A Faculty Mentoring Experience:
Learning Together in Second Life

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Abstract

Researchers have highlighted the benefits of using virtual worlds such as Second Life in education, but they have also forewarned educators of potential drawbacks. Understanding how virtual worlds work, including their capabilities and limitations, empowers educators to make better decisions regarding their relevance to learning and teaching. This study describes a technology mentoring experience aimed at teaching two faculty members to use Second Life. This experience allowed the mentees to engage in a collaborative effort to understand how they can use this virtual environment in teacher education and language learning. This article discusses the perspectives of both mentor and mentees and shares the lessons learned. Finally, the authors offer implications for teacher educators. (Keywords: Second Life, case study, teacher education, mentoring)

Technological advances have pushed teachers and researchers to investigate in more depth how to use emergent technologies in the classroom. Some teachers feel pressured by students who are familiar with these technologies and want to play with them in and out of the classroom. However, these teachers lack familiarity with emergent technologies; some may be ready to learn and integrate them into their classrooms, whereas others, for lack of interest or time, do not feel they should focus on these innovations. Some researchers (e.g., Dudeney, 2007) have pointed out lack of technology use in classrooms, and others have noted the need for more training and guidance (Deutschmann & Panichi, 2009) to help teachers feel comfortable and prepared to include emergent technologies in their syllabi (e.g., Becker, 1994; Cuban, 1998). It is important to ensure that teachers are "comfortable with [technology] and see clear benefits to changes for everyday classroom use" (Reinders, 2009, p. 230).

One such innovation, three-dimensional virtual worlds, has generated significant debate between those who foresee their wide adoption and those who believe school and emergent technologies are distinct. Nonetheless, the increasing interest in virtual worlds such as Second Life has prompted educators and researchers to investigate meaningful ways to use these tools in educational settings, with teacher educators being no exception (Thompson & Garetty, 2009). Researchers have highlighted the benefits of using virtual worlds such as Second Life in education, but they have also forewarned educators of potential drawbacks (e.g., Bixler, 2007; Cooke-Plagwitz, 2008). On one hand, Second Life provides opportunities for interaction, collaboration, and social construction of knowledge (Antonacci & Modaress, 2005; Evans, Mulvihill, & Brooks, 2008). On the other hand, researchers have also discussed concerns with ethics and liability issues (Bugeja, 2007), especially in K–12 settings, as well as Second Life's steep learning curve (e.g., basic exploration skills and development of activities) and time-intensive nature. Understanding how virtual worlds work, including their capabilities and limitations, empowers educators to make better decisions regarding their use in education. This understanding reinforces teacher educators' interest in preparing preservice teachers to meet students' evolving needs.

The use of virtual worlds in higher education is spreading, and this increase in popularity is pressuring faculty to explore such environments for opportunities for interaction and collaboration in classes and research projects. Their interest sometimes stems from the need to revise their pedagogy to fit students' emergent needs as digital natives (as referred to by Prensky, 2001), their perceptions and expectations regarding the learning process, and the use of technology in the classroom as a way to develop digital wisdom (Prensky, 2009). Faculty are also interested in knowing about technological advances and deepening their knowledge of how they can and should use them. As with any technology, in the process of adopting Second Life, faculty need to be exposed to the virtual world, explore and evaluate its capabilities for learning and teaching, and address issues that might hinder its implementation. Experience with the technology may lead to stronger beliefs regarding technology use and help boost teachers' confidence in their ability to adopt it (Russell, Bebell, O'Dwyer, & O'Connor, 2003).

This article describes a naturalistic case study with two faculty members (Ana-Paula Correia and Cristina Pardo-Ballester) who were being mentored by a PhD student (Karina Silva) through a technology mentoring project at a large Midwestern university. The case study aimed to explore the mentoring experience as a method for understanding how Second Life can be used for teaching, learning and research. The study focuses on the mentoring experience in Second Life and Second Life's potential

for teaching, learning, and research. The primary "research issue" (Stake, 1995, p. 16) deals with how the mentoring experience evolves in light of the participants' collaboration and interaction during their exploration of Second Life's environment, the stage where that mentoring experience takes place (see Figure 1). This online collaboration and interaction served as a support system and enabled the mentor and mentees to report and discuss their experiences. The authors offer findings regarding the successes and challenges of this mentoring process, lessons learned, and implications for teacher educators.

