During my observation, Sherry did contribute to class discussions by typing in occasional comments during discussions and referring to the readings and videos that were part of the course content. However, she admitted during the interview that she checked email and Facebook during class. This she stated did not have anything to do with Second Life, but rather with the nature of online courses where the instructor cannot see the student.

Both Sarah and Emma are well aware of this type of student behavior. Emma commented that it is something that she dislikes but cannot really control in any online setting. Sarah noted that the same type of disengagement happens in face-to-face classes, although it is easier to see and therefore efforts can be made to correct it. Both instructors indicated they felt students needed to take some responsibility for their own learning which includes doing the required work and participating in class activities whether the class meets in real life or Second Life.

Emma: Six Themes

This section has detailed the six themes that developed in the study as they relate to Emma. A summary of this is provided below.

The first theme is that for Emma, virtual environments can offer a more powerful social presence experience for online learners by introducing elements of real-life social interactions that are difficult to reproduce in text-based technologies. Emma began using Second Life to because she believes the social component is central to teaching and learning. Emma uses Second Life because she believes it provides students a place to

create community. She sees the avatar as important because its presence is what engenders the social, much as seeing a person in real-life does. She sees Second Life as a place where students can meet people from other countries and exchange idea, as well as a place to learn about other cultures and to experience them firsthand. As does Sarah, Emma believes the learning experience for her students is superior to what she could offer in a traditional online course that uses text-based technologies for communication and interaction.

The second research question asks what influences a faculty member's beliefs and perceptions about social presence strategies. There are two themes that I have drawn from this question. The first is that in both Sarah and Emma's cases, the strongest influences on their beliefs and perceptions about social presence and its use in the classroom are for the most part internal and drawn from personal experience.

The third theme that comes from the second research question is that Emma's own interests draw her to investigate new strategies and technologies. Also, she will jump in and learn new things through a combination of on-the-fly mentoring and trial and error.

The third research question asks, How are their [instructors who teach in virtual worlds] beliefs and perceptions manifested in practice? There are two themes that I have drawn from this question. The first is that Emma has transferred good pedagogical practices such as communication and interactivity to her Second Life classroom because the virtual world mimics many of the conditions that exist in a face-to-face classroom. Emma's beliefs and perceptions about social presence affect the way she designs her course. For Emma, most social presence directed activities take place in Second Life

through discussions and field trips. It is in Second Life that there are opportunities for communication and interactivity with Emma and between and among students. Other technologies provide the traditional structure that is necessary for an online course.

A second theme drawn from this question is that instructors who teach in virtual worlds need institutional support. Emma lacks institutional support and as a result must provide orientation to Second Life and technical support throughout the semester by herself. This is both time-consuming and difficult and draws her away from her central role which is to teach course content. Emma expressed great frustration at the fact that she does not receive assistance from her university instructional technology group. She believes her course would be better if students came to it already familiar with Second Life and if there was technical support available from the technology group throughout the course. Student experience also supports this finding.

The sixth theme responds to research question four which seeks to discover the student perception of social presence within the context of their learning experience in Second Life. Of Emma's two students who were interviewed, one felt a greater sense of immersion and social presence in the virtual world than the other. Both had a basic unfamiliarity with virtual worlds. One expressed a lack of immersion, but also indicated that she was taking the course simply to fill out her schedule so that she could graduate. Despite the interview results, there are many examples of student connection, of social presence and of student communication and interaction in the observations of Emma's classes.

As with Sarah's students, Emma's students also suggested additional activities

that would have allowed more student-to-student interaction.

Three Words - Emma

As part of my last interview with both Emma and Sarah, I asked each of them to give me three words that would describe teaching in Second Life. Emma paused for a few moments and then said:

> It's very creative. I love the creativity of it. What else is it? It demands, what's the word for it, you have to be, what's the word, not ambidextrous? What's the word? You have to keep your eye on a lot of different balls running around. What would be the word for that? You have to be creative but you also have to be able to multi-task, I guess. And what would the third word be? Social! It is so social! Social learning—it just anchors everything for me in here (personal communication, December 6, 2010).

Summary of Sarah and Emma's Stories

Chapters Four and Five have detailed the experiences of two instructors, Sarah and Emma, and a total of five of their students. In these chapters, I started with the research questions and expanded on the six themes that developed from the instructor's experiences.

In the next chapter, I will define two main areas of interest into which the six themes appear to fit. I will discuss these two areas as they relate to existing research and state possible implications.

CHAPTER SIX

DISCUSSION OF THEMES

Sarah and Emma's stories in chapters four and five lay the groundwork for a discussion of the themes that emerged through an analysis of their experiences, words and actions and through observation of their classes and their students. The purpose of my research was to study the lived experience of instructors that use Second Life in online courses, to determine their views and the influences on those views about social presence and to examine their student's experiences. The intent of the research is to perhaps find clues as to how online courses and faculty development and training for teaching online could be improved, for example by seeing whether and how virtual worlds could be used in online courses to establish social presence. Such information could prove useful for individuals involved in faculty development and for educators that will be teaching in virtual worlds or in other online technologies.

The results of the study are in agreement with previous research that shows that developing social presence is important in online teaching and learning. It provides evidence at least in the two cases under study that communication and interactivity, which are components of social presence, can be fostered in a virtual world. It also indicates that faculty development for instructors who teach online may need to consider instructor characteristics and that institutional support is essential for online courses in

virtual worlds.

As stated earlier, a goal was to see whether the construct of social presence, which is considered important in the research, was actually considered and used by faculty members who teach in virtual worlds, and what the student experience was like. Social presence has been established as having value in online teaching and learning in text-based environments (Garrison, Anderson & Archer, 2001; Gunawardena, 1995; Swan & Shih, 2005). In a virtual environment, it is described as a psychological connection and closeness to another person or persons (Biocca, 1997). While measures of social presence differ, there seems to be general agreement in the research literature that a perceived higher level of social presence in an online environment results in a greater feeling of engagement and of interdependence with others which positively influences learning (Biocca, 1997; Biocca, Harms & Burgoon, 2001; Lombard & Ditton, 1997).

A related purpose was to examine the influences on a faculty member's use of social presence strategies, to see where those influences come from and how they affect the faculty member's practice. The intent here was in determining whether and how instructors are affected by faculty development policy and practice. From this, my hope was to possibly find indications of how faculty development for online teaching might be improved with the ultimate beneficiaries being the students.

In this chapter, I discuss the analysis developed in my study from the stories of Sarah and Emma, the six themes that I synthesized from their experiences, and their relation to existing research. For purposes of this discussion, I have uncoupled the themes from the research questions and grouped them into the two main areas to which they appear to relate. These areas are *social presence in online courses* and *faculty*

development for teaching online. The chart below shows how the themes have been grouped into these two main areas and then into sub-areas of interest.

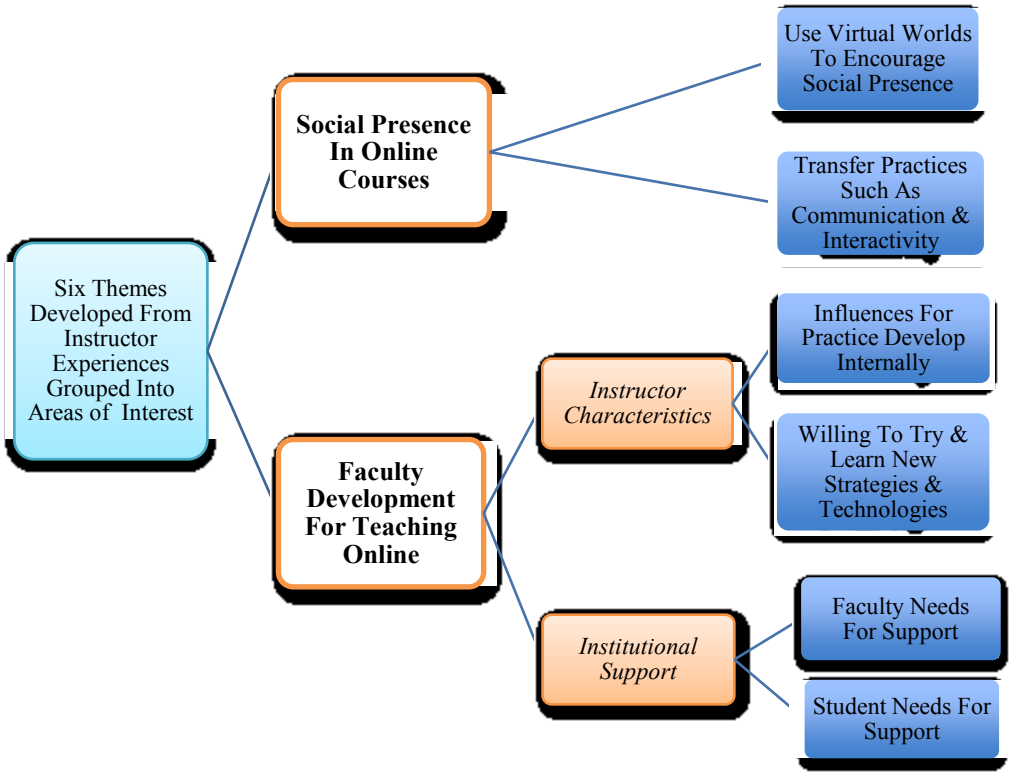


Figure 1. Grouping of Study Themes into Areas of Interest.

The first main area concerns social presence in online courses and what was learned through the study about the construct and its use in virtual worlds. Two of the themes that developed relate to this area of interest.

Four of the themes center on faculty development issues for instructors who teach online and especially in virtual worlds. I have created two sub-themes under this topic; one focuses on instructor characteristics while the second centers on institutional support. Those will be discussed later in the chapter.

Social Presence in Online Courses

As the number of online courses continues to rise, it becomes more important to ensure that the online learning experience is engaging and effective. Online enrollments appear to be substantially outstripping the growth in overall enrollment in higher education according to the 2010 Sloan Survey of Online Learning (Sloan, 2010). Online enrollments increased by twenty-one percent while the overall higher education student population grew by less than two percent (Sloan, 2010, p. 2). In fall 2009, over 5.6 million students were enrolled in at least one online course which is an increase of nearly one million students over the previous year.

The Sloan researchers consider an online course as one where 80 percent of course content is delivered online. Blended instruction is a related type of course delivery in which part of the course is face-to-face and part is online. Blended courses are also increasing.

The effectiveness of online learning continues to be debated. A U.S. Department of Education meta-analysis of online learning studies produced evidence that blended instruction was more effective than face-to-face (U.S. Department of Education, 2010). Authors of the report also found that online instruction had a slight advantage over face-to-face teaching, but point out that their analysis may reflect differences in content, pedagogy and the specific types of activities used in the courses.

