EXPERIENCES OF ONLINE PRESENCE: TEACHING, SOCIAL, AND COGNITIVE PRESENCE IN A PARTICIPANT FACILITATED AND PRODUCT ORIENTED COURSE

by

Rebecca R. Boyer

A Dissertation
Submitted to the
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Doctor of Philosophy
Education

Committee:

_____ Chair

_____

_____

_____ Program Director

_____ Dean, College of Education and Human Development

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Fairfax, VA

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Rebecca R. Boyer
Master of Education
George Mason University, 2004
Bachelor of Arts
Nazareth College, 1998

Dissertation Chair: Priscilla Norton, Professor
College of Education and Human Development

Spring Semester 2016
George Mason University
Fairfax, VA

Dedication

This is dedicated to my hockey linemate and life partner Matt. I appreciate your loving support during my academic journey. Thank you for pretending to enjoy many nights of frozen pizza.

Acknowledgements

I would like to thank the many friends, family, and other supporters who have supported my endeavors. Dr. Erin Peters-Burton provided a great fresh eye to my writings. Dr. Dawn Hathaway supported my work in many ways, such as her firsthand insight on EDIT 721. This work was only possible due to the tireless efforts, advice, and support of Dr. Priscilla Norton. Our weekend meetings at Wegmans were invaluable on a professional and personal level; I miss them already.

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List of Abbreviations

User Experience ..... UX
Face-to-Face F2F
Learning Management System ..... LMS
Institutional Review Board ..... IRB
Massively Open Online Courses ..... MOOCs
Integration of Technology in Schools ..... ITS

Abstract

EXPERIENCES OF ONLINE PRESENCE: TEACHING, SOCIAL, AND COGNITIVE PRESENCE IN A PARTICIPANT FACILITATED AND PRODUCT ORIENTED COURSE

Rebecca R. Boyer, Ph.D.

George Mason University, 2016

Dissertation Director: Dr. Priscilla Norton

Course design decisions impact how participants experience an online learning environment. When course design decisions promote online presence, learners have more meaningful and have more successful online learning experiences. This study examined participants' experiences of online presence (teacher presence, social presence, and cognitive presence) in a participant facilitated, product oriented, fully online course design. Data were analyzed for emergent themes to examine participants' experiences and the persona method from user experience research was employed to narrate the experience of a typical participant in this study course. The results of this study for teaching presence indicated that teaching presence was evident to participants. However, they wanted more instructor participation in course discussion boards, even if there was as student facilitator to guide work products and discussion. The results of this study for social presence indicated that social presence was abundant in this study course including

the social presence of the instructor. However, participants' social presence needs were not met by the LMS used, and they used outside tools to communicate with each other. The results of this study for cognitive presence indicated that for this product oriented study course, the resolution stage is reached when a learning product is produced. In addition, this research showed that the persona method borrowed from user experience research can be employed to illustrate the typical experience of an online course participant.

Chapter One

Introduction

In recent years, online learning has become a popular choice for learners. In the fall of 2012, there were a total of 7.1 million learners enrolled in at least one online course. The growth rate of online course enrollments continues to increase as the growth rate from fall 2011 to fall 2012 was 6.1 percent (although it was the smallest increase in the last five years). Of all learners in higher education, 33.5% participated in online learning courses in the fall of 2012. Of the academic leaders surveyed in 2012, 74% of them believe that online learning outcomes are the same or better than face-to-face courses (Allen & Seaman, 2014).

Many learners choose online learning over traditional classroom courses for reasons such as time flexibility, monetary concerns, and geographic freedom. Online learners appreciate accessibility to course materials 24 hours a day as well as frequent and timely feedback from course instructors (Li & Irby, 2008). To these benefits, Singh and Pan (2004) added the benefits of learner control and interactivity between learners as well as between the learners and the instructor. However, online learning is not the answer for everyone. There are concerns about learner isolation, proper access to technology hardware and software, and a lack of quality, accuracy, and depth of learning in an online learning environment (Singh & Pan, 2004).

To continue to be effective for learners, the quality of online learning environments must be maintained and improved as learners and technology evolve over time. In order for learners to profit from this growing field of online learning, design of online learning environments must create "deep and meaningful" (Garrison & Cleveland-Innes, 2005, p. 133) experiences for online learners.

Background of the Problem

The importance of course design. Decisions made by online course designers affect how learners experience online courses. These design decisions impact aspects of the course including learner experience, learner attitude, and the learning itself. Course design should be driven by pedagogy not technology (Huguet & Wright, 2005). In a study of two design models, Norton and Hathaway (2008) found that the impact of the design itself was an influence on the learning experience of learners. The authors suggested that the design of an online learning environment should start with course outcomes and goals before designers make other design decisions.

Learning outcomes are important, as well as the entire context including learner experience created by the design. Design has a "significant impact on whether learners approached learning in a deep and meaningful manner" (Garrison & Cleveland-Innes, 2005, p. 133). The course designer must attend to learning goals as well as learners' experience of the course, known in the design field as user experience. The term user experience (UX) was coined by design expert Don Norman (Gube, 2010; Vacek, 2014), stating that UX involved every interaction end-users had with the company's products and services (Nielsen & Norman, n.d., n.p.). According to Garrett (2010), "User

experience is not about the inner workings of a product or service. User experience is about how it works on the outside, where a person comes into contact with it" (p. 6). UX research is a possibility for all types of products (Goodman, Kuniavsky, & Moed, 2012). Therefore, in the design field, user experience (referred to as participants' experience forward) is not what happens as a product is a designed; it refers to the experience of the person using a product after it has been created, packaged, shipped, purchased, and in their hands.

Online courses are learning products with learners as their users. An important element of UX is learners' experience of online presence. Course design must include consideration of the learners' experience of online presence.

Online presence. Online presence is defined as "the participants' [teacher and learner] ability to establish a sense of being in the virtual environment" (Irwin & Berge, 2006, p.2). Reflecting Garrison, Anderson, and Archer's (2000) conception of online presence, this study is based on a notion of online presence contained in three elements: teaching presence, social presence and cognitive presence. Although some research focuses on one or two of these components, this research will explore all three elements of presence to examine participants' experience of online presence in a participant facilitated and product-based online course. In this product-based study course, participants worked together in small groups to create products that showed understanding of their learning.

Teaching presence. Teaching presence encompasses course design and organization, course facilitation, and direct instruction during the course (Garrison et al., 2000). Indicators of teaching presence include curriculum and methods, sharing personal meaning, and focusing discussion. Instructors must rise to the challenge and meet all three categories of teaching presence in order to create a successful online learning environment (Arbaugh & Hwang, 2006).

Journell (2008) examined threaded discussion board postings and their effectiveness in an online high school U.S. History course. He concluded that teachers must be prepared with online teaching strategies and that online teachers need to guide online discussions properly, use their knowledge of face-to-face (F2F) techniques, use a range of online tools to reach the learners, and make online discussions manageable for the learners. Ke (2010) emphasized that instructors need to create the correct balance by choosing a Goldilocks-like just right fit for teaching presence during course discussions. He stated that from the first moment of the course, the instructor's role is the keystone to building a sense of community in the online environment. Akyol, Vaughan, and Garrison (2011) concluded that learners who experience teaching presence are more likely to report higher levels of a sense of community in the online environment. This sense of community is based in the foundation of teaching presence. The existence of presence in an online environment makes participants feel included and involved. Course design features that promote teaching presence have a positive impact on motivation and learning (Baker, 2010). Therefore, teaching presence is a key element of the learner experience in an online course.

Social presence. Social presence is the ability of learners to portray themselves socially and effectively as real people in the online environment (Garrison et al., 2000). Indicators of social presence include expressing emotions, risk-free expression, and collaboration. Because learners can be frustrated and anxious by the lack of visual contact and time lag in asynchronous communication, it is important for online courses to ensure online social presence in order to facilitate relationships and the ability to connect with others despite physical separation (Irwin & Berge, 2006). Cleveland-Innes and Campbell (2012) noted that the emotional element of social presence is not commonly researched and urged course designers and instructors to be aware of social presence as many new learners enter the online learning environment for the first time.

The more learners detect social interaction with others, the more they perceive social presence (Wei, Chen, & Kinshuk, 2012). Learners need to have an awareness of others in the online environment before interaction can occur. Interactions need to have immediacy and intimacy in order to meet psychological needs (Wei et al., 2012). Hall and Herrington (2010) found that the social presence needs of immediacy and intimacy are embedded in the types and frequency of interactions between online learners and not merely the number of interactions. They stated that interactions using affective language and/or those that allow learners to share about themselves are powerful in increasing social presence.

Social presence must exist in an online learning environment. If social presence does not exist, the ability to construct meaning and understanding will be low (Shea & Bidjerano, 2012). Due to the importance of social presence, it is was important to design

participant interactions and activities into an online course, since learners' interactions with other learners and learner engagement impact course attrition and course outcomes (Jolivette, 2006).

Cognitive presence. Cognitive presence refers to how learners construct understanding and meaning through their reflections and conversations with others (Garrison et al., 2000). Cognitive presence is indicated by a four step sequence that includes a triggering event, exploration, integration, and resolution. Indicators of this sequence are a sense of puzzlement, information exchange, connecting ideas, and application of new ideas respectively.

Darabi, Arrastia, Nelson, Cornille, and Liang (2011) urged instructors to scaffold learners towards resolution. The authors recommended that learners work through authentic problems in order for cognitive presence to emerge. Although Garrison et al. (2000) stated that the application of new learning only occurs when cognitive presence exists, they also stated that cognitive presence on its own it not enough to provide for what learners need in terms of a learning community. Akyol and Garrison (2011) agreed and stated that all three elements of presence should exist in an online learning environment.

This study course. Online presence plays an important role in participants' experience and, thus, it is important to better understand how course design impacts their experience. This study examined participants' experiences of online presence in EDIT 721 – Web-Based Learning, a fully online course housed in the Blackboard Learning Management System (LMS). In EDIT 721, one course instructor worked with 27 enrolled

participants, divided into small groups of four to six participants. Participants were homogenously grouped based on teaching job responsibilities (by grade level and/or content). After instructor modeling of facilitation in small group discussion boards during Module 1, participants took turns acting as facilitators for the remainder of the course. Each week the designated participant facilitator was in charge of directing the small group discussion boards, managing their group's process, and synthesizing the group's input toward completion of a product. Every participant had at least one opportunity to act as facilitator. As part of the covert curriculum of the course, participants were learning how to be instructors in an online learning environment. This facilitation practice was a key component of their first-hand experience. Participant facilitators followed the instructor's facilitation example from Module 1 to keep the group on track during the learning process.

A second design feature of this course centered group work and activities on production of learning products. These products were tangible evidence of the group's understandings of the course. Groups used discussion boards as a workspace for creating learning products. The discussion boards did not function as a platform for discussion of course topics but served as a workspace to collaboratively create a product reflecting their learning of the course content. Posts in the discussion boards provided tangible evidence of the product and its creation process. To discover how this design impacted participants' experiences, the researcher employed the user experience research method of persona creation (Cooper, 1999).

Statement of the Problem

To capitalize on the benefits of online learning to create meaningful learning opportunities, educators must embed elements that scaffold online presence as part of the development of online learning environments (Garrison & Anderson, 2003). When course design promotes online presence, learners have more meaningful and successful online learning experiences. When online presence is a part of course design, participants' (teacher and learner) are able to form a perception of being real in an online environment (Irwin & Berge, 2006).

There is not one way to design an online learning environment to allow online presence to flourish. In fact, there are a number of online course designs that each uniquely shape the ways in which learners experience online presence. A course may be, for example, one-on-one mentoring, whole group and one instructor, project based learning, self-paced learning, asynchronous, and/or synchronous model (Norton & Hathaway, 2008). It is likely that learners' experiences of online presence differ based on design model.

This study examined an online course, EDIT 721, designed using a product-oriented and participant facilitated course design wherein small groups of participants work together to master course concepts and complete products that demonstrate their understanding of the course curriculum. Because this course design likely impacts participants' experiences of online presence in different and unique ways, it is important to understand how participants experience online presence in this course. There is a gap in the literature that examines online presence (teacher presence, social presence,

cognitive presence) with relation to course design. Therefore, the problem of the study was to examine participants' experience of online presence (teacher presence, social presence, cognitive presence) when course designers implement a participant facilitated, product-oriented fully online course design. Such knowledge would inform future course designers' ability to better shape learners' experiences and create meaningful learning experiences for online learners.

Research Questions

1. What was participants' experience of teaching presence in a participant facilitated and product oriented course?
2. What was participants' experience of social presence in a participant facilitated and product oriented course?
3. What was participants' experience of cognitive presence in a participant facilitated and product oriented course?

Conceptual Framework

The conceptual framework for this study is a representation of the influences and concerns related to design, online learning, and participant experience. The central relationship in this study is between the course design elements of participants as course facilitators and the centrality of the creation of learning products as the primary means of interacting with course content and course participants' experience of online presence (teacher presence, social presence, and cognitive presence). Course design is informed by the model of online learning and design elements that have been selected by the designer (Allen & Seaman, 2010) as well as six quality dimensions needed for a

successful online learning design (Hathaway, 2009). Participants' experiences are influenced by their characteristics such as demographics, attitudes and previous online experiences. In addition, participants are also influenced by their experiences with online presence (teaching presence, social presence, and cognitive presence) in the online course environment.

In creating an online course, designers have many decisions in regard to online course design as online courses can be web-facilitated, blended, online, or fully online (Allen & Seaman, 2010). There are various models for organizing course structure and delivering course content. Designers must also choose between synchronous and asynchronous methods of communication and interaction for each learning activity within a course.

According to Hathaway (2009), there are six dimensions of quality considerations in online learning design. The first four point to interactions between learner-learner, instructor-learner, learner-content, and learner-interface respectively. These interactions are very important; the quantity of these interactions aides in determining the success of the online learning environment. (Nasseri, 2014). The fifth dimension focuses on instructional strategies (Garrison & Cleveland-Innes, 2005). Bradley (2009) agreed that instructional strategies are an important foundation since the technological tools will change but tried and true strategies will always be a sound basis for quality instruction. Hathaway added social presence as the sixth dimension based on Aragon's work (2003) stating that social presence is necessary in order to build a sense of community in an

online environment. Figure 1 presents a diagrammatic representation of these relationships.

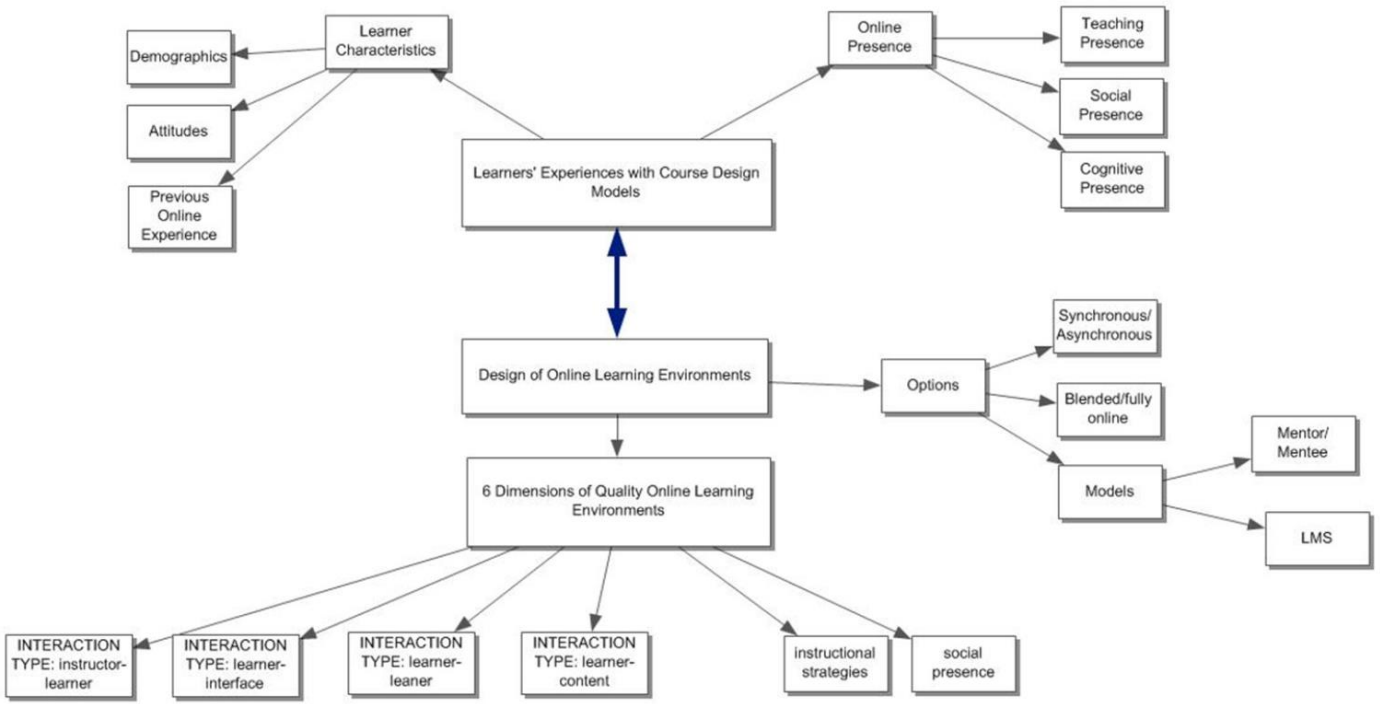

Figure 1. Diagram of the conceptual framework of this study

Since the course in this study is fully online, the main difference (from traditional courses) is the fact that the participants and instructor do not meet F2F. Therefore, the participant (and the instructor) must establish and maintain themselves as real people in a virtual environment.

Significance of the Study

The importance of learner experiences of online presence has been well documented in the literature (Dunlap & Lowenthal, 2014; Hodges & Cowan, 2012; Hosler & Arend, 2012; Kupczynski, Ice, Wiesenmayer, & McCluskey, 2010; Lehman & Conceição, 2010; Palmer & Holt, 2010). In addition, studies have compared online presence across multiple courses at one university (Arbaugh & Hwang, 2006; Blignaut & Trollip, 2003; Cleveland-Innes & Campbell, 2012), the same course during different semesters (Akyol et al., 2011), and across multiple courses at several universities (Arbaugh, Cleveland-Innes, Diaz, Garrison, Ice, Richardson & Swan, 2008; Shea & Bidjerano, 2012; Wei et al, 2012). However, there is a void in the literature connecting specific course design decisions through the lens of online presence (teaching presence, social presence, and cognitive presence).

The purpose of this study was to examine participants' experiences in a fully online, participant facilitated, product-oriented course design model through the lens of the elements of online presence (teaching presence, social presence and cognitive presence). This study is unique as it examined a fully online course through a lens of online presence in an asynchronous course design model in which participants were course facilitators in a product-based environment. Participants acted in the role of

course facilitators (assuming instructor roles) while each small group of participants worked to create products as demonstrations of their learning (content interactions).

The elements of online presence provides learners a sense of community; good teaching presence makes participants feel included and involved (Akyol, Vaughan, & Garrison, 2011). The design of an online course influenced the learning experience of participants (Norton & Hathaway, 2008). For example, course design features that promote teaching presence "positively impact student's affective learning, cognition, and motivation" (Baker, 2010, p.23). Findings in this study would help online course designers understand the impact of the design decisions in a participant facilitated and product-oriented course.

Scope of the Study

The participants in this study are members of a two year Master's cohort program at a large university in the Mid-Atlantic region. In addition, the participants are practicing K-12 teachers in school districts in that region. The course in this study occurred during the summer semester of 2014.

To address the stated research questions, a two pronged user experience method was used. In phase one, qualitative methods were employed to collect the course data in order to understand the experiences of participants in EDIT 721. The researcher conducted eight interviews from a pool of 27 participants in the course. The researcher used convenience sampling of the students in EDIT 721 who volunteered to be interviewed in order to obtain firsthand accounts of online experiences of online presence. In addition, the researcher studied the online course observational data (LMS

discussion boards) to see how online presence manifested itself when learner-learner conversations were directed toward production of a product and learner-instructor conversations were primarily structured by participants assuming the instructor role.

In phase two, the data collected were analyzed and transformed into personas. The personas were created based on the data to show the experience, wants, and needs of the "typical" participant enrolled in EDIT 721 relative to the impact of participants' experience of online presence.

Definitions

Online Learning: Web-based courses wherein 80% or more of the course content is delivered online (Allen & Seaman, 2010).

Fully Online Model: An online learning model wherein 100% of the course content is delivered online.

LMS (Learning Management System): A web-based based program that "enables instructors to create and manage course matter, employ publisher content, communicate with students, and evaluate performance" (Bradford, Porciello, Balkon, & Backus, 2007, p. 303).

Online Presence: "The participants' (teacher and learner) ability to establish a sense of being in the virtual environment." (Irwin & Berge, 2006, p.2).

Teaching Presence: Teaching presence includes online course facilitation as well as "the design of the educational experience. Teaching presence includes the selection, organization, and primary presentation of course content, as well as the design and development of learning activities and assessment" (Garrison et al., 2000, p. 90).

Social Presence: "The ability of the participants in a community of inquiry to project themselves socially and emotionally, as 'real' people (i.e. their full personality), through the medium of communication being used" (Garrison et al., 2000, p.94)

Cognitive Presence: "The participants in any particular configuration of community of inquiry are able to construct meaning through sustained communication" (Garrison et al., 2000, p.89).

User Experience: "User experience encompasses all aspects of the end-user's interaction with the company, its services, and its products" (Nielsen & Norman, n.d., n.p.).

Learner: In this study, learner refers to students in a study in the research literature.

Participants: Since EDIT 721 course participants are teachers in their professional lives, the EDIT 721 course content often uses the word *student* to mean the K-12 students of those enrolled in EDIT 721. Therefore, to differentiate in this study, those enrolled in EDIT 721 are called *participants*.

Participant Experience: Experience of an online course participant in this study course.

Persona: A persona is an imaginary user based on real data about actual users; *"A precise description of our user and what he wishes to accomplish"* (Cooper, 1999, p. 123).

Summary

This chapter presented the topic of online presence as it relates to this study. The background of the study's problem was included. The statement of the problem was discussed as it pertains to the study course. The research questions of this study were presented. The scope of this research study, the conceptual framework, and definitions of related terms were also presented. Chapter 2 includes a review of the relevant literature for all three elements of online presence, the models of online learning, and online mentoring. Chapter 3 presents the methods of this study, including this study's instrumentation, description of data collection and its analysis. The results of the data analysis and the findings of the study are included in Chapter 4. Chapter 5 discusses the study and its implications on both practice and academic research. This final chapter also features recommendations for future research.

Chapter Two

Introduction

This study was designed to examine participants' experiences of online presence (teaching presence, social presence and cognitive presence) in an online graduate course designed to be student facilitated and product-oriented, as evidenced in discussion boards and interviews.

This chapter details previously published related literature. The researcher searched EdITLib Digital Library, ERIC, and Google Scholar. The researcher searched for peer reviewed publications from 2005-2015 containing the key words online presence, design, teaching presence, social presence, and cognitive presence. The researcher also searched by names of researchers in the fields of study in this paper, and used references in related research papers. The first section of this chapter defines online learning as it relates to this study. Online learning options and models are discussed as a foundation to the research in this study of an online course design model. The second section discusses quality elements of online learning designs. The third section discusses learners' experiences with online design models. This includes online student characteristics and student attitudes about online learning. This section also details the three elements of online presence (teaching presence, social presence, and cognitive presence) as well as some controversy in the literature about online presence. In addition, this section discusses user experience and user experience research methods. The final

section of this chapter provides a summary of topics presented in this study of online course design model as seen through the lens of online presence.

Online Learning

In recent years, online learning has become a popular choice for learners. In the fall of 2012, there were a total of 7.1 million learners enrolled in at least one online course (Allen & Seaman, 2014). The growth rate of online course enrollments is still increasing as the growth rate from fall 2011 to fall 2012 was 6.1 percent (although it was the smallest increase in the last five years) (Allen & Seaman, 2014). The percent of learners in higher education who participated in online learning courses in the fall of 2012 was 33.5%, and 74% of academic leaders believe that online learning outcomes are the same or better than face-to-face courses (Allen & Seaman, 2014).

If online education is to continue to be effective for learners, it is important for the quality of online courses to not just be maintained, but improved (Garrison & Anderson, 2003). Garrison and Anderson (2003) compared a learner surfing the Internet to a person wandering through a giant library of data. In order to create meaningful and successful online learning experiences for learners, they stated that educators must be challenged to include elements of online presence as part of the design of online learning environments.

Morgan (2011) wrote about issues in which teaching presence, an element of online presence, has course design implications:

> In distance education contexts, course design is often not carried out by the instructor who teaches the course. One of the major findings from this study was that instructors conceptualize interaction spaces differently, and this shapes their

> own teaching presence. Course designers should not overlook this aspect - a course designer might conceive of a discussion forum as a place for developing community through interaction, while an instructor might see it as place for focused efforts towards completing activities. Interaction spaces can take many forms, and as this study showed, the fact that two instructors can be sharing the same interaction space in the same course and conceptualize it very differently has important implications, since they might actually be engaging in different, and potentially competing practices. (p. 16)

Each online learning environment is different. For example, there are different designers, instructors, learners, delivery platforms, and delivery models of online courses in a wide array of subject areas. Questions arise about the existence or absence of online presence in various environments as well as if or how student perception of online presence is perceived in each of them.

Choosing Online Learning

Many learners choose online learning over traditional classroom courses for reasons such as time flexibility, monetary concerns, and geographic freedom (Li & Irby, 2008). Furthermore, Li and Irby listed some benefits of online learning as learner accessibility to course materials 24 hours a day as well as the frequent and timely feedback from course instructors. Singh and Pan (2004) added the benefits of learner control and interactivity between the learners as well as between learners and the instructor. However, online learning is not the answer for everyone. There are concerns about learner isolation, proper access to technology hardware and software, and a lack of

quality, accuracy and depth of learning in an online learning environment (Singh & Pan, 2004).

A 2005 report discussed a survey of 16,551 learners from 60 institutions between the years 2001-2005 (USA Group Noel-Levitz). The top three reasons learners chose online learning were convenience, work schedule, and flexible schedule. In addition, the report stated that the more students were happy with their experiences, the more successful they would be (USA Group Noel-Levitz, 2005).

Design of Online Learning Environments

There have been several generations of distance learning to reach evolution to today's models. According to Taylor (2001), today's distance education is in the fifth generation. Taylor described the first generation as print-based correspondence courses, and the second as multi-media based (e.g., audio, video). The third was described as telelearning (synchronous learning such as videoconferencing), and the fourth as flexible learning (interactive web-based learning). The fifth generation was described as intelligent flexible learning, meaning interactive web-based learning with more options (e.g., automated response systems, instructional portals, and learning management systems).

Hill (2012) further described the nature of online learning as modalities of learning such as F2F, blended, fully online (cohort groups and self-paced). In addition, he discussed some of the major programs in online learning such as those for profit, non-profit, learning partnerships with external organizations, and even those outsourced to private companies. Two newer ideas outlined by Hill include the flipped classroom

model and MOOCs (Massively Open Online Courses). The flipped classroom is a way to offload lectures as videos for outside of class viewing and in class time for hands-on practice. MOOCs are free courses designed and led by college faculty with unlimited enrollment.

In the literature, there has been no mention of how the design model of an online learning environment influences how learners experience online presence. This study offers the opportunity to study a design model to understand how online presence is experienced by participants. The purpose of this study was to examine participants' experiences in a fully online, participant facilitated, product-oriented course design model through the lens of the elements of online presence (teaching presence, social presence and cognitive presence).