Conceptual Framework

This study was informed by the theory of social learning (Bandura, 1977), which focuses on learning in social situations through observation learning, imitation, and modeling (Abbott, n.d.). The social learning theory describes learning as a result of interactions among people, behaviors, and environment (Pamuk & Thompson, 2009). It states that people learn new behaviors through observation, and that although change in behavior is not a must, modeling the right behavior is important. According to this theory, four requirements must be met for learning to take place: (a) observation, (b) retention, (c) reproduction, and (d) motivation (Abbott, n.d.). That is, learners remember what they observed and reproduce that behavior if they believe they have a reason to do so (i.e., motivation). Second Life has been described as an example of social learning theory in action (Smith & Berge, 2009). Smith and Berge explain that Second Life:

> …is an open source environment that fosters observation, imitation, and modeling behaviors. Residents are constantly learning from each other through interaction. The absence of the ability to observe attitude and emotional reactions of others is perhaps the only barrier to social learning theory being fully manifested in Second Life. There is no doubt that interacting in-world requires a user to shift

Figure 1. Pardo-Ballester and Correia meeting in Second Life.

his or her thinking about human relations and the social world. (p. 443)

As a result, social learning theory informed a mentoring experience in Second Life. As Second Life is a social virtual environment, participants were able to interact and learn from others through observations and/or modeling. The mentor carefully planned the mentoring meetings, both face to face and online, taking into consideration the principles of social learning theory. Accordingly, the mentoring experience involved modeling behaviors in Second Life, observing the mentor and other residents, and reproducing the basic skills learned.

Methodology

Research Approach

The authors chose Lincoln and Guba's (1985) naturalistic research paradigm to frame this research as the most coherent and consistent with the research issue at hand: the examination of the mentoring experience given participants' collaboration and interaction while exploring Second Life's potential for teaching, learning, and research. As Lincoln and Guba (1985) state, "The naturalistic inquirer will always wish to chronicle and render at the factual level" (p. 361) (as in a description or to provide vicarious

experience) and to engage in interpretation for research. This research approach highlighted the uniqueness and complexity of the case, as well as its embeddedness and interaction with its contexts (Stake, 1995). As Creswell (2009) explains, "Case studies are a strategy of inquiry in which the researcher explores in depth a program, an event, activity, process, or one or more individuals" (p. 13). This case was bounded in time (September 2008 to December 2008) and in place (a technology mentoring program at a large Midwestern university).

Context of the Study

This study was part of a faculty mentoring program founded in 1991 that was designed to assist teacher education faculty with their particular needs when using technology in their classes and professional activities (Pamuk & Thompson, 2009). The technology mentoring program consists of two major components: a graduate-level course (Digital Learning in Teacher Education) offered to graduate students, and weekly one-hour meetings between the mentor and mentees. The program's goal was to facilitate "change in faculty members' use of technology to improve instruction" (Sahin, 2006, p.13). According to the founder of this program, more experienced users of technology (graduate students acting as mentors)

advise less experienced ones (faculty members acting as mentees) to address the mentees' specific technology-related needs (Thompson, 2006a). The student-mentors enrolled in the course were paired with faculty members according to their technology interests and, to the extent possible, their personalities (Thompson, 2006a).

It was important to this mentoring process for the mentor to build a strong learning environment and to provide the tools necessary for helping faculty members understand how to use technology in their teaching and research (Sahin, 2006). Every week, mentors met with one another in class to discuss issues related to the mentoring process and report on their successes and challenges. This effort to support a learning community played a critical role in encouraging mentors to continuously rethink their mentoring strategies and help one another overcome difficulties (Chuang & Schmidt, 2006). This community included not only mentors and mentees from the Curriculum and Instruction Department, but also other faculty and staff members interested in technology.

This community created an environment conducive to learning and change through technology adoption. Mentors were encouraged to work collaboratively with faculty members and to think of the best ways to accomplish the goals determined at the beginning of the mentoring relationship. At the start of the course, mentees joined their mentors in class to share their goals and plans with the extensive learning community (Thompson, 2006a). At the end of the semester, the mentors and mentees held another meeting to discuss successes and challenges as well as plans for technology use in the faculty mentees' future professional endeavors. Finally, the course instructor encouraged mentors to post reflections on an online blog.

Participants

This article does not use pseudonyms because the authors were the mentor and mentees. Silva, the first author of this paper, was the mentor and is a PhD student in applied linguistics and technology with a minor in curriculum and instructional technology. The mentees, Correia and Pardo-Ballester, the second and third authors of this article, are both assistant professors in the departments of Curriculum and Instruction and World Languages and Cultures, respectively.

Mentor. Silva's interest in technology arose from its increased use in language teaching and learning. She had always been fascinated by design and development of educational materials, evaluation, and adaptation, so moving from paper-based materials to computer-based ones seemed only natural to her. At the time of this writing, she was investigating the use of virtual worlds, primarily Second Life, in language classrooms in general and teacher education in particular.

Mentees. Correia's research interests include computer-supported collaborative learning, design of instruction, and assessment of educational products and experiences. Instructional design is her major area of teaching, and roughly 50% of her students are inservice or preservice teachers. Her interest in Thompson's mentoring program began in September 2005. Correia has tremendous interest in using technology to support teachers' professional growth as well as collaborative learning independent of geographic locations or time zones.

As Correia's expertise is in instructional technology, she is proficient in using different technologies. However, this mentoring experience was her first time exploring Second Life. At the time of this study, she was not teaching using virtual environments; thus, the interactions described were purely exploratory prior to making a decision about whether she would incorporate these tools into her teaching and research. Therefore, working with a mentor gave Correia the opportunity to explore technologies that she would otherwise have been unable to explore due to her multiple responsibilities as a junior faculty member.