In the Sloan report, chief academic officers were surveyed on whether learning outcomes in online classes are comparable to face-to-face instruction. The researchers found that sixty-six percent rated learning outcomes in online programs as "the same or superior" to face-to-face courses (Sloan, 2010, p. 3). While that is a large percentage, that

still leaves almost one third of chief academic officers surveyed who did not agree.

While the role of social presence in online courses also continues to be debated and is a continuing subject for research, the results of this study suggest it is an important element in an online course. There is a substantial body of previous research that supports this notion, most of it based in text-only environments. Research studies have over the years developed a link between perceived social presence and students perceived learning (Gunawardena, 1995; Picciano, 2002; Swan & Shih, 2005; Walther, 1994) as well as student satisfaction with an online course (Gunawardena, Lowe & Anderson, 1997; Richardson & Swan, 2003; Swan & Shih, 2005; Tu, 2002). Further, social presence is also seen as an important element in motivating students to participate in learning (Picciano, 2002; Yedong, 2009).

Attrition represents a serious issue in online educational programs because the rate of retention for online courses is generally lower than in face-to-face programs (Willging & Johnson, 2009). Moody's (2004) review of the literature on online course attrition shows it is a significant problem with multiple possible causes such as student perceptions that online courses are easier than face-to-face classes and that students aren't prepared for the technologies they will have to use. Hyllegard and Deng's 2008 survey of 155 community college students showed high attrition rates in online courses. Students in the survey most often cited difficulty completing assignments because of a lack of time, but the researchers also noted that a lack of student engagement may be to blame. Meanwhile, a recent study of 28,000 students at a fully online university by Boston et al. (2010) shows perceived social presence and especially affective expression positively affect retention in online programs. While the authors of the study warn against

generalizing their results widely, they note that social interaction among students is a "crucial factor" (Boston et al., 2010, p. 13) in student retention. Social interaction is a component of social presence.

Themes Related to Social Presence in Online Courses

For the two instructors in my study, social presence is essential, and in an effort to encourage its development in their online courses, they use the virtual world of Second Life. For them, virtual environments can offer a more powerful social presence experience for online learners by introducing elements of real-life social interactions that are difficult to reproduce in text-based technologies. For example, the opportunity for students to chat casually or to ask questions about a reading, share opinions, or present arguments and evidence during a discussion is sometimes difficult to accomplish in a course management system. Yet, these are important social and learning activities that occur naturally in a classroom (Picciano, 2002) and that help to cement relationships and create a sense of belonging to the group. Collaborative learning opportunities that take place through avatars in a virtual environment can introduce social elements that are missing in forums or chat and that more closely replicates the social relationships that develop in a face-to-face classroom.

This theme developed early in the study almost as soon as I began my first interviews with Sarah and Emma. It continued to be reinforced throughout our second and third interviews and was always stated in positive terms. For example, in discussing the difference between an online class that uses "traditional" tools such as a course management system and an online class in Second Life, Sarah states:

> What bring such huge value to using the SL environment is because the students are able to interact with me one on one, able to interact with the class as a group and then also able to interact with one another. So I think that it brings that communication, that social aspect back into the class, whereas when you are in what I call a traditional online environment there isn't that interaction that takes place because a lot of it is asynchronous (personal communication, January 7, 2011).

For Emma, a space where students could meet and talk with each other is necessary to counter the isolation of working in a course management system:

> I think it's really important that students talk to each other, that they develop a community feel, that they make friends. I guess that might sound silly, but that's social. The social way, and that's the way you learn, socially. I want to develop a social space there to reinforce the rather independent study of the course management system (personal communication, November 2, 2010).

Both instructors state that they believe Second Life has the potential to increase social presence in their online courses more than traditional online tools. This belief is an important reason for using the virtual world in their online classes.

Other researchers have noted opportunities that exist in Second Life for social interactions. Baker, Wentz and Woods (2009) propose that the virtual environment provides a space for social interactions which they describe as "real

time (virtual) face-to-face" interactions between instructors and students and among students (p. 61). Interactive possibilities, both social and educational, are an affordance of virtual worlds that can improve student motivation and interest according to several studies. (Czarnecki & Gullett, 2007; Dreher, Reiners, Dreher & Dreher, 2009; Wang & Braman, 2009). O'Connor comments on connections that develop into strong relationships between instructors and students, and among students in Second Life as a result of what she terms, "the heightened quality of interpersonal communications" (2009, p. 269) within the Second Life environment.

While Second Life continues to be the frontrunner in terms of the number of educational institutions that have virtual campuses, classrooms and simulations in it, others like *There, Activeworlds* and *OpenSim* are also developing a following among educators (Case, King & DeSimone, 2010; Holmes, Huang & Yang, 2008; Warburton, 2009). What these virtual spaces have in common is an avatar that can act on the environment and can interact with other people's avatars to build a cohesive group or community in an online setting (Baker, Wentz & Woods, 2009; Dickey, 2005). In these interactions, people describe a co-presence, a sense of being there with other people which replicates the sensation of being in a face-to-face classroom. As the capabilities of virtual worlds continue to develop, educational researchers are noting their potential not only for building online communities but also for experiential teaching and learning (Baker, Wentz & Woods, 2009; Holmes, Huang & Yang, 2009; Wang & Braman, 2009).

Despite years of research on social presence in education, many instructors continue to be unaware of the possibilities that virtual worlds offer for social connections

in online courses (Holmes, Huang & Yang, 2008; McQuiggan, 2007). In her review of the literature on faculty development for online teaching, McQuiggan (2007) finds the social aspect of learning is generally not even addressed. Yet this is an area that is vital to support online learning.

Thus far, I have been discussing the first of two themes that I have grouped into a single area of interest titled *Social Presence in Online Courses*. The second theme grouped under this area concerns pedagogical practices drawn from the face-to-face world of teaching that Sarah and Emma have transferred to their Second Life classrooms. In doing so, they are simply applying their beliefs and perceptions to their practice. Believing as they do in the value of social presence, they have found a technology that they believe enhances social presence and that allows them to use effective pedagogical practices, specifically communication and interactivity.

Both instructors plan activities that create opportunities for students to communicate, collaborate and interact with each other, and with their instructors in their online courses.

Both instructors also value experiential and active learning in which students must process and then apply information to learn. They find Second Life accommodates that as well. Their experience is borne out by other research. For example, Neely, Bowers and Ragas found in a survey of 162 instructors in higher education who were using Second Life that a large number of them found it a way to "create realistic learning environments specific to their learning objectives" (2010, p. 107). Neely et al.'s survey showed that instructors see SL as a place in which to carry out authentic learning activities.

Planning and Designing Courses with Social Presence

The construct of social presence is described by Boston et al., in their research as, "the basis of collaborative learning and the foundation for meaningful, constructivist learning online" (2010, p. 4). Some of the important factors identified in previous research that allow for the establishment of social presence are communications or interactions that include expressions of emotion, humor and self-disclosure, and that recognize others and their input, thus contributing to a group identity and cohesion (Richardson and Swan, 2003; Rourke et al., 2001; Swan, 2002; Swan & Shih, 2005).

Sarah and Emma are aware that social presence may not happen naturally online, and so must be designed and built into the course. This need is recognized by academic researchers such as Lehman and Conceição, (2010), who note that the type and focus of the course will require different ways of creating presence.

Indeed Sarah and Emma have designed activities that appear to fit the focus of their particular courses. In Sarah's course which focuses on learning about virtual worlds, an in world activity designed to enhance social presence involves students working in their Second Life classroom to build objects. In this setting, they can see what others are doing and learn from their mistakes. At the same time, there is an opportunity for student-to-student contact. Group discussions and group explorations of particular sites are activities that Emma has built into her course, which focuses on women's studies. Through these activities, students get to know one another thoughts on course topics but also have a chance to socialize. These activities in Second Life create opportunities for increased social presence like those that are available in a face-to-face course,

specifically increased communication and interactivity between instructor and students, and among students.

Social presence fits naturally with principles of good pedagogy. The widely known "Seven Principles for Good Practice in Undergraduate Education" emphasizes communication and interactivity between instructor and students and between and among students as vital to good teaching and learning. The principles developed from research on good teaching in higher education. It considers contact between students and faculty and social and collaborative learning among students as vital to effective teaching in any setting (Chickering & Gamson, 1987).

The reality of any kind of online learning is that students are located at a distance and so it becomes important to find ways for them to know each other the way they would if they were face-to-face (Lehman & Conceição, 2010). The three-dimensional virtual environment, "allows users to communicate in a more naturalistic sense comparable to face-to-face settings"(Jones, Warren & Robertson, 2009).

For example, Emma's class gathers together in their open-air virtual classroom for discussions and other learning activities. As they do, they observe many of the social conventions associated with face-to-face meetings, including affective, interactive and cohesive comments, communications that are part of social presence. Emma and her students take part in interactive activities such as field trips to other locations in the virtual world that are related to their course content. Students also take individual field trips to locations that Emma has assigned. Sometimes, students form ad-hoc groups for these field trips and travel together as they might in the real world. These are examples of opportunities for increased communication and interactivity that Emma designed into her

course.

Sarah too has built in activities to increase communication and interactivity. She conducts short lectures in Second Life and follows that up with hands-on activities where students can practice what she has talked about or shown them. Sarah's students each have their own individual cubicle, or "cube" which they decorate much as they might dress up a real-life dorm room. Most students take serious ownership of this private space, making sure it looks good for their final presentations to Sarah and fellow students which take place in their cube. Students can post their avatar and real-life pictures in Second Life as a way of introducing themselves to other students. Sarah also arranges field trips for her students including a scavenger hunt at the start of the semester.

Second Life and Social Presence

It is the visual and immersive aspect of a virtual world, in this case Second Life, that appears to change the way students interact socially in an online class (Case, King & DeSimone, 2009). When students perceive themselves as being present in an online environment and perceive others there interacting with them as real people, we can say they are experiencing social presence (Lehman, & Conceição, 2010). Anytime you are in SL with someone else, you, through your avatar, are experiencing the same visual space as the other person (avatar). You can see the same things and remark on them or remark on each other's appearance. You can jointly carry out an activity. You can teach the person how to accomplish a task. You can explore an area and discover new things together. These are all activities that are difficult to accomplish in a technology that is solely text-based because the visual channel is missing.

What makes Second Life different from a text-based technology is the avatar and

the 3D environment in which the avatar which is an individual's surrogate in the virtual world, meets, talks and carries out activities. Even though in most cases students use text chat in Second Life, excerpts from my study appear to show they respond to each other differently than they might in text-based applications that are commonly used in online courses, applications like forums, chat, blogs or wikis.