Asynchronous LMS-based Course

The course studied in this research project used the learning management system Blackboard. Although all participants in this LMS-based course were enrolled in one Blackboard course, participants were divided into smaller groups of four to six participants based primarily on their professional job responsibilities. All participants in the course completed the same assignments, but they did so in their small group. The instructor's role was to facilitate the course and oversee the groups, giving examples and modeling best practices for group work and online learning strategies.

Using Blackboard as a course LMS has its pros and cons. Bradford et al. (2007) stated that the benefits of Blackboard include its anytime and anywhere availability, the ability for feedback - both automated and instructor initiated, various modes of

communication (such as announcements, emails, discussion boards, and the virtual classroom), and statistics tracking in terms of assignment submissions and course access. Participants in a 2011 study by Heirdsfield, Walker, Tambyah, and Beutel liked that Blackboard permitted them to access all course materials at anytime from anywhere. The participants enjoyed the fact that the group discussion forums with postings of ideas, questions, and comments were available to everyone. Likewise, Pierce (2013) concluded that course designers should urge the use of discussion forums as an authentic tool to address student needs in terms of social presence and academic concerns.

However, Heirdsfield et al. (2011) noted dissent from some participants who found some of the Blackboard tools difficult to use, making it hard for them to be full participants in the learning activities. These participants also thought the tools were too time-consuming. For participants who printed course materials, they found it to be time consuming and expensive. Bradford et al. (2007) agreed that Blackboard can be difficult and time consuming to learn, especially for non-traditional learners with no prior use of an LMS. Bradford et al. (2007) admitted that Blackboard, although it had many tools, can also be limiting to learners.

The Impact of Course Design

No research is currently available on how online presence differed depending on an online course's design model. However, there is literature about how design itself is related to student experiences.

Muilenburg and Berge (2005) conducted a study using an exploratory factor analysis design to study barriers to student learning in online environments. Survey

results were analyzed for the 1056 participants from many institutions that included graduate schools, undergraduate schools, business/corporate non-profit settings, government/military agencies, and community colleges. Of the eight barriers, the four most critical to the online learning experience were social interaction, administrative/instructor issues, learner motivation, and time/support for studies. Students thought that the lack of social interaction was the biggest barrier in the course. The study also found that the less experience learners had with online learning the more they identified barriers to successful online learning. The students in this study with the highest barrier ratings were those who said they did not learn well in online settings. The same trend held true in the study about enjoyment and online learning. Learners who had not yet experienced online learning tended to think they would not enjoy it. Therefore, based on the study, a lack of previous online experience predisposes learners to the notion that online learning is more difficult than F2F learning and that it will not be enjoyable. In addition, participants in the study indicated that online learning is viewed by many learners as an isolated task without social interaction. Therefore, it is the task of designers to make deliberate decisions to build in elements of online presence to courses to combat the feelings of learner isolation.

Social interaction is not always something held in high esteem by online learners. Capdeferro and Romero (2012) reported a study (n = 40) of learners at the Universitat Oberta de Catalunya (UOC) in an online Master's Degree program. The authors described the program as "collective participation and knowledge building from an interdisciplinary plan and is open to student-oriented learning and social and working

experience" (p. 29). The authors created a survey to identify the sources of frustration of online learners. The results of the survey reported that learners were sometimes frustrated with the online collaborative environment. A majority (57.5%) of the learners responded that an imbalance of commitment of peers was the major cause of frustration:

> Attitude was the only demographic variable found to be a significant predictor of frustration. This finding is consistent with previous studies (Dirkx & Smith, 2004; Roberts, 2005) that suggest that prior experiences and attitudes would affect an individual level of frustration. Some students coming to online collaborative learning for the first time do not care for the idea of group work and can be apathetic or even on occasion actively hostile to the whole idea. (Roberts & McInnerney, 2007, p. 34)

Furthermore, their results showed that communication was an issue as well:

> A total of 45% of participants agreed that conversations are often characterized by multiple and somewhat schizophrenic patterns of interaction. This is a confirmation of existing research (Dirkx & Smith, 2004), which finds that students' perspectives and schema of group acquired from face-to-face groups are not appropriate for technologically mediated environments (Roberts & McInnerney, 2007, p. 35).

Blocher, Sujo de Montes, Willis, and Trucker (2002) discussed the need for proper social interaction in online courses and identified three barriers: technical skills, self-regulation, and concerns with adopting innovation. Adopting innovation concerns referred to the "process that students goes [sic] through as they adopt innovation,

specifically the use of technology and changing students' concerns during their online degree program" (p. 4). Blocher et al. stated that progression "from stage to stage indicates the participants' ideas that go from unrelated concerns about technology usage to a total involvement with technology and its impact on the learning process" (p. 4). Blocher et al. discussed the first stage in a longitudinal study that tracked 300 learners in an online Masters of Education program in Educational Technology at a university in the southwestern United States. The authors administered three survey instruments from the literature about self-efficacy, motivation, and technology. Based on these data, Blocher et al. concluded that the program in the study appeals to students who already have technology skills and, therefore, it was not a personal risk for these learners to enroll in an online Master's Degree program. Like Muilenburg and Berge's (2005) study, data in this study pointed to an issue with online social interactions. Two issues related to social interactions and online learners were examined in the Muilenburg and Berge (2005) study. One issue was that when participants reported the need for assistance, they preferred asking the instructor of the course over seeking help from peers. The authors hypothesized that the participants' mindset was due to the years when teachers had been at the center of class settings, as well as what the participants experienced as learners and/or teachers. The second issue was a discrepancy between the data related to working with peers and what the participants reported in their survey responses. The contrasting results concerning working with peers were again explained by the authors by the fact that these participants have experienced teacher-centered learning for many years. Another stated possible conjecture by the authors was that participants may have assumed

that they would not be working with classmates since they were sitting in insolation at their computers.

Online learners themselves had feedback about what other learners need to know about online learning. In a survey administered by convenience sample to online learners at North Carolina State University and learners at the University of Phoenix (n = 29), thirteen of the twenty-nine reported that the most helpful thing a student should know before taking an online course were the expectations of the online instructor (Bozarth, Chapman, & LaMonica, 2004). Learners also reported that the most difficult part of online learning was time management/self-discipline. When asked what advice they would give a new online student, more learners selected time management as the top skill to have as an online learner.

Yukselturk (2009) studied online learner satisfaction after administering six scales as survey instruments as well as data obtained during semi structured interviews. The six scales used in the collection of quantitative data were Demographic Survey, Online Technologies Self-Efficacy Scale, Readiness for Online Learning Questionnaire, Locus of Control Scale, Prior Knowledge Questionnaire, and Student Satisfaction Questionnaire. The result of the study was that "only three variables (educational level, online learning readiness, and locus of control) from eight learner characteristics analyzed in this study showed a significant relationship with learner satisfaction" (p. 273).

It has been shown that the course design impacts the learner experience of an online course (Blocher et al., 2002; Capdeferro & Romero, 2012; Muilenburg & Berge,

2005; Roberts & McInnerney, 2007). In addition, learners' social interactions has proven important to the learner experience (Capdeferro & Romero, 2012; Muilenburg & Berge, 2005; Roberts & McInnerney, 2007). Therefore, the way in which the course design structures the social interactions in the course is important to the learner experience.

Online Presence

One aspect of online learning that is important to learners' experience in online learning environments is the concept of online presence which is comprised of teaching presence, social presence, and cognitive presence (Garrison, et al., 2000). The Community of Inquiry (COI) framework created by Garrison, et al. (2000) opined that teaching presence, social presence, and cognitive presence were crucial for supporting a community of inquiry in an online educational environment. Irwin and Berge (2006) wrote that online presence is "the participants' (teacher and learner) ability to establish a sense of being in the virtual environment." (p. 2).

Cleveland-Innes and Campbell (2012) proposed another aspect of presence which they call emotional presence. Emotional presence has not yet been fully explored on its own. For purposes of this research, emotional presence will not be considered a separate presence but will be considered part of the affective component of social presence as described by other research (Akyol & Garrison, 2008; Akyol et al., 2011; Garrison & Anderson, 2003; Ke, 2010).

Shea and Bidjerano (2010) suggested that there is another element of presence missing from the COI framework. Based on their research, Shea and Bidjerano proposed that learning presence be added to the framework. Learning presence, as defined by Shea

and Bidjerano, "represents elements such as self-efficacy as well as other cognitive, behavioral, and motivational constructs supportive of *online learner self-regulation.*" (p. 1721). Their 2010 study was based on a random sample of participants (n = 2418) from two- and four-year institutions in the state of New York. The COI survey instrument was used with responses on a five-point Likert scale. The reported Chronbach's Alpha values were reported as .95 (teaching presence), .93 (social presence), and .92 (cognitive presence). The authors also employed survey instrumentation taken from the literature about self-efficacy and regulation. Shea and Bidjerano concluded that the elements of teaching presence and social presence correspond with the self-efficacy of online learners. Furthermore, the authors suggested that "learner self-regulation can serve as a basis for a new form of 'presence' within the model, one we describe as learning presence" (p. 1727).

Shea and Bidjerano (2012) wrote that "online learner self-regulation, a construct that we label 'learning presence' moderates relationships of the other components within the COI model" (p. 316). Shea et al. (2012), indicated that their results show that learning presence existed in activities that fostered collaboration and it is linked with the grades in a course.

Although there is controversy about how many presences should be in the COI model, for purposes of this study, online presence is considered to contain the three classic elements of teaching presence, social presence and cognitive presence, based on the work of Garrison et al. (2000). This research will explore the three presences to study how they are differentially perceived by learners in each of the online course design

models. Each of the three elements of presence is described in the sections below. In addition, there is not a connection between EDIT 721 and the COI. The researcher chose to use the COI by employing teaching presence, social presence and cognitive presence as a lens through which to examine the participants' experience in the course.

Teaching Presence

According to the work of Garrison et al. (2000), teaching presence is comprised of course design and organization, course facilitation, and direct instruction in an online course. Indicators of teaching presence include setting curriculum and methods, sharing personal meaning, and focusing discussion. Arbaugh and Hwang (2006) stated that instructors need to meet all three categories of teaching presence in order to create a successful online learning environment.

Reupert, Mayberry, Patrick, and Chittleborough (2009) wrote that "instructor presence involves frequent and meaningful communication from an instructor to his or her students" (p. 47). The authors stated that although online learners may not wish for a relationship on a personal level with a course instructor, they may need one in order to be successful. Reupert et al. studied online psychology learners. They used qualitative data from a mid-course focus group (seven learners) with semi-structured interview questions, and a quantitative survey. Of the 128 learners, 68 responded to the survey. The researchers stated that the group had prior experience in distance education. The authors wrote that teaching presence strategies used included "self-disclosure, relationship building, humor (though there were some qualifiers to this), provision of individualized and timely feedback, and organization" (p. 53).

Miller, Hahs-Vaughn, and Zygouris-Coe (2014) completed a confirmatory factor analysis of the elements of teaching presence enrolled in an online professional development courses for K-12 pre- and in-service teachers (n = 718).They invited participants to complete two five-point Likert scale surveys taken from related literature. One survey was designed to measure teaching presence, and the other measured student satisfaction. The authors stated that the learners in the study rated both the teaching presence of their instructors as high, and rated their satisfaction level as high. In addition, for each of the three elements of presence, the authors found that "The teaching presence-student satisfaction relationships were strongest between direct instruction and facilitator satisfaction, followed by facilitating discourse and facilitator satisfaction, and instructional design and organization with facilitator satisfaction" (n.p.) The authors found that all three elements of teaching presence were correlated with course satisfaction in the same ranked order as the last quote. They concluded that learners wanted their facilitator to be, in ranked order, a teacher expert, a discussion facilitator, and then a course designer.

Stavredes (2011) cautioned that instructors need to know in advance that their main duty is not direct instruction. She stated that facilitation of instruction and guiding learners were the main foci for instructors during an online course. She stated that instructors:

> Support learners as they construct knowledge by engaging in facilitative and knowledge-sharing strategies to help learners develop critical thinking skills and construct knowledge. Interaction should be continuous, with the goal of being

> able to engage learners, give encouragement, help them develop critical thinking skills, and provide specific feedback to help them improve their performance. (p.152)

A study by Kupczynski et al. (2010) gave a dissenting opinion to Stavredes' (2011). Kupczynski et al. used a mixed methods approach in a study of teaching presence at South Texas College (362 learners) and West Virginia University (281 learners). Learners' levels ranged from certificate and associates level programs (South Texas College) to BA, MA, and EdD programs (West Virginia University). All learners used a form of the WebCT LMS. In terms of the teaching presence element of design and organization, they found that regardless of learner level, the need for presentation of clear, concise objectives, instructions and general participation guidelines should be a cornerstone of online course development. Both groups in this study expressed significant frustration when these elements were not present and believed that successful engagement with content and activities was dependent on sound instructional design and organization.

Kupczynski et al. (2010) concluded that at the associates level, learners placed more value on a course's design and organization and direct instruction elements of teaching presence than on course facilitation. There was a difference between the former group and the undergraduate and graduate group.

> At the undergraduate and graduate levels, students believe that the foundational components necessary for success are adequate instructional design and organization and direct instruction; however, success is perceived as being a

> function of the ability to develop higher order thought processes through the instructor's active facilitation of discourse (p. 33).

Jones (2011) studied two fully online legal environment courses (one graduate, one undergraduate). He surveyed learners in both courses with researcher created instruments based on other instruments in the literature. There were a total of 28 survey results in the graduate class and 24 in the undergraduate class. The course design included online communication methods such as email, discussion boards, and Elluminate videoconferencing sessions. In line with Stavredes (2011) and Reupert et al. (2009), he concluded that teaching presence exists online by the interactions. In order to achieve online teaching presence, Jones stated that the design of an online course must include many ways for instructors to alert learners of important course items, as well as to promote interactions between instructor to learner, between learners, and learners to the course content.

In a 2008 study, Journell concluded that teachers must be prepared with online teaching strategies. His study of online high school discussion board postings in a U.S. History course found that online teachers need to guide online discussions properly, use their knowledge of F2F techniques, use a range of online tools to reach the learners, and make online discussions manageable for learners.

Likewise, in a study of an online research methodology course for university learners pursuing Master's and Doctoral Degrees, Nagel and Kotzé (2010) found that an online instructor's use of available tools in the LMS lead learners to perceive teaching

presence as high, based on the high scores learners reported for the instructor's extensive feedback - another element of teaching presence.

Ice, Curtis, Phillips, and Wells (2007) completed a study specifically about teaching presence and feedback. Their study included seven asynchronous online courses in curriculum and instruction. There were 34 total learners in the class (26 Master's Degree level and eight doctoral level). The authors employed a mixed method design of data from surveys (post-course), interviews (post-course), final course projects, and initially unexpected feedback emails from learners about the use of audio. The survey items were described as two questions (one Likert scale and one open-ended) about the use of audio feedback in the course. Of the 34 learners enrolled, 27 of them volunteered for the semi-structured interviews. Ice et al. (2007) summarized the sixteen unsolicited emails from learners about the use of audio feedback. While two of these emails were about technical issues with the audio, the other fourteen emails were from learners to communicate their appreciation for this method. Furthermore, the researchers added that they did not receive any emails indicating that the learners did not like it. The authors reported that the survey results indicated 26 of 31 learners stated thought that the feedback in audio form was much better than written feedback. Of the interviewed learners, 25 of 27 preferred audio feedback. Coding of interviews revealed four general themes: increased ability to understand nuances that might be lost in written communication, feeling more involved in the course, improved retention of content, and a belief that the instructor cared more about the student's learning (p. 13). The researchers

concluded that audio feedback was an effective strategy for teaching presence and recommended its use in other courses.

In a study of ten nursing, education, and business management courses for both undergraduate and graduate studies at a large university using the WebCT LMS, Ke (2010) concluded that instructors must create the perfect balance of teaching presence during course discussions. He stated that from day one of the course, the instructor's role is the foundation for building a sense of community in the online environment. His focus on teaching presence is in line with the Akyol and Garrison (2011) study of an online graduate course that stated that learners who perceive teaching presence are much more likely to report higher levels of a community in the online environment.

Teaching presence aides in the creation of a sense of community for the learners. In 2010, Baker published a study of online courses at a mid-size university. She surveyed all undergraduate and graduate learners in online courses at the institution and concluded that the existence of presence in an online environment makes participants feel included and involved. In this study, Baker concluded that teaching presence certainly proved to influence a learner affectively, cognitively, and in regards to motivation.

Akyol and Garrison (2008) studied a fully online course about blended learning. The authors employed mixed methods and used data sets from course transcripts and a COI survey (five-point Likert scale). The course tools included Blackboard (asynchronous) and Elluminate (synchronous). Sixteen learners participated. Although the authors admitted that the sample size was a limitation of the study, they concluded

that teaching presence was an important factor to impact learners' satisfaction and learning.

Participants in two studies (Fayer, 2014; Lee, 2014) stated that elements of online course design associated with teaching presence were important in student satisfaction. The Fayer (2014) study was done to find out which elements of course design were needed for student success in online environments. This research studied preservice teachers (the semester before student teaching) from a small Midwestern university. Three learners were selected for a multi-case study approach. Data sources were both quantitative and qualitative and included a questionnaire, course artifacts, and member checks. The author stated that the top four areas in which the participants placed the most value were related to each other. The four critical areas were course organization, timely instructor feedback, instructor's subject-area knowledge and support, and having relevant feedback and course work.

Lee (2014) found similar results to Fayer's (2014) research. Lee's participants were 81 Master's Degree learners in math and science education enrolled in an online course in conceptual geometry. Of the 81 participants, one was located in Korea, and the others were somewhere in the United States. All participants self-identified as educators of math and/or science. The majority of participants (72) were PK-12 teachers, and the rest were coordinators of programs in science, technology, engineering or math. There were 68 females and thirteen males. The researcher developed a 24 question survey with four open-ended questions included and used a design based research model to develop the survey and piloted it to test its reliability. He reported the Cronbach's alpha value of

0.92 for the 20 Likert scale questions. He found that participants considered it very important that the instructor be knowledgeable about the content as well as give both clear and constructive feedback. There was more participant satisfaction when the instructor gave timely feedback and replies. He also found that aspects of the course design affected student satisfaction. Participants stated that it was important to receive very clear expectations for the course, as well as clear guidelines and/or rubrics for course assignments. He noted that frustration can occur when learners cannot properly use the course technology tools and stressed that technology training may be required for some learners about how tools are used in the course. Participants in this study did not state that their satisfaction was higher based on discussion board use. In terms of their satisfaction in the course, learners in this study indicated that inclusion of online quizzes was not effective.

Garrison, Anderson and Archer (2010) stated that the evidence of the importance of teaching presence is increasing. The authors noted that learners may not be able to differentiate between the elements of teaching presence, stating that despite this, it is important for researchers to continue to distinguish between the three elements of teaching presence. In this study, the three elements of teaching presence will remain as initially stated in Garrison et al.'s 2000 work.

Social Presence

Social presence is the ability of learners to portray themselves socially and effectively as real people in the online environment (Garrison et al, 2000) and perception of social presence depends on how much social interaction is detected by the learners

(Wei et al., 2012). Indicators of social presence include expressing emotions, risk-free expression, and encouraging collaboration (Garrison et al, 2000). Stavredes (2011) stated that learners must be aware of others in the learning environment of else relationships cannot be formed. Likewise, before any interaction between learners can occur, learners need to have an awareness of each other in the online environment, and these learner-learner interactions must have immediacy and intimacy elements in order to meet the psychological needs of learners (Wei et al., 2012). In addition to a recommendation for pre-content social presence, Whiteside, Garrett, Dikkers, and Lewis (2014) recommended that instructors provide feedback early and often to maintain social presence which might include an automated mechanism to personalize feedback with little time commitment from instructors. Similarly, he type and frequency of interactions (not just the number of them) among online learners can meet the social presence needs of immediacy and intimacy. The more that interactions use affective language and/or allow participants to reveal personal information, the more powerful they are in terms of social presence (Hall & Herrington, 2010).

Social presence needs of immediacy and intimacy are important elements that need to be met in online learning environments. Ngoyi, Mpanga, and Ngoyi (2014) stated that learners' affective learning in the course can be predicted by instructor immediacy. Given the impact of instructor immediacy, designers should create a sense of community for online learners and nurture social presence by providing occasions for learners to become acquainted in the course environment (Ngoyi, Mpanga, & Ngoyi, 2014).

Learner satisfaction and motivation. Social presence impacts motivation. Robb and Sutton's (2014) study divided 388 learners in 12 online courses at a community college into a control and an experimental. Learners in the experimental group received five motivational emails from the instructor during the semester. The emails were described by the authors as helpful course tips (e.g. a "message informed students of the importance to review the posted comments on their work provided by the instructor", p. 4), motivational quotes (e.g. "There is no challenge too great for those who have the will to make it happen", p. 4), and images. Those in the control group received no motivational emails. The participant course competition rates were higher in the experimental group (58.6%) than in the control group (47.2%). Furthermore, the course grades of the experimental group were higher than the control group. A survey about motivation sent to all participants showed that the experimental group reported higher motivation than the control group. As a follow up at course end, a six question open-ended survey was sent to participants in the experimental group to gain a better understanding of the effects of the motivational emails. From the qualitative data analysis of the 70 responses to this survey, three major themes emerged: increased motivation, a caring instructor, and a willingness to communicate with the course instructor. The authors concluded that these motivational messages (of no monetary cost and little time cost) did help motivate learners in the study.

Contrary to some results, Wise, Chang, Duffy, and del Valle (2004) found that the existence of social presence enhanced some learner experiences of a course, but did not enhance all learner experiences. Their experimental study examined a one-to-one

mentor/mentee course with 20 mentees and 2 mentors (10 per mentor). Half of each mentor's group was assigned a low presence condition and the other half a high presence condition. The high presence condition elevated interactions to be on a friendly level. Examples of these enhanced interactions included sharing personal stories about teaching and life at home, as well as using personalized greetings and the use of names. At the conclusion of their study, Wise et al. (2004) found that "while social presence increased the amount written by the students and influenced their perception of the instructor, it had no effect on perceived learning, satisfaction, engagement, or quality of the final course product" (p. 264) and that participants did not "learn more, feel they learned more, or feel the experience was more useful when social presence is high" (p. 267). Therefore, the learner experiences of social presence impacts their work, their perceptions, and their learning.

Conversely, Cobb (2009) concluded that social presence was a key element influencing learners' views about the quality of online learning. Cobb studied the survey results of 128 learners in an online nursing program at a public college in the northeastern United States. The courses were twelve weeks in length and were taught via Blackboard learning management system. Two instruments from the literature about social presence and satisfaction were used; each was a five point Likert scale. Participants in this study reported high levels of satisfaction in the course and agreed with statements about taking more online courses in the future and about the usefulness of online learning. Since the level of satisfaction was high and the level of online presence was perceived as high, the

author concluded that from the learner perspective, social presence is a major element that impacts the course quality.

Community building. Irwin and Berge (2006) wrote that "online social presence is about relationships, connecting with others despite physical separation" (p.3). Furthermore, they elaborated to say that learners can feel frustrated and anxious by the lack of F2F communication elements such as visual contact and time lag in asynchronous communication. The emotional element of presence is often overlooked and not often researched (Cleveland-Innes & Campbell, 2012). Cleveland-Innes and Campbell suggested that an awareness of this issue be used online course designers and instructors since many new learners enter the online learning environment for the first time and need emotional support in this new learning environment.

Reupert et al. (2009) discussed community building through the social presence of the instructor. This establishment of the social environment is led by and modeled by the instructor. Reupert et al. cautioned that although the environment is social in nature, it should be related to relationship building in the subject matter of the course. Reupert et al. stated:

> The personal presence of instructors, according to students here, needs to be channelled or mediated through subject materials and teaching strategies. An instructor's personal presence was important, but only if relevant to the subject and the student's learning. In the same way, relationships between students and instructors were important, but students made it clear that this was not a personal relationship, even if the instructor's personal qualities were instrumental in

> establishing it. Instead, the relationship was centred on students' learning and progress (p. 54).

McInnerney and Roberts (2004) recommended three ways that course designers could improve a sense of social presence and community. The first was the addition of synchronous chat tools to the course, since the authors stated that text-based and asynchronous communication is often misinterpreted, which can cause a lack of community cohesion. The second suggestion by McInnerney and Roberts is a "warm up" (p. 77) stage which will allow learners to develop their own online personalities. The authors discussed their last recommendation of instructors sticking to utilizing effective communication guidelines, such as "unambiguous instructions" (p. 79) about requirements in the course and as a member of the community. Since aspects of social presence such as developing relationships and community building are important for online learners, it is important to include them in the design of the course. The role of the instructor is important in the community building process (Reupert et al., 2009), and so is the course design (McInnerney & Roberts, 2004).

In a 2009 publication, Soylu discussed the online Turskish learning community Ekşisözlük and its social presence implications. Soylu discussed the facts that each online course iteration is separate from other iterations of the same course. He wrote that accumulating course iterations in a course management system would be helpful so that "current students of a course can connect their learning and research efforts to what has been done in the course by other students" (n.p.) Furthermore, he stated that

> Community history and identity persistence are two important assets that most online learning environments lack. Social interaction is easier when two parties know more about each other before the interaction takes place. To have a community history, the learning environment should be structured in a way that information accumulated does not erode at the beginning of each semester. Each course should not be considered as a new start. Just like students have a history of academic experiences before they come to the course, the course also has history with different students and instructors. In this sense, both the course and students should bring their history together. This can only happen if the course management system is restructured to allow such continuity of history. (n.p.)

Soylu's (2009) perspective is that social presence in an on-going community would be a strong setting for true social presence since it is easier to interact socially when two people are already acquainted. Therefore resetting the community every semester does not allow the continuity of knowledge or social presence. He also stated that student feedback could be used to modify the environment for better design of the course environment.

In a discussion of design needs of online learning, Charalambos, Michalinous, and Chamberlain (2004) stated that in online environments, it is challenging to preserve a sense of community. The authors discussed the need to promote interaction among online learners, give opportunities for immediate feedback, provide participants with the proper technology know-how for the tools needed, and assess the learning and participation in an online environment.

Pate, Smaldino, Mayall, and Leutkehans (2009) wrote that learners help create social presence when they interact with others in the learning community. Pate et al.'s research studied 16 participants in a blended course about instructional technology. The authors used quantitative (demographic survey, pre- survey and post- survey) and qualitative (interviews, discussion boards, and reflection assignments) data sources. One finding of this research was that the optional "happy hour" type discussion forums were not needed. The authors recommended that designers/instructors not include these forums, however, like Caspi and Blau (2008), the authors suggested that it is necessary to create social aspects in the design of the course itself (Pate et al., 2009). Pate et al. also found that learners who reported the most social interactions also reported the most satisfaction. Pate et al. stated that this leads to "ultimate student satisfaction in learning" (p. 6), which is contrary to the aforementioned Wise et al. (2004) study.

Promoting and predicting social presence. Kehrwald (2008) studied a group of 20 participants in a collective case study in an Australian university's postgraduate online courses. Through thematic analysis, Kehrwald found that participants indicated that messages in text-based environments incorporate clues about the social presence of the sender. The author stated that these text-based messages were helpful in establishing social presence. Kehrwald wrote that the messages:

> Include a variety of information about the senders, including personal histories (cultural backgrounds, levels of education, professional experience), personalities (attitude, demeanour, sense of humour), and current circumstances (location, family situation, current professional context). The cues were identified by

> respondents as supportive of online participants' ability to get to know one another (p. 95).

Social presence must be given the opportunity to develop by designing learner-learner interactions (Kehrwald, 2008). Kehrwald suggested that learners' motivation to interact with each other is not always present. Kehrwald wrote that these interactions do not occur spontaneously. Kehrwald recommended that designers and instructors concentrate on "purposeful interactions which allow learners to make meaning, build up understanding, and be productive" (p. 99). Kehrwald concluded that instructors need to know that "novice online learners need assistance with the development of skills related to not only establishing and maintaining a social presence, but also reading and making sense of the social presence of others." (p. 99). Due to this, he suggested that scaffolding may be necessary. Learners may need to be educated on how to interact in online learning environments.