Pardo-Ballester is actively involved in research projects in language assessment, second language acquisition, technology-enhanced language learning, and second language teaching. She teaches Spanish courses as well as hybrid and distance Spanish courses that use technology extensively. Ten percent of her students pursue careers as high school Spanish teachers.

At the time of this study, Pardo-Ballester was teaching virtual Spanish courses in which students interacted completely online in both asynchronous and synchronous modes. She used a variety of course management systems, such as WebCT, Blackboard, and Moodle, to teach courses on Spanish. Within these course management systems, she offered Web links, announcements, archived lessons, content-based Web readings and Flash activities, internal mail, bulletin boards or discussions forums, online assessments, customized grade books, and chat tools. Pardo-Ballester's courses employed additional communication tools to facilitate synchronous textual and voice exchanges among students. These tools included Adobe Connect for text chat, VoBB, whiteboard/character-by-character text exchange, and Wimba for voice-based discussion boards, direct recording of vocal participation, live virtual classroom, and podcasting.

Pardo-Ballester has been using most of these technologies for three years. She felt that her classes were sometimes monotonous, perhaps because she could do less with these technology tools than she could if her students were interacting face-to-face. Therefore, she was eager to learn more about a powerful and fun tool for her students. She had heard of Second Life, a virtual world in which she could interact with her students in an almost real context by adding liveliness through the use of avatars, or visual representations that provide the opportunity to use nonverbal cues (e.g., nodding, waving, etc). Pardo-Ballester hoped that this virtual environment would help her teach Spanish on a broader spectrum, teaching not only grammar and vocabulary but also culture, through meeting and conversing with other Spanish speakers who hail from around the globe.

Pardo-Ballester needed to experiment with Second Life to verify its potential benefits and drawbacks before

incorporating it into her teaching. Before the mentoring process began, Pardo-Ballester set up a Second Life account and tried to learn how to navigate the virtual world on her own. She had no formal instruction, not even the online tutorial offered on Second Life's Help Island, which she did not explore because she believed she could find other places to get help. Therefore, she began to observe other avatars in order to learn. She was interested mainly in learning the basic skills needed for teaching Spanish and figuring out how to teach those to her students. She also wanted to determine how feasible it would be to carry out speaking activities in Second Life. Because her course already used a Web-based videoconferencing system for speaking activities, she considered it important to ensure that the benefits of the students' educational experience in Second Life would outweigh the potential problems the use of the new tool could pose to her and her students.

Even though Correia and Pardo-Ballester were both interested in learning Second Life's basic skills, they began the mentoring program with different goals and perspectives. Pardo-Ballester had been considering using Second Life in her Spanish courses since the summer of 2008 and had some experience with this virtual world prior to the beginning of the mentoring experience. She came to the mentoring experience with a positive view of Second Life and was motivated to learn, explore it, and evaluate its effectiveness for her teaching needs. Correia's motivation to learn about Second Life derived from the many things she had heard about its potential for learning, teaching, and research. Her focus was mainly on using the virtual world and its capabilities to support collaborative learning and research in the area of instructional design for classroom teachers. She was initially fascinated by the possibilities of customizing an avatar and using it to explore professional identity. Thus, avatar customization, the exploration of this virtual world, and practice with Second Life's basic skills became the major goals for her mentoring experience.

The Mentoring Process

The mentoring project lasted about four months, from September 2008 to December 2008. In the beginning, Silva met the mentees separately in their offices once a week for one hour. The first face-to-face meetings were tailored to identify the mentee's interests and Second Life skill level, and the rest aimed to accomplish the mentees' goals and stimulate discussion about its roles in teaching and research. As Seemann (2003) points out, "Technology education and practice are not only a how-to experience, but significantly a know-why experience" (p. 30). Knowing not only how but also why to use Second Life would help the mentees to decide whether to adopt this innovation.

To help with the discussions and explorations in and about Second Life, Silva created and shared a Google Doc of resources, such as links to YouTube tutorials and references to books, articles, blogs, wikis, and websites. The intention was to provide mentees with a productive, enriching, and motivating environment and assist them in achieving their mentoring experience goals. Although Silva planned what to do during each meeting, her plans remained flexible enough to adapt to the mentees' interests and needs. Face-to-face meetings consisted largely of the mentor demonstrating and/or explaining different Second Life skills, such as flying and teleporting, and the mentees trying to do them. Through regular meetings, the group shared their goals, accomplishments, and frustrations. Each mentee met the mentor face to face six times before they all met in Second Life an additional four times.

After seven weeks of individual meetings, Correia and Pardo-Ballester met for the first time with Silva in Second Life to collaboratively explore the virtual world as well as to talk synchronously about benefits and challenges of using this environment for learning and teaching. During these Second Life meetings, the mentees went to different places in the virtual world to gather different experiences. For instance, the mentor created a Scavenger Hunt so that the

mentees could practice some of the skills they had learned. Meeting in Second Life not only gave the mentees a chance to practice Second Life basic skills, but also an opportunity to get to know each other better. Much learning and sharing occurred during two more joint sessions in Second Life. Silva recorded the experiences during the meetings, both face to face and in Second Life, in her reflective blog. These blog posts consisted of brief descriptions of the meetings followed by reflective comments regarding reasons for successes and challenges.