More precisely, they use affective, cohesive and interactive social presence behaviors which the virtual world environment appears to encourage and support. For example, they call each other by name, comment on appearance, express emotions, use humor, tell personal stories, watch each other carry out activities, collaborate on coursework in real time, all the while being able to *see* the other person or people. These are all behaviors that I observed multiple times in both courses that were part of this study and which I have detailed in Chapters Four and Five.

Sarah believes the immersive quality of SL provides a landscape in which to design learning interactions that closely reproduce face-to-face activities. The addition of the visual channel of information allows for avatar and therefore human behavior that mimics real-life:

> I think in a traditional classroom, where you are sitting next to someone and you can lean over and say, you know, can you explain that to me? It's always been there, the social presence has been there right in the classroom. In an online environment, that is lacking, so a person has the ability to get lost in the content, get lost in the schedule and not have that feeling of being able to reach out to anyone. So to me, it's very important

> to have it [social presence] infused throughout the semester in different activities (Sarah, personal communication, August 27, 2010).

The sense of being together in a place, even though separated physically in real-life, was apparent during my observations of Sarah's classes in SL. Sarah's students appear to be focused and engaged as she described and then showed students how to build objects in SL. Students commented on other student's objects. One student's mishap, when her object fell through the virtual floor, became a lesson for other students on what not to do. Very often the students didn't say much, except when something went wrong or they had a question. The rest of the time, they were working with their virtual hands on building objects that they could use in Second Life in their student cube. At times, it appeared they were concentrating so hard on accomplishing a particular building task that they didn't respond when Sarah asked if there were any questions.

At the same time, Sarah was able to observe students as they worked and provide suggestions much as she would in a face-to-face situation.

Sometimes, Sarah called attention to a student's work as an example of what could be done. For example, a student used a photograph that she had imported into Second Life as a texture. She applied the photo as a surface "texture" to a box she had created, which led Sarah to point out that photographs and other graphics could be brought into SL and applied to object surfaces.

Illustration 15 Sarah's Students Work on Building Objects

All this sounds very ordinary and something that may happen commonly in face-to-face classes. The difference was that in real-life, these students were located in different cities, and were miles from Sarah. Yet they were engaged together in an activity at the same time in the same (virtual) space and could see each other and what others were doing without the benefit of cameras, but simply by logging in to the SL software.

The sense of presence was also apparent when Emma's students took a field trip to a place called the Garden for Change. The garden in Second Life is a re-creation of a garden in England that was designed by homeless people. It is described as a place for healing. It overflows with colorful flowers and food crops, farm animals and peaceful spaces for rest and contemplation. Emma's students walked through it in small groups and as they did commented to each other and to Emma on what they saw. One student found a particular space that she thought was lovely and invited the others to join her there. As they sat in a space surrounded by virtual flowers the students commented on how they felt relaxed and happy, feelings similar to what a person sitting in a real garden

might describe.

Illustration 16 The Garden for Change in Second Life

My avatar Toad visits the compost bin area at the Garden for Change

Being immersed and together with others in the virtual world, as observed in this study, allows for collaborative learning through activities in which students can help each other make meaning of course content whether in a discussion, or in working together to build something, or experiencing a new situation together. According to Sarah:

> It offers the synchronous capability, the interaction, the ability to really immerse yourself in the content, so students can actually go through simulations. They can work locally. I think that's another benefit of Second Life, to have the ability to travel to other, even though they are in Second Life, locations. They're still global. They are still coming into contact with people from other countries. You can talk to people that speak another language. It's a great place to share knowledge. And I think it, what I refer to now as a traditional online environment, where people just use a course management system is very static. It's one-way and it's

> not really providing students with the ability to communicate or share information in a more collaborative type environment. (Sarah, personal communication, August 27, 2010).

Emma emphasizes the importance of the avatar. While the setting is of great importance in creating a sense of immersion, the sense of feeling present, chatting with those you see in world, and feeling social presence, according to Emma, is largely accomplished through the avatar. She puts it this way: "It [the avatar in Second Life] facilitates the social relationship through all the norms that it enforces such as 'Hi, how are you? You look nice.'" (personal communication, November 2, 2010).

Social norms that govern interactions in the real world do transfer to interactions in Second Life. That was the finding from a 2007 study by Yee et al., which specifically looked at how males and females adjust interpersonal distance during social interactions. Yee looked at 417 interactions in Second Life and found that the genders act in the same way they do in the physical world with males maintaining a greater distance from others than females.

Social chitchat that was observed in Sarah and Emma's classes may seem inconsequential except that it helps create relationships. At its highest level, it is an expression of caring; at the lowest level, it is acknowledgement of a pleasant greeting ritual. Some of this can take place in a purely text-based environment such as an online forum, but in a forum, individuals cannot see each other, nor can they experience a common virtual space.

Summary of Social Presence in Online Courses

In this section, I discussed two themes that converge on a single area of interest

which is the use of social presence strategies in online courses. I have discussed the cases of the instructors in my study who have chosen to use a virtual world in their online courses. They believe the virtual world introduces elements of social presence such as communication and interactivity that are not available in text-based online technologies. The results of this study are in accord with other research that shows that virtual worlds provide opportunities for student-to-student and instructor to student communication and interactivity. Communication and interactivity are considered components of effective teaching methods as described in Chickering and Gamson's (1987) list of seven principles for good practice in undergraduate education. They are also components of social presence.

Faculty Development for Teaching Online

The second area of interest that I will discuss concerns faculty development for teaching online. As shown earlier in this chapter, online courses, whether fully online or in a blended format, are on an upward trajectory, which means there is a corresponding increase in the number of instructors who are or will be teaching online. Faculty development for instructors who teach online is therefore an important topic which deserves scrutiny.

Four of the themes that developed from the experiences of Sarah and Emma relate to faculty development for teaching online. For purposes of discussion, these four themes have been separated into two sub areas. The first sub-area is what I have labeled as *instructor characteristics.* These characteristics have much in common with existing research and concepts on adult education. They are as follows:

a. The influences on instructor's beliefs and perceptions about social presence strategies are largely internal and drawn from experience.
b. Faculty members who are attracted to virtual worlds have an innate desire to try new technologies and are willing to jump in and learn through a combination of on-the-fly mentoring and trial and error.

I will discuss these two themes together.

The next two themes also relate to each other and center on institutional support for both instructors and students who teach and learn in virtual environments. These two themes, which I call *institutional support themes,* will also be discussed together. They are as follows:

c. Faculty that teach in virtual worlds require institutional support to ensure effective learning for students.
d. Student awareness and familiarity with virtual worlds is minimal and that can create problems for instructors who use virtual worlds.

The discussion that follows begins with a look at instructor characteristics themes that fit under the larger umbrella of faculty development for teaching online.

Instructor Characteristics

As an individual involved in faculty development, I believe it is necessary to understand how an instructor finds and starts using a technology like a virtual world, but also what his or her reasons are for doing it. Having a reason for doing something generally introduces influences of some sort; possibly internal influences drawn from one's own experiences, one's own investigation, or from talking to others, or external influences and pressures.

Sarah and Emma's reason for using a virtual world as part of their online courses is in part to provide students with richer social connections than would otherwise be available in a course management system. Social presence is the construct that influenced their choice and the influences on their beliefs and perceptions about social presence developed from their own experience. In both cases, the instructors had taught online, and through reflecting on their experiences became aware of a vital missing piece, namely the need for robust social connections in the online environment.

Thus the influences in the cases of Sarah and Emma were principally internal. Sarah's perception that students needed to feel connected developed early on as she began teaching online and "realized the importance of creating a presence in my online courses" (personal communication, March 16, 2011). Sarah considers social presence to be an essential element, "for student learning, comprehension and particularly application as during the sharing time, students often provide examples that other students can relate to" (personal communication, March 16, 2011).

For Emma, knowledge about social presence came through her independent research. Her interest in feminist groups and her work teaching Women's Studies makes the construct resonate with her because it "corresponds with feminist pedagogy, which places a lot of importance on individual voices, collaboration and consensus (personal communication, March 14, 2011).

The conclusion Emma and Sarah reached through their own investigations about the importance of social presence is supported by the research. There are other educators who find that virtual worlds provide an important added social dimension to the online learning experience (Hew & Cheung, 2010; Lehman, & Conceição, 2010). The value in

creating connections has been found to support student learning (Egan & Gibb, 1997; Haythornwaite, Kazmer, Robins, & Shoemaker, 2000; Jaffe, 1999; Ukpokodu, 2010). Student engagement both academically and socially has been shown to be a vital factor in persistence and retention (Boston et al., 2010; Tinto, 1993, 1996).

Kuh ,Cruce, Shoup, Kinzie, and Gonyea's ongoing research on student engagement and persistence develops this thought further by stating that all students benefit when they feel connected to their instructors, advisors, mentors and to their peers (2008, p. 556). Kuh et al. emphasizes the importance of building what he calls "learning communities" in which students can develop academically and socially (p. 557). While Kuh et al. do not focus specifically on social presence, the factors they have shown to be important in student engagement and persistence are directly related to the concept.

The development of rapport between students can also push the quality level of discourse in an online course. Jones, Warren and Robertson (2009) compared the quality of student discussions on course content between those who used an avatar based 3D learning environment and those who did not and found a quality difference between the discussions. Students had developed greater rapport as measured by affective comments they made during meetings in the 3D world. Those students sustained interest in course content discussions longer and their discussions were of a higher caliber than students who did not meet in the virtual world environment.

Having an innate desire to try new strategies and technologies and being willing to jump in and learn about them through a combination of on-the-fly mentoring and trial and error is another trait that both instructors share. This is the second theme that relates to instructor characteristics.

Second Life, and the intersection of it with social presence, is a topic that both instructors in the study also discovered largely on their own. Sarah first learned about Second Life from her university's technology group and saw it as a way for online students to learn experientially and socially. Although the initial exposure to Second Life came from an external source, it was Sarah who saw its potential for her specific needs and who sought out additional information and training. Eventually she began sharing the knowledge she acquired with other faculty through a formal training academy on Second Life at her university and informally through conversations with colleagues.

Emma found Second Life on her own and also saw the possibilities for collaborative social learning. She searched for information, joined a listserv for educators in Second Life and went into the virtual world to explore and to learn what she could from more knowledgeable others.

Following the initial exposure, the two instructors each voluntarily explored and learned about the virtual world. They saw its' potential for increasing social connection, for active situated learning and experiential activities which they believe improves learning, and they began using the technology.