Mykota and Duncan (2007) published a study that sought to predict social presence based on demographic variables. Their population was 73 learners at the University of Saskatchewan enrolled in an online certificate program for special education. The courses studied were the first four courses in the certificate program. Mykota and Duncan describe these online courses as based in text as well as utilizing asynchronous and synchronous tools. The authors administered a 24 question five-point Likert scale instrument from the literature about computer-mediated communication. The authors found that the number of previous online courses and a self-rated tech skill were predictors of social presence, whereas teaching experience and age were not. Like other

researchers (McInnerney & Roberts, 2004; Whiteside et al., 2014), Mykota and Duncan espoused the benefit of pre-course or pre-content course activities to orient learners to the online learning environment.

Dunlap and Lowenthal (2014) presented a case study of which strategies promoted social presence in an online environment. According to a survey given to their learners, the five highest ranked strategies for instructor social presence were emails from the instructor, instructor bio, detailed personal feedback to learners, digital storytelling (described in more detail in Lowenthal & Dunlap, 2010), and a five minute phone call. It surprised the authors that Twitter ranked the lowest. In terms of social presence between learners, the top five in the rankings were digital storytelling, personal emails, peer reviews, an activity called virtual paper bag (sharing of photos of five personal items), and an activity called soundtrack of your life (sharing of six songs about one's life). The researchers again noted that Twitter was ranked last. Similar to the findings of Dunlap and Lowenthal (2014), Moody and Wieland (2010) wrote that learners have more confidence with video and/or audio forms of communication as opposed to less complex forms of communication, such as text-based chat.

Researchers indicated that it is the job of the designer/instructor to incorporate social presence (Caspi & Blau, 2008; Pate et al., 2009). Caspi and Blau's research pertains to the Open University of Israel, where an atypical teaching model exists. The authors described this model as a blended model with F2F and online sessions. The courses have a website whose tools afford synchronous and asynchronous communication, ability to download course content, and conduct group discussions.

However, the more unique aspect is that both the F2F and online sessions are not mandatory and there is not a part of the course grade that factors in participation. Caspi and Blau reported a sample size of 659 participants who completed an online survey comprised of several scales from the literature about presence, student perception, and learning resources. Caspi and Blau found that higher perceived learning was connected to higher learner identification in a social group and concluded that to promote learners' perceived learning, online instructors should foster social presence and emphasize the existence of the shared group identity.

In the aforementioned Garrison et al. (2010) retrospective publication about their initial COI framework about online presence, the authors stated that their 2000 publication dissented from other research at the time by linking social presence with the other two presences. The authors noted that further study was needed for how social presence interacted with the other presences. Garrison et al. indicated that there were researchers working at that time on these connections.

Cognitive Presence

The element of cognitive presence is how learners construct understanding and meaning through their reflections and their conversations with others in the online environment (Garrison et al., 2000). Cognitive presence occurs in four phases: triggering event, exploration, integration, and resolution. Indicators of these phases are (in order) a sense of puzzlement, information exchange, connecting ideas, and application of new ideas. In a study mentioned above in this paper, Akyol and Garrison (2008), concluded

that cognitive presence was important due to its impact on both student learning and student satisfaction.

In terms of online learning models, Akyol and Garrison (2011) compared two courses (blended model and fully online model) for instances of cognitive presence. Using a mixed methods approach of triangulation of data from quantitative and qualitative sources, Akyol and Garrison studied fifteen learners in an online course and twelve learners in the blended course. The authors reported a high level is cognitive presence in both courses. The authors reported no significant difference in perceived cognitive presence, perceived learning, or satisfaction between the blended and fully online groups.

In a mixed method content analysis study of 73 learners in an online Blackboard course for undergraduates, the authors found that an instructor scaffold was the most effective strategy to bring learners to the resolution phase during group collaboration (Darabi et al., 2011). Furthermore, the authors recommended authentic problems as the best way for cognitive presence to emerge.

In a study of 75 learners in four different online courses, Garrison and Cleveland-Innes (2005) agreed with the aforementioned instructor scaffold strategy. The researchers stated that the instructor will need to interject ideas at times, as well as help learners, and summarize group discussions.

So (2009) studied a group of learners in a blended graduate course who were working collaboratively online and had the ability to use collaborative online tools. Twelve groups of three were formed from 55 learners. Each student was asked in

interview and survey to see what type of collaboration was chosen for their project. So reported that groups that had success with tools stuck with them, whereas groups that were unsuccessful eschewed online communication totally and met F2F. The author noted that only two groups used online discussion boards throughout the whole semester. This communication was low-level in substance, meaning critical discourse was not often present. Nagel and Kotzé's 2010 study concluded that the (double blind) peer review of assignments in the online course was perceived by learners as cognitive presence, as peers (not the direct intervention of the instructor) provided the impetus needed for this to occur.

The aforementioned Garrison et al. (2010) retrospective publication from their initial COI framework about online presence recognized the fact that many studies were not seeing learners proceed to the resolution phase of cognitive presence. The authors speculated that the most reasonable explanation was that based on the design and organization of the course, it was not required for learners to progress through these phases. Although the authors do not give examples of studies in which this is the case, Garrison et al. stated that the research about cognitive presence supports this explanation.

Interaction of the Three Presences

Several studies in the literature look at how the three presences interact in the same environment. Others look at how the presences influence each other or interact with each other. And others examine how other factors fare in more than one presence. Since the study in this paper examines how each of the three presences are experienced

by the same population (in two differently designed courses), this section will report on research that studies more than one presence.

Shea et al. (2010) stated that the research has generally "most empirical research has centered on just one presence – either teaching, social or cognitive presence. Furthermore, Shea et al. stated that the three elements of presence "have not been measured together directly in a comparative study of more than one online course" (p. 11). Shea et al. researched two business management courses in a northeastern state college. The authors conducted a content analysis in two courses, which comprised ten discussions in each course. The authors stated that Course A had 90 total posts and Course B had 454 posts. Shea et al. determined that:

> Clearly, these results indicate that, when the online instructor is leading, students tend to follow; higher levels of teaching (and social) presence on the part of the instructor tend to lead to higher levels of social presence from the students. However, when the instructor does not take on this role, students do not have an educational orchestrator and their corresponding level of presence diminishes (p. 17).

Shea and Bidjerano (2009a) completed a factor and cluster analysis from a sample of 5,024 participants from fully online and blended courses in an online learning network from several institutions. The data were from a researcher developed survey based on previous surveys from other research in the literature. Overall, Shea and Bidjerano determined that the results showed a high level of cognitive presence, as the greater part of the more than 5,000 learners in their study indicated that they reached the top level

"the vast majority of more than 5,000 learners in online and blended courses surveyed here reported that they achieved the uppermost levels of cognitive presence. Based on their results, Shea and Bidjerano hypothesized an equilibrium model, and stated:

> Students who report low social presence are also far more likely to report low cognitive presence, teaching presence appears to play a moderating role. When students who report low social presence report higher teaching presence, their cognitive presence scores show a significant correlating improvement. This moderating role for the influence of teaching presence holds true also for middle and higher levels of social presence and in hybrid courses as well as fully online courses (p. 213).

All three elements of presence should exist in an online learning environment (Akyol & Garrison, 2011). Teaching presence, as stated above by research by Ke (2010) and Baker (2010), is linked to a feeling of community in the online environment, and student motivation, respectively. Social presence weaves together the relationship between online learners (Ke, 2010) and has no direct impact on student learning (Akyol & Garrison, 2008).

Although social presence is needed for learners to engage with each other online, it is more beneficial to cognitive inquiry that teaching presence be paired with social presence (Bangert, 2008). Bangert analyzed the data of online discussion posts from 33 graduate level learners engaged in an authentic task and found that the learners who had the highest levels of cognitive presence are those who experienced both social presence and teaching presence.

In a study of the Open University of Israel, Gorsky and Blau (2009) researched a course of 42 learners (divided equally among two instructors) through an analysis of survey data, course discussion data, and course statistics from the site log. Gorsky and Blau affirmed that "teaching presence, especially the category "facilitating discourse," seems to play a highly significant role in achieving and sustaining cognitive presence (i.e. learning)" (p.16). In addition, the Gorsky and Blau found that there was a significant connection between social presence and teaching presence. However, Nagel and Kotzé (2010) dissented from other researchers and concluded that "social presence develops as a *result* of cognitive and teaching interaction, and it is not a *precursor to* cognitive interaction" (p.50).

Shea and Bidjerano (2009b) shared a finding similar to Gorsky and Blau's (2009) that teaching presence plays a large role in cognitive presence. Shea and Bidjerano completed a study of a random sample of 2159 participants (freshmen, sophomores, juniors, seniors, and graduate learners) from a fully online model of a network across institutions. The authors asked participants to complete the COI survey instrument using a five-point Likert scale. Shea and Bidjerano:

> Determined through structural equation modeling that 70% of the variation in students' levels of cognitive presence can be modeled based on their reports of their instructors' skills in fostering teaching and social presence. Further, the establishment of social presence is contingent on the establishment of teaching presence. (p. 551).

Shea and Bidjerano (2009b) also confirmed that not just teaching presence, but also social presence was correlated to cognitive presence. The authors recommended:

> Given that variations of students' report of cognitive presence can be predicted by their reports of teaching and social presence, it is recommended that instructional designers
>
> and faculty can benefit from understanding, emphasizing, and integrating the components of the model to guide the development of online courses (p. 551).

Social presence must exist in an online learning environment; and if not, cognitive presence will be very low (Shea & Bidjerano, 2012). Since social presence is deemed necessary as a foundation to cognitive presence, Jolivette (2006) concluded in her social presence short literature review that participant interactions and activities must be designed into an online course. In fact, Jolivette concluded "that a student's degree of presence, engagement, and interaction with others in an online educational setting had significant influence on the attrition rate and the overall outcomes of the course" (p.536).

Shea, Li, and Pickett (2006) found similar links between social presence and teaching presence as did Gorsky and Blau (2009). Shea et al. (2006) surveyed random sample of 1067 participants by using a researcher created instrument on teaching presence as well as another survey from the literature. Shea et al. found that:

> There is a clear connection between perceived teaching presence and students' sense of learning community. The respondents to the survey were significantly likely to report higher levels of learning and community when they also reported

that their instructors exhibited more salient "teaching presence" behaviors. (p. 184).

In addition, Shea et al. (2006) found that "student perceptions of effective instructional design and organization also appear to matter in regards to a sense of connectedness and learning" (p.185). The authors in this study also determined that learner characteristics did not affect levels of satisfaction or sense of community.

Only cognitive presence is associated with both perceived and actual learning (Akyol & Garrison, 2011). Therefore, in order for learners to feel comfortable in an online learning environment, interact with other learners online, and succeed in learning, all three elements must be present.

Controversy in the Field of Online Presence

Rouke and Kanuka published a scathing review in 2009 of the COI framework as developed by Garrison et al. (2000) and claimed that researchers have not yet identified definitive examples of cognitive presence. Rouke and Kanuka stated that their review of the literature demonstrates that it not likely that instances of learning that are both deep and meaningful exist in communities of inquiry. The authors' method was a search of the literature from 2000-2008 with references to the 2000 Garrison et al. work. Rourke and Kanuka indicated that their search found 252 reports. The authors stated that of these 252, only 48 of them investigated data on one or more elements of the original COI framework, and only five of the studies incorporated a measure of student learning. The researchers noted that in general, the definition of learning in these studies was actually

perceived learning, and this perceived learning was determined by one item on a closed-form survey. Rourke and Kanuka noted their disappointment:

> Few studies examine the framework's central claim. That claim is about deep and meaningful learning, yet researchers have been preoccupied with tangential issues such as student satisfaction with e-learning or techniques or measuring communicative action. Garrison et al.'s framework is not one of student satisfaction nor is it one of educational measurement (p. 20)

Rourke and Kanuka (2009) detailed 57 reports with one element of presence as a primary focus (teaching presence, n = 23; social presence, n = 24; cognitive presence, n = 26; learning, n = 5). The authors were not pleased that learning was measured by survey items from learners' self-reports; they claimed both problems with self-reports, course grades, and measures employed to self-report learning in the COI literature. Rourke and Kanuka urged for "robust measures of deep and meaningful learning" (p. 36). After their review, Rourke and Kanuka suggested that "A synthesis of the data on perceived learning contradicts the assertion that learners engage in deep and meaningful learning through sustained communication" (p. 33). The authors ended their review by encouraging other researchers to plan more in depth studies about learning in communities of inquiry.

Akyol, Arbaugh, Cleveland-Innes, Garrison, Ice, Richardson and Swan (2009) responded to Rourke and Kanuka's (2009) study. Akyol et al. wrote that "the review of Rourke and Kanuka misrepresents CoI research by excluding recent research studies and including the research studies that have no relationship to the CoI framework" (p. 129). As a response to Rourke and Kanuka's publication, Akyol et al., declared that:

> It would seem to be particularly premature to declare the CoI framework a failure considering the theoretical nature of the framework, the studies that have validated it, the considerable number of studies that found it useful as a framework. There are a number of recent studies noted here that challenge the core claims of this review and that have provided increased insight into learning in communities of inquiry. That the CoI model has had considerable success as a theoretical framework is evidenced by the simple fact that it has been a catalyst and guide to important research in online and blended learning. To suggest that the CoI is a failure as a program of research (p. 34) is misguided and unfair at best (p. 131)

Shea and Bidjerano (2009a) published a study (detailed above in this paper) in the same year as the Rourke and Kanuka review. Shea and Bidjerano admitted that learners many studies failed to achieve the resolution phase of cognitive presence. Contrary to the Rourke and Kanuka review, the results of Shea and Bidjerano found immense levels of cognitive presence in the online courses studied. In fact, the authors mentioned that their results were contrary to Rourke and Kanuka's research. Shea and Bidjerano noted the dissent from previous research where learners are stuck at the lower phases of cognitive presence. Shea and Bidjerano found that the more than 5,000 learners in their study indicated that they attained the top levels of cognitive presence. The authors mentioned that other researchers merely use discussion threads as data sources as opposed to other items like course artifacts. They also suggested that the sample size of other studies may have been an issue.

Annand (2011) supported Rourke and Kanuka's (2009) claim and cited many of the same researchers along with a few more recent studies. The author concluded that the COI was based on the way online learning happened at the time (e.g. analysis conference call transcripts). Annand concluded that:

> The framework derived from this limited evidence has overstated the effects of sustained collaboration on the construct of social presence. This in turn inappropriately magnified the effect of social presence on cognitive presence. As CoI-based research has expanded to encompass the complete higher education online learning experience, effects of individual learner attributes and teaching processes that impact directly on cognition have become more apparent, though these are generally unacknowledged within mainstream CoI research (p. 52)

For purposes of the study in this paper, the researcher will adhere to the traditional Garrison et al. (2000) COI framework and definitions of teaching, social, and cognitive presence. This controversy is recent in the field and has been refuted by other researchers as well as newer studies, as indicated above. Therefore, this study will use the findings of the original framework and its supporting literature.

User Experience Research

The term user experience (UX) was coined by design expert Don Norman (Gube, 2010; Vacek, 2014). Nielsen and Norman (n.d.) state that UX involves every interaction end-users had with the company's products and services. According to Garrett (2010), "User experience is not about the inner workings of a product or service. User experience is about how it works on the outside, where a person comes into contact with it" (p. 6).

UX research is a possibility for all types of products (Goodman et al., 2012). Therefore, in the design field, user experience is not what happens as a product is a designed, it refers to the experience of the person using it after it has been created, packaged, shipped, purchased, and in the hands of a consumer. The course in this study, EDIT 721, is an online learning product with its learners as the users. Therefore, understanding user experience in EDIT 721 is important to the field of online course design.

Before the users of a product were considered, designers "made design decisions based on just two things: what we thought was awesome and what the client wanted to see" (Gube, 2010, n.p.). Those that study UX research "how users feel about a system, looking at such things as ease of use, perception of the value of the system, utility, efficiency in performing tasks and so forth" (Gube, 2010, n.p.). Cooper (1999) wrote that designers and programmers only interacted with each other and did not think about the people using their products. Gube (2010) agreed and stated that designers created products for themselves without thinking about the end-user. Furthermore, Gube stated that there was no user research behind what was designed; things were designed to look good and the designer assumed that the clients wanted them that way.

Rohrer (2014) urged researchers to use multiple UX methods when seeking to describe the user experience of a product. Goodman et al. (2012) discussed many methods of user experience research including interviews, focus groups, object based methods (e.g. card sorting, collage), observations, diary studies, usability tests, and surveys. Rohrer (2014) described three dimensions of UX research to assist a researcher in determining with method(s) to choose. The dimensions are attitudinal vs. behavioral,

qualitative vs. quantitative, and context of use (Rohrer, 2014). Rohrer (2014) summarized the first dimension as "contrasting 'what people say' versus 'what people do'" (n.p.), the second as "why or how to fix a problem" (n.p.) answers versus "how many and how much" (n.p.) answers, and the third as natural product use, scripted product use, a combination of natural and scripted, or non-use of the product. Rohrer (2014) wrote that although there are many methods of UX research, "it's not realistic to use the full set of methods on a given project, nearly all projects would benefit from multiple research methods and from combining insights" (n.p.).

Persona method. Although there are very few peer reviewed publications about the persona method, personas have been used in the field of design, especially in the area of software design for the business world of design (Chapman & Milham, 2006). As Cooper wrote, "the most effective tool is profoundly simple: *Develop a precise description of our user and what he wishes to accomplish"* (Cooper, 1999, p. 123). "The basic idea is that a *persona* helps a designer focus on the primary user, his/her behavior patterns and needs." (Chang, Lim, & Stolterman, 2008, p. 439). In Long's (2009) study, he concluded that:

> Personas strengthen the focus on the end user, their tasks, goals and motivation. Personas make the needs of the end-user more explicit and thereby can direct decision-making within design teams more towards those needs. Furthermore, the study suggests that using personas can improve communication between teams and facilitate more constructive and user-focused design discussion (p. 12).

Previous to Cooper's (1999) publication, personas had only been used for marketing, not the field of design (Grudin & Pruitt, 2002). Cooper (1999) suggested using personas, but did not give practical steps in their use (Long, 2009), nor does he give instructions about how to create a persona (Grudin & Pruitt, 2002). Other designers and researchers have been refining the use of personas. Bødker (2000) urged the use of caricatures in scenarios, not fully formed personas. Grudin and Pruitt (2002) have extensively used personas in software development at Microsoft since it is difficult for designers of mass-market products to definitively identify specific people that use a piece of software. Grudin and Pruitt (2002) created a systematic process to create and use personas during the development of a product. Grudin and Pruitt (2002) argued that scenario based development (which designers have used again and again) is lackluster and not as engaging as the persona method. "Personas are a method for enhancing engagement *and* reality" (Grudin & Pruitt, 2002, p. 3). They argue that a scenario which uses personas is much more effective. The personas must be created before any design scenarios (Blomquist & Arvola, 2002; Grudin & Pruitt, 2002). Unlike Fried (2007), who stated that personas do not have thoughts or feelings and urged designers to use real people, Grudin and Pruitt (2002) and Pruitt and Grudin (2003) argued that although personas are fictional people, they are engaging, just like TV characters can be multi-dimensional (not stereotypical) and very engaging for fans watching at home. Grudin and Pruitt (2002) disagreed with Cooper (1999); Grudin and Pruitt wrote that personas can grow and evolve, just like real people, and just like fictional TV characters over the course of a TV series. Rönkkö, Hellmam, Kilander, and Dittrich (2004) agreed, "People

are used to engaging with fictional characters, e.g. when reading a book, watching a video, or playing computer or TV games. This form of engagement is deeply rooted and practiced from early childhood" (p. 113). However, Chapman and Milham (2006) warned that since a persona is not a real person, any facts about this persona cannot be verified.

Persona creation. Grudin and Pruitt (2002) urged that personas be created based on data sources of the typical users of the product being developed, in this way the fictional persona is based in reality. Grudin Persona data derives from "field studies, focus groups, interviews and further market research" (Grudin & Pruitt, 2002, p. 4; Pruitt & Grudin, 2003, p.4). Chang et al. (2008) agreed that a persona should be created by using data retrieved from studies of actual users. Freydenson (2002) agreed that a persona should be based in user data and wrote that:

> Personas are almost always based on patterns and findings you gather during interviewing. You use them to prevent problems such as the "elastic user"—the user that morphs from grandmother, to John Doe, to your CEO, depending on the day. Having a stationary target in a nonstationary world is a first step to creating a holistic, useful and usable product. (p.1)

Goodwin (2008) suggested that observation is a good method to compile data, since often self-reported behavior is inaccurate. When using interviews, Goodwin (2008) stated that when one can predict responses in interview, a pattern has emerged and interviews can be stopped.

However, Rönkkö et al. (2004) cautioned that a persona is not a specific person; a persona is representative of the desires of many people. Chang, Lim, and Stolterman

(2008) agreed that a persona is "based on a mash-up of users" (p. 440). Chapman and Milham (2006) determined this to be a weakness. Since the persona is from an amalgam of real users, not all users' needs will be met in the design (Chapman & Milham, 2006). Chapman and Milham (2006) warned that each time a persona gets more specific, the less general it is to the general population of users. However, in direct opposition, Long (2009) found that, contrary to Chapman and Milham's concerns, students using personas created better designs than those who did not use personas to guide the design process. McGinn and Kotamraju (2008) claimed that a major issue with personas is that the data is not rooted in data from actual customers, and the sample size that produces the persona data is too small to be accurate.

Sinha (2003) wrote that large amounts of qualitative data for persona creation was not very economical. In the study, Sinha (2003) used quantitative data from a survey taken by 63 participants as well as two phone interviews to determine data important to the participants about restaurant experiences. Sinha (2003) used the survey data to determine the most important concerns of the group, and created three personas that fit the expressed wants of the majority of participants surveyed. Each persona was displayed with a photo and a short desired restaurant experience. Each persona represented a group of users and their restaurant wishes.

Similarly, McGinn and Kotamraju (2008) used a new method of persona creation at Sun Microsystems based on quick and cheap data analysis. McGinn and Kotamraju (2008) received 1300 survey replies and conducted a total of 30 phone interviews (26 initial ones and four extra to make sure all groups were represented). McGinn and

Kotamraju (2008) used factor analysis to determine the most important items, and used those to develop personas, which they named (e.g., "Manny the Manager", p. 1523) based on Pruitt and Adlin's (2006) alliterative guidelines. However, Goodwin (2008) wrote that the name of the persona should be named by the behavior pattern of that persona, "such as "the bargain-hunter" or "the impulse buyer" (p. 3).

Rönkkö et al. (2004) detailed a case in which personas did not work well. Rönkkö et al. (2004) determined that the reason persona use failed is that there was not enough buy in from the workers at the company.

Matthews, Judge, and Whittaker (2012) studied the persona use of fourteen designers. Matthews et al. stated that it is problematic that personas are abstract, impersonal, misleading, ad distracting. Matthews et al. urged that the details about a persona be accurate and remain focused issues with the design problem. Matthews et al. suggested that personas introduce false constraints into the design process. Matthews et al. concluded that a new approach was needed. Matthews et al. proposed:

> We suggest a new approach in which user information is presented to designers in three easily separable layers: persona, user role, and user study data. Among these, our results show that access to user study data is critical and cannot be excluded. Linking user study data to the user role can help delineate which information is considered a critical design constraint. Designers can interpret aspects that appear in the persona and not the user role as communication aids and not constraints. Providing designers with all three layers gives them various tools for different activities (p. 9).

Therefore, it is important to equip designers with the entire set of data in order to make better decisions. Matthews et al. urged the practice of providing user research data and the role of the user along with personas in order for the designers to be more focused on the needs of the design.

Parts of a persona. Grudin and Pruitt (2002) wrote that personas "have names, likenesses, clothes, occupations, families, friends, pets, possessions, and so forth. They have age, gender, ethnicity, educational achievement, and socioeconomic status. They have life stories, goals and tasks" (p. 3). Furthermore, Grudin and Pruitt (2002), stated that "Each persona has a gender, age, race, ethnic, family or cohabitation arrangement, and socio-economic background" (p. 7). Freydenson (2002) listed the items in a persona as "a first and last name, age, goals, background story, a telling quote, email address, job title and a photograph" (p. 1). Grudin and Pruitt (2002) and Pruitt and Grudin (2003) described what they called a "foundation document" that contains all of the data about the persona. Grudin and Pruitt (2002) and Pruitt and Grudin (2003) wrote that including a photo of a persona from a local volunteer (not a stock photo) was important to give a face to the name of the persona. In a recent study, Long (2009), found that an illustration/drawing in lieu of a photo of a persona was not as effective. Long (2009) "reported a lower level of empathy towards the illustrated persona and a diminished ability among students to recall details about the persona after time" (p. 12).

Nielsen (2004) wrote that a persona should read like a film script, detailing the goals, motivations, and actions of the persona.

Maier and Thalman (2010) described the parts of a persona:

As a result of our empirical fieldwork, we identified 17 characteristics and behavioural patterns which can be mapped to the dimensions from (Pruitt & Adlin, 2006). In our case, the personas are identified by *name*. A *motto* provides a personal touch and helps to imagine the persona as individual.

Roles and tasks are represented by *role*, a description of the *workplace* of our persona as well as her individual handling of tasks, called *task management*, which provides a rich picture of the persona's daily business.

Skills and knowledge are represented by descriptions about the persona's *education and professional background*. An important aspect for the design of learning technology is the persona's *learning* strategy, handling of *knowledge* and *formal trainings*.

Context and environment show the persona's interaction possibilities and are represented by descriptions about the community, e.g., the *reaction to requests* from colleagues and the persona's *communication strategy*. Furthermore, descriptions about frequently used *content types*, what *structures* are used for organising contents and *important tools* show the persona's available IT infrastructure.

Descriptions about goals and motivations can be found in the persona's *motivation* and *problem solving* approach which is highly relevant for work-based learning scenarios. The *attitude towards technology* indicates on how a persona generally perceives usefulness of IT tools considered important for designing learning technology. (p. 60)

Goodwin (2008) suggested that a narrative about the persona told a better story than bullet points. She also stated that the length is important, since too short conveys too little information and a long version is too long.

Using personas. Personas are used differently in different companies, design teams, and projects. "There is not one way of using personas that most people subscribe to" (Chang et al., 2008, p. 440).

Freydenson (2002) stated that each persona created for a design project should be given a status such as "primary, secondary, supplemental, negative, etc." (p. 2). The purpose of this technique was to make sure that he product was designed with a primary user in mind to meet all of that persona's needs – that was the goal – the other users would use the product too, but future feature requests would center around the primary persona's needs, not the other personas' needs (Blomquist & Arvola, 2002; Freydenson, 2002).

Cooper (1999) suggested three to twelve personas per project, with no more than three primary personas. A primary persona is one that is used as the main user of the product; all of this person's needs must be met (Cooper, 1999). Pruitt and Grudin (2003) stated that about three to six personas are created per design project. Blomquist and Arvola (2002) wrote that three to seven is a good number per project. A persona's future needs can be extrapolated from their profile (Pruitt & Grudin, 2003).

At Microsoft, the personas are shared through:

> Many variations of posters, flyers, and handouts over the course of the development cycle. For the Windows Personas we even created a few gimmicky

(and popular) promotional items (e.g., squeeze toys, beer glasses, and mouse pads sprinkled with Persona images and information) (Pruitt & Grudin, 2003, p. 6)

Pruitt and Grudin (2003) wrote about creating email addresses for the personas; these email addresses occasionally send email to the team. There was also a fact of the week about personas (Pruitt & Grudin, 2003).