Data Collection and Analysis

Silva collected qualitative data through the use of mentor blogs and observation notes, chat logs in Second Life, and individual interviews. After each meeting, in Second Life or face to face, Silva took notes based on her observations of what happened that day. She then rewrote these notes in paragraph format and posted this on a blog she kept. As this blog was required for the graduate student mentor's course, the course instructor and Silva's classmates were the only ones who had access to it. The experiences and reflections recorded on it became part of the class discussions about the mentoring process itself. The observations and reflections were important for enriching the description of the experiences throughout the project and helping to show evidence of learning as individuals and as a group.

At the end of the semester, Silva interviewed each mentee separately (see Figure 2). The interview was semi-structured, allowing freedom for digression (Mackey & Gass, 2005). (See Appendix, p. 159, for interview guide.) Silva asked follow-up questions so that the mentees could add more information on topics that seemed more relevant to this study. The participants carried out the interviews in Second Life because (a) it offered flexibility in time and space; (b) Second Life had been the mentoring project's subject and context, and an interview taking place in this environment worked as a culmination of the mentoring activities; and (c) it allowed for snapshots and voice chatting, which

Figure 2. Silva interviewing Pardo-Ballester in Second Life.

were important for data collection purposes. Silva took notes during the interviews, but it was not possible to record the interviews in Second Life due to technological problems at the time of this study.

Because Silva was intimately familiar with the case, she led the inquiry and was an active participant in gathering and processing the data. After collection, she analyzed the data, guided by the principles of social learning theory. She considered the concepts of observational learning, imitation, modeling, and interaction in the analysis. She carefully analyzed the blog, observation notes, chat logs, and individual interviews and identified instances of observational learning, imitation, modeling, and interaction. Silva also used her notes to reflect on her learning journey as a "human instrument" (Lincoln & Guba, 1985, p. 187) by building on her tacit knowledge and describing lessons learned. Finally, the mentees were asked to reflect and write about the mentoring experience and their collaboration and interaction while exploring Second Life's potential for teaching, learning, and research. These accounts are also part of the findings of this study.

Silva analyzed the interview data and data from the analysis of the documents (blog entries, observation notes, and chat logs) using qualitative methods of analysis. She identified trends and discrepancies through a careful analysis of the data and established emergent themes (organized by topics).

Lincoln and Guba (1985, p. 290) describe trustworthiness as a way for "the inquirer to persuade his or her audiences (including self) that the findings of an inquiry are worth paying attention to." To promote the trustworthiness of this case study, Silva used several strategies. The primary strategy is the provision of rich, thick, detailed descriptions of the research methods, analysis process, and the participants' experiences in order to provide "sufficient information about the context in which an inquiry is carried out so that anyone else interested in transferability has a base of information appropriate to the judgment" (Lincoln & Guba, 1985, p. 124). To support the credibility of the findings, Silva triangulated different sources of data, including the mentor's blog entries and observation notes, the mentees' interview data, and the chat logs from Second Life. Furthermore, she carried out a comprehensive member check, which culminated with the inclusion of the mentees in the write-up of the case study.

Major Findings

This section reports findings as themes that emerged from all three participants. The roles of mentor and mentee were interchangeable, meaning that the mentees were learning from their mentor, but the mentor was also learning as a result of the mentoring relationship.

Navigation in a Virtual World

Most of what occurred in the face-to-face and Second Life meetings involved observations. The mentees were always observing the environment and its inhabitants, paying attention to how they looked and what they did. The mentees also observed themselves and sometimes compared their actions to those of other Second Life inhabitants. While observing the environment and the avatars, both Correia and Pardo-Ballester noticed that Second Life can be very distracting; regardless of where the person is, there is always something going on around him or her and much to explore and do. By observing what happens in Second Life, both mentees were able to decide which behaviors they wanted to adopt and to better understand the social rules that govern this virtual environment, which are different from the ones used in real life (Taylor, 1999).

Imitation and Modeling

At first, the mentor simply stated what the mentees needed to do. However, this proved to be challenging and not very efficient. Instead, the mentor decided to use two computers during the face-to-face meetings. As the mentor modeled what to do (i.e., a Second Life skill) the mentee followed the example on her own computer. This also allowed for the observation of the scene from the perspectives of both the mentor's and the mentee's avatars.

One interesting instance of modeling and imitation, which is also a good example of the kind of collaborative interactions the mentor and mentees had in Second Life, happened when Pardo-Ballester taught Correia how to dance in Second Life. First, Pardo-Ballester modeled what to do and then Correia imitated her. The dance floor was located in Virtual Barcelona, a space where learners of Spanish as a second language can interact with native Spanish speakers via text chat and/or

voice. As Pardo-Ballester had had more experience with Second Life, she could show Correia some of the skills she had already mastered, such as walking, flying, changing appearance, and navigating. Even though Correia and Pardo-Ballester had not met face to face at that time, Correia already found it reassuring to have a Second Life "buddy" that she could relate to and learn from.