Relation to Adult Education Concepts

My conversations with and observations of Sarah and Emma reveal several underlying characteristics that may explain their desire to investigate and learn about new strategies and technologies. They are self-confessed lifelong learners. They are self-directed learners as is demonstrated by their pursuit of knowledge about social presence and virtual worlds. They both value hands-on and experiential learning for themselves

and for their students. They feel comfortable learning through a trial and error method and are happy to ask for help from knowledgeable others when they feel they need it. In describing these instructor characteristics, it appears that they mirror characteristics described by Knowles as those of adult learners (1980). Knowles devised a conceptual model of an adult learner, which he termed andragogy. Knowles model sees adult learners as internally driven and self-directed. The concept considers the accumulated life experiences, knowledge and skills of adults as important to learning both as building blocks on which to connect new learning and as inspiration for future learning. The characteristics of Sarah and Emma appear to fit with these adult learner principles, for example, their self-motivated and self-directed explorations of social presence and Second Life.

The adult learning model also considers previous experiences as a starting point for new explorations and notes the importance of relevancy. For example, Sarah's experiences teaching online and her realization that students wanted to feel connected to her, led her to investigate the concept of social presence and later Second Life. These topics had relevance to her teaching and to her desire to improve learning for students. Sarah's experience as a learner, her self-directed foray into Second Life for example, also leads her to value experiential learning for her students. Sarah appears to design her courses with aspects of adult education models in mind. In the class I observed, she tried to tailor course content to individual students' background and experiences so that he/she will be motivated to learn and will have practical use for what is learned.

The same is true for Emma who also displays characteristics of the adult learner. She is internally driven to find teaching strategies and technologies that are relevant to

her needs and she too is motivated by her desire to improve student learning.

Both instructors are involved in technology groups and in sharing information about technologies through listservs, email contact, conference presentations and articles. They keep themselves updated on new technologies and enjoy hearing about and trying new things. Again these are characteristics that mirror several principles of andragogy. Their actions demonstrate self-direction that appears to be based on an internal motivation to pursue information that is relevant and important to their work.

Reasons for adopting a technology. While both these instructors enjoy and seek out new technologies, the internal drive that resulted in adoption of a particular technology, in this case Second Life, sprang largely from a desire to improve student learning. Although she enjoys "playing" with new technologies, Sarah's emphasizes the importance of using technology in her teaching only when she believes it can improve student learning. Emma too is clear on her reasons for using Second Life. It is not because it is simply something new or different. Emma states, "We shouldn't use technology just because it's cool" (personal communication, December 6, 2010). In the case of Second Life, Emma uses it because she believes it facilitates social relationships that are a key part of the learning process.

That social presence is important in online learning is evident from previous research. Student perceptions of their own presence in an online course and the presence of other students was correlated with their overall performance in the class as determined by the instructor in a study by Russo and Benson (2005). The researchers found that students who felt connected to other students performed better in the course than those who did not. The study also suggests that because "a feeling of connection may

encourage students to engage the material as well as the other people", this also may increase the likelihood that students will complete online classes (Russo & Benson, 2005, p. 56).

As stated earlier, part of the process that Sarah and Emma use in evaluating the usefulness of a new strategy like social presence, or a new technology like Second Life is to learn about how it may affect student learning. The judgments they make are based on previous research they have read and through conversations with colleagues about their experiences. If they perceive a value, they may try it out.

This is not unusual. A faculty member's willingness to take the time to evaluate a new technology is influenced by numerous factors, including the time she has to devote to learning it, the training and support that is available, and the perceived benefits (Georgina & Olson, 2008; Rogers, 1995; Spotts & Bowman, 1993, 1995; Spotts, 1999). Spotts' research shows that when instructors perceive that a technology provides a value, such as time-saved, better communication with students, superior student engagement, they are more likely to try it. After all, shiny new technology without a purpose is just shiny new technology.

Summary of Instructor Characteristics

For the two instructors who were a part of my study, internal influences appear to be largely responsible for their use of a complex technology, namely Second Life, and their reasons for using it stem principally from their understanding of the construct of social presence and its importance in online learning. In addition, both instructors are self-motivated lifelong learners who enjoy learning about and trying out new strategies and technologies to use in their online courses. These are characteristics that have been

identified in the research literature as characteristics of adult learners (Knowles, 1980: Merriam & Caffarella, 1999).

Institutional Support

Use of a complex technology such as Second Life, which has a fairly steep learning curve, requires institutional support for instructors and students. This is another theme that became clear early in my study through conversations with Sarah and Emma and interviews with students. It too falls under the broader topic of faculty development for online teaching.

Sarah and Emma's situations are quite different. While Sarah has institutional support from her university, Emma does not. Sarah's case may be more of an exception than the rule. A review of the literature of online teaching and learning (Tallent-Runnels et al., 2006) which looked at a variety of online teaching tools found that faculty members generally have little support in the planning and delivery of their online courses. Tallent-Runnels et al.'s review shows faculty members want technical help and support when they teach online, but that such support may be lacking for both faculty and students which can impact the effectiveness of the course.

For Sarah, institutional support was provided by her instructional technology group which offers student orientation sessions and helps bring some of her ideas for activities in Second Life to fruition by, for example, scripting objects to make them interactive and allowing her to create authentic experiential activities for students. These objects include a heads-up-display or HUD that students wear (put on their avatar) during the scavenger hunt. The HUD leads students to the locations they should visit and reports back to Sarah telling her which students have completed the hunt and what locations they

visited.

According to Sarah, orientation is essential so that students have the skills necessary to participate and learn. In fact, she has suggested her department make her course on virtual worlds a prerequisite to other courses that are taught in SL. Sarah notes that her role should be to teach about the theory and the content of the course, and not to provide orientation to the technology that is used in the course. At the same time, she recognizes that students, "really needed a hands-on orientation where they learned the basics as part of coming in and being ready for class"(personal communication, August 27, 2010).

Sarah considers herself lucky to have support personnel who can design and run online orientation sessions for her students. As a result, for the most part, students arrive in class with at least the basics of navigating in SL. Despite this support, I observed Sarah having to devote time to answering technical questions from students. During the semester, she set up at least one ad-hoc help session for students who were having trouble using Second Life. Her case may be somewhat different in the course I observed because the course topic was virtual worlds and so student questions about using Second Life were also part of the course content. Second Life is however woven into other courses including those on teacher education and in those courses too, Sarah says she provides ongoing technical support for students. Still, Sarah considers the assistance she receives from her school's technology group as invaluable.

Emma does not have support. Therefore in addition to her regular role as subject content expert and educator, she must take on the role of an instructional technology department and create or find her own technical support materials. She must also allocate

considerable time to providing students an orientation to the virtual world by leading them through it one by one, or in small groups. She understands that students who arrive at their in world class knowing how to dress their avatar, move around, teleport to different locations, communicate with each other using voice-chat and/or text-chat and know something about Second Life, feel more comfortable in it. Emma conducts orientation for her students in small groups. She tries to cover everything she considers most important starting with the Second Life interface. She also shows students how to access course materials from within SL and how to call her when they are in Second Life, and, "most important of all I get them to set home to here [to bookmark their university home base in SL] and show them how to get back to here when they get lost" (personal communication, September 28, 2010).

Emma must also serve as the on-call technical support person during the length of the course. This is necessary but results in additional time and effort dedicated to issues that are outside the instructor's content area. From my observation, it appears she has found a way to do all this extra work while maintaining her primary role as an instructor. But she also describes her situation as frustrating, difficult and very time-consuming.

What keeps her going using Second Life is her belief in its effectiveness as a social space for learning. At the same time she believes her course would be better if students came to it already familiar with Second Life and if there was technical support available from her school's technology group throughout the course.

The importance of orientation to the virtual world is supported by previous academic research. Wang and Braman (2009) consider an orientation as essential to reducing student anxiety and concerns about basic movement in SL. The researchers note

that practice in using SL is necessary and that "This illustrates the importance of the design of training sessions on how to use Second Life before any serious project is assigned in a class" (Wang & Braman, 2009, p. 242).

Student anxiety about using Second Life or other virtual worlds may in large part be driven by a basic unfamiliarity with such environments. This last theme became evident in my study from comments from Sarah and Emma's students, from my observations and from instructor remarks. It is linked inextricably with the previous theme that focuses on the faculty side of the issue, which is the need for institutional support for instructors who teach in virtual worlds. It became obvious in my study that student awareness and familiarity with virtual worlds is minimal and that presents a problem for instructors, especially if they don't have institutional support. Other researchers have noted this lack of student knowledge about virtual worlds. For example, Case, King and DeSimone's study which surveyed 218 undergraduate students showed that 87% of the students use electronic social networking sites but only one percent of students visit Second Life and 2% visit other virtual worlds (2009, p. 7).

Lack of student familiarity with Second Life can result in problems not just because students don't know how to navigate in it but because of their expectations of the environment. Sullivan's (2009) study revealed that while her students were comfortable with video games that provided a set structure and goals, some found Second Life frustrating because of its open-ended nature. As a result, Sullivan states that while the technology offers opportunities for meaningful engagement, those opportunities may be lost, "if the students' formalistic expectations of a technology conflict with the technologies actual structure" (Sullivan, 2009, p. 354).

Using virtual worlds like Second Life involves a learning curve that may be steep for some students. While noting the advantages of using Second Life in terms of student to student and instructor to student rapport, others have noted the learning curve issue as a potential barrier to the use of virtual environments (Baker, Wentz & Woods, 2009; Case, King & DeSimone, 2010; Wang & Braman, 2009).

Students in my study indicated it was difficult to get comfortable in the virtual world, especially at the start because they had little to no knowledge about Second Life. Awkwardness and unfamiliarity were obstacles that had to be overcome with experience and over time. The orientation that Sarah's university provides and Emma's orientation provided a starting point for students. Still, most students indicated in interviews that it was the experience of being in world repeatedly that eventually led to a certain level of comfort. Students also mentioned having technical problems or not understanding a particular aspect of Second Life. In those cases, all the students reported asking their instructor for help.

Providing technical support to students appears to be essential if students are to succeed in a course conducted in a virtual world. (Pfeil, Ang, & Zaphiris, 2009) found in their research on the use of Second Life in education that students "often have problems coping with the technological aspects of virtual worlds. Technical support is crucial, because simply giving tips in advance is not enough. Students need to be able to ask questions when problems arise" (p. 228). Adding support to this finding is a study by Neely, Bowers and Ragas who collected responses from 162 instructors who had experience using Second Life. The researchers state that Second Life presents opportunities for instructors but that for it to be a useful teaching tool, "schools [must]

provide the necessary hardware, software, and technical staff support for instructors to effectively carry out class activities" (Neely, Bowers, & Ragas, 2010, p. 108).