Long (2009) found that using personas impacted design quality. Long concluded that the results in the study indicated that designs that used personas were better suited for end-users of that product. Long also stated that, unlike misleading comments in the design field, using personas gives designers an advantage during the stages of research and conceptualization of a product.

Pruitt and Grudin (2003) argued that personas "can be more powerful if used to complement, not replace, a full range of quantitative and qualitative methods. They can amplify the effectiveness of other methods" (p. 3).

Conclusion

The number of learners enrolled in online learning environments has grown by leaps and bounds in recent years. According to Allen and Seaman (2010), there were over five million learners in online learning courses in the fall of 2009. Learners often opt for online learning and its benefits such as monetary concerns, convenience of geographic freedom, and more time flexibility (Li & Irby, 2008). Learners are able to access course materials, activities, other learners, and the instructor 24 hours a day from anywhere in the world with an Internet connection. On the downside, issues with learner isolation,

technology access, and a lack of quality and depth in an online learning environment have also been noted (Singh & Pan, 2004).

Course designers have many options when creating online courses. Choices of blended learning or fully online courses parlay into more choices in terms of how the course will be organized and choices with how interaction (if any) will occur in the course.

The course in this study uses Blackboard as the medium. There is one instructor and 27 participants. The participants are divided into groups of five or six based on their professional/teaching assignment. These smaller groups each do the same thing; they all complete the same learning activities, assignments, and projects. Research has found that Blackboard has both benefits and drawbacks. Blackboard is a 24/7 tool, meaning is it always available for student log in to access resources. Additional benefits include variety of communication and collaboration tools such as announcements, email, grouping functions, and discussion boards (Bradford et al., 2007). Some cons noted by Heirsfield et al. (2011) were that sometimes learners had difficulty using some of the tools and that using some tools in the system was too time consuming. In addition, some learners said that printing out course materials and documents themselves from Blackboard was too costly.

The impact of course design on the student experience should not be discarded by designers. Studies have found that learner isolation due to lack of social interaction is a problem for many online learners (Blocher et al., 2002; Muilenburg & Berge, 2005). In

addition, online learners cautioned future new learners to online learning that time management is a top skill to possess as an online learner (Bozarth et al., 2004).

Another aspect of an online learner's experience is that of online presence. Online presence is "the participants' (teacher and learner) ability to establish a sense of being in the virtual environment" (Irwin & Berge, 2006, p. 2). Based on the COI framework of Garrison et al. (2000), there are three elements of presence – teaching presence, social presence, and cognitive presence.

Teaching presence is made up of three elements. They are course design and organization, course facilitation, and direct instruction (Garrison et al., 2000). Instructors need to communicate with learners as well as facilitate communication between learners in the online environment. Although much of this communication is text based, researchers are now experimenting with other modes of instructor feedback, such as the use of audio feedback, highly rated in a study by Ice et al. (2007).

Social presence is defined in this paper as the ability of learners to portray themselves socially and effectively as real people in the virtual environment (Garrison et al., 2000). Garrison et al. included indicators of social presence as expressing emotions, risk-free expression, and encouraging collaboration. Many researchers have studied how the social needs of learners are met through the immediacy and intimacy of communications (Hall & Herrington, 2010; Ngoyi et al., 2014; Wei et al., 2012).

Social presence has impact on student motivation and satisfaction. In two separate studies, researchers found a connection between motivation (Robb & Sutton, 2014) and satisfaction (Cobb, 2009) reported by learners when they perceived a high level of social

presence in an online course. Many studies discuss how relationship and community building helps develop social presence (Charalambos et al., 2004; Irwin & Berge, 2006; McInnerney & Roberts, 2004; Reupert et al., 2009). Research has studied how to predict social presence. For example, Mykota and Duncan (2007) found that previous online experience and a self-assessment of technology skills were predictors of social presence.

Cognitive presence is how learners construct understanding and meaning though their reflections and their conversations with others in the online environment (Garrison et al., 2000). Garrison et al. detailed the four phases of cognitive presence – triggering event, exploration, investigation, and resolution. Darabi et al. (2011) found that the most effective strategy to bring learners to the resolution phase is through an instructor scaffold.

Research has proven that the three presences often impact each other. For example, Shea et al. (2010) reported that the more teaching presence and social presence there is from the instructor leads to more social presence from the learners. Shea and Bidjerano (2009b) stated that teaching presence and social presence correlate to cognitive presence. The authors stated that learners' reports about teaching and special presence can predict what learners will report about cognitive presence.

Controversy does exist in the field of online presence. Based on a 2010 Shea and Bidjerano study, they suggested that a new presence, which they called learning presence, be added to the original COI framework. In addition, Rourke and Kanuka (2009) wrote that the COI has failed since there have not been definitive occurrences of cognitive presence identified in the literature. Researchers well known in the field responded to

Rourke and Kanuka to refute their claims (Arbaugh et al., 2009). In addition, studies published since the Rourke and Kanuka publication report cognitive presence, such as Shea and Bidjerano (2009a).

The persona method suggested for the design field by Cooper (1999) is a method to describe the user experience. Personas give a face and story to the user of a product (in this case, EDIT 721) and describe the persona's wants and needs (Adlin & Pruitt, 2010; Chang et al., 2008). The persona is properly created when formed from actual user data (Chang et al., 2008; Freydenson, 2002, Grudin & Pruitt, 2002; Pruitt & Grudin, 2003).

The research in this paper will use the original COI from Garrison et al. (2000) to chronicle how online presence (teaching, social and cognitive presence) is manifested in an online graduate course designed to be student facilitated and product-oriented as evidenced in course discussion boards and one-on-one interviews.

Chapter Three

Research Questions

The purpose of this study was to examine participants' experiences in a fully online, participant facilitated, product-oriented course design model through the lens of the elements of online presence (teaching presence, social presence and cognitive presence).

Three research questions guided this study:

1. What was participants' experience of teaching presence in a participant facilitated and product oriented course?
2. What was participants' experience of social presence in a participant facilitated and product oriented course?
3. What was participants' experience of cognitive presence in a participant facilitated and product oriented course?

Qualitative Persona Method from User Experience Research

The research method in this study is derived from user experience (UX) research in the design field. The term UX was coined by design expert Don Norman (Gube, 2010; Vacek, 2014). "User experience encompasses all aspects of the end-user's interaction with the company, its services, and its products" (Nielsen & Norman, n.d., n.p.). "User experience is not about the inner workings of a product or service. User experience is about how it works on the outside, where a person comes into contact with it" (Garrett,

2010, p. 6). User experience research "can be done with any product" (Goodman et al., 2012, p. 11). Therefore, in the design field, user experience research focuses not on what happens as a product is designed; it refers to the experience of the person using it after it has been created, packaged, shipped, purchased, and in the hands of a consumer. Thus, the course in this study, EDIT 721, Web-Based Learning, is an online learning product with its learners as the users, and, research that seeks to understand UX (in this study, participant experience in EDIT 721) is important to the field of online course design.

This research study focused on the experiences of participants in an online course using a participant facilitated and product-oriented design model as seen through the lens of the elements of online presence (teaching presence, social presence, and cognitive presence). Therefore, the unit of analysis in this qualitative study was the participants' summer online experience of the Integration of Technology in Schools (ITS) online course EDIT 721 – Web-Based Learning.

Multiple UX methods should be used when seeking to describe the user experience of a product (Rohrer, 2014). Goodman et al., (2012) discussed various methods of UX research including interviews, focus groups, object based methods (e.g. card sorting, collage), observations, diary studies, usability tests, and surveys. Although there are many methods of UX research, "it's not realistic to use the full set of methods on a given project, nearly all projects would benefit from multiple research methods and from combining insights" (Rohrer, 2014, n.p.).

Learners' Experience Research in EDIT 721

The researcher used qualitative data and methods in this study in two phases. First, the researcher collected data via individual interviews and course observations. The researcher interviewed volunteer participants. The purpose of the interviews was to hear about the participants' experiences in their own words. The researcher also collected observational data from the course online discussion boards from four groups. These four groups were purposefully selected after interviews with participants in those groups. As suggested by Creswell (2013), the researcher collected observational data in the participants' natural setting. These observational data provided qualitative narrative data of the participants' experiences. The researcher collected multiple data sets and did not rely on a single data source (Creswell, 2013).

In the second phase, these two data sets were used to create a participant persona. The personas were created based on data collected in the first phase of this study and are an amalgam of the participants in this study (Chang et al., 2008). All data were employed to construct the complete personas telling how participants experienced online presence (teaching, social, and cognitive respectively) in this course design model.

Persona method. Although there is "little peer reviewed discussion of the personas method" (Chapman & Milham, 2006), personas have been used in the field of design, especially in the area of software design for the business world of design. As Cooper (1999) wrote, "The most effective tool is profoundly simple: *Develop a precise description of our user and what he wishes to accomplish"* (p. 123). We don't so much "make up" our personas as *discover* them as a byproduct of the investigation process"

(Cooper, 1999, p. 124). Therefore the persona is based in real user data (Chang et al., 2008; Goodman et al., 2012; Grudin & Pruitt, 2002; Mulder, 2007; Pruitt & Grudin, 2003; Rohrer, 2014). Pruitt and Grudin (2003) argued that personas "can be more powerful if used to complement, not replace, a full range of quantitative and qualitative methods. They can amplify the effectiveness of other methods" (p. 3).

Previous to Cooper's (1999) publication, personas had only been used for marketing, not in the field of design (Grudin & Pruitt, 2002). Cooper (1999) suggested using personas but did not give practical steps in their use (Long, 2009) nor did he "describe in detail how personas are constructed" (Grudin & Pruitt, 2002, p. 3). Grudin and Pruitt (2002) have extensively used personas in software development at Microsoft since "designers of mass-market, commercial software often can't confidently identify specific users of their software" (p. 1). Grudin and Pruitt (2002) created a systematic process to create and use personas during the development of a product.

Value of the persona method in this study. This study used the persona method to describe participants' experiences based on interview and the observation data. By using personas in the design field, designers better understand the user experience by focusing on the wants and needs of a typical user during their experiences with a product. In this study, the persona method is appropriate to describe simply the multiple experiences of participants. The persona is based on the participants' words in interviews and their own observed experiences in the discussion boards. The objective of the persona method in this study is to be able to focus on one persona in order to better

understand the typical experiences of all participants in EDIT 721. This method provides the reader a clear description of the participant experience in EDIT 721.

For this study, the best choice for describing the persona is the narrative format; items such as posters and promotional persona beer mugs designed for corporate software designers are not appropriate. As suggested in the literature, the narrative format tells a better story than bullet points (Goodwin, 2008). In addition, the length of the narrative is important, since too short conveys too little information and a long version is too long (Goodwin, 2008).

Persona creation based on user data. Grudin and Pruitt (2002) urged that personas be created based on data sources of the typical users of the product being developed, in this way the fictional persona is based in reality. Persona data derives from "field studies, focus groups, interviews and further market research" (Pruitt & Grudin, 2003, p.4). Chang et al. (2008) agreed that a persona should be created by using "data from user studies" (p. 440). Freydenson (2002) elaborated:

> Personas are almost always based on patterns and findings you gather during interviewing. You use them to prevent problems such as the "elastic user"—the user that morphs from grandmother, to John Doe, to your CEO, depending on the day. Having a stationary target in a nonstationary world is a first step to creating a holistic, useful and usable product. (p.1)

Goodwin (2008) suggested that observation is a good method to compile data, since often self-reported behavior is inaccurate. When using interviews, Goodwin stated

that when one can predict responses in interview, a pattern has emerged and interviews can be stopped.

However, Rönkkö et al. (2004) cautioned that "The precise user taxonomy in a persona should not be confused with a specific user. The persona represents many people's goals" (p. 113). Chang et al. (2008) agreed that a persona is "based on a mash-up of users" (p. 440).

Adlin and Pruitt urged researchers to "customize your own persona process in accordance with the amount of time, resources, and data you have" (p. 3). The researchers stated that the goal is not to follow their persona creation directions explicitly, but to have personas that will aid in the project, and urged those creating personas to select from the menu of tools to create and use personas effectively (Adlin & Pruitt, 2010).

Parts of a persona. Grudin and Pruitt (2002) wrote that personas "have names, likenesses, clothes, occupations, families, friends, pets, possessions, and so forth. They have age, gender, ethnicity, educational achievement, and socioeconomic status. They have life stories, goals and tasks" (p. 3). Furthermore, Grudin and Pruitt stated "Each persona has a gender, age, race, ethnic, family or cohabitation arrangement, and socio-economic background" (p. 7). Freydenson (2002) listed the items in a persona as "a first and last name, age, goals, background story, a telling quote, email address, job title and a photograph" (p. 1). Pruitt and Grudin (2003) described what they called a *foundation document* that contains all of the data about the persona. Pruitt and Grudin (2003) wrote

that including a photo of a persona from a local volunteer (not a stock photo) was important to give a face to the name of the persona.

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Participants

All participants in this study were enrolled at the same University's College of Education and Human Development. The university is located in a large Mid-Atlantic metropolitan area of the United States. This public university has one main campus and

three smaller sites located in three different surrounding counties. The university offers 200 degree programs. Of those, 76 are undergraduate, 123 are graduate, and one is professional (law). In the fall 2013 semester, the total student enrollment at the university was 33,917. Of this number, 63% of the students are enrolled full-time and 37% part-time. The total number of students enrolled as undergraduate (degree and non-degree seeking) is 21,990. The number of students enrolled in a Master's degree program is 7,187. In the fall 2013 semester, full time instructional faculty numbered 1,241 and part-time faculty numbered 369.9. Of the full-time faculty, 41.5% were identified as female and 58.5% were male.

The College of Education and Human Development (CEHD) at the university is comprised of the Graduate School of Education (GSE) and the School of Recreation, Health and Tourism (SRHT). The GSE's programs, which consist of degrees, licensure, and certificates, center on preparing teachers and counselors in advanced studies of instructional technology, research, and leadership. GSE has 27 academic programs with a spring 2014 enrollment of 4,327 total students (about 82% of whom are graduate students) and 126 full-time faculty members.

In this study, there were 27 students enrolled in EDIT 721 – Web-Based Learning in the summer of 2014. Students were Master's level students enrolled part-time in the CEHD GSE. During the regular school year, students worked in some capacity in a local school district as a K-12 teacher and completed other courses in their Master's program face to face. These school districts are located in geographic proximity to the university.

Participant Selection

Participants in this research study were selected as a convenience sample based on their enrollment in EDIT 721, Web-Based Learning, as the summer coursework for the Integration of Technology in Schools (ITS) program. The ITS program is a 36 credit, five semester Master's Degree cohort program. The ITS program focuses on developing K-12 teachers to be technology integrated instruction leaders. The online EDIT 721 course is required in the third (summer) semester. The other four semesters of the ITS program are face-to-face. Participants in this study were members of the 2013-2015 ITS program cohort.

Of the 27 students enrolled in EDIT 721, the final participants in this study were comprised of the eight participants who participated in interviews for this research study. Interview participants were selected from the participants who responded to the researcher's request for interview. First, the instructor of EDIT 721 sent the researcher's request for interview to all participants in the course. In in order to get replies from more participants, the instructor then granted the researcher permission to email the participants directly to ask for volunteers for interviews.

Demographic data include ages, years of teaching experience, current teaching level (elementary, middle, or high), and previous online experience. Participant ages were captured in age ranges from 21-30 years old, 31-40 years old, 41-50 years old, 51-60 years old, or 60 or more years old. Years of teaching experience are captured in ranges 1-4 years, 5-9 years, 10-14 years, 15-19 years, or 20 or more years. The choices for current teaching level are elementary classroom teacher, middle school classroom teacher, high

school classroom teacher, technology resource teacher, or specialist (e.g. music, art, special education, ESOL). Previous online experience answer choices are no previous online course experience, one previous online course experience, two to four previous online course experiences, or five or more previous online course experiences. The demographic characteristics of the eight participants are summarized in Table 1.

Table 1

Participant Demographic Data

Participant	Age Range	Years Taught	Level	Previous Online Courses	Discussion Board Group
Participant 1	21-30	5-9	Elementary Classroom	0	Group 4
Participant 2	21-30	5-9	Elementary Classroom	1	Group 3
Participant 3	21-30	5-9	Specialist (Music, Art, etc.)	5+	Group 4
Participant 4	21-30	1-4	Elementary Classroom	2-4	Group 2
Participant 5	21-30	1-4	Specialist (Music, Art, etc.)	1	Group 3
Participant 6	31-40	1-4	Middle and High Classroom	0	Group 1
Participant 7	21-30	1-4	Elementary Classroom	0	Group 3
Participant 8	31-40	5-9	Elementary Classroom	2-4	Group 3

Participant Interviews

Interviews are a qualitative form of data collection that allow researchers to ask participants open-ended questions with the purpose of recording their responses (Creswell, 2012). The researcher wanted to hear firsthand from the participants about their experiences in EDIT 721. The interview protocol was semi-structured. The interview questions were open-ended to allow the participants to speak at length about their experiences in EDIT 721. The interviews in this study were one-on-one, which helped the researcher gain understanding of each interviewed participant's experience without influence from other participants during the interview itself (Creswell, 2012). The instructor was not interviewed. The interview protocol can be found in Appendix B.

To strengthen validity, researchers can use triangulation (Maxwell, 2013). The researcher triangulated between the participants' experiences as described in interviews and the observational data from the online course itself (discussion board data). The researcher conducted the interviews within a six week period of the end of the course. Five interviews were F2F and the other three were over Skype. The researcher transcribed the interviews and coded them. Second, the researcher examined the observational data from the discussion boards and coded them. Each data set was collected and coded independently of the other.

A convenience sampling strategy was used to select the interview participants. From the eight participants that volunteered to be interviewed, all eight were selected for interview for this study. The researcher hoped for volunteers to be a representative sampling of groups based on demographic data. For example, the researcher wanted the

volunteers for interview to be new and veteran teachers, as well as at every teaching situation in the class (elementary school, secondary school, specialist, and instructional technology specialist) as seen in Table 2. Interview participants' demographic data was in Table 1 above. The participants interviewed for this study were typical of the makeup of EDIT 721.

Table 2

Representative Participant Groups Sought for Interviews

	Age Range	Years Teaching	Level	Previous Online Experience	Online Discussion Group
Interview 1	Any	1-9	ES	Any	Any
Interview 2	Any	10+	ES	Any	Any
Interview 3	Any	1-9	MS/HS	Any	Any
Interview 4	Any	10+	MS/HS	Any	Any
Interview 5	Any	1-9	Technology	Any	Any
Interview 6	Any	10+	Technology	Any	Any
Interview 7	Any	1-9	Specialist	Any	Any
Interview 8	Any	10+	Specialist	Any	Any

The interview protocol can be found in Appendix B. The interview data were used to answer RQ1, RQ2, and RQ3. Interview questions were designed for participants to share their experiences with online presence (teaching presence, social presence, and cognitive presence) in EDIT 721. Questions were open-ended to encourage participants

to describe experiences rather than answer in the affirmative or negative. The questions asked participants to elaborate on their personal experiences in the course as well as their experiences in EDIT 721 based on the three presences. For example, the researcher asked questions about participants' challenges in online learning since the Summer 2014 semester was the only ITS semester that was not F2F. To elicit responses to answer RQ1, another question topic was the design of the course in terms of activities and patterns used to move the students along the learning continuum in regards to course concepts. To elicit responses to answer RQ2, another line of questioning asked about the effectiveness of using online communication for social purposes. To elicit responses to answer RQ3, the researcher asked questions about the phases or steps in the learning process in the course. Other question topics were topics of community in the course and feeling like a real person in an online environment. The researcher also asked the participants about how much interest they had in the course content. In addition, the researcher asked about what the participants thought could have been improved in the course, what they liked about the course, and what they did not like about the course. Some interview questions were based on a COI survey from the literature developed by Arbaugh et al. (2008) based on the researcher's knowledge of EDIT 721. Since the researcher designed and taught a course about online presence, other interview questions were created based on the researcher's knowledge of EDIT 721, the ITS program, and online presence.

Observations

Since the course was fully online, course observations could not be done F2F. Instead, course observations were the LMS discussion board postings. Observations are

an appropriate method for a researcher to see firsthand what actually happens in a research setting (Creswell, 2012) as well as to challenge validity threats of the participants' perceptions (Maxwell, 2013). The observational data were used to answer RQ1, RQ2, and RQ3. These data provided the researcher unfiltered narrative evidence to analyze about the participants' experiences about the three elements of presence.

Observations are limited to that which the researcher can see (Creswell, 2012). In order to observe the experience of the eight participants who agreed to be interviewed, the researcher chose the discussion boards in which each participant was a member. In this way, the researcher could see the participants' experience in their own words and observe it in the course. As seen in Table 1, the eight participants were in Group 1 (one participant), Group 2 (one participant), Group 3 (four participants), and Group 4 (two participants). However, if the researcher had looked at only the discussion posts by the eight participants, posts would have been out of context and the entire meaning of the discussion would have been lost. Therefore, the researcher observed each group as a whole, meaning the posts from every EDIT 721 course participant in that discussion group was part of the data in this study in order to observe the entire context of each of the eight participants' experience.

Description of Course

The course in this study is part of a five semester (fall, spring, summer, fall, spring) Integration of Technology in Schools Master's Degree cohort program. The fall and spring semester course work is taught F2F at the university. The course in this study

(EDIT 721 – Web-Based Learning) occurs online during the middle summer. The course is worth three credit hours.

EDIT 721 – Web-Based Learning

EDIT 721 was designed to teach about web-based learning environments. It was designed and offered through an LMS (Blackboard) with one instructor and 27 participants. There were five modules in the ten week course. Module 1 was a one week module that covered the topic of online learning and how this course would be assessed in an online environment. Module 2 was two weeks in length and was comprised of the topics wetware/activity structure and web-enabled interpersonal exchanges. Module 3 was two weeks and was about web-enabled information collection and data analysis. Module 4 was a two week long module about web-enabled problem solving. Module 5 presented a challenge to participants in the form of a design project. This three week module allowed participants to design their own web-based learning project. Participants were to have used the skills they had developed in the course including online skill software, online problem solving, online simulation software, online resource sites, and activity structures. The module schedule can be seen in the screen shot in Figure 2.

Course Organization

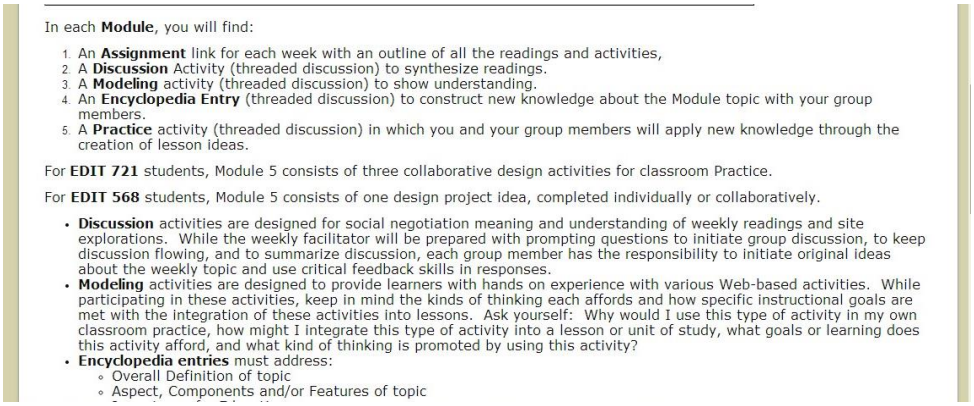
The course is divided up into 5 Modules.

For **EDIT 721** students, this is a 10-week course.

EDIT 721: Web-Based Learning		
Module 1	Week 1	Online Learning and Assessment
Module 2	Week 2	Wetware/Activity Structure
	Week 3	Interpersonal Exchanges
Module 3	Week 4	Information Collection and Data Analysis
	Week 5	Information Collection and Data Analysis
Module 4	Week 6	Problem Solving
	Week 7	Problem Solving
Module 5	Week 8	Design Project: Online Skills Software
	Week 9	Design Projects: Online Problem Solving and Simulation Software
	Week 10	Design Projects: Online Resource Sites and Activity Structures

Figure 2. EDIT 721 course schedule showing the alignment of modules and weeks

Each module was designed using the same instructional pattern. In the following order, the instructional pattern included: knowledge building through readings and activities, a group discussion in order to synthesize information in the readings, a modeling activity in the discussion board for participants to demonstrate understanding, construction of new knowledge by creating an encyclopedia entry, and a lesson plan creation as practice in application of the knowledge from the module. This can be seen in the screen shot in Figure 3.



In each **Module**, you will find:

1. An **Assignment** link for each week with an outline of all the readings and activities,
2. A **Discussion** Activity (threaded discussion) to synthesize readings.
3. A **Modeling** activity (threaded discussion) to show understanding.
4. An **Encyclopedia Entry** (threaded discussion) to construct new knowledge about the Module topic with your group members.
5. A **Practice** activity (threaded discussion) in which you and your group members will apply new knowledge through the creation of lesson ideas.

For **EDIT 721** students, Module 5 consists of three collaborative design activities for classroom Practice.

For **EDIT 568** students, Module 5 consists of one design project idea, completed individually or collaboratively.

- **Discussion** activities are designed for social negotiation meaning and understanding of weekly readings and site explorations. While the weekly facilitator will be prepared with prompting questions to initiate group discussion, to keep discussion flowing, and to summarize discussion, each group member has the responsibility to initiate original ideas about the weekly topic and use critical feedback skills in responses.
- **Modeling** activities are designed to provide learners with hands on experience with various Web-based activities. While participating in these activities, keep in mind the kinds of thinking each affords and how specific instructional goals are met with the integration of these activities into lessons. Ask yourself: Why would I use this type of activity in my own classroom practice, how might I integrate this type of activity into a lesson or unit of study, what goals or learning does this activity afford, and what kind of thinking is promoted by using this activity?
- **Encyclopedia entries** must address:
  - Overall Definition of topic
  - Aspect, Components and/or Features of topic

Figure 3. The pattern of each module in EDIT 721.

The instructor divided participants into small groups of four to six participants, forming these groups based on the participants' yearly K-12 teaching assignments. To begin the course, in Module 1, the course instructor acted as course facilitator and modeled proper facilitation skills. However, during each module that followed, the instructor assigned one participant to the role of group facilitator (supported by the instructor as needed). The instructor also offered to talk to participants in the online course over email if needed. In addition, the instructor encouraged participants to ask each other as peer experts as needed.

Aspects of social presence (affective expression, open communication, and group cohesion) were addressed in the design of this course. First, the groups began the course as "Group 1", "Group 2", "Group 3", "Group 4", etc. but were asked to collaborate as a group to name themselves for the duration of the course, creating a group identity.

Second, the course included one discussion board open to all participants that encouraged social messages. This forum was called the Harp and Dwell discussion

board. The instructor invited all participants to post on non-course related topics. The instructions were stated as:

> It is my dream to open up a little inn along the shore where my husband could charter fishing trips and run our little pub attached to the inn. The pub would be called the **Harp and Dwell**, a place for all to listen to good music (Harp), enjoy their favorite beverage, and bandy about ideas or ruminate over the day's event [sic] (Dwell). Please join your group members here at your own leisure to talk about anything and everything NOT related to WBL. Share your current events, notify group members of an upcoming planned absence, or reconnect on a personal level with your cohort members and create new friendships with members from the other cohort. Participation in this forum is not required.

Third, each group had to complete a collaborative group project as part of each module. The group facilitator led the group's discussions and organized completion and submission of the product. Fourth, participants created lesson ideas as a group in Modules 3, 5, and 7. In Modules 8 and 9, participants created individual lesson ideas. These lesson ideas were to be posted to the group's discussion board for feedback from group members. Participants were required to reflect on these learning activities, processes, and products in an electronic portfolio (Norton & Hathaway, 2010).