Interaction, Collaboration, and Sense of Belonging

The interaction between mentor and mentees became more meaningful once the three participants met online. During the online meetings, the participants had opportunities to get to know each other and learn more about Second Life and its applications to teaching and learning. For instance, during one of the meetings in Second Life, while Silva was trying to fix a problem with the microphone, Pardo-Ballester and Correia chatted about using Second Life in their teaching. Correia said, "We learned how to use the tool together […] there was a bond with people. With [Pardo-Ballester] it was a relaxing and happy time." While in Second Life, the mentor and mentees could assist with technical problems and help answer one another's questions.

The mentees were surprised to find that Second Life inhabitants are eager to assist beginning users. The mentees could frequently find users who were willing to provide assistance, give advice, and share Second Life currency, objects, and scripts. As Pardo-Ballester explained, "If you have a problem people help you really fast; they are very helpful." For example, while the mentor and mentees were exploring the virtual area of Sparta in Second Life, Correia's avatar fell in a hole. As Pardo-Ballester and Silva were trying to figure out how to rescue her, another Second Life inhabitant helped Correia. The mentees believed that this interaction with others in Second Life was beneficial to their learning and understanding of the potential of Second Life as a teaching tool. This served as a valuable instructional strategy in which a problem is solved by

engaging in new and challenging teaching experiences. The synchronous nature of online communication served as a vehicle for the mentor and mentees to support one another.

It was important for the mentees to be able to interact with people in Second Life and have access to materials about Second Life. These two factors had a positive effect on how comfortable the mentees felt using Second Life and how much they felt part of the virtual world. This sense of belonging to the virtual world has been pointed out as one of the main advantages of Second Life (e.g., Cooke-Plagwitz, 2008; Evans et al., 2008; Morton & Jack, 2005; Peterson, 2006) as a way to increase engagement and participation. Moreover, having the support of a community whose members share the same interests is a good argument for stimulating educators to adopt an innovation. Peterson (2006) explains, "Collegial interaction provides a social reinforcement for faculty change and development in the uses of instructional technologies" (p. 25).

The Overall Experience

During the meetings, the mentor and mentees discussed a number of skills and issues related to using Second Life in teaching and researching. The mentees felt that they needed to continue practicing the basic skills they learned to explore the virtual world more extensively. Even though Pardo-Ballester mentioned that "nothing is easy in Second Life," both mentees agree that changing appearance, flying, and teleporting were easier than using the camera controls and walking in the virtual environment.

By the end of the mentoring experience, both mentees planned to learn more basic Second Life skills and to use Second Life in their future teaching and research. Pardo-Ballester wanted to try to use Second Life with her Spanish classes. She believed that "it would be something different, like video games, and students like it." Although she had a few concerns about problems she might encounter in implementing the virtual world in her classes, she thought

that "the students will like the activity" in Second Life. Correia stated that she would like to "explore the avatar creation as a teaching tool." She said that in her instructional design classes, the students needed to learn how to express themselves and create their own professional identity; Second Life could be a good tool to achieve this goal. Nonetheless, she also thought that

> …we need to do research in Second Life in a different manner … sometimes people do things in Second Life in the same way as in real life but don't take advantage of the medium … so we need to learn about research differently without translating what we do in real life to Second Life.

Overall, both mentees thought the mentoring experience was positive. Even though this was not Correia's first mentoring experience, she believed that "this time [she was] learning something [she is] going to pursue after the mentoring experience is over." In past mentoring experiences, she worked on specific projects that dictated what the mentor and mentee did. This time, she enjoyed the opportunity to approach the innovation in an open and free way, without specific learning goals constraining innovative uses of the technology. In her words, "Because there was no specific project, it was very liberating." She appreciated the mentor's ability to follow her rhythm and the opportunity to interact in her native language, which contributed to a very successful interaction and close bond.

This mentoring experience was Pardo-Ballester's first, and like Correia, she found it useful. She had tried to learn about Second Life on her own but found it took her too much time and effort. She appreciated the resources the mentor collected and the opportunities to explore the virtual world and discuss its benefits and constraints. She felt that although the face-to-face meetings made her lazy, the meetings in Second Life motivated her to prepare ahead of time. She saw a clear advantage to having the meetings in Second Life. She stated,

Figure 3. Pardo-Ballester, Correia, and Silva exploring Second Life together.

"Tasks [in Second Life] took more time than regular real-life meetings. Maybe because we're really involved, time passes fast and you want to see everything, and there is so much to see."

Lessons Learned during the Mentoring Experience

The Mentor's Perspective

This mentoring experience offered many lessons about using and teaching in Second Life as well as collaborating with faculty members who are getting acquainted with and adopting this technology. These lessons stimulated Silva to continue working in this area beyond this mentoring program and to refine her methods of supporting faculty exploration and adoption of Second Life for education.