Such support would cover use of the virtual world but also purely technical problems that may arise such as when a student cannot get his microphone to work. This type of issue arose in both Sarah and Emma's classes and in both cases the instructors provided the technical support. But in doing so, they are drawn away from their main role, which is to teach content.

Summary of Institutional Support Issues

Both Sarah and Emma emphasize the importance of the student orientation and see it as vital to effective learning, because a student who does not feel awkward in the virtual environment is more likely to concentrate on course content and participate in discussions and other class activities. They also both emphasized the need for ongoing technical support, especially at the start of the course.

Students, speaking from their vantage point, talked about the difficulties they faced in acclimating to the virtual environment. In Sarah's class they had been through an online orientation. In Emma's class, she had personally led them through an orientation. Still, they faced problems in learning how to carry out activities and navigate in Second Life. In most situations, they managed to work things out on their own. In other cases, they contacted their instructor and got one-on-one help.

Previous research supports these instructor's conclusions that to surmount these issues and to give students the skills they need to effectively learn in a virtual world, institutional support is necessary. This support would ideally include a comprehensive student orientation and ongoing technical support during the length of an online course.

Implications

Social Presence in Online Courses

In the preceding section, I discussed three main areas of interest that emerged in my study. The first concerns social presence in online courses. Two themes make up this area of interest. The themes are that virtual worlds like Second Life can offer a more powerful social experience for online learners by introducing elements of real-life social interactions that are difficult to reproduce in text-based technologies. The second is that good pedagogical practices such as communication and interactivity can transfer to the Second Life classroom, which mimics many of the conditions that exist in a face-to-face classroom. These themes are interrelated in that communication and interactivity are components of social presence.

Sarah and Emma's examples, taken together with years of research that has shown the value of social presence in online courses, suggests online instructors need to develop the skills and knowledge necessary to incorporate social presence strategies into their online courses, whether through virtual worlds or other technologies. However, this implication does not necessarily affect practice in terms of faculty development, although it may speak to instructors that teach online. There is research to support this notion. In an online course, if students do not have the opportunity to get to know classmates, they may feel isolated, and alienated. They may become withdrawn, and thus miss interactions that can lead to learning (Bibeau, 2001; Howland & Moore, 2002; Mann, 2005; Wanstreet, 2006).

They may even experience their learning differently, possibly less effectively. Although Sarah and Emma's students took part in class activities where they did

socialize, and had the opportunity to talk to classmates and get to know them better, all five students interviewed for this study expressed a desire for more student-to-student interaction. Students suggested the experiences they had in Second Life may have been richer and more rewarding if they had been working in pairs or small groups because they would have been able to exchange ideas and share their observations. Interestingly, instructors in both courses suggested students work in self-selected pairs on certain in world assignments, but evidently, few students did so. It is possible that students wanted the instructor to either mandate pair or group work, or to set up groups and assign students to them.

The second theme that falls under social presence in online courses has to do with how good pedagogical practices such as communication and interactivity transfer to Second Life. Incorporating good communication between instructors and students and opportunities for interactive learning are practices that are recommended for all teaching, no matter the setting. This study may provide evidence that virtual worlds offer a practical way to incorporate strategies into online courses that enhance social presence such as increased communication and interactivity. The immersive qualities of the virtual environment as well as the avatar-to-avatar interaction that takes place within it allows instructors to create activities that promote communication and interactivity.

Sarah and Emma's stories may also provide evidence that a particular discipline should not be a reason to ignore virtual worlds. Their courses were quite different. In Sarah's course, students were learning about virtual worlds and their potential for use in education and business. Emma's course was on Women's Studies and focused on learning feminist theories and understanding women's social and political issues. Despite

these differences, both instructors were able to devise social presence strategies that took advantage of the affordances of Second Life.

An implication for practice that develops from this is that faculty developers who conduct training for faculty who will be teaching online may want to emphasize the importance of social presence to instructors and show them ways of incorporating the construct into their courses through activities that increase communication and interactivity. Interestingly, at the same time as there is research to show the importance of the social aspect of learning in online classes (Bower, 2001; Conceicao, 2006; Dede, 2000; Jaffee, 2003; Kosak et al., 2004), the focus on technology and course content has allowed for a "silence around social issues" in faculty development (Conrad, 2004, p. 37). More than half of the higher education institutions in a recent survey provide an average of 27 hours of mandatory training before faculty can teach online (Green, 2009), but the emphasis is chiefly on curriculum development, teaching methods and technical proficiency (Bower, 2001; Brown, Benson & Uhde, 2004; Georgina & Olson, 2008; Georgina & Hosford, 2009; Goldberg, 2005; Kosak et al., 2004; Meyer & Xu, 2007; Otero et al., 2005; Wang & Braman, 2009) while the social dimension of online learning is addressed infrequently (McQuiggan, 2007).

There is no doubt that course content, and learning the technology is a very important part of faculty development for instructors, but so too is the social dimension of teaching and learning. It is a dimension that provides a value-add to online courses that depend upon on a learning management system such as Sakai, Blackboard or Moodle that limit communication and interactivity largely to text.

Faculty Development for Teaching Online

Faculty development for teaching online is the second main area of interest and it encompasses four themes that I have grouped into two sub-areas. The first sub-area is about instructor characteristics. The second sub-area focuses on institutional support. In this section, I will discuss the possible implications of the results of my study for policy and practice in faculty development for teaching online.

Instructor characteristics implications. Instructional technology departments at universities are generally tasked with providing support for various technologies that are in use at an institution. Usually, these technologies are those in widespread use such as classroom projectors and computers, or a course management system, or eportfolio software.

In my experience in faculty development and as a faculty member at a university for a combined total of eleven years, I have found that training on various technologies is generally offered through in-person workshops, more rarely online, or in one-on-one sessions. Anecdotal evidence from other higher education institutions confirms my experience.

Regardless of the kind of training offered, there is no overt effort to learn about the individual faculty member. The results of this study however point to the importance of knowing and understanding the characteristics of an instructor in order to provide effective training. This notion fits with adult learning theory. In fact the instructors in this study appear to have many of the characteristics of adult learners noted by researchers (Knowles, 1980; Merriam & Caffarella, 1999). These characteristics make them self-directed and self-motivated to learn about new technologies and to find ways to

incorporate them into their teaching, but always with the aim of improving student learning. Adult learners are said to be task-oriented and need practical reasons for learning new things. In this case, the practical reason for Sarah and Emma is to enhance the student's learning experience. According to Knowles, adult learners need to have a purpose in mind, a task that wish to accomplish for a particular goal (1980).

As a result Sarah or Emma may respond favorably to a workshop that focuses on ways to improve student learning and that introduces them to new software or hardware that enables that goal. Instructors who have a different view of technology or who prefer tried and true teaching strategies may not respond the same way and workshop might simply be a waste of their time.

Clearly the use of virtual worlds will not appeal to all faculty members. Some will find them intriguing and useful while others may see them as too time-consuming, a distraction, or worse. Teacher attitudes toward technology have been shown to be an important predictor in the use of technology. Decisions about using technology of any kind are largely driven by the individual's beliefs about technology and its application to their particular needs (Russell, Bebel, O'Dwyer & O'Connor, 2003).

While it may be tempting to seize on the adult learner model, which seems to fit the two instructors in the study, and use it as a basis for designing faculty development, there is reason for caution. The classic model put forth by Knowles has been criticized for not taking into account individual differences because, "adult learners are not as homogenous as the andragogical model implies" (Knowles, Holton & Swanson, 2005, p. 204). Holton and Swanson point out that adult learners may have different cognitive learning styles and diverse ways of meta-cognition. Merriam, Caffarella, and

Baumgartner (2007) discuss the impact of different cultural backgrounds and gender differences that affect how an individual learns. Brookfield goes further in his critique of adult learning when he states "that the attempt to construct an exclusive theory of adult learning…is a grave error" (1995, Issues in Understanding Adult Learning section, para. 1). Brookfield urges the consideration of culture, ethnicity, gender, personality, politics and society to explain how learning occurs in adults.

Knowles' andragogical model may provide useful shorthand principles for adult learning, but faculty developers must keep in mind that each instructor is different and that the design and delivery of training should take into account these individual variations. An effective way to may be for faculty developers to consider the individual and, "how they prefer to teach and learn" (Gallant, 2000, p. 76) and to tailor training to the person. In engaging faculty in conversations about technology, we may need to make an effort to gauge an instructor's instructional passions and needs and then look for teaching strategies that mesh with an individual's personal characteristics and interests (Olgren, 2001), to help determine the kind of technology that may accomplish that person's teaching goals. Faculty development would be customized and focus "on improving their knowledge and skills based *on their needs*" [emphasis added] (Davidson-Shivers, Salazar & Hamilton, 2005, p. 537).

This brings me to a related implication involving the general focus of technology training. The focus of faculty development training may more appropriately be why and in what ways the use of a certain technology could enhance student learning, rather than how to use software and hardware.

Currently, much of the training offered by university technology departments is

about developing the skills and knowledge necessary to effectively use software or hardware. In other words, training is about how to use the technology and possibly about how to troubleshoot if it malfunctions. Yet the research on educator use of technology indicates the importance of training that emphasizes the reasons why and in what ways certain technologies can enhance teaching and learning (Kasworm & Londoner, 2000; Rogers, 2000; Spotts, 1999).

Technologists may find faculty members more receptive to training that centers on effective teaching strategies first and technology that supports it, second, rather than training on how to use software or hardware. As an example, showing faculty members the capability for increased social presence that virtual environments offer and the potential benefits to student learning may be more effective as an introduction to SL than talking about simulations, avatars and field trips to virtual castles. The results of this study provide support for this notion. As we have seen, the two instructor's use of Second Life is based largely on their belief that it has value in creating connections in online teaching and learning.

For those of us who work in faculty development and instructional technology, the lesson may be that exposing instructors to effective strategies and course design techniques, such as ways to improve student engagement in an online course, is more important than exposing them to new technologies. Faculty members are generally short on time and teaching online requires learning how to use new technologies, thus putting further pressure on an instructor's time (Georgina & Olson, 2008; Georgina & Hosford, 2009; Shea, 2007). Faculty development and instructional technology staff may find the

time they get with instructors is put to better use when they provide research-based teaching strategies that can be shown to have a natural fit with a particular technology.

For faculty who are comfortable with the teaching strategies they currently use, individual consultations would allow the faculty developer to provide expertise on the type of technology that would best accomplish the instructor's goals.