Even though the design of the course was not inquiry based, phases of cognitive presence (triggering event, exploration, integration, and resolution) appeared as part of the participants' experience. The phases were reflected in the group's work in the discussion boards as well as the final design product. Each learning prompt was the

triggering event followed by exploration in which participants researched and/or read about the topic. Participants worked to integrate this knowledge during the integration phase in group activities and group discussions. The resolution phase occurred when participants submitted their individual assignments and group assignments to the discussion board.

Data Collection

Data were collected after the researcher received approval for this study from the university's Institutional Review Board (IRB). See Appendix A for IRB approval. There were two qualitative data sets collected: interviews with participants and EDIT 721 course observations (discussion board postings).

Data Collection for the Interviews

The researcher asked the EDIT 721 instructor to send an email to all class participants to request participation in the study. See Appendix B for the email to the Instructor of EDIT 721. The email included a request for volunteers willing to be interviewed about their experiences. If willing to be interviewed, the participants were asked to email the researcher of their interest. In addition, the instructor allowed the researcher to directly email participants in order to get more volunteers for interviews. Interviews occurred within a six week period after the course ended. From participants who agreed to be interviewed, the researcher selected eight participants. As stated above, the researcher aimed to get one participant from each of eight demographic groups. The researcher sought participants from as diverse a demographic volunteer group as possible

based on ages, years teaching, level taught, and previous online experience as well as EDIT 721 online discussion group.

The interview was semi-structured. The IRB approved interview protocol can be seen in Appendix B. The participants signed an IRB approved consent form for the interview with audio recording. The researcher audio recorded the participants' interviews with a handheld digital audio recorder. The researcher transcribed audio recordings to one Microsoft Word document per interview and kept all files on a password protected computer. The researcher asked all participants to sign a consent form that allowed for audio recording. The interview consent form can be viewed in Appendix D.

Data Collection for Course Observations

The researcher collected qualitative observational data from the EDIT 721 course discussion boards after being granted permissions to view the course LMS by the course instructor. Although the course was itself a purposive selection, the researcher used convenience as a selection method for the interviews. The researcher selected four groups' discussion boards to study from the course in order to include the groups of the participants who volunteered for interviews.

The LMS is a secure password protected environment. The instructor added the researcher to the course for observational purposes. The discussion board data were downloaded electronically to the researcher's password protected computer as well as printed for easier reading and coding. The researcher used the "Collect" tool in each discussion board and sort by ascending order (chronological order by date) and then

downloaded each discussion board as a PDF file. Each discussion board was saved as a different document saved with a naming convention to match the group's name, module, and discussion. All files were kept on the researcher's password protected computer.

Data Analysis

Data analysis was completed in a two phase approach. In the first phase, the researcher collected and coded each of the two data sets (interviews and discussion boards) starting with a priori categories based on the literature. The interviews were audio recordings that the researcher transcribed and saved as Word documents. The discussion board data were downloaded from Blackboard and saved as PDFs, one for each discussion board. The researcher used a naming convention of groupname_discussionboardnumber in order to easily find the files when needed. After the data had been collected and stored in Word or PDF, the researcher read over each data set as a whole and wrote memos as needed (Maxwell, 2013). The researcher used a pre-established coding system (see Table 3) to code each data set. The coding system was based on the literature about online presence (teaching presence, social presence, and cognitive presence). As seen in Table 3, there were three a priori coding categories for teaching presence (design and organization, facilitation, and direct instruction), three a priori coding categories for social presence (affective expression, open communication, and group cohesion), and four a priori coding categories for cognitive presence (triggering event, exploration, integration, and resolution). In addition to this a priori coding system, the researcher was open to allowing in vivo coding as new categories emerged during the coding process, since participants may have fabricated their own

terms based on their experiences (Creswell, 2013).The researcher copied and pasted the raw data from each data set into an Excel spreadsheet (one file for the interviews, one file for the discussion boards) in order to search and sort more easily. Table 3 presents the aforementioned a priori coding categories.

Table 3

A Priori Coding Categories

Category	Code
Teaching presence - design and organization	T-DO
Teaching presence - facilitation	T-F
Teaching presence - direct instruction	T-DI
Social presence - affective expression	S-A
Social presence - open communication	S-O
Social presence - group cohesion	S-G
Cognitive presence - triggering event	C-T
Cognitive presence - exploration	C-E
Cognitive presence - integration	C-I
Cognitive presence - resolution	C-R

In the second phase, the researcher analyzed the data using the persona method to create three personas. The personas illustrate typical EDIT 721 students based on the data of the participants' experiences.

Interview Data Analysis

For RQ 1, "What was participants' experience of teaching presence in a participant facilitated and product-oriented course?", RQ2, "What was participants' experience of social presence in a participant facilitated and product-oriented course?", and RQ3, "What was participants' experience of cognitive presence in a participant facilitated and product-oriented course?", the data were in the form of interview audio files that the researcher transcribed into Microsoft Word. Initially, the transcripts were coded using a closed coding method based on the categories of online presence (Maxwell, 2013). An example of the initial categories and their corresponding codes is presented above in Table 3. Since this study course was designed to be a participant facilitated course, the researcher created related a priori categories based on the literature to address this part of the course design. In cases when the participant facilitator acted in a traditionally instructor role as facilitator, the researcher used the codes ST-DO, ST-F, and ST-DI (based on the codes T-DO, T-F, and T-DI). For example, if the instructor traditionally facilitated the group learning activity by creating a schedule for the work to be done, the datum would be coded T-F. If a student facilitator created the schedule, the datum would be coded ST-F. In cases when the student facilitator acted in the role traditionally held by the instructor during cognitive presence themed discussions, the researcher used the codes SC-T, SC-E, SC-I, and SC-R (based on the coded C-T, C-E, C-

I, and C-R). The researcher decided not to use a social presence when facilitated by a participant category since social presence interactions are all learner-learner interactions regardless of who the facilitator is. These additional a priori coding categories based on the literature that were employed due to the role of the student facilitator in this study course are presented in Table 4.

Table 4

A Priori Coding Categories for Participant Facilitation

Category	Code
Teaching presence (by a participant) - design and organization	ST-DO
Teaching presence (by a participant) - facilitation	ST-F
Teaching presence (by a participant) - direct instruction.	ST-DI
Cognitive presence (by a participant) - triggering event	SC-T
Cognitive presence (by a participant) - exploration	SC-E
Cognitive presence (by a participant) - integration	SC-I
Cognitive presence (by a participant) - resolution	SC-R

The researcher began the closed coding by reading through each of the interview transcripts in its entirety to understand it as a whole conversation (Maxwell, 2013). The researcher also listened to each audio file again in order to gain understanding from non-textual cues such as tone of voice and write memos about the data as appropriate

(Maxwell). The researcher began to code the transcripts using categories presented in Table 3 and Table 4. For example, teaching presence design and organization was shortened to T-DO.

The researcher decontextualized the data by copying and pasting the quotations from all of the interviews into Excel and identifying them with their corresponding code. The researcher was better able to search and sort by code to see what the participants stated. Placing all the information in one place in a sortable format gave the researcher a better view of the experiences of the participants. The researcher was easily able to find and use the participants' own words to describe their experiences in this study.

Observational Data

For RQ 1, "What is participants' experience of teaching presence in a participant facilitated and product-oriented course?", RQ2, "What is participants' experience of social presence in a participant facilitated and product-oriented course?", and RQ3, "What is participants' experience of cognitive presence in a participant facilitated and product-oriented course?", the researcher used the same coding system as noted for the interview data, and added codes that emerged during the coding process.

For each discussion board data PDF file, the researcher created an Excel file to copy and paste the text that had been coded, just as with the interview data. These discussion board data then resided in one place along with their corresponding codes and were sorted so that the researcher could more easily see examples of what actually occurred in the course. These data were used to narrate how the participants experienced the three presences in EDIT 721.

Three of the groups (Group 1, Group 3, and Group 4) had fifteen discussion boards. One of the groups (Group 2) had fourteen discussion boards due to the fact that this group won a course scavenger hunt, and the instructor exempted them from one task. Coding of the discussion board posts used the same pre-established coding system and process as was used for the interview data. In addition, when some posts did not fit into just one type of category, the researcher was open to creating new codes during data analysis. Therefore, posts were examined in context, and new categories were created if necessary. Since this course was participant facilitated, additional categories were pre-established based on other categories. For example, the categories for participant as facilitator, design and organization; participant as facilitator, facilitation; participant as facilitator, direct instruction (coded ST-DO, ST-F, and ST-DI, respectively) were used when participants' discussion board posts reflected the participants' role of instructor to capture teaching presence. The categories participant as facilitator, cognitive presence triggering phase; participant as facilitator, cognitive presence exploration phase; participant as facilitator, cognitive presence integration phase; participant as facilitator, cognitive presence resolution phase (SC-T, SC-E, SC-I, and SC-R, respectfully) were used when a participant was the person that initiated the phases of cognitive presence instead of the instructor. A list of categories and codes used can be viewed in Table 3 and Table 4 above.

In coding the group discussion boards, the researcher first read through an entire discussion board as a whole. Then, the researcher read through it again and coded just the teaching presence posts. Next, the researcher read through the same discussion board

again and coded all posts where a participant acted in a course facilitator capacity. Then the researcher read through the data again and coded all social presence categories. Lastly, the researcher read through the data a fifth time and coded all cognitive presence categories. The researcher reviewed the coding a sixth time and made minor tweaks as needed as she copied them from the paper copies into Excel.

Since there were two sets of data, the researcher was able to use member checks to test for validity (Maxwell, 2013). The researcher was able to employ data from course observations as a member check of what occurred in the course to see how it related to the data from the participant interviews.

Using Data to Create a Persona

For RQ 1, "What is participants' experience of teaching presence in a participant facilitated and product-oriented course?", RQ2, "What is participants' experience of social presence in a participant facilitated and product-oriented course?", and RQ3, "What is participants' experience of cognitive presence in a participant facilitated and product-oriented course?", the researcher used the data analyses from the interviews and the discussion boards to create a persona of a typical student of this study course based on the participant data (Chang et al., 2008; Cooper, 1999; Freydenson, 2002; Grudin & Pruitt, 2002; Pruitt & Grudin, 2003). Based on the participants' experiences of online presence (teaching presence, social presence, and cognitive presence), three personas were created (one for each of the elements of presence), as the participants experienced and expressed similar things in relation to online presence in this study course.

To create the persona, the researcher followed the process described by Adlin and Pruitt (2010) in the persona creation literature. First, the researcher identified that the persona method was appropriate and had selected the data sources of interviews and discussion board postings for persona creation. Next, the researcher identified that based on the similar data in this study, one persona was to be created. Realizing that the purpose of this study is to inform others in academia as opposed to marketing the personas to a large number of software designers, the researcher sought to create a persona narrative to share the experiences of the persona for each element of online presence in lieu of creating posters for office walls, squeeze toys, and beer mugs with persona details. Next, the researcher processed the data by identifying key quotes/themes from the data sets on index cards. The researcher formed these index cards into a large affinity diagram on the floor to be able to study it from above. The researcher moved and labeled pieces with categories as needed.

Next, the researcher used an affinity diagram to create a skeleton of the persona. This skeleton was a bulleted list of data, in three sections (teaching presence, social presence, cognitive presence). The researcher developed a persona from the data points in the bulleted list, using storytelling skills to write three narratives (one for each of the presences) of the persona's experiences in this study course. Next, the researcher reviewed these narratives to validate them based on the data sets in this study.

The researcher kept all foundation documents (ad hoc persona document, bulleted data lists, persona narrative) as a Word file on a password protected computer. A

foundation document is a storehouse for all the information about a persona (Adlin & Pruitt, 2010; Mulder, 2007).

Limitations

Several limitations existed in this study. One was that there were no other courses which fit this description at the University. However, the researcher chose to study the EDIT 721 participants as a whole rather than as individuals. A limitation was that only eight participants of EDIT 721 were interviewed. Not interviewing all twenty-seven participants limited the data and first-hand experiences reported. Although EDIT 721 was fully online, some participants already met each other from F2F courses before this study course began. In addition, participants knew the instructor from previous F2F courses.

The participant interviews may have taken place too long after the summer session ended, and participants may have forgotten their impressions from the online courses. The researcher found it challenging to interview some participants due to an interview location's noise level and distractions. Several emails were exchanged with other potential participants about interviews, but the interviews did not take place.

This study had validity threats. One threat was that the researcher knows the designer and instructor of the online course, in fact, the faculty involved served on the researcher's dissertation committee. As a counter-measure, the researcher revealed this information at all relevant points in this discourse.

In addition, the researcher used member checks to test for validity (Maxwell, 2013). The researcher used course observational data as a member check of what actually occurred in the course to see how it related to the data from the interviews.

Positionality

The researcher has worked for a public school system for eighteen years as a teacher, technology specialist, and student application specialist. The researcher has a Master's Degree in Instructional Design and Development. Also, the researcher was part of a previous ITS program cohort. The researcher designed a Master's level course about online presence, and taught the course twice. This online presence course was deigned to be fully online and inform the participants about online presence while modeling aspects of online presence at the same time.

Conclusion

The problem of the study was to examine participants' experience of online presence (teacher presence, social presence, cognitive presence) when course designers implement a participant facilitated, product-oriented fully online course design. The researcher used a qualitative method of data collection and analysis based on user experience research to address the three research questions. Observational discussion board data, and interview data were analyzed and used to create a persona of a typical EDIT 721 participant. This qualitative data helped to explain how the participants experienced online presence in this course design model.

Chapter Four

Introduction

This study presents an analysis of participants' experiences of online presence (teaching presence, social presence, and cognitive presence) while enrolled in EDIT 721, participant facilitated, product-oriented fully online course design. The results of this study are organized by the research questions:

1. What was participants' experience of teaching presence in a participant facilitated and product oriented course?
2. What was participants' experience of social presence in a participant facilitated and product oriented course?
3. What was participants' experience of cognitive presence in a participant facilitated and product oriented course?

Teaching Presence Experiences

The first question of the research asked: What was participants' experience of teaching presence in a participant facilitated and product oriented course? The researcher examined discussion boards and participant interviews for evidence of teaching presence. Analysis of data began with established codes for teaching presence related to course design and organization (T-DO), facilitation (T-F), and direct instruction (T-DI). Summary of the data can be seen in Table 5.

Table 5

Summary of Themes Related to Teaching Presence

Element	Themes
Design and Organization: Instructor	Course Schedule Course Learning Activities Course LMS (Blackboard) Course Design Pattern
Design and Organization: Participants' Wants	Face to Face Meeting to Begin Course design and organization on website not LMS
Facilitation: Instructor Facilitation	Course timelines (due dates and deadlines) Managing assignments (compiling work/soliciting input/coming to consensus) Scheduling and organizing the discussions Modeling and guiding the discussions
Facilitation: Participants' Wants	More Instructor Initiation and Shaping of Conversations Instructor Should Help Keep groups on task
Facilitation: Participant (as Facilitator) Facilitation	Timelines (due dates and deadlines) Managing assignments (compiling work/soliciting input/coming to consensus)
Direct Instruction: Instructor Direct Instruction	Tips for successful online learning (schedules/timelines/group work) General feedback about assignments Instructor as expert comments Feedback Contacting the Instructor Extending thinking/instructor questioning

	Instructor as expert
Direct Instruction: Participants' Wants	More instructor contributions on discussion boards More instructor sharing of expertise
Direct Instruction: Participant (as Facilitator) Direct Instruction	Timelines (due dates and deadlines) Managing assignments (compiling work/soliciting input/coming to consensus)

Instructor teaching presence: Course design and organization. According to Garrison et al. (2000), design and organization refers to the instructor's role in "the design of the educational experience. This includes the selection, organization, and primary presentation of course content, as well as the design and development of learning activities and assessment" (p. 90). To signify the participants' experiences related to the design and organization aspect of teaching presence, the researcher used the code T-DO.

Because participants in EDIT 721 were part of a cohort meeting in the semester prior to enrollment in EDIT 721, the instructor was able to meet with participants F2F during the last class meeting before the online course began. A participant from Group 3 explained:

> The first night before we left for the end of the spring semester, [instructor] came in and talked to us about the online course and what to expect and this is how you get on to Blackboard, this is the link, email me this or that.

However, there were two members of Group 1 who were not in the previous semester course and, therefore, were not present for the course briefing. Thus, two members of Group 1 did not have the same background knowledge as the others nor did they know anyone else before the online course began.

While there were only three observed instances of teaching presence related to course design and organization in the discussion boards, there were indications that participants observed teacher presence indirectly as it was embedded in the structure of the course. During the interviews, participants offered detailed reflections about the instructor's design and organization of the course. There were a total of 32 design and organization comments identified in the interview transcripts. These 32 comments could be grouped into the design and organizational themes related to the schedule, the learning activities, the Blackboard LMS, and the design pattern of the course.

Five of the eight participants noted that the course was designed using a specific pattern. For example, Participant 2 stated, "So, its definition, it's really definition, examples, understanding, and then create. And that seems to be the pattern, uh, throughout the modules." Participant 3 stated, "So like, the weekly assignment would be posted on Thursday and then like it was always in this like pattern."

During interviews, there were two examples of a teacher presence design and organization comment mentioned by Participant 2 as a wanted part of the course. The code for this new theme was T-DO-W. When asked what an instructor can do to improve online presence in a class, she replied:

> I might have everyone actually meet together, um...kind of like the first night before we left for the end of the spring semester, Dawn came in and talked to us about the online course and what to expect and this is how you get on to Blackboard, this is the link, email me this or that.

Furthermore, this same participant stated that the design of the course could have been better if it were a website, like another online course (desktop publishing) she was taking. She said:

> I really liked that notebook website for the desktop publishing class. Um, you could just um, click on any of the modules, it was easy to understand what you were doing and when because you set the when I guess. It was easier to understand- easy to understand what is expected of you. Um, whereas with the Blackboard course it was not always so easy to understand. Um, just because it was always kinda so broken up. So I would definitely say that a website like that would be really neat. Just a website in general and the way it was set up, I thought that was really nice. And it was easier to understand than the Blackboard. Blackboard, I mean it is nice and organized, don't get me wrong, but, um, it was but the desktop publishing website was just a like a roadmap. And it was very straightforward, whereas the other one you didn't have to jump around. Maybe something was posted in announcement or maybe something was posted in um, there was like a showcase tab too. Um, or in your group discussion board, so you really had to jump around and one where you didn't in the other. Um, I feel like if I was more likely to accidently miss something or get confused by something-

that would have happened in the Blackboard course, not the desktop publishing course.

Because course design employed participants as facilitators who took on many of the responsibilities traditionally done by an instructor, the extent and shape of this role emerged during coding as teaching presence. When participants acted as facilitators, the role of the instructor's teaching presence (coded T-DO, T-F, and T-DI) was reflected in facilitators' posts and were coded as ST-DO, ST-F, and ST-DI. No examples of participant as facilitator related to course design and organization were identified.

Instructor teaching presence: Facilitation. A second role of the instructor that aligns with teaching presence is to focus the class discussion, questioning, summarizing, and prompting as needed (Garrison et al., 2000). In the initial coding system, the participants' experiences of the facilitation aspect of teaching presence were signified by the code T-F. Across groups, there were a total of 68 posts reflecting instructor facilitation. These 68 posts revolved around the themes of timelines (due dates and deadlines) and managing assignments (compiling work/soliciting input/coming to consensus). These teaching presence facilitation instances (by the instructor) were found only through the end of Module 2, since the instructor facilitated only until that time. Two exceptions occurred. One was when the instructor wrote, "The articles are listed in the Module 3 Week 4 Assignment found under the Module Assignment link (course sidebar)" in Module 4. The other exception was when the participant facilitator from Group 1 posted the email reply from the instructor to him about a question for his group in Module 5.

An example of a typical teaching facilitation posting by the instructor was the statement:

> Post your two ideas under this thread by Monday May 19th 11:59pm. I'll post a draft on Tuesday afternoon and then we'll work on the ideas through Wednesday 11:59PM to get them in good shape. I'll make any revisions and compile everything into a Final product and post on Thursday morning. If anyone is around on Thursday, some feedback on the final list will be much appreciated.

Another typical teaching facilitation post by the instructor was about the compilation of the group's work for the module:

> I'll post a draft on Tuesday afternoon and then we'll work on the ideas through Wednesday 11:59PM to get them in good shape. I'll make any revisions and compile everything into a Final product and post on Thursday morning. If anyone is around on Thursday, some feedback on the final list will be much appreciated.

In the interviews, interviewees made 30 statements related to their experiences of teaching presence facilitation. These 30 comments were about the themes scheduling and organizing the discussions, modeling and guiding the discussions, the instructor being there in the online discussions, and instructor emails to groups or individuals about keeping them on track in the discussions. Participant 2 said the instructor "stepped in frequently. Um, if something- if maybe we were a little bit off where she wanted us to be she'd guide us back on course." Participant 8 stated that the instructor "sort of helped guide you – felt like a real person." Participant 5 said the instructor "was very much on

top of everything we were doing and making sure we were kind of getting everything set up correctly."

A theme that emerged during the interviews was what the participants wanted from the instructor in terms of facilitation. This code was created by adding -W to the end of each and code.

During the interviews when participants spoke freely about their wants in terms of teaching presence facilitation, the researcher used the code T-F-W. This theme had four instances. Participant 8, when asked if she had ideas for stronger teaching presence in the course, mentioned during the interview that, "I think initiating the conversation between members." This same participant further stated, "An expert- you know, which [instructor] is, to come in and sort of bring it back, you know, lead the discussion to a more- like what is the point of this? And lead us to- lead us in that direction." Participant 6 expressed her wish for the instructor to keep group members on task; she said it would be "nice for her to whip some of them into shape if they need to be. And I don't know that she did that." Furthermore, this same participant expressed wanting to have the instructor be more involved in guiding group discussions. She said, "I think scaffolding the conversations a little bit better would have been more useful. I felt like it was just, ok, here's what you need to read, now talk about it."

There were 181 examples of participant as facilitator in the discussion boards. The themes of the posts were timelines (due dates and deadlines) and managing assignments (compiling work/soliciting input/coming to consensus). These themes were the same as the instructor's facilitation themes.

Most participant as facilitator posts were about due dates and times for group work such as, "Please post by Tuesday 7/1 at 9:00pm." Many other examples were about selecting project topics, such as:

> Ladies, each of you submitted a great lesson idea, but [name]'s won again, the "Faces of the Olympics." I believe students will be interested in this project because they'll have to interview some Olympic sport competitors or officials. I will add new threads soon.

The interviews yielded two comments referencing participants as facilitator. About the participant role as facilitator, Participant 2 stated:

> You would introduce the project to your group, and then after you introduce the project you needed to break it up into parts, and then establish a timeline for things, and eventually take all the pieces, synthesize them, put them together and then submit.

Participant 4 commented about what she learned as facilitator. She said, "I learned that (laugh) you- especially as facilitator – you never put in too many threads all at once because it freaks people out."

Participants stated that they wanted the instructor to be more involved in the discussions and take a more active, authoritative, and expert role. However, participant comments did not indicate that they wanted the instructor to be the facilitator; just more present. The two participants who commented about participant facilitation did not comment in a negative way.

Teaching presence: Direct instruction. The final element of teaching presence is the area of direct instruction. Direct instruction is described by Kupczynski et al. (2010) as "intellectual and scholarly leadership from a subject matter expert" (p. 25) and includes assessment and feedback as part of direct instruction. Teaching presence's direct instruction element was signified in the coding system by the code T-DI.

There were a total of 103 instances of direct instruction in the group discussion boards. The 103 instances were grouped into the themes of tips for successful online learning (schedules/timelines/group work), general feedback about assignments, and specific instructor comments as an expert in the subject area. An example is the instructor's statement:

> I'm a little confused about your posts related to Facebook and Twitter...I'm not seeing the connect to Harris's project types under the Problem Solving category....and remember we are discussing Web 1.0 tools for Harris.....Social Media falls under the Web 2.0 delivery and is a totally different beast, i.e. tools rather than project frameworks.

A sample posting by the instructor in another group is:

> Yes!!! rather than interacting on a personal level (classroom to classroom, peer to peer, expert to novice) like we have in IE projects, the ICA projects focus on data searching, data sorting, data collection, data organizing, and in some projects, opportunities built in for analysis. This is so different from the kinds of projects found under the IE category.

In the discussion boards of Group 1, the instructor at times posted side notes for the two members who were not part of the Master's program. One such posting is:

> Just to explain more to [Name] and [Name] who are not in the cohort about the PICKLE reference: [Professor Name] is the group's other professor in the f2f program. Our philosophy in the ITS program was that the end of an educational experience or a school year in K12 should be more than just passing The Test or Standards of Learning Tests (SOLs). The SOLs are great frameworks to guide what needs to be taught but do not specify HOW they are to be taught. Teachers need to be designers to designer learning experiences for students framed by the SOLS so that when the end of the year happens they have learned the content but in context of why it is important. Students that leave our classrooms should not just have mastered the standards but also have developed skills and knowledge of that content but in the context of what is needed in the real world: Problem Solvers, Information Users, Collaborative Citizens, Knowlegeable [sic] in disciplinary content areas, Literate- all in an Engaging Environment. In other words, our students, whether they are in K12 settings or other educational settings (including adults), need to be PICKLES across and within the various content areas. Therefore, if I were to teach Computer Science, I need to make sure that my students understand how to be problem solvers in that discipline, know how to be good users of the information in that discipline, be collaborative learners and partners, know that facts and rules, and be able to encode and decode the symbol

systems of that discipline (Literacy) and it needs to be done in an Engaging Environment in order for it all to be internalized.

During the interviews, the participants commented a total of 24 times about the instructor's direct instruction teaching presence, particularly taking the form of feedback. These comments were grouped by the themes feedback, contacting the instructor, extending thinking/instructor questioning, and instructor as an expert. For example, Participant 2's comment about the instructor's feedback was:

> Feedback would happen via discussion boards. Sometimes it would happen via email, whether it was just one on one or she'd send a message to the whole group. Um, but we would get feedback, we'd get feedback every week, after every- not module I guess – but after every submission.

Participant 5 commented about the instructor's feedback stating the instructor was definitely "there a lot." Every time we would post something within a really reasonable amount of time she would answer or respond or, not just respond but you know pose another question." When asked how real the instructor felt in the online environment, Participant 8 replied, "[Instructor name] was there. So I felt – and she connected to real life situations in our classrooms, which helped, which I hadn't really experienced before with online."

A code that emerged when looking at the data was wanted teaching presence direct instruction, signified by the code T-DI-W, which was derived from teaching presence direct instruction. Four instances of this occurred. Participant 8 wanted the instructor to contribute to each group's discussion boards frequently. She stated, "I know

it's a lot of work to be adding feedback to all of the various groups, but that is so important to know that someone else is out there and this is not just busy work." Participant 3 commented on how an instructor should be an expert and she said:

> I think giving work experience and experience examples is a big part of that and I think being an expert in that is not only proven like when you give examples in the beginning but throughout when you're giving things to back up, like, oh, this time when I did this, this is what I saw and this is what happened. You can also try this and like having multiple things and knowledge that you bring to the answers is going to help a lot.

As for the times when a participant was facilitator, there were fourteen examples in the discussion boards of direct instruction of a participant as facilitator. The theme of all comments was feedback, and some focused on guidance or praise. An example is when Participant 7 wrote:

> This is great! From my experience doing something similar to this I know that my students had to study a variety of genres, conduct research, go through the entire writing process (take notes, writing headings, constructing a main idea, including details under the main idea, use transition words to take facts and form full sentences) and they had to know computer skills such as saving to a drive, downloading, modifying, saving and uploading documents. They had to be familiar with the affordances of multiple computer software programs. For instance, if they wanted to conduct a survey on their topic and create a bar graph to show the results, they may want to use Word instead of Google Docs. To create

the cover or a comic based on their topic, many students discovered that Paint or Pixie was a better choice because it allowed them to customize the image they wanted.