When planning lessons about Second Life, one must consider what to teach, when to teach it, and how. Because it was most important to ensure the mentees' accomplished their goals, the mentees determined what was taught. The skill's level of difficulty and the mentees' interests determined when to teach each skill. Although there has been some effort to determine the level of difficulty of Second Life skills (see Carter [n.d.] as an example), to our knowledge there have been no empirical studies in this area. Therefore the order in which the skills were taught reflected the mentor's perception of their difficulty. Moreover, the mentees experienced distraction in

Second Life, which switched their focus to other skills. Nonetheless, it was clear to Silva that when she was flexible in her planning, the mentees would have a meaningful experience tailored to their needs.

As stated above, while deciding how to teach the skills, the mentor relied on the concepts of social learning theory. Modeling and imitation were the main principles she used to aid the explanation of performing different actions in Second Life (see Figure 3). At first, the mentor tried to explain orally what to do, but she quickly realized that if she showed what to do, the mentees could not only hear but also see the procedures. As Abbott (n.d.) mentioned, "modeling can provide a faster, more efficient means for teaching new behavior." Besides, Silva noticed that using different ways to practice the skills learned helped them remember what to do when they were on their own. According to Mazar and Nolan (2008), one should employ different pedagogies when using Second Life in the classroom. Different pedagogies might also be helpful in a mentoring situation.

Developing a sense of community also benefited the learning experience. Even though a series of one-on-one meetings was beneficial for addressing each mentee's specific needs, when teaching about Second Life skills, it is important to provide opportunities to interact with others. In the beginning of the mentoring experience, Silva was

hesitant to meet in Second Life because she knew it would require more of the mentees' time and effort. To avoid frustration, she waited until they had mastered some basic skills, such as walking, teleporting, and chatting.

After meeting in Second Life, and later during the interviews with the mentees, Silva realized that these interactions were collaborative and stimulating. Collaboration served to provide an efficient and effective support structure for mentees and mentor alike. Moreover, the Second Life meetings created a sense of community and helped create the bond that is typical in a mentoring program. It provided both mentors and mentees with opportunities to learn from each other; this two-way learning is part of what makes the mentoring program so rewarding for both mentors and mentees (Thompson, 2006b).

During the mentoring program, issues of safety and privacy emerged as acute concerns. For example, during one session in Second Life, an intruder tried to initiate a chat with Pardo-Ballester and Silva, even though he or she could probably see that both were busy changing their avatars' appearances and that Silva had set her status to "busy." In a different situation, another intruder addressed Correia with inappropriate language. In both situations, the reaction was to ignore the intruders and proceed with the planned activities in the virtual world. The mentees left it up to the mentor to decide how to react to this situation, and the mentor modeled what to do. It became important to openly talk to the mentees about what they might encounter in the virtual world and how to avoid it. Knowing what to do in the future could prevent frustration.

As a mentor, Silva had to overcome some challenges. Although she had been teaching for many years, mentoring faculty was more demanding. She had to adjust to the mentees' needs and give them space to learn. By listening to the mentees' wishes and being flexible, she created an enriching experience for them. Silva learned that it is important to adapt to the mentees' learning preferences, establish a close collaboration,

and not be so strict about structuring the mentoring sessions.

The Mentees' Perspectives

Pardo-Ballester. As is current practice in higher education, the university where this study took place offered distance courses in a variety of subjects, but few hybrid (a combination of online and face-to-face) courses were offered before 2008. One of Pardo-Ballester's interests was teaching and learning a language supported by technology. The university's Department of World Languages and Cultures saw a need for new hybrid courses. As a result, in fall 2007 and 2008, two internal grants were awarded to support the development of these courses and incorporate technology into the foreign language curriculum.

During the development of the courses, the need to identify effective collaboration tools for online meetings was critical. Pardo-Ballester had used Adobe Connect Pro, a Web-conferencing system that supports virtual meetings. Even though this system was sophisticated enough for interacting in three different modes (text, audio/speaking, and camera), she could not use it to perform the activities she had in mind for the hybrid Spanish course (e.g., role-playing within real situations or performing a fairy-tale play with avatars representing different characters). Second Life suited the course's needs as a collaboration tool because of its voice-enabled feature and 3-D virtual environment that supports task-based approaches, including the practice of oral skills. As a result, Pardo-Ballester started self-teaching on Second Life during the summer of 2008 by browsing and reading about the virtual world. Initially, Second Life seemed to be a difficult technology to integrate into her teaching because basic skills were difficult to learn without assistance and took too much time to acquire. She quickly realized that it was a complicated task to teach a new course with a technology with which she was not very familiar. The university's technology mentoring experience turned out to be what she needed to cross these hurdles.

Being a mentee of an expert Second Life user was a rewarding experience for Pardo-Ballester. During face-to-face meetings, the mentor showed her how to use different techniques, such as (a) changing the avatar's appearance; (b) identifying places to go in Second Life, which are called landmarks; (c) using the inventory; (d) using the camera with the avatar; and (e) using the mouse to move the avatar (e.g., to walk, run, sit down, or fly). During mentor–mentee meetings, the mentor corrected Pardo-Ballester's mistakes, increased her efficiency, encouraged her to learn more, and modeled more behaviors in Second Life.