In practice, this would require instructional technology personnel to have knowledge and a level of expertise in teaching theory and possibly in teaching, in addition to knowledge and enthusiasm about technology. It would also require understanding the intrinsic capabilities and best uses of a technology so that instructors could be guided to a technology that will help them be more effective in their work. All technologies have what Imel terms *biases* that "shape how it conveys information and supports interaction" (2001, p. 2). For example, virtual worlds can reproduce some of the features of a face-to-face classroom, video can convey emotions effectively, text provides structured information. Knowing what technology to recommend requires knowledge, awareness and understanding of these "biases".

Institutional support implications. A second area that comes under the heading of faculty development for teaching online concerns institutional support that helps instructors teach and students learn.

The implication for practice is that the use of complex technologies for teaching and learning will be more effective if university technology departments provide student orientation and training as well as ongoing technical support for both students and instructors. This is essential if the use of complex technologies like virtual worlds is to lead to successful teaching and learning outcomes.

Orientation allows students to become acclimated to the virtual world, so that when they enter the virtual classroom, they and the instructor can concentrate on course content. Orientation activities should ideally start before the class formally begins and should perhaps be required as a prerequisite before the course begins. Both instructors in the study in fact suggested that orientation be a separate course that students take and in which they must get a passing grade.

Virtual worlds remain strange and unknown places for most students and it takes them a while to become comfortable in the environment. The sense of awkwardness that a newbie feels in Second Life can take weeks to wear off. I know this from my own experience in Second Life, and also observed and heard about it from students in the study. One student remarked that she felt the instructor made a sincere effort to orient students to the virtual world, but that that for the instructor, "it is so easy to her now that she doesn't realize how difficult it is for people new to Second Life" (Sherry, personal communication, November 24, 2010). Institutional support in this case would have provided Sherry and other students the experience and skills they need to be comfortable in Second Life.

Summary of Implications for Practice

Implications for practice drawn from the study themes focus on ways in which faculty who teach in virtual worlds can conduct a course so that student learning is enhanced. Implications may be useful for individuals like me who work in faculty development or as instructional technologists, for faculty who teach online, and ultimately for students. Much of what I have proposed could affect daily practice, but practice is generally built on policy. It may be that something I have proposed starts at

the top with a policy decision or that it starts at the bottom with practice and trickles up to the policy level. In either case, my hope is that what I offer will have a positive effect on teaching and learning in online courses.

Implication One: Faculty developers may want to emphasize the importance of social presence to instructors and show them ways of incorporating the construct into their courses through activities that increase communication and interactivity.

Implication Two: It may be useful to customize training to the individual personal characteristics and needs of the instructor.

Implication Three: The focus of faculty development training may more appropriately be why and in what ways the use of a certain technology could enhance student learning, rather than how to use software and hardware.

Implication Four: The use of complex technologies for teaching and learning will be more effective if university technology departments provide student orientation and training as well as ongoing technical support for both students and instructors.

In the next chapter, I will summarize the results of the study and discuss possible areas for future research.

CHAPTER SEVEN

CONCLUSION

As the number of courses moving from face-to-face classrooms to blended or completely online formats grows, it becomes increasingly important for faculty teaching these courses to understand how to create connections with and among students (Lehman, & Conceição, 2010). By adding to the literature on the effective use of virtual environments as social learning spaces, it is my hope that this study may positively impact policy and practice among those involved in faculty development for instructors who teach online.

Individuals involved in faculty technology development for teaching in online environments and in virtual worlds may gain insight through this study into the thought process of educators who have experience in using virtual spaces for their online and blended courses. In particular, this study illustrates the use of the virtual world of Second Life in higher education courses and provides a picture of the real-life activities of instructors who teach in it. We have seen how they think about social presence issues and their courses as they prepare to teach in Second Life, and then what they actually do to develop social presence as they deliver their online course. We have also heard from some of their students. Through their words and their descriptions of their experiences, we can glimpse their reality and perhaps apply some of what they have learned to our

own educational activities.

Six themes were drawn from analysis of the data in the study which examined the online teaching lives of the two instructors Sarah and Emma. The themes can be summarized as follows:

1. Virtual environments can offer a more powerful social experience for online learners by introducing elements of real-life social interactions that are difficult to reproduce in text-based technologies.

2. Good pedagogical practices such as communication and interactivity can transfer to the Second Life classroom which mimics many of the conditions that exist in a face-to-face classroom.

3. The influences on instructor's beliefs and perceptions about social presence strategies are largely internal and drawn from experience.

4. Faculty members who are attracted to virtual worlds have an innate desire to try new technologies and are willing to jump in and learn through a combination of on-the-fly mentoring and trial and error.

5. Faculty that teach in virtual worlds require institutional support to ensure effective learning for students.

6. Student awareness and familiarity with virtual worlds is minimal and that can create problems for instructors who use virtual worlds.

These themes may have implications for those involved in faculty development, for instructional technologists, and for faculty who teach in virtual worlds. Based on the

results of the study, I have discussed four implications that could affect the way in which faculty development training is carried out.

Implication One

Faculty developers may want to emphasize the importance of social presence to instructors and show them ways of incorporating the construct into their courses through activities that increase communication and interactivity. Training for online teaching could emphasize the importance of social presence and offer effective strategies that encourage the social exchange that builds relationships and enhances learning. This kind of training may help faculty become aware of social presence and of strategies and technologies that may encourage its development on their online courses and may help them develop the skills necessary to incorporate social presence into their courses.

Implication Two

It may be useful to customize training to the individual personal characteristics and needs of the instructor. Providing mass training may benefit a few, but for technology training to be really effective, we need to know more about the individual instructor. An individual's personal characteristics may be a predictor of the type of teaching strategy and technology that the person favors. Rather than presenting workshops to large groups of instructors, trainers would instead get to know the individual faculty member and provide that person with the knowledge and skills to meet their particular needs. We need to know what he or she values in their work, what their attitudes are towards technology, how they learn and how they teach (Davidson-Shivers, Salazar & Hamilton, 2005; Gallant, 2000; Olgren, 2001).

Implication Three

The focus of faculty development training may more appropriately be why and in what ways the use of a certain technology could enhance student learning, rather than how to use software and hardware. Too often, those of us in faculty technology support concentrate on the technology tool itself rather than the ways in which it can enhance or improve teaching and learning. We may even find that focusing training on how a particular technology can support effective teaching strategies proves to be more effective than showing off new or cool technology.

Implication Four

The use of complex technologies for teaching and learning will be more effective if university technology departments provide student orientation and training as well as ongoing technical support for both students and instructors.

Future Research

Continuing Research on Social Presence

Virtual worlds versus other virtual environments. Social presence and how instructors who use virtual worlds learn about it, develop it and foster it in their online courses has been the principal focus of this study. This comes at a time when social media virtual environments such as Facebook, Twitter, LinkedIn have exploded in popularity especially among young people, but increasingly among other sectors of the population as well. French (2006) classifies today's students as "social, highly competent multi-taskers, who expect immediate results and feedback and seek stimulation and interaction" (p. 58). Social media environments are designed to be user-friendly and that

may help explain their quick adoption by users. These technologies are also increasingly being adapted and put to use by faculty in higher education.

Virtual worlds are also showing small growth, both in the numbers of environments that are available and in the number of instructors who are using them. Future research could focus on investigating other social media in comparison to virtual worlds to see whether and how they engender a sense of social presence and connection. This knowledge would be useful for faculty developers who work with instructors who teach online.

Student learning. The intent of faculty development is to improve teaching and learning with the ultimate beneficiary and focus being the student. This study has explored faculty experiences in enhancing social presence for students in an online course. While it is important to better understand the kinds of online interactions that create social presence, which helps lay the foundation for learning, it is also important to understand the kinds of interactions that help students construct knowledge and think critically and reflectively. This is an important area for further research because while we have seen that students value interaction with other students and their instructors, we do not have much information on what types of online interactions create conditions that support deep and effective learning ((Lehman & Conceição, 2010; Tallent-Runnels et al., 2006). Such research could provide evidence for teaching strategies that would be useful in faculty development training.

Too much socializing. Another area of future study concerns negative aspects of these technologies including virtual worlds. There are at least three potential negative aspects which may interest researchers. First, while some socializing appears to be a

good thing, too much socializing in a face-to-face classroom or in a virtual classroom can be a distraction and time-waster. It would be interesting to know more about this aspect of online teaching and learning in terms of how much time is used in off-task interactions regardless of the technologies being used.

Time off-task is something instructors who teach face to face encounter daily and knowing when to intervene and bring students back to focus may simply be part of the art of teaching. However, online instructors face a different challenge as they cannot see what students are really doing. A student who appears to be present in Second Life may in reality be on Facebook and wearing headphones while listening to music. This may be another related area of study, that is, looking at what students are actually doing as they "attend" an online class.

Instructor characteristics. My study suggests the importance of instructor characteristics in the adoption of learning technologies. In the case of the two instructors in the study, their characteristics are very similar to the classic principles of andragogy. However, there are multiple critiques of the concept of andragogy, which suggest it falls short of considering many important factors that should be considered in the design and delivery of adult education, and by extension in faculty development which is a form of adult education. Future research could investigate the impact of instructor characteristics on faculty development and technology training.

Technical problems and learning technology. Another area for future research concerns technical problems that crop up with all technologies which can also result in time off task. When a faculty member helps a student surmount a technical issue during class, both student and instructor are usually drawn away from the central goal of the

course which is to learn the content. When a student is struggling to learn a new technology even as she is attending her virtual class, her attention will be split between learning the content and learning the technology.

Determining just how much time it takes to learn new technologies especially those that are somewhat complex, like virtual worlds, is another area that needs further research. We know from previous studies that most technologies have a learning curve and that before a faculty member or student can effectively use them, they must feel competent and comfortable with the technology (Davidson-Shivers, Muilenberg & Tanner, 2001; Richards & Ridley, 1997; Wells, 2000). Learning Second Life or other virtual worlds requires time, and as we have seen with Sarah and Emma, also requires a certain amount of enthusiasm and dedication. While it would be impossible to quantify the amount of time needed, it could be valuable to study faculty to see in what ways they find the time to devote to learning how to use new technologies.

Student orientation to technology. Finally, student orientation in virtual worlds is important as a topic for future study. Its importance appears obvious. As we can see in the cases of Sarah and Emma, students aren't familiar with most virtual worlds. Helping them become acclimated and comfortable in the virtual environment is a major need and a major challenge. It is a challenge because it requires ongoing orientation sessions and perhaps even a requirement that students take a series of workshops which they must master in order to take a class in a virtual environment. It is important to determine what methods are most effective in helping students learn a virtual world. What kinds of training and support would be most effective and what optimal types of ongoing support would be of value? Answers to these questions would assist faculty in determining

whether or not to use a virtual world in their online course.