No examples of student as teacher direct instruction were found in the interview data.

Teaching presence persona. The following persona was created from the participant data in this study course. The data sources were the eight participant interviews and the discussion boards from the four groups in this study. These data were examined as a whole, grouped into themes, and then these themes were integrated into the persona that follows. The purpose of the persona is to share a typical participant experience in this study course.

This course was the second one that Amanda Barrow took online. Amanda took one during her time as an undergraduate a few years ago. At age 25, she is not too far removed from those college years. This was Amanda's third year of teaching in a local school district after a move here from a nearby state for a teaching job. She has been at the same school for those three years.

Amanda did not like her undergrad online class. She felt it was too impersonal. The instructor never seemed like a real person to her; she never thought the instructor cared about her. In EDIT 721, Amanda appreciated the great relationship she felt she had with her online instructor. Knowing the instructor face to face before the online class started from previous face to face classes in her program enabled Amanda to feel connected with her instructor in the online environment. However, Amanda felt that even

if she had not known the instructor face to face she would have developed an online relationship with the instructor in this course.

Amanda appreciated the instructor's willingness to be a real person online. She felt that the instructor's frequent checks of her emails and answers to any questions she had were important contributions to her connections with the instructor. Amanda was frustrated when the instructor sometimes sent back replies that were wordy but recognized that perhaps the instructor was trying to lead her to the answer. Amanda understood that teaching technique was designed to build her independence as a learner but would have preferred a direct answer from the instructor. Amanda reported that the instructor's emails, announcements, and posts, use of humor and jokes, smiley faces, and shared personal information with the online group created a sense of connection with the instructor. Amanda liked getting email reminders, announcements, and feedback (both individual and group) from the instructor.

Amanda felt the instructor pulled back from her feedback and facilitation for the groups too much during the weeks that a participant facilitated. Amanda wished that the instructor could have been there more in those weeks. Amanda wondered if the group was on track sometimes when the instructor did not chime in. When classes met face to face and the instructor walked around the room and checked in on everyone's work, Amanda felt more confident about the quality of her work. Without the online instructor's frequent feedback, Amanda found online learning to be a bit harder. She would have appreciated more quick glances at her work and spur of the moment feedback

from the in class instructor. She felt this would have been valuable and missed that in the online asynchronous environment.

Amanda did not like the Blackboard system. She thought it was too confusing to have their work done in many different threads – she wished that the groups could have had other tools in the online environment that allowed them to collaborate on documents better. She also was desperate for tools that would get her immediate replies from her instructor and her fellow participants. Amanda is used to constant contact and notifications on her smartphone of texts, emails, and social media. She thought that having to login to Blackboard every day to see what had been posted, or see if anything had even been posted, was cumbersome.

Amanda thought that the instructor did a nice job of organizing the course in the Blackboard LMS that was used. The instructor sent out reminders about where things were found and when things were due. Amanda eventually noticed a pattern in the course. She noticed that each module had a similar format, but she noticed it several weeks into the course, and wished she had known about it earlier – she thought the course may have been easier to follow. Amanda knew that everything had its place in the different tabs and sections of the course, but she found it difficult to master, and felt it was weeks before she got the hang of it. The instructor was very good about explaining the format of all the content and tools in Blackboard, but Amanda still thought it was more difficult in Blackboard than it needed to be.

Like her other group members, Amanda had a turn at being participant facilitator. She thought that the instructor did a great job of modeling facilitation, and followed her

example. In fact, Amanda followed the example so well that she didn't realize she could make up the weekly learning schedule based on her group's needs by scheduling around a weekend or big events for group members. Amanda just followed the exact example from the instructor! Amanda wished she would have thought about making her own schedule to give her group some days off since she knew about events in the lives of her group – weddings, report cards due, and travel plans. Amanda thought facilitating might be difficult, but the instructor provided many resources, a forum just for facilitators, and answered all of Amanda's questions very quickly over email. At times, Amanda found facilitating difficult when she had to piece together the group's project contributions from many threads on the Blackboard discussion board and compile them into the project to submit for grading.

Social Presence Experiences

The second question of the research asked: What was participants' experience of social presence in a participant facilitated and product oriented course? The researcher examined discussion boards and participant interviews for evidence of social presence. Analysis of data began with established codes for social presence related to affective expression (S-A), open communication (S-O), and group cohesion (S-G). A summary of the data can be seen in Table 6.

Table 6

Summary of Themes Related to Social Presence

Element	Themes
Affective Expression	Humor (texting abbreviations, emoticons, jokes, hashtags, movie quotes) Personal feelings/statements Netiquette Online personality
Open Communication	Feedback (solicitations, input, questions) Apologies Acknowledgements (thanks, agreements) Online relationships Challenges in online communication
Group Cohesion	Bonding Teamwork Community Building (getting to know each other/being a group)
Instructor Social Presence	Jokes Personal Statements Emoticons Instructor as a real person

Social presence: Affective expression. Affective expression referred to the expression of emotion in an online environment (Akyol & Garrison, 2008). To signify examples of the participants' experiences pertaining to the affective expression aspect of social presence in this study, the researcher used the code S-A. Across groups, there were a total of 258 instances of affective expression. These 258 instances reflected the themes of humor (texting abbreviations, emoticons, jokes, hashtags, movie quotes) and personal feelings/statements.

Typical texting abbreviations were used, such as LOL (laughing out loud). Several emoticons were used to convey feelings, such as smiley faces ☺, sad faces ☹, and winks ;-). A few participants used jokes, sarcasm, and one liners, like when one

participant wrote about an assignment, “Wait....I can't believe nobody has suggested we track roadkill yet…” Another participant joked in his introduction, “I have spent the majority of my life running in circles ... literally. I finally gave up track and running a few years back.” Another participant decided to use hashtags with short sayings like are used in social media. For example, she wrote such things as “#overandout” and “#facilitatorissues.” Another participant enjoyed quoting movies and wrote such statements as, “If you are not first your [sic] last ... some famous race car driver.” As an example of personal statements, participants wrote about a course activity, “It was a funny activity though and I am sure I fit right in with all the walmart [sic] crazies” and another wrote, “I survived a 12 year old's sleepover last night.”

In interviews, the participants made 24 statements related to the experiences with affective expression in EDIT 721. The major themes of these statements were netiquette and online personality. In terms of netiquette, participants commented about how to properly make sure they were understood without offending others in the online environment. For example, one participant said, “I’m very direct and to the point, to the point, to the point where I can seem pushy, so I try to do a lot of smiley faces”. Another participant shared, “You can’t say something that can be taken a couple different ways because it’s hard for people to take things in context – about something, and they don’t have the tone of your voice or anything to go with it”. Another participant said, “You always have your emoticons...is my tone going to be perceived incorrectly so you put a smiley face”. About an online personality, one participant stated, “I would try to make

jokes and things like that so, I tried to kind of bring my personality into the words on the page". Another participant said:

> People would use emojis or whatever, like emoticons, or LOL of HAHA, things like that would help, and um, I think everyone in my group is pretty sarcastic, so, we kind of knew that from class, so most of what they said, I kind of had an idea of how they were saying it.

During interviews, a theme that emerged was when participants talked about an aspect of affective expression that was wanted during EDIT 721. This theme was coded S-A-W. There were eleven comments during interviews about this theme. One comment was:

> I think I might include some type of face to face, whether it's a Hangout, or an actual, um, meet-up, um, some type of forum where – or, or, if that's not possible, maybe some type of a um, thread, where like you post a picture or like some basic information – a little, a short narrative about yourself, and then respond, you could have participant respond to another with connections.

Social presence: Open communication. Open communication refers to setting the climate for learning by establishing risk-free expression (Akyol & Garrison, 2008). To signify examples of the participants' experiences pertaining to the open communication aspect of social presence in this study, the researcher used the code S-O.

In the discussion boards, there were 350 instances of open communication. These 350 instances were grouped into three main themes: feedback (solicitations, input, questions), apologies, and acknowledgements (thanks, agreements). Feedback statements

were those such as when one participant wrote, “Everyone loves a good alliteration! I think it sounds great.” Another example was, “Does that make any sense?” Another participant wrote, “I definitely see how the data collected should be presented in an organized fashion. Can someone clarify what exactly that graph would look like? Are we thinking a table with the comparisons....a bar graph...?” In terms of apology statements, one participant wrote, “Hopefully I am on the right track with interpersonal exchanges and I didn't just pick something that is not what we are looking for.” Another example was, “Sorry for the late reply [name]. We had our graduation this weekend so I was busy Friday Sunday.” An example of an acknowledgement statement was when one participant wrote, “I agree with [name] that making connections from our reading, experiences, and group members [sic] posts is very important.” Another participant posted, “Thanks so much for adding the KWLH chart in there! I was trying to add it in, but I wasn't really familiar enough to get it out coherently”.

In interviews, there were 26 instances of open communication statements. These 26 instances centered on the themes of online relationships and challenges in online communication. An example of a statement about online relationships is when an interview participant stated, “Our group had a very good relationship, and, like I enjoyed going on to Blackboard and talking with them. We really did have scholarly talks and discussions about what we were experiencing.” Another participant shared, “You have to be comfortable disagreeing or agreeing with people in your group.” About online communication challenges, one participant commented:

The hardest thing about communication was just like where you were communicating with people, there are so many things in Blackboard and you can go off in so many different threads, and forums, and discussions, and this and that that is think that that was the biggest challenge.

Another participant shared, "So I think that was probably the biggest challenge, making sure that, okay, this is what I am saying, this is exactly what I am saying, please interpret it the right way".

During interviews, a theme of wanted open communication comments emerged. This was coded S-O-W. There were six comments. An example is when a participant commented, "I really wish there could have been more real-time interaction."

Social presence: Group cohesion. Indicators of group cohesion include collaboration and aspects of group identity (Akyol & Garrison, 2008). To signify examples of the participants' experiences pertaining to the group cohesion aspect of social presence in this study, the researcher used the code S-G.

There were 107 instances of group cohesion. These 107 instances were grouped into the themes bonding and teamwork. An example of the bonding theme is during the group introductions when a participant wrote:

> Hey group! My name is [name] and I am now teaching my 4th year in the county as an Elementary PE teacher. I graduated college back in 2005 with a degree in sports management, then decided two years later that I wanted to become a teacher and went back to school. I grew up doing many sports, with swimming

being my main sport, but as an interesting other sport I pole vaulted through high school, which was a lot of fun!

Another participant, while the group was deciding on a name, wrote, “I like everyone's ideas especially what [name] started with the beach theme. [Name] I think it's going to be hard to beat [group name suggestion]. I'm a beach bum myself so you've got my vote!”

Instances of teamwork in the discussion boards could have been short examples such as when participants wrote, “Go team!” and “Hey Team”. As well as, “Nevermind [name], I changed it for you!” and “I look forward to working together this week!”

In interviews, there were 32 mentions of group cohesion. These 32 comments were grouped into the theme community building, with sub themes getting to know each other and being a group. A participant who commented on getting to know each other said, “I mean we did the whole introductory thing in the beginning, like, introduce yourselves, say something about you, a couple things.” Another participant stated, “I think talking about personal interests and um, sharing a little bit about yourself before you start, which I think we did, is really important.”

Regarding the theme being a group, one participant commented, “But I feel like we had a good connection as a group and everyone was helpful and patient with each other as we learned the process of online learning.” Another participant said:

And I think establishing that little community is helpful especially when you’re working so closely with everyone for the whole summer, so I think our group – I mean I

would agree – I mean, it did give me a sense of belonging, but I think others viewed it as maybe not all that helpful with how it was introduced.

In interview, two participants had strong views about how their groups worked together. According to the comments of Participant 6, her group (Group 1) was not a good one. She also shared that online course interactions were not for making friends, they were for learning. She expressed feelings of isolation and did not seem to like working with her group, notably the two non-cohort members. Participant 4 (Group 2) gushed over how much she enjoyed working with her group. She mentioned how she enjoyed texting and gchatting members of her group, as well as talking to them on Blackboard.

During interviews, a theme about wanted group cohesion emerged. This theme was coded S-G-W. There were eleven comments identified from the interviews. An example of one such comment was when a participant said:

> I might have activities at the beginning other than just building like our team name, but asking people to share a little bit more about themselves. You know we did introduce ourselves briefly. But I might even continue including introduction activities for like the 1st few weeks just so each week you could get to know the other people a bit more.

Teacher social presence. A theme that emerged in both the discussion boards and interviews was the theme of teacher social presence. Teacher social presence refers to "social presence exhibited by the instructor" (Wise et al., 2004, p. 250). In this way, teaching presence is not entirely separate from social presence (Borup, West, & Graham,

2012). It has been found that teacher social presence had more impact than (learner-learner) social presence (Swan & Shih, 2005). Swan and Shih raised the question of including teacher social presence in the COI framework and to differentiate it from (learner) social presence. Lowenthal and Lowenthal (2010) examined teacher social presence and used the phrase *instructor's social presence* and wrote that research was not abundant on the topic. Likewise, Shea et al. (2010) urged more research on teacher social presence. In more recent studies, researchers have supported inclusion on teacher social presence in the COI framework (Pollard, Minor, & Swanson, 2014; Richardson, Koehler, Besser, Caskurlu, Lim, & Mueller, 2015).

There were 73 instances of teacher social presence across groups in this study course. These instances were coded TSP. The main themes were jokes, personal statements, and emoticons. As an example of a joke, the instructor wrote, "Ooooh, oooh, oooh I know (feeling like Arnold Horshack)!" An example of a personal statement was when the instructed posted, "I'm partial to wine comments." The instructor used emoticons many times as well, often a smiley face ":)".

In interviews, the participants made a total of ten comments about teacher social presence in EDIT 721. All of the comments were about the instructor conveying herself as a real person in the online course. One participant commented, "The most effective thing was...sounding like herself", and another said, "[Instructor name] is really good at, um, she sounds exactly like she does in emails, like she does when she's in class".

Another theme that emerged during interviews was the theme of teacher social presence wanted by participants. This was coded TSP-W, and there were four instances. One participant shared about wanting more personal contact with the instructor:

Like those professors [from another online course in the past], I didn't know at all. Like they didn't give you the personal background. So, I knew [Instructor of EDIT 721], but I think that there should be- the...like a section that really is like a question and answer, getting to know you, maybe um, I don't…kind of like a – just – like communicate with – give a background first. I mean, I know I really like to know where people come from and what they do and where their families are from and I love hearing about other people, you know? And I think that's really important to make sure that you make that connection on a person level because whether – if your professor doesn't care about you, then why should you care about the class?

Social presence persona. The following persona was created from the participant data in this study course. The data sources were the eight participant interviews and the discussion boards from the four groups in this study. These data were examined as a whole, grouped into themes, and then these themes were integrated into the persona that follows. The purpose of the persona is to share a typical participant experience in this study course.

Sophie Thompson thought that talking with her classmates online would be easy! She is on social media often and gets anxious when she doesn't have her smartphone within a five foot radius. She uses her phone, not for talking, but for most of her communication (Facebook, Twitter, Instagram, Snapchat, texting) so she thought, why

not do the class online, it would be the same, right? Well, Sophie was wrong. Sophie felt that the online class was much harder to communicate than she originally thought. Sophie appreciated energy of a face to face classroom with people talking and ideas flowing all at once, and she felt it was lacking from the online environment in the asynchronous discussion boards in Blackboard. Sophie thought it seemed like torture to her to go to her computer, log in to Blackboard, and then check to find out that it had been hours – sometimes a day or more – before another group member replied. Sophie liked seeing people's faces in class, hearing the tone of voice and reading body language. But most of all, she really appreciated the instant feedback she would get in the face to face class.

Sophie knew two of the four members in her group from her face to face class, but hadn't met the other two until this course started. She found out during the EDIT 721 "getting to know you" activities that the others in her group all taught in a K-6 environment just like she did, although none of them taught the same grade level she teaches. Sophie had been teaching for the last eight years in a large school district. She taught two years at her first school, but the commute was very long, she switched schools after that to a school that was closer to the townhouse she shared with a couple friends. Sophie thought she would like staying at home alone all day while her roommates were out of the house over the summer and get her grad work done, but she often got lonely. She enjoys her house, school classroom, and grad classroom full of activity, learning, and excitement.

Sophie thought there would have been more immediate responses and real time interaction with her group and her instructor in EDIT 721. She was hoping for opportunities to online video chat with her group, watch video posts from her instructor, and real time text chat with her group. She thought that the lack of real time tools slowed down the flow of ideas while working with a group. She didn't like that the asynchronous nature of the discussion board sometimes meant that her group had too many posts early or late in the week based on people's schedules outside of classwork.

Sophie would have liked an area for Facebook-like posts with her group members, to get to know them, and to refer to during the whole course. She especially wanted one with photos since she would have liked to place a face with a name for the group members she hadn't met before the online course began. She thought an area like that might allow everyone to show their personality to the rest of the group. She used other methods to talk about the online class with other classmates from the Master's program who were not in her group. She texted them, chatted with them on Facebook, called them occasionally, and even attended a group coffee date organized by another (face to face) classmate from the Master's program. She liked these communication methods, but they weren't part of the online course. Sophie knew her comments were private when she asked a classmate a question over text instead of publishing it in the Blackboard discussion board for the instructor and whole class to see. That is why she didn't want to post anything on the "Harp and Dwell" board that the instructor posted for everyone to use. She was too busy getting work done to invent things to put there, and also didn't want to post personal details about her weekend dates than the course content.

She would rather keep those details among friends and not put them in a public forum. She showed her personality in other ways though, as did some of her group members. Sophie posted many emoticons (she loves smiley faces), used humor, and used abbreviations like LOL (Laughing Out Loud) in her online messages in the course.

Sophie noticed that her group posted many of the same things – jokes and emoticons. Sophie thought this good rapport was established by the introductory activities when the course began. The group was required to complete some team building activities such as select a group name, post a short bio, and make a drawing of themselves in Paint. Sophie thinks her group worked well together after establishing this good relationship. Sophie saw the other group members who she hadn't known face to face as people, and not just words on the screen. She cared about them and she knew they wanted to do quality work in the course too. Sophie said her group worked well together, and even when they disagreed, they did it in a professional and positive way. Sophie felt her group members valued each other's opinions. Sophie thought that this rapport was great for the team work needed for her group, but didn't think these activities were meant to form long-lasting friendships. She felt that the group also worked well, their relationship meant that people always did their part – no one wanted to be the slacker that let the group down.

Cognitive Presence Experiences

The third question of the research asked: What was participants' experience of cognitive presence in a participant facilitated and product oriented course? The researcher examined discussion boards and participant interviews for evidence of cognitive

presence. Analysis of data began with established codes for cognitive presence related to triggering event (C-T), exploration (C-E), integration (C-I), and resolution (C-R). A summary of themes can be seen in Table 7.

Table 7

Summary of Themes Related to Cognitive Presence

Themes (All Phases)
Authentic tasks – can do it life/classroom
Practical, applicable real-life concepts were most helpful
Good background building and resources
Baby steps in the projects, good stuff at end
Pattern from learning to doing
Pattern worked well – predictable way to do projects each module
Phases of learning from reading to final product - Facilitator to schedule
Phases – hard to move along if others did not reply
Readings, explore links, worked toward making own project with group

Cognitive presence – triggering event. The first stage of cognitive presence is the triggering event, and an indicator is the "sense of puzzlement" (Akyol & Garrison, 2008, p. 4). In the discussion boards, there were 129 instances of the cognitive presence

triggering event. These instances were coded C-T and were all triggering events initiated by the instructor. There wasn't a theme per se– by their definition, they were all triggering events. They differed from one another by topic, based on the learning activity. One example is when the instructor posted:

> Think about these Interpersonal Exchange projects and your own professional practice. What learning goals or what objectives might using these projects meet? In other words, what are they good for and do you find them to be Worth it for your practice?

Another example is this instructor post:

> Under this thread, please post your thoughts about the importance Interpersonal Exchanges activity structures have in educational practice. What can these structures add to curriculum design? What role can Interpersonal Exchanges play as part of an overall lesson plan? What concepts are enhanced or skills practiced when Interpersonal Exchange activity structures are incorporated into a learning experience?

During interviews, participants commented nine times about the triggering events. Participants spoke of the triggering event as the attention hook to the learning event. For example, one participant said, "Because without the hook, it's just like, what's the point, right?" Another participant commented, "So, they always presented us with the authentic problems and they definitely draw you in, you know?"

One aspect of the triggering event that emerged during coding was due to the design decision of EDIT 721 to use participants as facilitators in the discussion boards.

Therefore, the normal teacher role to trigger the learning event was placed in the hands of a participant facilitator. Therefore, triggering event instances were often posted by participant facilitators and not the instructor. There were 126 instances of participant facilitators posting triggering events in the discussion boards. These instances were coded SC-T. An example of one such instance was when a participant facilitator posted, "What would be a good authentic problem to use to introduce this activity? What would be good possible products for the students to create? Post your ideas here." Another participant facilitator wrote:

We are going to apply what we learned about Interpersonal Exchange activity structures by designing a group lesson idea that integrates an already established Interpersonal Exchange activity from one of the projects we reviewed during our Week 2 explorations on Harris' site. A lesson idea differs from a lesson plan. If you are not fully aware of the differences, please see the link outlined in Step #1. Remember, the purpose of this activity is to determine how feasible using an established project is and to design ideas for incorporating one in to a classroom lesson.

During interviews, the participants did not share anything about experiences with triggering events directed by participant facilitators. Therefore, no instances were coded.

Cognitive presence – exploration. The second stage of cognitive presence is exploration, and an indicator is the "information exchange" (Akyol & Garrison, 2008, p. 4). There were 275 instances of the exploration phase of cognitive presence, when the triggering event was initiated by the instructor. All of the instances were about researching and exploring whichever topic was triggered by the instructor's post. An

example of this instance is when a participant posted, “"While I was searching the web for information about how Interpersonal Exchange activity structures can add to design curriculum, I came across this article http://www.citejournal.org/vol1/iss3/seminal/article1.htm".

In interviews, participants made nine comments about the exploration phase of cognitive presence. For example, a participant shared that they had many avenues to explore the content. The participant stated that they had “outside resources too – different links, different web quests, different things that we could use to find more information.”

As with the triggering phase above, since the researcher noted when the cognitive presence process was started by a participant facilitator, there were exploration instances in the discussion boards that were triggered by a participant facilitator. These instances were coded SC-E and there were 124 of them. One example posted was, “"I went and discussed this with the science teacher, he showed me the [curriculum document] for [School District] and I think that it would go best for 7th graders in life science. LS.11 Environmental Issues." There were no comments in interviews about the exploration phase of cognitive presence when triggered by a participant facilitator.

Cognitive presence – integration. According to Akyol and Garrison (2008), the third stage of cognitive presence is integration, and an indicator is the “connecting ideas” (p. 4). There were 236 instances of the integration stage of cognitive presence in the EDIT 721 discussion boards. Again, the instances were about the task triggered in the first phase. One example posted was:

> Problem Solving activities create authentic learning experiences where the content becomes the focus. I also think that problem solving activities teaches students to use and combine a larger set of thinking skills than what is possible in a nontelecomputing [sic] environment. For instance, social action projects pushes students to learn and take action in a real world global issue. Students have to first identify the issue, search and analyze information about the issue, and then decide or develop a strategy in helping to solve this issue. While implementing a social action, students might critique or reevaluate the situation in order to modify and improve on their project. Learning becomes no longer a separate experience from the real world. Instead, learning is what students must do in order to solve or contribute to an authentic situation. Furthermore, the authentic experience itself can provide learning experiences that are not able to be taught through readings, videos, and lectures such as communication, collaboration, and leadership skills.

During interviews, the participants made a total of ten comments about the integration phase of cognitive presence. For example, one participant said, "Thinking about lesson structures and activities, and you had to research and find and kind of analyze them and put things together."

This third phase of integration was also found in the discussion boards when a participant facilitator triggered the event. There were 154 such instances, and the researcher coded them SC-I. An example is when one participant wrote, ""I feel like science and music are the main components. It could certainly tie into other things, but I feel like that might be overwhelming for me and the students." During interviews,

participants did not comment on the integration phase when triggered by a participant facilitator.

Cognitive presence – resolution. The fourth and final stage of cognitive presence is resolution, and an indicator is "applying new ideas" (Akyol & Garrison, 2008, p. 4). There were 24 instances of the resolution phase of cognitive presence in the discussion boards when the instructor triggered the event. In all of the instances of resolution, the final product of the learning activity represented the resolution. This mainly occurred in the first two modules as the instructor was facilitator during those time periods. One example is when the final product file was posted, "Attachment: icaweb.docx (22.677 KB)". During interviews, the participants commented four times about the resolution phase of cognitive presence. One participant stated, "There was a final product."

When a participant facilitator began the triggering event, there were 93 instances of the resolution phase of cognitive presence. They were coded SC-R. All of them were found in Modules 3-7 when a participant facilitated. These instances occurred when a final (or thought to be final, until a minor edit occurred) draft of a product was posted. For example, a participant posted a product file like this, "Attachment: monsterexchange.docx (15.059 KB)." In interviews, participants did not specifically comment about the resolution phase of cognitive presence triggered by a participant facilitator.

Cognitive presence persona. The following persona was created from the participant data in this study course. The data sources were the eight participant interviews and the discussion boards from the four groups in this study. These data were

examined as a whole, grouped into themes, and then these themes were integrated into the persona that follows. The purpose of the persona is to share a typical participant experience in this study course.

Christina Higgins is a 28 year old teacher in a suburban school district who took EDIT 721 as her first online course. She taught in the lower grades for five years, and is now teaching in the upper grades at a different elementary school in the same district. Christina did not know what to expect when the online course started, but she was happy she didn't have to fight the traffic to campus and then stalk people for a parking spot in the student parking lot in order to attend class. She loved that she could do the class while doing laundry, and even could drive the four hours to her hometown to visit her family and attend her cousin's wedding for two weeks over the summer without missing class.

Christina felt that the course was organized well. She felt that moving from learning about a concept to using that knowledge to create a group project worked well. She thought that sometimes the module started with baby steps, but after a module or two, she knew they would get to the good stuff at the end when the group created their project since it was the same type of pattern each time. Christina thought that it became tiring to start every module with a reading. She liked learning about the concepts, but grew tired of the reading assignments since she likes being a much more active learner. Since the facilitator scheduled each week's work, Christina hoped that the reading part of the schedule would be short and the project part would be longer. Christina loved discussing the finer points of product creation with her group, especially when the group

explored other resources that could be valuable to their project and talked about them in the group discussion board. Her favorite part of the process was when her group talked about how to apply this concept to real life. That is when the project became real for her, since she likes real, practical, authentic things for the classroom and not theories for the classroom. Christina felt the most valuable concepts were the ones that became applicable practicalities in her classroom.

When Christina was the facilitator, she felt it was difficult to move on to the next stage of a project when group members didn't reply. She knew she had to just make a decision and move on, but she felt both guilty and frustrated; guilty that she had to ignore some group members, but frustrated that they hadn't replied in the times she specified in the learning schedule for the group. She wondered if the project could have been better if more group members contributed more frequently.