Pardo-Ballester's experiences teaching hybrid courses with Second Life proved the necessity of providing students with simple instructions on using technology, a need magnified by the learners' possession of only basic Spanish language skills. In general, students who are learning a second language are not motivated to spend much time learning how to use software outside their instructional time. However, once they use the software with success in a class activity, the use of technology becomes more meaningful for them. Because instructors need to encourage students to learn both the technology and language, simple instructions on how to use Second Life are essential. Students need to have a simple manual that teaches them how to walk, talk, and hear other people in Second Life. This learning experience can be improved by giving students a simple task to accomplish in Second Life. When students are introduced to this virtual environment from the beginning of the course, they will be compelled to explore Second Life and perform tasks in the environment (i.e., visiting areas in Second Life inhabited by native Spanish speakers and engaging in conversations in Spanish). In addition, students should learn accepted behaviors in Second Life and stay safe.

In spite of these barriers, students could see the benefits of using Second Life to learn a second language. In this virtual environment, students could make virtual friends with native Spanish

speakers, which is not so easy in the real world. Additionally, students could teleport to Spanish-speaking islands and continents in Second Life and learn about inhabitants' culture and customs. Unlike traveling abroad and speaking Spanish in front of classmates and the instructor, students would feel less intimidated when interacting in Spanish with native speakers in Second Life. Second Life also offers the possibility of engaging in activities that are more difficult to accomplish in the real world, such as producing a play. It is certainly more cost-effective to put together a play in Second Life than to do so in real life.

Correia. Correia started her explorations in Second Life with much excitement. She was eager to learn Second Life basic skills (e.g., walking, flying, changing appearance, navigating, and taking snapshots) and simultaneously reflect on ways to fully use this virtual environment to support collaborative learning. Therefore, virtual social interactions were her major focus at the start of the mentoring project.

In the same way an entrepreneurship educator uses Second Life to teach students how to start a business (Mennecke, Hassall, & Triplett, 2008), a teacher education program can use this virtual environment to prepare preservice teachers to act in school settings. Being a teacher is no longer isolated work circumscribed by classroom walls. With all the pressures from the "outside world," such as pedagogical and technological advances, economic and job market nervousness, administrative responsibilities, etc., the demands of a teaching job are increasing. Being a teacher requires one to be connected with colleagues, supervisors, students, and other professionals in education to address some of these demands and stay current. Second Life offers an environment where it is relatively easy to mimic collaborative endeavors that occur naturally in the real world. Preservice teachers can engage in professional conversations with novice and experienced teachers in different parts of the virtual (and real) world, participate in school committees and advisory boards in Second Life schools, present at virtual

conferences about their issues as emerging professionals, and even build and run in Second Life the schools of their dreams.

While creating her avatar, Correia was struck by the possibility of this task being used for professional identity formation and development. She looked into the act of avatar creation as an opportunity to project one's own identity in a world without physical limitations (Brown, 2008) and began to consider using the avatar creation process as a way to express one's professional identity as a teacher, with a special focus on identity formation among preservice teachers.

The interdisciplinary aspect of teaching, along with the multiple roles a teacher needs to play and the incessant use of interpersonal skills and collaborative strategies, makes it important to delve into the question of professional identity. This is particularly relevant when dealing with preservice teachers, as Kagan (1992) points out in her seminal study, "Professional Growth among Preservice and Beginning Teachers." Kagan goes further, explaining that beginning teachers use what they know about their students "to modify and reconstruct their personal images of self as teacher" (p. 129). Unfortunately, professional identity development is not at the core of most of teacher preparation programs.

Correia believed that a discussion about students' professional identity while they are maturing professionally could add greatly to the quality of the educational experience she offered in her courses. Spinning the act of avatar creation as an act of self-expression allowed preservice teachers to expose their self-awareness and identity. They needed to make sense of "their understanding of the theory of teaching/learning and their unique set of life experiences" (Carrington, Kervin, & Ferry, 2009, p. 1403). Thus, a research opportunity opens up, somewhat similar to what Carrington et al. have done, for engaging preservice teachers in virtual environments in the quest for teacher professional identity.

As a new Second Life inhabitant, while exploring the in-world for its capabilities for learning and teaching,

Correia was surprised to discover its remarkable similarities with real school life (e.g., classrooms, seats, buildings, departments, books, notes, and disciplines). Some virtual environments were high-fidelity representations of a university campus.

> Separate buildings highlight the traditional division among disciplines, and within these buildings are elaborately programmed classrooms. Teachers can lock students in and others out; they have tools for delivering lectures, for silencing one or all members of a class, and controls who speaks when. (Fanderclai, 1995, p. 8)

Correia was startled by the limited number of learning environments with augmented learner control in Second Life. Virtual worlds are designed for interaction; therefore, when used to replicate the established power chains and traditional academic structures, they are being distorted to fit into what is largely accepted as appropriate in real life, which diminishes the capabilities of Second Life for learning and teaching (Brown, 2008). Once more, Second Life showed the potential for research in learning and teaching, and its different dimensions intrigued Correia.