Limitations of the Study

Case study is about depth, not breadth and my hope is that the stories of Emma, Sarah and their students will provide valuable background information for faculty development and instructional technology teams. The two instructors, whom I have identified as Sarah and Emma, located in different parts of the United States were interviewed and their classes observed for this study. Certainly they are not emblematic of all instructors who teach online in virtual worlds, but learning about them and their use of a virtual world to connect with students contributes to the literature on online teaching and learning. In that way, it will be useful for others who teach online and for faculty developers and instructional technologists.

Five students were interviewed in Second Life for their reflections on the classes they attended in Second Life and on social presence issues. This is a small number compared with the total student population of the two classes which was approximately 50, or compared to the larger population of students enrolled in all online classes that use virtual worlds. However in addition to the interviews, a total of 12 class sessions in Second Life each of which ran for almost two hours, were observed. These sessions provide additional information on how students behaved and how they interacted with each other.

Finally, the intent of this study was not to generalize to a larger population, but to provide qualitative data that can be taken into account with the results of other studies. In this way, it can expand the body of literature on the topic and offers information and

possible implications that may be useful to other researchers, to faculty that teach online and to those who work in the field of faculty development.

APPENDIX A

CONSENT FORM

Research Study: How Educators Develop and Manifest Social Presence in Second Life: A Multi-Case Study

Researcher/Dissertation Chair

Salwa Khan, Texas State University, Doctoral Student, 512. 847.8848

Ann Brooks, Ph.D., Texas State University, Professor and Dissertation Chair, 512.245.1936

This consent form provides you with information related to the research study titled *How Educators Develop and Manifest Social Presence in Second Life: A Multi-Case Study*. The researcher is Salwa Khan, a doctoral student at Texas State University-San Marcos and she is requesting your participation in the study.

Your rights:
Your participation is completely voluntary. You can refuse to participate at any time without prejudice or jeopardy to your standing with Texas State University or your university or institution.

The purpose of the study is described below. Please read the information before deciding whether to take part. You may ask the researcher any questions you have before deciding whether to participate.

Funding Source: Not applicable.

Purpose of the Research Study:

The purpose of this study is to understand how higher education faculty members who teach in the virtual world of Second Life develop and manifest social presence with students. Specifically, the study will a) explore faculty participant's beliefs about online teaching in Second Life and their perception of elements that contribute to establishing a sense of social presence, b) examine how these beliefs and perceptions are manifested in

practice, c) and seek to discover influences on their beliefs and perceptions. A fourth purpose of the study is d) to seek to understand student perceptions of social presence within the context of their learning experience in the Second Life online classroom. A case-study methodology will be utilized to examine, through observation, interviews and the collection of documents, the real-life course preparation and online teaching activities and experiences of two faculty members and the experiences of 4 to 6 of their students.

Participation: You are being asked to participate in the study because you are either a faculty member who teaches in the virtual world of Second Life at a university in the United States, or you are a university student who is enrolled in a course that meets in Second Life. If you agree to take part in this study, you will be asked to participate in the following.

Faculty member:

Because this study utilizes a case-study methodology, it requires prolonged engagement with the researcher. The study will be conducted over the course of a university semester.

You will be interviewed by the researcher about your beliefs about online teaching in Second Life and your perception of elements that contribute to establishing a sense of social presence, on your course preparation process and the influences that affect the process. You will be asked about any training or faculty development about teaching in Second Life that they have received and what kind of learning experience you hope to deliver to learners. You will also be asked to reflect on the teaching and learning process in Second Life.

You will be interviewed three times, once before the semester begins, in Second Life, once about halfway through the semester in-person, and once towards the end of the semester in Second Life. The in-person interview will be recorded on digital video and later transcribed by the researcher.

The Second Life interviews will be recorded by the researcher with screen capture software that records what is happening on the computer screen. These interviews generate a transcript in Second Life.

Each interview will consist of approximately 10 questions and will last approximately 30-minutes to one hour. You may choose not to answer any question or questions for any reason.

Up to 8 weeks of class meetings in Second Life in your course will be observed by the researcher who will be in-world with you and your students. The researcher will request a text-chat transcript of these sessions. A face-to-face classroom

session may also be observed in-person. The sessions will be recorded using screen-capture software (for Second Life) or digital video recording (for in-person). The researcher will maintain a log of events and will record her observations.

The researcher will request copies of your course syllabus, course materials and other course-related documents. Images taken from the Second Life on-screen recordings may be extracted for use in the final report. Your permission will be requested before such images are used in any publication.

Student:

Because this study utilizes a case-study methodology, it requires prolonged engagement with the researcher. The study will be conducted over the course of a university semester.

You will be interviewed by the researcher about your perceptions of social presence within the context of your Second Life classroom experience. The interview will be conducted in-person either with you individually or as a group with one or two other students. The interview may last up to one hour and will be recorded on digital video by the researcher. You may choose not to answer any question or questions for any reason. The interview will be transcribed by the researcher from the video recording.

The researcher will also observe up to eight of your Second Life classroom sessions. These sessions will be captured by the researcher using screen-capture software that records what is happening on the computer screen. A face-to-face classroom session may also be observed in-person and will be recorded on digital video.

Benefits: The experiences you share provide insight into your thought process as you prepare to teach in the online virtual environment of Second Life and into your thoughts about the social aspects of teaching online. Capturing student reaction and experiences to the course, to social presence techniques and to Second Life provide an added and important dimension. By contributing to the understanding of these factors, the study may prove useful to those involved in faculty technology training both on a policy and practical level. The findings may assist those involved in faculty development and training in identifying elements that could be included in workshops for educators and may also shed light on how much support educators need so that they can construct and conduct meaningful online learning experiences for their students. Finally, the results may have value for other educators that teach online especially those that teach in virtual worlds like Second Life.

Risks: This study will have minimal or no psychological/emotional risks, no risk of physical harm, and is non-experimental. You may feel uncomfortable because of the recording of interviews and observations. The purpose of these recordings is **only** to provide documentation of events for the researcher to use in analysis.

Confidentiality: All interviews and observations will be digitally recorded and transcribed. All transcriptions will use a pseudonym, rather than your real name so that your identity will remain confidential. Original video recordings, screen-capture recordings and transcripts of interviews and Second Life chat transcripts, as well as any other written materials in paper or electronic form will be secured by the researcher in a locked filing cabinet at her home and will not be shared with anyone. These materials will be destroyed five years after completing the study.

References to real-life identities will be removed on excerpts of videotaped transcripts and other materials that are shared with the researcher's dissertation chair and committee. Excerpts from written transcripts and recordings may be quoted in future papers and/or journal articles that will be written by the researcher; however, your name and other identifying information will never be disclosed or referenced in any way in any written or verbal context.

Compensation: There is no compensation for participating in this study.

Contact: The researcher is the main contact. Her name is Salwa Khan and her phone number is 512 847-8848. Your questions and concerns should be directed to her.

Questions: If you have questions regarding your rights as a participant in a research study or any other questions about the research, please contact Dr. Jon Lasser, Texas State University Institutional Research Board Chair, at 512-245-3413. You may e-mail Dr. Lasser at lasser@txstate.edu. You may also contact Ms. Becky Northcut, Texas State University Compliance Specialist, at 512-245-2102.

Results of the Study: You will be given an opportunity to review the final draft report of the research and to provide your comments and critique. The researcher will email a copy of the final draft document to you.

Signing

It is important that you read and understand this consent form before you sign it. Your participation in the research study is entirely voluntary and you may withdraw your permission to participate in the study at any point. You have the opportunity to ask questions or ask for clarification before signing.

You will be provided a copy of this consent form to keep for yourself.

Signatures:

By signing this document, you are indicating that you fully understand the consent form and its contents. You are agreeing to be a participant in the study. You are **not** waiving any legal rights by signing this document.

_____

Printed Name of Participant and Date

_____

Signature of Participant

_____

Printed Name of Researcher and Date

_____

Signature of Researcher

APPENDIX B

FACULTY BACKGROUND FORM

1. Full Name
2. Contact Information:

   Phone Email address Mailing address

3. Gender

   Female Male

4. Age group

   21-30 31-40 41-50 50+

5. Ethnic identification:
6. Institution name:
7. Discipline – Degree Program
8. Tenure status

   Tenured Tenure track Not tenure track

9. Number of years teaching in higher education

   1 year or less 2-5 years 6-10 years 11-20 years 21-30 years More than 30 years

10. Years of teaching with a Learning Management system (Blackboard, Sakai, Moodle, other):

11. Years of teaching with Web 2.0 tools (blogs, wiki, discussion forums):

12. Had you used Second Life before this class?

    Yes No

13. How much experience have you had in Second Life?

14. If you had not use Second Life for class, would you have explored it yourself?

15. Do you play video games?

    Yes No

16. If yes, which games and for how long have you played them?

17. Do you belong to any social networking sites?

    Yes No

18. If yes, which ones?

19. Rank your comfort level with computers

    Novice Intermediate Advanced

20. Rank your comfort level with technology in general

    Uncomfortable Somewhat comfortable Comfortable Very comfortable

APPENDIX C

STUDENT BACKGROUND FORM

1. Gender

   Female Male

2. Age:

3. Ethnic identification:

4. Institution:

5. Degree Program:

6. Student status/level (1^{st}, 2^{nd}, 3^{rd}, 4^{th} year, graduate level)

7. Had you used Second Life before this class?

   Yes No

8. How much experience have you had in Second Life?

9. If you had not use Second Life for class, would you have explored it yourself?

10. Do you play video games?

    Yes No

11. If yes, which games and for how long have you played them?

12. Do you belong to any social networking sites?

    Yes No

13. If yes, which ones?

APPENDIX D

INTERVIEW REQUEST TO STUDENTS

Hello (name of student)

This is Salwa Khan (Toad Insoo in Second Life) and I have been attending your Second Life class sessions as an observer.

In real-life, I work on technology-related faculty development at Texas State University and I am also a PhD student in Adult Education. My research study focus is on instructors who use Second Life in their teaching.

I am also very interested in hearing from students about how they view the teaching and learning experience in Second Life. I am therefore contacting you to ask whether you would be willing to meet me in Second Life at a convenient time for you, and answer a few questions about your current Second Life class? I estimate this would take about 30 minutes.

I have asked your instructor's permission to contact you and other students. Your participation in my study is completely voluntary. If you do decide to participate, I must ask that you do not inform your instructor or other students in the class about your participation. This is to insure that your participation remains anonymous and that there is no chance of any consequences as a result of your participation.

Your instructor is aware of these ground rules.