Summary

In this chapter, the data were presented in examination of participants' experiences of teaching presence, social presence, and cognitive presence in this study course. Data analysis was provided for interview data and discussion board data. Evidence was found in the course of teaching presence, social presence, and cognitive presence. In EDIT 721, since it was a participant facilitated course, there was evidence of participant as instructor teaching presence as well as participant as instructor cognitive presence. In addition, evidence of teacher social presence was found. In order to better illustrate the participants' experiences in this study course, and answer RQ1, RQ2, and RQ3, the two data sets provided the information needed for the creation of personas, one

for teaching presence, one for social presence, and one for cognitive presence. These personas were used to illustrate participants' experiences in EDIT 721 and provide a narrative to answer the research questions.

Chapter Five

In recent years, online learning has become a popular choice for learners. In the fall of 2012, there were a total of 7.1 million learners enrolled in at least one online course (Allen & Seaman, 2014). Although many learners take online courses, the experiences are not always positive. For example, studies have found that feeling of isolation due to lack of proper social interaction can be problematic for many learners (Blocher et al., 2002; Muilenburg & Berge, 2005).

In order to provide a better experience for online learners, it is necessary to begin where the course is created – in the design of the course itself. The course design influences the learning experience of learners (Norton & Hathaway, 2008). The design of the online experience is important, particularly in relationship to online presence. Online presence is based on the COI framework of Garrison et al. (2000) and has three elements: teaching presence, social presence, and cognitive presence. Online presence is defined as "the participants' [teacher and learner] ability to establish a sense of being in the virtual environment" (Irwin & Berge, 2006, p.2). According to Garrison et al. (2000), teaching presence is comprised of three elements. They are course design and organization, course facilitation, and direct instruction. Social presence is the ability of learners to project themselves as real people in an online learning environment. According to Garrison et al., the three elements of social presence are expressing emotions, risk-free expression, and

encouraging collaboration. Cognitive presence is how learners construct meaning through their conversations with others in an online environment (Garrison et al.). According to Garrison et al., there are four phases of cognitive presence: triggering event, exploration, investigation, and resolution.

This study examined participants' experience of online presence (teacher presence, social presence, cognitive presence) in a fully online course designed to be participant facilitated and product-oriented using a user experience research method. User experience "encompasses all aspects of the end-user's interaction with the company, its services, and its products" (Nielsen & Norman, n.d., n.p.). In this study, user experience refers to the experience of the participants in the online course. The persona method of user experience research was used to explain participants' experience of online presence (teacher presence, social presence, cognitive presence). The persona is based in real user data (Chang et al., 2008; Goodman et al., 2012; Grudin & Pruitt, 2002; Mulder, 2007; Pruitt & Grudin, 2003; Rohrer, 2014). In this study, the persona method is appropriate to describe the multiple experiences of all eight participants. The persona is based on the participants' words in interviews and their observed experiences in the discussion boards. The objective of the persona method in this study is to be able to focus on one persona in order to better understand the typical experiences of all participants in EDIT 721.

Data were collected through course observations of four online collaborative groups and post-course one-on-one interviews with eight participants. The observations of the online environment were the discussion board postings themselves. These observations served as examples of actual teaching presence, social presence, and

cognitive presence as they occurred. During the interviews, participants were asked to share their experiences of teaching presence, social presence, and cognitive presence in the course. Both sets of data were coded based on a coding system created by the researcher based on the literature. Emerging themes were coded and integrated into this original coding system. As part of the data analysis, researcher employed the persona method and created three personas, one for each of the three elements of presence, in order to illustrate the experience of the participants in this study.

Findings

Participants' experiences as a whole derived from the study findings:

- The participants experienced teaching presence, social presence, and cognitive presence.
- The participants enjoyed a positive online learning experience.

Participants' experiences in regards to teaching presence derived from the study findings:

- Participants experienced the element of teaching presence course design and organization through the schedule, learning activities, the course LMS (Blackboard), and the course design pattern.
- Participants experienced the element of teaching presence facilitation through timelines and managing assignments.
- Teaching presence facilitation was present in all groups. However, the instructor acted as facilitator for only the first two weeks of the course.

- Participants experienced the element of teaching presence direct instruction when the instructor gave feedback to the group or redirected their thinking in some way.
- Participants wanted the instructor to step into a facilitation role when needed, such as keeping group members on track.
- Participants experienced the element of teaching presence direct instruction through tips for successful online learning, instructor feedback on assignments, instructor comments as an expert in the content area, contact with the instructor, and extending thinking questions from the instructor.
- Participants wanted the instructor to provide more direct instruction and feedback as the content expert in the group project discussions.
- Teaching presence contained an atypical aspect due to the use of participant facilitators who played the discussion board facilitator role typically taken by an instructor.
- Participants experienced the element of teaching presence facilitation when a participant facilitated through timelines, mainly due dates and deadlines; and managing assignments, mainly compiling work, soliciting input, and coming to consensus.
- Participants experienced the element of teaching presence direct instruction when a participant facilitated through feedback, sometimes focusing on guidance or praise.

- Participants did not express any wanted teaching presence elements when a participant facilitated.

Participants' experiences with regards to social presence derived from the study findings:

- Participants experienced the element of social presence affective expression through humor (e.g. texting abbreviations, emoticons, jokes, hashtags, movie quotes), personal feelings and statements, netiquette, and online personality.
- Participants experienced the element of social presence open communication through feedback (solicitations, input, questions), apologies, acknowledgements (thanks, agreements), online relationships, and challenges in online communication.
- Participants experienced the element of social presence group cohesion through team bonding, teamwork, community building (getting to know each other and being a group).
- Participants expressed wanting more group cohesion activities, such as getting to know you activities, throughout the course and not just in the first week.
- Participants used outside of Blackboard means to contact each other. The Blackboard LMS did not meet their social presence needs.
- Teacher social presence was a theme that emerged in data analysis. Teacher social presence in this study course included jokes, personal statements, and emoticons.

- Participants expressed wanting more teacher social presence in the course, such as personal statements from the instructor to show that there is a real person teaching the online course building a personal connection with the participants.

Participants' experiences with regards to cognitive presence derived from the study findings:

- Cognitive presence's first phase of triggering event occurred as the task/activity was introduced to the group, however, the participants wanted the triggering event to be more interesting, engaging, and authentic in nature.
- Due to the fact that participants were facilitators, there were triggering events initiated by participants as well as the instructor.
- Cognitive presence's second phase of exploration occurred when participants researched and explored the topic posted by the instructor.
- Due to the fact that participants were facilitators, the exploration phase occurred when participants researched and explored the topic posted a participant facilitator.
- Cognitive presence's third phase of integration occurred when participants made connections about topic posted by the instructor.
- Due to the fact that participants were facilitators, the integration phase occurred when participants made connections about the topic posted by a participant facilitator.

- Cognitive presence's final phase of resolution was reached a smaller number of times compared to the number of triggering events.
- Resolution phases occurred each time there was a learning product to complete. The learning product was the resolution in this study.
- Both the instructor and participant facilitators facilitated the creation of learning products, which are the resolution phases in this study. The process and product were different based on the facilitator, whether it was a different participant or the instructor.

Discussion

The online course in this study, EDIT 721 - Web-Based Learning, was the third semester of five of the ITS cohort program. The other four semesters were all taught F2F and were comprised of a Wednesday night section and a Thursday section, therefore not all members of the cohort knew each other before the online semester. The course was housed in the university's Blackboard LMS, which was used for asynchronous communication. The course was designed with no synchronous communication tools. Participants were grouped together to work collaboratively to create products that demonstrated their understanding of course concepts. Each module was designed in a repeated pattern, which many of the participants commented on noticing during interviews. Interviews were conducted with course participants, not with the instructor and designer of the course. Therefore information about the basis for the design of the course, the overt and covert goals of the course, as well as the rationale of the design

decisions were not included in this study. Several themes impacted how participants experienced teaching presence, social presence and cognitive presence in this study.

Participants' experience of teaching presence. Teaching presence is comprised of course design and organization, course facilitation, and direct instruction (Garrison et al., 2000). Stavredes (2011) cautioned that instructors need to know in advance that their main duty is not direct instruction. She stated that facilitation of instruction and guiding learners were the main foci for instructors during an online course. However, Kupczynski et al. (2010) concluded that learners considered course design and organization aspects to be more valuable than course facilitation. Feedback is also an important part of direct instruction; Ice et al. (2007) concluded that audio feedback was an effective strategy for teaching presence.

In this study course, there was evidence of all three elements of teaching presence: course design and organization, course facilitation, and direct instruction. This course was designed to utilize the same instructional pattern in each module. This pattern started with knowledge building and progressed to creation of a product about the topic in that module. Part of the course design was to group participants homogenously, meaning, by assigned grade level in their professional life. For example, groups typically consisted of all secondary teachers or all elementary teachers so that the participants would be able to complete learning products together based on their shared teaching experience.

The course in this study differed from most courses in that the design employed participants in the role of facilitator. There is mention in the literature that it is acceptable to use learners as course facilitators (Garrison et al., 2000). Due to the inclusion of

participant facilitators, the teaching presence from the instructor diminished after the second week, most notably in the elements of facilitation and direct instruction. Instead, the role was filled by a participant facilitator, and evidence of participant as facilitator teaching presence was found in the course data. Although the teaching presence element of facilitation was present, the participants reported that they wanted more input, feedback, and subject matter expertise from the instructor in these participant facilitated modules. A recent study found that the primary wish of learners was that an online instructor be a teacher (Miller et al., 2014). Learners know their post are being read by the instructor when feedback is received (Fear & Erikson-Brown, 2014). It is also important to encourage learner reflection, promote relationships between learners, and further discussions to promote learning (Fear & Erikson-Brown). Participants in EDIT 721 seemed reluctant to release the instructor from these roles. Like in the Muilenburg and Berge (2005) study, participants in EDIT 721 seemed to prefer the assistance of the instructor over that of peers. Learners have been found to desire the content knowledge and expertise of the instructor (Lee, 2014). It is possible that this is due to legitimate peripheral participation as there were participants new to an online learning community who were increasing their participation as the course moved forward (Lave & Wenger, 1991). Further research would be needed to determine the reason(s) for participants' reported wishes for more involvement of the instructor.

The participants in this study did not find that the Blackboard LMS met their online presence needs. One thing that participants mentioned is the lack of immediacy in Blackboard, which is different from a F2F course, which follows with what Irwin and

Berge (2006) stated about learners' frustration with lack of F2F communication. Participants in EDIT 721 expressed a strong desire to get more and immediate feedback from the instructor. There are many ways in which an online instructor can provide feedback for learners. For example, Oomen-Early, Bold, Wiginton, Gallien, and Anderson (2008) supported the findings of Ice et al. (2007) in using asynchronous audio feedback. Oomen-Early et al. concluded that "asynchronous audio communication is an effective teaching tool that enhances instructor presence, student engagement, content knowledge, and overall course satisfaction" (p. 273).

Participants' experience of social presence. Social presence is the ability of learners to portray themselves socially and effectively as real people in the online environment (Garrison et al., 2000) and perception of social presence depends on how much social interaction is detected by the learners (Wei et al., 2012). Indicators of social presence include expressing emotions, risk-free expression, and encouraging collaboration (Garrison et al., 2000). Cobb (2009) concluded that social presence was a key element influencing learners' views about the quality of online learning. Therefore, social presence is an important part of the learners' experience. There was evidence of expressing emotions, risk-free expression, and encouraging collaboration in this study course.

Since this course was part of cohort program, the participants already had already been acquainted with about half their online discussion group during the previous two semesters. The only exception was Group 1, since two of the six group members were not in the cohort program. These previous F2F relationships impacted group

relationships. In addition, this cohort model allowed for the instructor to meet with all the participants F2F in the cohort program on the last day of the previous semester to explain the online semester in person. Both the F2F relationship and the cohort model impact presence in an online course (Lowenthal & Lowenthal, 2009).

The course design encouraged participants to collaborate on creating their own group name during the first week, which matches the advice of Caspi and Blau (2008) to instructors to promote a shared group identity. The design of this course also followed the advice of Pate et al. (2009) who suggested that social presence can be built into the course itself in lieu of building a separate space uniquely for social presence. In EDIT 721, the instructor provided the "Harp and Dwell" open-topic discussion board forum, but participants chose not to use it.

The LMS also impacted how the participants' experienced social presence. Due to the structure of the ITS cohort program, the participants were used to seeing each other for five hours a week during the previous two semesters and had developed F2F relationships. The LMS in EDIT 721 did not meet their needs to connect to each other as they had been accustomed. Seven of eight participants interviewed mentioned that they used immediate contact methods with other course participants, such as gchat and iMessage. The participants used other immediate response tools in everyday life and missed these communication features in the course. For example, Griffiths and Graham (2009) found that asynchronous video clips helped with immediacy. Other tool examples include texting, a group text app such as WhatsApp, or live video chat times. Similarly, these tools can be included to aide in the relationship for learners to other learners and

learners to the instructor. Griffiths and Graham (2009) and Griffiths and Graham (2010) also found that the asynchronous video clips aided the feeling of learner connectedness to the instructor.

In interview, two participants had strong views on their groups. According to the comments of Participant 6, her group (Group 1) was not a good one. She also shared that online course interactions were not for making friends, they were for learning. She expressed feelings of isolation and did not seem to like working with her group, notably the two non-cohort members. Participant 4 (Group 2) gushed over how much she enjoyed working with her group. She mentioned how she enjoyed texting and gchatting members of her group, as well as talking to them on Blackboard. However when examining the observational data, both Group 1 and Group 2 worked well together and completed all assignments and submitted all projects on time. The largest difference in observational data was that Group 1 had half as many social presence instances as Group 2. However, Group 4 had the lowest number of social presence instances of all four groups; however neither of the two participants interviewed from Group 4 had anything negative to say about the group.

In this study, the instructor did in fact design in several social presence aspects, as Participant 6 noted when she discussed creating a group name. However, the perception by Participant 6 was that the group was not very social, even though the social presence posts show that they were. This perception of Participant 6 did not match the data found by the researcher.

Teacher social presence was not included in the original writings of COI by Garrison et al. (2000). However, teacher social presence has been more prevalent in recent literature. Pollard et al. (2014) urged researchers to consider including social presence of the instructor as part of the COI. Wise et al. (2004) found that teacher social presence in an online one-to-one mentor relationship "increased the amount written by the students and influenced their perception of the instructor" (p.264). However, Wise et al. also concluded that teacher social presence had no effect on perceived learning, satisfaction, engagement, or the quality of the final course product" (p. 264). In contrast, Moore (2014) concluded that instructors needed to communicate with learners individually in order to prevent learner course failures. Instructors can communicate in many ways with learners. For example, teacher social presence can be examined in communications such as discussion boards and emails (Lowenthal & Lowenthal, 2010).

In interview, a participant in this study shared that knowing that the course instructor cared about the participants made a positive impact on participants caring about the course. This participant's view is consistent with Reupert et al. (2009) who wrote that learners need to have a personal relationship with the instructor in order to succeed in the course. Ice et al. (2007) found, among other things, that audio feedback was linked to learners having higher feelings of involvement. Ice et al. wrote that this feeling "is important because it reinforces the sense of community and perception of 'being there'" (p. 18). The researchers concluded that "developing this type of personal relationship with students in our asynchronous courses to be a compelling enough reason for its continued use" (p. 18). Also, their findings showed that audio feedback "related to

perceptions of increased caring on the part of the instructor" (p. 19). The researchers also wrote that this theme of perceived increased caring was evident that it was important enough to have increased satisfaction with the course and the course instructor. It is important to note that since that this course was a cohort taught by an instructor with whom the participants were already acquainted, the teacher social presence found in this course may have been impacted by previous F2F interactions.

Participants' experience of cognitive presence. The element of cognitive presence is how learners construct understanding and meaning through their reflections and their conversations with others in the online environment. Cognitive presence occurs in four phases: triggering event, exploration, integration, and resolution. Indicators of these phases are (in order) a sense of puzzlement, information exchange, connecting ideas, and application of new ideas (Garrison et al., 2000). Cognitive presence impacts both learners' satisfaction and learning (Akyol & Garrison, 2008). Darabi et al. (2011) recommended using authentic problems as the best way for cognitive presence to emerge. Rourke and Kanuka (2009) published a scathing review of the COI framework as developed by Garrison et al. (2000) and claimed that research studies have been unable to show definitive examples of cognitive presence. Rourke and Kanuka stated that "the review indicates that it is unlikely that deep and meaningful learning arises in CoI" (p. 19).

The participant facilitators impacted the participants' experience cognitive presence. The theme of participant as teacher cognitive presence was found in this study, since a participant was facilitating the cognitive presence, which is not typically found in

the literature. However, researchers found that high levels of cognitive presence in discussions which did not have a large level of in involvement from the instructor (Gašević, Adesope, Joksimović, & Kovanović, 2015). Gašević et al. (2015) concluded that using participant role assignments in discussions was still a viable way to create high cognitive presence. In addition, peer review activities can be cognitive presence (Nagel & Kotzé, 2010). However, this does not mean that the instructor should be absent. The literature recommends instructor scaffolding when needed for the learners to gain understanding of course content (Darabi et al., 2011; Garrison & Cleveland-Innes, 2005).

This study showed that the learning activities did come to cognitive presence resolution stage when the group completed the learning product to show their understanding of course concepts. This finding is in line with the 2009 study by Gorsky and Blau who found that "teaching presence, especially the category "facilitating discourse," seems to play a highly significant role in achieving and sustaining cognitive presence (i.e. learning)" (p. 16). One of the major controversies in the literature has been about the lack of resolution in cognitive presence. Kanuka, Rourke, and Laflamme (2007) found that cognitive presence in their study was low; it generally stopped at the exploration phases. Not once was the last phase of resolution achieved. They concluded that "highly structured, planned, confrontational and demanding activities that include directed roles and responsibilities for the students' contributions in the online classroom are key elements in moving students to higher levels of understanding and critical discourse" (pp. 268-269). This study course was designed for the group to submit a product to show their understanding, thereby reaching resolution phase. However, this

resolution phase, which was the submission of the learning product, was reached only a few number of times; just once for each time a product was completed. Compared to the number of times the other previous phases occurred, the resolution phase count was very low. The design of this course was discussion based with the resolution of the discussion as the learning product. The COI was intended for inquiry-based, not for product-based designs. Although there was one resolution per learning product created, the rest of the meaningful conversations in the discussion board did not meet the intended COI framework model. It should be noted that the study in this paper was not a study of a COI learning environment.

Recommendations

The findings in this study can be used as recommendations for practitioners as well as for future research.

Recommendations for practice. Based on the findings in this study, recommendations can be suggested for practice. Recommendations include:

- An online course instructor should be more engaged in group discussions when appropriate. In this study course, EDIT 721, a covert goal was that the participant learn online teaching skills, including facilitation. However, in other courses where learning to be an online instructor is not a goal, even when there is a participant facilitator, the instructor should participate in order to guide the group with content expertise. This is supported also by Moore (2014), who found a higher fail rate when instructors did not communicate with learners.

- Course designers should employ a pattern to organize the course structure of activities. The pattern should be predictable with no surprises from module to module.
- The communication tools selected for the course should be sufficient to meet the needs of the participants. Moore (2014) found that the more that learners interacted with each other, the higher the course pass rate. Moore suggested that instructors require more interactions and group assignments in online courses. Likewise, Moallem (2015) found that the more interactions and feedback there were in a course, the easier it was to form a learning community and reduce learners' sense of isolation. If a course LMS must be used, course designers and instructors should employ other tools such as synchronous chat and video chat as needed. Recent work by Ting, Wu, Kao, and Wang (2015) employed Facebook itself as the LMS. Designers should study how existing tools can be used to meet the needs of the learners.
- If a desired practice in the course is for immediacy of communication, other tools can be utilized in a course. For example, asynchronous video clips, texting, a group text app such as WhatsApp, or live video chat times.
- If a course designer or instructor intends for learners to reach the cognitive presence resolution stage, this research shows that one way to do it is to require a product of the group, managed by a facilitator (instructor or learner).
- To illustrate a typical participant experience, designers and instructors can employ a user experience research persona method. This method could be used by

designers and instructors when designing a course in order to provide for the needs of the learners.

Recommendations for future research. Based on the findings in this study, more questions have been raised that could be examined in future research. Recommendations include:

- Researchers could examine other course design models through the lens of online presence. Researchers could examine models such as a synchronous course design model, a blended model, or a one-to-one mentor mentee course design model.
- Researchers could compare participant experience of online presence in one design model to the participant experience of online presence in a different design model. Researchers could compare participant experience of online presence across several design models. Results from such studies would help course designers determine which model to use based on how they would like participants to experience online presence.
- Researchers could examine online presence in a course where participants and/or instructors have never met each other F2F. Researchers could determine if, and how, F2F meetings, the depth of F2F meetings, and/or the frequency of F2F meetings impact online presence.
- Researchers could examine online presence, and more specifically social presence, in different group composition. As the data from Group 1 suggests, there may be differences in social presence based on who is in the group. Group 1 differed from the others based on gender, level (elementary, middle school, high

school), and cohort membership. Research could be done to examine the impact of group composition on online presence.

- Researchers could examine aspects of one or more of the three online presences happening outside of the course itself. The participants and/or instructor could be interacting using other methods or tools, such as texting, email, Twitter, Facetime, Facebook, etc. These interactions are valuable data and could be examined for online presence.
- Researchers could examine the impact of the tool itself. A course could use another method of delivery, such as a different LMS or a website. Results from such a study would help course designers in selecting a tool for an online course.
- Researchers could examine the aspects of learners' experiences with F2F learning compared to virtual F2F learning. Data from such a study would help designers and instructors in creating course experiences to meet the needs of learners.
- Researchers could examine the aspects of learners' experiences with synchronous designs and/or tools compared to asynchronous designs and/or tools. Researchers could assist course designers and instructors to determine the impact of these designs and tools on learners' online experiences.
- Researchers could examine cognitive presence, especially the final phase of resolution, in an inquiry-based course design. Since the COI framework is meant for inquiry-based learning environments, results in a study in an inquiry-based environment may differ than other course environments, such as this one.

Similarly, the COI framework for cognitive presence could be modified to reflect non-COI learning environments.

- Researchers could use the user experience research persona method to explain the experience of online course participants by illustrating a typical participant experience. Using the persona method helps to visualize a learner's wants and needs, and would be a key element in the course design process.

Appendix A

IRB Approval

IRBNet Board Action

Karen Motsinger <no-reply@irbnet.org>

To: Priscilla Norton <pnorton@gmu.edu>; Rebecca Boyer <rboyer3@gmu.edu>;

6/12/2014

Please note that George Mason University IRB has taken the following action on IRBNet:

Project Title: [618184-1] How are Teaching Presence, Social Presence and Cognitive Presence Manifested in Two Different Online Course Design Models?

Principal Investigator: Priscilla Norton

Submission Type: New Project

Date Submitted: June 3, 2014

Action: EXEMPT

Effective Date: June 12, 2014

Review Type: Exempt Review

Should you have any questions you may contact Karen Motsinger at kmotsing@gmu.edu.

Thank you,

The IRBNet Support Team

www.irbnet.org

Appendix B

Interview Protocol

Thank you for meeting with me. Let me tell you more about my research. I am researching how online presence happens in different models of online learning. Online presence is about how we "exist" in an online learning course if we don't see each other face to face.

I am very much interested in your experiences in the two courses you completed over the summer for your ITS Master's program—the Desktop Publishing course and the Web-based Learning courses.

Before we begin, I have a consent form for you to read and sign.

-Participant read and signs-

Thank you. Let's get started!

I know [instructor name] was the instructor of the course on Blackboard. What kinds of things did [instructor name] do that made you believe there was a real person teaching the course?

Prompt with "what else" as needed.

Other possible prompts:

Did [instructor name] give feedback?

Did [instructor name] organize the course in any pattern that made it easy to follow?

Did [instructor name] tell you about upcoming events? help you stay organized?

In the mentor course, who was your mentor?

What kinds of things did [mentor names] do that made you believe there was an expert working with you?

In the Blackboard course, what were some challenges you faced in terms of being separated by time and distance from your instructor?

In the mentor course, what were some challenges you faced in terms of being separated by time and distance from your mentor?

I have the results from the survey. Item 6 stated "The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn."

For the Blackboard course about 42% of your classmates didn't agree, but answered "neutral" or "disagree". Why do you think almost half of your classmates answered in that way?

Item 11 stated "Instructor actions reinforced the development of a sense of community among course participants." For the mentor course, about HALF of the ITSers agreed. Why do you think so?

You've been studying about being a designer. If you were a designer of online courses, what design features would you include for showing that you exist as a teacher/instructor, that you are involved in the course?

Why?

How might you go about letting online learners know that you have content expertise and that you are the instructor of the course?

Let's talk about how people make themselves real in a virtual environment, meaning how to be a real person in an online course.

In the Blackboard course, did you feel like a real person?

What are some ways that you and others in the Blackboard course were made to feel like real people?

What about in the mentor course, did you feel like a real person?

What are some examples of ways you were made to feel real in the mentor course?

In the Blackboard course, what were some challenges you faced in terms of - feeling real or feeling like a real person?

What about in the mentor course, what were some challenges you faced in terms of feeling like a real person?

I have the results from the survey. The social presence items about other course participants gave a lot of "Neutral" or "disagree answers for the mentor course, about 50%-75% for those items.

Why do you think about half of your classmates answered in that way about other course participants in the mentor course?

In the Blackboard survey, just 35% of people agreed that "17. Online or web-based communication is an excellent medium for social interaction." Why do you think they answered like that?

Again, put on your designer hat. If you were a designer of online courses, what design features would you include for providing opportunities for course participants to feel real?

Why?

(If they do not mention "Harp and Dwell" bring it up)

Now I would like to know your thoughts about how you made meaning in the courses.

In the Blackboard course, what thinking activities were you provided to help you learn the course concepts?

Prompts: background building, authentic problems, group and individual activities

What about the mentor course - what thinking activities were you provided to help you learn the course concepts?

In the Blackboard course, what were some challenges you faced in terms of making meaning?

In the mentor course, what were some challenges you faced in terms of making meaning?

In the Blackboard survey results, the items that said "24. Problems posed increased my interest in course issues." and "25. Course activities piqued my curiosity." Those items only had about 35%-40% of people that agreed with them. But in the mentor course the agreement was 75%-80% Why do you think there was such a difference?

Again, put on your designer hat. If you were a designer of online courses, what design features would you include for making meaning?

Why?

Just in general - think about your experiences in the Blackboard course. What did you like or dislike about it?

Anything else?

What about the mentor course – what did you like or dislike about it?

Anything else?

What else would you like to share about the courses this summer?

What else that I didn't ask about online presence in each course that I should have?

(if they come up if with a question, prompt them to answer)

Anything else you would like me to know from your experiences in these courses?

(prompt: What else? As needed)

Thank you so much for your time. Your responses were valuable to me for my dissertation, and also to researchers everywhere about online presence and course design for all researchers.

Appendix C

Email to the Instructor of EDIT 721

Dear Instructor,

Would you please forward the following email to the students in your course? I am looking for volunteers to be interviewed about their experiences in EDIT 715 and EDIT 721. I will be using this data for my PhD dissertation work. The results of this study will help inform instructors and designers about issues with online presence and course design for future courses at the university.

I appreciate your participation in this study. If you have questions or comments, please contact me at rboyer3@gmu.edu

Thank you,

Rebecca Boyer, PhD Candidate

Dear Student,

As part of my doctoral dissertation, I am conducting a research study about online presence in the design of online learning environments. As a student in EDIT 715 I invite you to participate in this study by meeting with me for an interview. Your course instructor consented for me to contact you to request your participation.

There are no risks to you to participate in this study. Your responses will be kept confidential.

I would like to interview you about your experiences in this course. The interview will take about an hour. We will arrange a convenient time and place to meet. If you would like to be interviewed, please contact me at rboyer3@gmu.edu.

If you have questions about this study, please contact me at rboyer3@gmu.edu. You may also contact my dissertation advisor Dr. Priscilla Norton at pnorton@gmu.edu.