Conclusion

The mentoring experience allowed Silva, the mentor, to grow as a teacher, a researcher, and a learner. She learned more about not only Second Life, but also about teaching with it and researching it. In addition, she had the opportunity to interact with, learn from, and collaborate with two faculty members and their innovative approaches to teaching and research. Researchers have extensively reported successes with this type of mentoring program (Thompson, 2006b), but the lessons learned in this study were particularly meaningful to its participants. Exploring Second Life firsthand and interacting with other inhabitants who shared the same interests, challenges, and enthusiasm contributed to the success of this mentoring experience for all involved.

The mentoring experience went beyond the mentees' office walls and the single-semester timeframe. Since the end of the formal mentoring relationship, both the mentor and mentees have continued to learn about virtual worlds and think of ways to use them in teaching, learning, and research. In addition to the work the mentor and mentees have done in Second Life, they have presented their experiences at two international conferences. In addition, Correia plans to explore the possibilities that avatar customization affords for professional identity formation and development, Pardo-Ballester has already successfully embedded Second Life into her Spanish curriculum, and Silva is developing her dissertation research project in Second Life. The encounters in Second Life helped to create a professional bond between the participants, which evolved into a small Second Life interest group within the university where this study took place.

As far as limitations of this study are concerned, it is important to mention the need for revising the interviews and requesting that the mentees keep reflective journals, as the mentor did. It is important to ensure that the interviews are recorded in Second Life and then transcribed. This would provide a high fidelity to the mentees' accounts. Also, asking mentees to regularly post reflective comments about their experiences would be another beneficial tool for data collection. Even though the mentees wrote their reflections for this article, this was done only at the end of the project; that is, their description of the experiences was limited to what they could remember afterward. Frequent and candid blog posts made throughout the process could be invaluable to the analysis and triangulation of the data.

In sum, this mentoring experience was a result of a collaborative effort to understand how Second Life can be used for teaching, learning, and research. Silva was not the only one teaching, and Pardo-Ballester and Correia were not the only ones learning. The experience became a two-way street where each participant contributed her expertise,

and in turn evolved by observing and learning from the others.

Implications for Teacher Educators

The first consideration for teacher education might be to conduct research on which Second Life skills are more difficult to learn, in order to develop a better guide for teachers who would like to use the virtual world in teaching. Additionally, a better understanding of Second Life's perceived and actual properties would assist teacher educators in how this virtual environment could be used in education.

Observing what happens in the virtual world can make acquiring the Second Life culture and adopting virtual behaviors easier. By immersing themselves in the environment and becoming residents, teacher educators can gain insights into how and why to use this virtual environment for learning and teaching. It is particularly interesting to observe the differences in the interaction of people and objects in-world and in real life (Smith & Berge, 2009). As a result of such experiences, a teacher educator can design virtual early field experiences and prepare his or her students to become effective online teachers, especially now, with the rise of virtual schooling in K–12 contexts (Davis & Ferdig, in press). Along this same line, experiences in Second Life can assist digital-native preservice teachers in developing sophisticated strategies for using virtual worlds in teaching. A recent study (Lei, 2009) revealed that basic technologies and social communication technologies do not pose many challenges to digital natives as preservice teachers. However, the results also have shown that their technology use lacked an in-depth comprehension of embedding emergent technologies in the classroom.

Second Life avatars offer anonymity and a vehicle for expression, which teacher educators can leverage as a way to discuss sensitive issues, such as harassment and discrimination in the workplace, in a more comfortable environment. Additionally, they can discuss issues such as in-world safety and privacy while the firsthand experience of inhabiting Second Life is taking place.

A related implication is Second Life's potential to offer a wide range of activities, such as flying to a different country, producing a virtual play, and creating a school from the ground up, all of which are cost prohibitive in the real world.

One final implication is the need for finding more experienced users of Second Life to act as mentors for supporting new adopters using this technology. Such experiences have proven effective (Pamuk & Thompson, 2009; Thompson, 2006a, 2006b), and teacher education has much to gain from informal mentoring experiences by building on digital-native preservice teachers' skill set of technology use. Preservice teachers can share their technological knowledge, and teacher educators can provide interactions and opportunities for reflection to help preservice teachers gain a deeper understanding of embedding Second Life in learning and teaching.

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Appendix

Interview Guide

- How was the experience of learning how to use Second Life?

- What was easy? What was difficult?

- What potential do you see for teaching and researching? What are the drawbacks?

- How was the mentoring experience for you?

- How helpful was it to have someone work on exploring Second Life together with you?

- (For Correia) How does this mentoring experience compare with other mentoring experiences you had in the past?

- What do you think about the face-to-face meetings?

- How about the meetings in Second Life? Was it helpful to be able to meet with other people in Second Life? How/Why?

- If you could have this mentoring experience again, what would you like to do differently?

- What are your future plans with Second Life?