I am hoping that you can give me a little of your time as your perceptions will contribute to a better understanding of student learning in Second Life and may provide information that can be used to improve the teaching and learning process in online virtual environments.

Please contact me at sk16@txstate.edu.

Thank you!

APPENDIX E

INSTRUCTOR QUESTIONS INTERVIEW ONE

1. How long have you been using Second Life as a teaching environment?
2. What first got you interested in using Second Life?
3. Tell me about your experiences as you were learning to use Second Life.
4. Did you have any formal training either at your university or elsewhere to learn to use Second Life? Tell me about that?
5. Were there any influences that affected your use of Second Life, or your decision to use it?
6. Does your university offer faculty development in technologies, in Second Life through training, workshops, etc?
7. How did you learn to use Second Life?
8. How did you prepare for teaching a course in Second Life the first time?
9. How do you prepare now?
10. Do you have certain beliefs about teaching that you bring to your development of a class (how you structure the class, how you evaluate)
11. What influences affect how you think about creating/developing/designing a class?

12. Do you design a completely online course differently than a face-to-face class. In what ways is it different? The same?
13. What beliefs do you bring to your design of a class in Second Life?
14. What was it like the first time you taught a class in Second Life? How would you compare it to the same class face-to-face?
15. What did you learn from that experience?
16. What happens when you are teaching in Second Life, and things go wrong?
17. Tell me about some of your other experiences as an instructor in Second Life. (Positive, negative, neutral)
18. What do you do to help cultivate a sense of connection and to increase engagement with students?
19. Tell me how you evaluate Second Life as a teaching and learning space.
20. What is your impression of your students learning experience in Second Life?
21. Can you tell me what factors you think affect the student experience in Second Life?
22. Based on your perceptions, does Second Life offer anything that other online communications tools do not?
23. Do you use any other technologies besides Second Life in teaching your completely online course (discussion, chat outside of SL, wiki)? What effect might those technologies have on the creation of a feeling of community and belonging?
24. Do you think a sense of bonding is important to learning in a synchronous learning environment/virtual world?

25. Why or why not?
26. Are there any other things you would like to talk about in terms of your Second Life experiences in teaching and learning?

APPENDIX F

INSTRUCTOR QUESTIONS INTERVIEW TWO

1. I'd like to return to a question I asked in our first interview—which is how and when you first heard about Second Life?
2. You talked about how your teaching philosophy (which values experiential learning) influenced your choice/decision to use Second Life. Do you think your choices are more or less unconscious or are they something you consciously think or thought about?
3. How did you develop your teaching philosophy?
4. In your use of Second Life, did you start out using it as if you were still lecturing in a f2f setting—and then branch out to other methods that use more of the environment? A progression or sorts? (How did you get to where you are?)
5. Tell me about what influenced that change (if any)?
6. Give me your assessment of how the semester is progressing in this class?
7. Is it different from how you envisioned it? In what ways?
8. What is your assessment of the quality of the learning experience for students?

9. Have any issues arisen which you feel affect the quality of the learning experience for your students. If so, what are they? Any other issues and how are you handling them?
10. How much time do you generally spend in SL per week during a semester when you are teaching in SL? How much of that is preparation and how much of it is teaching time in the "formal" class?
11. Do you feel you are creating a sense of connectedness with students in this class? In what ways?
12. How is this connection demonstrated?
13. What do you think is your role in helping students project their online social presence?
14. How did you become aware of social presence theory?
15. Can you describe what social presence means to you and what value you believe it might have in teaching?
16. (For Sarah) You have several activities designed into your course such as having students create a picture of their avatar which is placed in a picture frame on a wall near the classroom and each student having their own personal space which they decorate. What do you think is the value of this?
17. Questions about specific incidents related to social presence: I noticed that you often use a student's name or comment on what they've said or done or you tell students where to look (on the board behind me etc)..can you talk about why you do that? Is that any different than what you do in a face to face class?

18. Sometimes you repeat what students have typed—can you tell me why you do that?
19. Another thing I've noticed is that you tell stories about yourself. Is there a purpose behind that and if so what is it?
20. What else—if anything-- do you do specifically to create a sense of social presence?
21. How much time do you generally spend in Second Life per week during a semester when you are teaching in SL? How much of that is preparation and how much of it is teaching time in the "formal" class?
22. It appears that most students type rather than talk in voice-chat—why do you think this is?
23. (For Sarah) You say quite often: This is an environment where I actually need you to respond. Do you feel this is different than in f2f—how and why?
24. Do you have students that are overwhelmed by the technology and if so, what can you do to help them succeed in the course?
25. Do you think there is any value in anchoring your teaching in Second Life to real life as much as possible?
26. Your voice as you conduct class in SL appears to me to indicate a great deal of energy and engagement with your content. Is there any difference in how you display engagement and enthusiasm about your content when you are teaching in Second Life than in a face to face class? What is the difference if any? What parts of yourself do you draw on?

27. Did you take a lot of time to get your avatar just the way you wanted? Why? Or why not?

28. If you could do this class over, what would you change—and why?

29. What have learned this semester from teaching the course in Second Life?

30. Are there any other things you would like to talk about in terms of your Second Life experiences in this class or others that you have taught in Second Life?

APPENDIX G

INSTRUCTOR QUESTIONS INTERVIEW THREE

1. What do you believe should be the driving force behind using any technology for teaching and learning? And why?
2. What are the differences for you between teaching in Second Life and teaching in a face to face class?
3. It appears that some people/students get immersed in a virtual world and some don't. Does that affect how you design your course? Do you plan for that in your course? Is it possible to identify those that don't "get" the immersion aspect of Second Life?
4. How has the semester gone?
5. Were there any issues that arose during the semester which you feel affected the quality of the learning experience for your students. If so, in what way was the learning experience affected?
6. Do you think a sense of bonding is important to learning in a virtual world like Second Life? Why or why not?
7. Do you feel you were successful in creating a sense of connectedness with students in the class? In what ways? Can you think of any incidents which you think demonstrate a connection with students?

8. Did you sense any feelings of isolation in students that were part of the Second Life class? If so, what would you attribute that to?
9. Is there anything you think you could do differently in terms of helping students connect to each other? To prevent feelings of isolation?
10. Thinking back over this semester, do you think you learned anything new about creating social presence in your Second Life class?
11. If you are changing anything about how you establish Social Presence, what influenced you and the changes you are making?
12. If you could do the semester over, what would you change—and why?
13. What else would be helpful to you in conducting this class online in terms of establishing a connection to students? Is there anything that your department could do? Anything the technical support people could do? Anything the faculty development people could do? Anything anyone else could do?
14. What is it like talking to a student in person, after interacting with them only in your Second Life class? Is it different from talking to a student who is in your face to face class? In what ways?
15. What is the most difficult thing about teaching a class in Second Life?
16. With the knowledge and experience you currently have, if you could go back in time and approach Second Life again as if for the first time, what would you change about the way you actually did it the first time?
17. I'm interested in how you personally learn and what motivates you. Can you tell me about how you learned to use Second Life?
18. What strategies did you use? What did you actually do?

19. Can you think of particular incidents that happened that moved you in one direction or another?
20. What did you find frustrating and how did you get past that frustration—if you did?
21. What kept you going?
22. What do you think was your motivation?
23. Again, drawing on your own experience and knowledge, what advice would you give to an instructor who has only heard about using Second Life in teaching, but never even been in-world?
24. It appears to me through my interviews with you that you began using SL because you are a person who is interested in new technologies. If such interest on the part of faculty is more or less personality driven, what advice would you give to someone like me who is tasked with introducing faculty to new technologies?
25. How has technology changed the way you teach?
26. Three words that describe teaching in Second Life are?
27. Is there anything that I haven't asked about teaching and learning in SL that you think is important to be addressed?

APPENDIX H

STUDENT INTERVIEW QUESTIONS

1. Tell me about your experiences as a learner in Second Life.
2. What is your impression of your instructor?
3. Do you think it is important that you have regular personal interaction with your instructor? Why or why not?
4. In what ways do you feel the instructor influences the tone of the class?
5. What is most difficult about being a student in Second Life ?
6. What makes you feel comfortable in Second Life? What makes you feel uncomfortable?
7. Does the orientation help—what else could be done?
8. Do you feel connected to other students in your class? Why? Why not?
6. Do you think a sense of bonding is important to learning in asynchronous learning environments? Why or why not?
9. What makes you feel connected to other students and your instructor in Second Life?
10. What do you think could be done to help cultivate a sense of connection and to increase engagement with others?

11. Does the class setting influence how you feel in the class—your comfort level—in what ways?
12. Was there a point during the semester when you felt more at ease—what do you think happened to make you feel that way?
13. Is the class fun? If so, in what ways?
14. How do you view your avatar?
15. Why did you choose to take this class in Second Life?
16. Were you familiar with Second Life before the class?
17. Any other things you would like to talk about in terms of your Second Life experiences in this class?
18. What advice do you have for the instructor if this class is again taught in Second Life?
19. Do you feel that you learned a lot in this class? Why or why not?

APPENDIX I

CODES USED IN ANALYSIS

1. About SL
2. Affective
3. Avatar
4. Cohesive
5. Difficulties frustrations
6. Effect of avatar
7. Effect of avatar and SL
8. How started in SL
9. How you learn
10. How you learned SL
11. Immersion
12. Immersion in SL
13. Importance of planning
14. Institutional support for teaching in SL
15. Interactive
16. Learning management system
17. Meeting students in real life
18. Need for orientation
19. Orientation problems
20. Other supporting technologies
21. Plan for social presence
22. Planning course in SL
23. Professional development
24. SL versus face to face
25. Social presence
26. Student comfort level
27. Student engagement
28. Student learning in SL
29. Student response

30. Student-why take course in SL
31. Students adopt roles
32. Support for teaching in SL
33. Teacher personality
34. Teaching in SL
35. Teaching philosophy and use of SL
36. Technology changed you
37. Technology-student problems
38. Three words
39. Time-consuming
40. Training on using SL
41. Why use technology
42. What influenced use of SL
43. Why use SL
44. Why use technology
45. Your use of SL

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VITA

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She and her husband were self-employed for several years as freelance producers for documentaries and on educational video projects. She began teaching at Wimberley High School in 1995 and also began taking classes towards a Masters degree at Texas State University-San Marcos. After graduating with an M.S.I.S degree, she was employed for three years in the Occupational Education program at Texas State as an adjunct instructor and in 2005 moved to the Instructional Technologies Support (ITS) Department. In her current position in ITS, she consults with faculty on the production of technology-related educational materials including video and other media.

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This dissertation was typed by Salwa Khan.