I thank you for your time and participation in this study.

Sincerely,

Rebecca Boyer

Appendix D

Informed Consent Form (Interview)

How are Teaching Presence, Social Presence and Cognitive Presence Manifested in Two Different Online Course Design Models?

INFORMED CONSENT FORM - INTERVIEW

RESEARCH PROCEDURES

This research is being conducted to study online learning environments. If you agree to participate, you will be asked to take part in an interview about 60 minutes in length. With your permission, this interview will be recorded for research purposes.

RISKS

There are no foreseeable risks for participating in this research.

BENEFITS

There are no benefits to you as a participant other than to further research in the field of online learning environments.

CONFIDENTIALITY

The data in this study will be confidential. Although interviews will be recorded and transcribed, personal information will be removed from interview transcripts and audio files will be stored on a password protected computer by the researcher. All audio files

will be destroyed 5 years after the study ends. Your name will not be included on collected data and pseudonym will be used to any study findings.

PARTICIPATION

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

CONTACT

This research is being conducted by Rebecca Boyer, PhD candidate in Learning Technologies Design Research, under the direction of Dr. Priscilla Norton, Learning Technologies Design Research, at George Mason University. Rebecca Boyer may be reached at (703) 869-7964 or rboyer3@gmu.edu for questions or to report a research-related problem. Dr. Norton may be reached at (703) 993-2015 or pnorton@gmu.edu. You may contact the George Mason University Office of Research Integrity & Assurance at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT

I have read this form, all of my questions have been answered by the research staff, and I

agree to participate in this study.

_____ I agree to audio taping.

_____ I do not agree to audio taping.

_____

Name

_____

Date of Signature

References

Adlin, T, & Pruitt, J. (2010). *The essential persona lifecycle: Your guide to building and using personas.* New York, NY: Elsevier.

Akyol, Z., Arbaugh, J., Cleveland-Innes, M., Garrison, D. R., Ice, P., Richardson, J., & Swan, K. (2009). A response to the review of the community of inquiry framework. *Journal of Distance Education, 23*(2), 123–136.

Akyol, Z., & Garrison, D. R. (2008). The development of a community of inquiry over time in an online course: Understanding the progression and integration of social, cognitive and teaching presence. *Journal of Asynchronous Learning Network*s, *12*(2-3), 3-23.

Akyol, Z., & Garrison, D. R. (2011). Understanding cognitive presence in an online and blended community of inquiry: Assessing outcomes and processes for deep approaches to learning. *British Journal of Educational Technology, 42*(2). 233–250. doi:10.1111/j.1467-8535.2009.01029.x

Akyol, Z., Vaughan, N. D., & Garrison, D. R. (2011). The impact of course duration on the development of a community of inquiry. *Interactive Learning Environments, 19*(3), 231-246. doi:10.1080/10494820902809147

Allen, I. E., & Seaman, J. (2010). *Class differences: Online education in the United States, 2010*. Newburyport, MA: Sloan Consortium.

Allen, I. E., & Seaman, J. (2014). *Grade change: Tracking online education in the United States*. Babson Park, MA: Babson Survey Research Group and Quahog Research Group.

Annand, D. (2011). Social presence within the community of inquiry framework. *International Review of Research in Open & Distance Learning, 12*(5), 40-56.

Aragon, S. R. (2003). Creating social presence in online environments. *New Directions for Adult and Continuing Education, 100*, 57-68. doi:10.1002/ace.119

Arbaugh, J. B., Cleveland-Innes, M., Diaz, S. R., Garrison, D. R., Ice, P., Richardson, J. C., & Swan, K. P. (2008). Developing a community of inquiry instrument: Testing a measure of the Community of Inquiry framework using a multi-institutional sample. *The Internet and Higher Education, 11*(3-4), 133-136. doi:10.1016/j.iheduc.2008.06.003

Arbaugh, J. B., & Hwang, A. (2006). Does "teaching presence" exist in online MBA courses? *Internet and Higher Education, 9*(1), 9-21. doi:10.1016/j.iheduc.2005.12.001

Baker, C. (2010). The impact of instructor immediacy and presence for online student affective learning, cognition, and motivation. *Journal of Educators Online, 7*(1), 1-30.

Bangert, A. W. (2008). The influence of social presence and teaching presence on the quality of online critical inquiry. *Journal of Computing in Higher Education, 20*(1), 34-61. doi:10.1007/BF03033431

Blignaut, A. S., & Trollip, S. R. (2003). Measuring faculty participation in asynchronous discussion forums. *Journal of Education for Business, 78*(6), 347-353. doi:10.1080/08832320309598625

Blocher, J. M., Sujo de Montes, L., Willis, E. M., & Tucker, G. (2002). Online learning: Examining the successful student profile. *The Journal of Interactive Online Learning, 1*(2), 1-12.

Blomquist, Å., & Arvola, M. (2002). Personas in action: Ethnography in an interaction design team. *Proceedings of the second Nordic conference on Human-computer interaction - NordiCHI 2002*. doi:10.1145/572020.572044

Bødker, S. (2000). Scenarios in user-centred design – Setting the stage for reflection and action. *Interacting with Computers, 13*(1), 61-75. doi:10.1016/s0953-5438(00)00024-2

Borup, J., West, R. E., & Graham, C. R. (2012). Improving online social presence through asynchronous video. *The Internet and Higher Education, 15*(3), 195-203. doi:10.1016/j.iheduc.2011.11.001

Bozarth, J., Chapman, D. D., & LaMonica, L. (2004). Preparing for distance learning: Designing an online student orientation course. *Educational Technology & Society, 7*(1), 87-106.

Bradford, P., Porciello, M., Balkon, N., & Backus, D. (2007). The Blackboard learning system: The be all and end all in educational instruction? *Journal of Educational Technology Systems, 35*(3), 301-314. doi:10.2190/X137-X73L-5261-5656

Bradley, J. (2009). Promoting and supporting authentic online conversations - which comes first - the tools or instructional design? *International Journal of Pedagogies & Learning, 5*(3), 20-31. doi:10.5172/ijpl.5.3.20

Capdeferro, N., & Romero, M. (2012). Are online learners frustrated with collaborative learning experiences? *International Review of Research in Open and Distance Learning, 13*(2), 26-44.

Caspi, A., & Blau, I. (2008). Social presence in online discussion groups: Testing three conceptions and their relations to perceived learning. *Social Psychology of Education, 11*(3), 323-346. doi:10.1007/s11218-008-9054-2

Chapman, C. N., & Milham, R. P. (2006). The persona's new clothes: methodological and practical arguments against a popular method. *Proceedings of the Human Factors and Ergonomics Society, 50th Annual Meeting, 50*(5), 634–636. doi:10.1177/154193120605000503

Chang, Y., Lim, Y., & Stolterman, E. (2008). Personas: From theory to practices. *Proceedings of NordiCHI*. 439-442. doi :10.1145/1463160.1463214

Charalambos, V., Michalinous, Z., & Chamberlain, R. (2004). The design of online learning communities: Critical issues. *Educational Media International, 41*(2), 135-143. doi:10.1080/09523980410001678593

Cleveland-Innes, M., & Campbell, P. (2012). Emotional presence, learning, and the online learning environment. *International Review of Research in Open and Distance Learning, 13*(4), 269-292.

Cobb, S. C. (2009). Social presence and online learning: A current view from a research perspective. *Journal of Interactive Online Learning, 8*(3), 241-254.

Cooper, A. (1999). *The inmates are running the asylum.* Indianapolis, IN: Sams.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*, 4th ed. Boston, MA: Pearson.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches,* 3rd ed. Washington, D.C.: Sage.

Darabi, A., Arrastia, M. C., Nelson, D. W., Cornille, T., & Liang, X. (2011). Cognitive presence in asynchronous online learning: a comparison of four discussion strategies. *Journal of Computer Assisted Learning, 27*(3) 216–227. doi:10.1111/j.1365-2729.2010.00392.x

Dirkx, J. M., & Smith, R. O. (2004). Thinking out of a bowl of spaghetti: Learning to learn in online collaborative groups. In T. S. Roberts (Ed.), *Online collaborative learning: Theory and practice* (pp. 132–159). Hershey, PA: Information Science Publishing.

Dunlap, J. C., & Lowenthal, P. R. (2014). The power of presence: Our quest for the right mix of social presence in online courses**.** In A.P. Mizell & A. A. Piña (Eds.), *Real life distance education: Case studies in practice*, (pp. 41-66). Greenwich, CT: Information Age Publishing.

Fayer, L. (2014). A multi-case study of student perceptions of online course design elements and success. *International Journal for the Scholarship of Teaching & Learning, 8*(1), 1-27.

Fear, W. J., & Erikson-Brown, A. (2014). Good quality discussion is necessary but not sufficient in asynchronous tuition: A brief narrative review of the literature. *Online Learning, 18*(2), 1-8.

Fried, J. (2007). Ask 37signals: Personas? Retrieved from http://www.37signals.com/svn/posts/690-ask-37signals-personas

Freydenson, E. (2002). Bringing your personas to life in real life. Retrieved from: http://boxesandarrows.com/archives/002343.php

Garrett, J. J. (2010). *The Elements of user experience: User-centered design for the web and beyond.* 2nd. ed.: Berkley, CA: New Riders.

Garrison, D. R., & Anderson, T. (2003). *E-Learning in the 21st century: A framework for research and practic*e. New York, NY: Routledge Falmer. doi:10.4324/9780203166093

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education, 2*, 87–105. doi:10.1016/S1096-7516(00)00016-6

Garrison, D. R., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. *The Internet and Higher Education, 13*(1), 5-9. doi:10.1016/j.iheduc.2009.10.003

Garrison, D. R., & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online learning: interaction is not enough. *American Journal of Distance Education, 19*(3), 133-148. doi:10.1207/s15389286ajde1903_2

Gašević, D., Adesope, O., Joksimović, S., & Kovanović, V. (2015). Externally-facilitated regulation scaffolding and role assignment to develop cognitive presence in asynchronous online discussions. *The Internet and Higher Education, 24*, 53-65. doi:10.1016/j.iheduc.2014.09.006

Goodman, E., Kuniavsky, M. & Moed, A. (2012). Observing the user experience: A Practitioner's guide to user research. [Science Direct digital version] Retrieved from: http://magik.gmu.edu/cgi-bin/Pwebrecon.cgi?BBID=3127986

Goodwin, K. (2008). Getting from research to personas: Harnessing the power of data. Retrieved from: http://www.cooper.com/journal/2008/5/getting_from_research_to_perso

Gorsky, P., & Blau, I. (2009). Online teaching effectiveness: A tale of two instructors. *International Review of Research in Open and Distance Learning*, *10*(3), 1-27.

Griffiths, M. E., & Graham, C. R. (2009). The potential of asynchronous video in online education. *Distance Learning*, *6*(2), 13-22.

Griffiths, M., & Graham, C. R. (2010). Using asynchronous video to achieve instructor immediacy and closeness in online classes: Experiences from three cases. *International Journal on E-Learning*, *9*(3), 325-340.

Grudin, J. & Pruitt, J. (2002). Personas, participatory design, and product development: An infrastructure for engagement. *Proceedings PDC 2002*, 144-161.

Gube, J. (2010, October 5). What is user experience design? Overview, tools and resources [Web log post]. Retrieved from http://www.smashingmagazine.com/2010/10/what-is-user-experience-design-overview-tools-and-resources/

Hall, A., & Herrington, J. (2010). The development of social presence in online Arabic learning communities. *Australasian Journal of Educational Technology*, *26*(7), 1012-1027.

Hathaway, D. M. (2009). *Assessing quality dimensions and elements of online learning enacted in a higher education setting* (Doctoral dissertation), George Mason University.

Heirdsfield, A.,Walker, S., Tambyah, M., & Beutel, D. (2011). Blackboard as an online learning environment: What do teacher education students and staff think? *Australian Journal of Teacher Education*, *36*(7), 1-16. doi:10.14221/ajte.2011v36n7.4

Hill, P. (2012). Online educational delivery models: A descriptive view. *Educause Review*, *47*(6), 84-86.

Hodges, C. B., & Cowan, S. F. (2012). Preservice teachers' views of instructor presence in online courses. *Journal of Digital Learning in Teacher Education*, *28*, 139-145. doi:10.1080/21532974.2012.10784694

Hosler, K., & Arend, B. (2012). The importance of course design, feedback, and facilitation: student perceptions of the relationship between teaching presence and cognitive presence. *Educational Media International*, *49*(3), 217-229. doi:10.1080/09523987.2012.738014

Huguet, M. P., & Wright, F. (2005). Designing for Teacher Presence, Re-thinking the Design of Online Courses. In P. Kommers & G. Richards (Eds.), *Proceedings of EdMedia: World Conference on Educational Media and Technology 2005* (pp. 1079-1083). Association for the Advancement of Computing in Education (AACE).

Ice, P., Curtis, R., Phillips, P., & Wells, J. (2007). Using asynchronous audio feedback to enhance teaching presence and students' sense of community. *Journal of Asynchronous Learning Networks*, *11*(2), 3-25.

Irwin, C., & Berge, Z. (2006). Socialization in the online classroom. *E-Journal of Instructional Science and Technology*, *9*(1), 1-7.

Jolivette, B. J. (2006) Social presence and its relevancy to cognitive and affective learning in an asynchronous distance learning environment: A preliminary literature review. *Academy of Human Resource Development International Conference,* 533–539.

Jones, I. M. (2011). Can you see me now? Defining teaching presence in the online classrooms through building a learning community. *Journal of Legal Studies Education*, *28*(1), 67-116. doi:10.1111/j.1744-1722.2010.01085.x

Journell, W. (2008). Facilitating historical discussions using asynchronous communication: The role of the teacher. *Theory and Research in Social Education*, *36*(4), 317-355. doi:10.1080/00933104.2008.10473379

Kanuka, H., Rourke, L., & Laflamme, E. (2007). The influence of instructional methods on the quality of online discussion. *British Journal of Educational Technology*, *38*(2), 260-271. doi:10.1111/j.1467-8535.2006.00620.x

Ke, F. (2010). Examining online teaching, cognitive, and social presence for adult students. *Computers & Education*, *55*(2), 808-820. doi:10.1016/j.compedu.2010.03.013

Kehrwald, B. (2008). Understanding social presence in text-based online learning environments. *Distance Education, 29*(1), 89-106. doi:10.1080/01587910802004860

Kupczynski, L., Ice, P., Wiesenmayer, R., & McCluskey, F. (2010). Student perceptions of the relationship between indicators of teaching presence and success in online courses. *Journal of Interactive Online Learning, 9*(1), 23-43.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* New York, NY: Cambridge University Press.

Lee, J. (2014). An exploratory study of effective online learning: Assessing satisfaction levels of graduate students of mathematics education associated with human and design factors of an online course. *The International Review of Research in Open and Distance Learning*, *15*(1), 1-23.

Lehman, R. M., & Conceição, S. C. O. (2010). *Creating a sense of presence in online teaching: How to "be there" for distance learners.* San Francisco, CA: Jossey-Bass.

Li, C., & Irby, B. (2008). An overview of online education: Attractiveness, benefits, challenges, concerns and recommendations. *College Student Journal*, *42*(2), 449-458.

Long, F. (2009). Real or imaginary: The effectiveness of using personas in product design. *Proceedings of the Irish Ergonomics Society Annual Conference*, Dublin, Ireland, 1-10.

Lowenthal, P. R., & Dunlap, J. C. (2010). From pixel on a screen to real person in your students' lives: Establishing social presence using digital storytelling. *The Internet and Higher Education*, *13*(1), 70-72. doi:10.1016/j.iheduc.2009.10.004

Lowenthal, A., & Lowenthal, P. R. (2009). Revisiting teaching presence: An analysis of teaching presence across discourse communities. In *annual meeting of the American Education Research Association, San Diego, CA.*

Lowenthal, D. A., & Lowenthal, P. R. (2010, April). *A mixed methods examination of instructor social presence in accelerated online courses*. Paper presented at the meeting of the American Psychological Association, Denver, CO.

Maier, R., & Thalmann, S. (2010). Using personas for designing knowledge and learning services: results of an ethnographically informed study. *International Journal of Technology Enhanced Learning*, *2*(1-2), 58-74. doi:10.1504/ijtel.2010.031260

Matthews, T., Judge, T., & Whittaker, S. (2012). How do designers and user experience professionals actually perceive and use personas? In J. A. Konstan, E. H. Chi, & K. Höök, (Eds.), *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Austin, TX,* 1219-1228. doi:10.1145/2207676.2208573

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach*, 3rd ed. Washington, D. C.: Sage.

McGinn, J. J., & Kotamraju, N. (2008). Data-driven persona development. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems,* 1521-1524. doi:10.1145/1357054.1357292

McGinn, J., & Kotamraju, N. (2008). Data-driven persona development. *Proceeding of the Twenty-Sixth Annual CHI Conference on Human Factors in Computing Systems - CHI '08*. doi:10.1145/1357054.1357292

McInnerney, J. M., & Roberts, T. S. (2004). Online learning: Social interaction and the creation of a sense of community. *Educational Technology & Society, 7*(3), 73-81.

Miller, M. G., Hahs-Vaughn, D. L., & Zygouris-Coe, V. (2014). A confirmatory factor analysis of teaching presence within online professional development. *Journal of Asynchronous Learning Networks*, *18*(1), 53-81.

Moallem, M. (2015). The impact of synchronous and asynchronous communication tools on learner self-regulation, social presence, immediacy, intimacy and satisfaction in collaborative online learning. *The Online Journal of Distance Education and e-Learning*, *3*(3), 55-77.

Moody, R. A., & Wieland, R. L. (2010). Using videoconferencing to establish and maintain a social presence in online learning environments. *Educational Considerations, 37*(2), 18-21.

Moore, J. (2014). Effects of online interaction and instructor presence on students' satisfaction and success with online undergraduate public relations courses. *Journalism & Mass Communication Educator, 69*(3), 271-288. doi: 10.1177/1077695814536398

Morgan, T. (2011). Online classroom or community-in-the making? Instructor conceptualizations and teaching presence in international online contexts. *Journal of Distance Education, 25*(1), 1-21.

Muilenburg, L.Y., & Berge, Z.L. (2005). Student barriers to online learning: A factor analytic study. *Distance Education, 26*(1), 29-48. doi:10.1080/01587910500081269

Mulder, S. (2007). *The user is always right: A practical guide to using personas for the web.* Berkley, CA: New Riders.

Mykota, D., & Duncan, R. (2007). Learner characteristics as predictors of online social presence. *Canadian Journal of Education, 30*(1), 157-170. doi:10.2307/20466630

Nagel, L., & Kotzé, T. G. (2010). Supersizing e-learning: What a CoI survey reveals about teaching presence in a large online class. *Internet and Higher Education, 13*(1-2), 45-51. doi:10.1016/j.iheduc.2009.12.001

Nasseri, S. (2014). How delivery modalities affect the students' academic achievement and their life plans. *ASEE Southeast Section Conference.* Retrieved from http://asee.cs.southern.edu/proceedings/ASEE2014/Papers2014/124sec.pdf

Nielsen, J. & Norman, D. (n.d.). The definition of user experience [Web log post]. Retrieved from http://www.nngroup.com/articles/definition-user-experience/

Nielsen, L. (2004). *Engaging personas and narrative scenarios* (Doctoral dissertation). Retrieved from http://personas.dk/wp-content/samlet-udgave-til-load.pdf

Ngoyi, L., Mpanga, S., & Ngoyi, A. (2014). The relationship between student engagement and social presence in online learning. *International Journal of Advances in Computer Science and Technology, 3*(4), 242-247.

Norton, P., & Hathaway, D. (2008). Exploring Two Teacher Education Online Learning Designs: A Classroom of One or Many? *Journal of Research on Technology in Education, 40*(4), 475-495. doi:10.1080/15391523.2008.10782517

Oomen-Early, J., Bold, M., Wiginton, K. L., Gallien, T. L., & Anderson, N. (2008). Using asynchronous audio communication (AAC) in the online classroom: A comparative study. *Journal of Online Learning and Teaching, 4*(3), 267-276.

Palmer, S., & Holt, D. (2010). Students' perceptions of the value of the elements of an online learning environment: looking back in moving forward. *Interactive Learning Environments, 18*(2), 135-151. doi: 10.1080/09539960802364592

Pate, A., Smaldino, S., Mayall, H. J., & Luetkehans, L. (2009). Questioning the necessity of nonacademic social discussion forums within online courses. *Quarterly Review of Distance Education, 10*(1), 1-8.

Pierce, R. (2013). Transforming interaction and social presence through course design: Authentic implementation of threaded discussion tools. *International Journal on E-Learning, 12*(3), 273-285.

Pollard, H., Minor, M., & Swanson, A. (2014). Instructor social presence within the community of inquiry framework and its impact on classroom community and the learning environment. *Online Journal of Distance Learning Administration, 17*(2), 41-52.

Pruitt, J., & Adlin, T. (2006). *The Persona lifecycle: Keeping people in mind throughout product design.* New York, NY: Morgan Kaufman.

Pruitt, J., & Grudin J. (2003). Personas: Practice and theory. *Proceedings of the 2003 Conference on Designing for User Experience*, (pp. 1-15). New York, NY. ACM Publishing. doi:10.1145/997078.997089

Reupert, A. E., Maybery, J. D., Patrick, K., & Chittleborough, P. (2009). The importance of being human: Instructors' personal presence in distance programs. *International Journal of Teaching and Learning in Higher Education, 21*(1), 47-56.

Richardson, J. C., Koehler, A. A., Besser, E. D., Caskurlu, S., Lim, J., & Mueller, C. M. (2015). Conceptualizing and investigating instructor presence in online learning environments. *International Review of Research in Open and Distributed Learning, 16*(3). 256-297.

Robb, C. A., & Sutton, J. (2014). The importance of social presence and motivation in distance learning. *The Journal of Technology, Management, and Applied Engineering, 31*(2), 1-10.

Roberts, T. S. (2005). Computer-supported collaborative learning in higher education: An introduction. In T. S. Roberts (Ed.), *Computer-supported collaborative learning in higher education* (pp. 2–3). Hershey, PA.: Information Science Publishing.

Roberts, T. S., & McInnerney, J. M. (2007). Seven problems of online group learning (and their solutions). *Educational Technology & Society, 10*(4), 257–268.

Rohrer, C. (2014, October 12). When to use which user-experience research methods [Web log post]. Retrieved from http://www.nngroup.com/articles/which-ux-research-methods/#

Rönkkö, K., Hellman, M., Kilander, B., & Dittrich, Y. (2004). Personas is not applicable: Local remedies interpreted in a wider context. In A. Clement, & P. Besselaar, (Eds.), *Proceedings of the eighth Participatory Design Conference, Toronto, Canada, Vol. 1, (*pp. 112–120). doi: 10.1145/1011870.1011884

Rourke, L., & Kanuka, H. (2009). Learning in communities of inquiry: A review of the literature. *Journal of Distance Education, 23*(1), 19−48.

Shea, P., & Bidjerano, T. (2009a). Cognitive presence and online learner engagement: a cluster analysis of the community of inquiry framework. *Journal of Computing in Higher Education, 21*, 199–217. doi:10.1007/s12528-009-9024-5

Shea, P., & Bidjerano, T. (2009b). Community of inquiry as a theoretical framework to foster ‘‘epistemic engagement” and ‘‘cognitive presence” in online education. *Computers & Education, 52*, 543-553. doi:10.1016/j.compedu.2008.10.007

Shea, P., & Bidjerano, T. (2010). Learning presence: Towards a theory of self-efficacy, self-regulation, and the development of a communities of inquiry in online and blended learning environments. *Computers & Education, 55*(4), 1721-1731. doi:10.1016/j.compedu.2010.07.017

Shea, P., & Bidjerano, T. (2012). Learning presence as a moderator in the community of inquiry model. *Computers & Education, 59*(2), 316-326. doi:10.1016/j.compedu.2012.01.011

Shea, P., Hayes, S., Smith, S. U., Vickers, J., Bidjerano, T., Pickett, A., & Jian, S. (2012). Learning presence: Additional research on a new conceptual element within the Community of Inquiry (CoI) framework. *The Internet and Higher Education, 15*(2), 89-95. doi:10.1016/j.iheduc.2011.08.002

Shea, P., Hayes, S., Vickers, J., Gozza-Cohen, M., Uzuner, S., Mehta, R., & Rangan, P. (2010). A re-examination of the community of inquiry framework: Social network and content analysis. *The Internet and Higher Education, 13*(1), 10-21. doi:10.1016/j.iheduc.2009.11.002

Shea, P., Li, C. S., & Pickett, A. (2006). A study of teaching presence and student sense of learning community in fully online and web-enhanced college courses. *Internet and Higher Education, 9*, 175-190. doi:10.1016/j.iheduc.2006.06.005

Singh, P., & Pan, W. (2004). Online education: lessons for administrators and instructors. *College Student Journal, 38*(2), 302-308.

Sinha, R. (2003). Persona development for information-rich domains. In *CHI'03 extended abstracts on Human factors in computing systems, 2*, 830-831. doi:10.1145/765891.766017

So, H. J. (2009). When groups decide to use asynchronous online discussions: collaborative learning and social presence under a voluntary participation structure. *Journal of Computer Assisted Learning, 25*(2), 143-160. doi:10.1111/j.1365-2729.2008.00293.x

Soylu, F. (2009). Designing online learning communities: Lessons from Ekşisözlük. *European Journal of Open Distance and E-Learning, 12*(2). Retrieved from http://www.eurodl.org/?p=archives&year=2009&halfyear=2&article=366

Stavredes, T. (2011). *Effective online teaching: Foundations and strategies for student success.* San Francisco, CA: John Wiley & Sons.

Swan, K., & Shih, L. F. (2005). On the nature and development of social presence in online course discussions. *Journal of Asynchronous Learning Networks, 9*(3), 115-136.

Ting, I. H., Wu, W. J., Kao, H. T., & Wang, D. (2015). An Implementation of online learning and course management system based on Facebook. In L. Uden, D. Liberona, & T. Welzer (Eds.), *Learning Technology for Education in Cloud* (pp. 208-218). New York, NY: Springer International Publishing. doi:10.1007/978-3-319-22629-3_17

Taylor, J. C. (2001). Fifth generation distance education. Paper presented at the *20th ICDE World Conference on Open Learning and Distance Education*, Düsseldorf, Germany.

USA Group Noel-Levitz, I. A. (2005). National Online Learners Priorities Report. 2005 Research Report. Online Submission, ERIC, EBSCOhost Retrieved from http://eric.ed.gov/?id=ED490032

Vacek, R. (2014) President's message: UX thinking and the LITA member experience. *Information Technology & Libraries, 33*(3), 1-4. doi:10.6017/ital.v33i3.5666

Wei, C., Chen, N., & Kinshuk (2012). A model for social presence in online classrooms. *Education Technology Research Development, 60*(3), 529-545. doi:10.1007/s11423-012-9234-9

Whiteside, A., Garrett Dikkers, A., & Lewis, S. (2014). The power of social presence for learning, *EDUCAUSE Quarterly*, Retrieved from

http://www.educause.edu/ero/article/power-social-presence-learning?utm_source=Informz&utm_medium=Email+marketing&utm_campaign=EDUCAUSE

Wise, A., Chang, J., Duffy, T., & del Valle, R. (2004). The effects of teacher social presence on student satisfaction, engagement, and learning. *Journal of Educational Computing Research, 31*(3), 247-271. doi:10.2190/V0LB-1M37-RNR8-Y2U1

Yukselturk, E. (2009). Do entry characteristics of online learners affect their satisfaction? *International Journal on E-Learning, 8*(2), 263-281.

Biography

Rebecca R. Boyer is a native of Buffalo. New York. She received her Bachelor of Arts from Nazareth College in 1998 and her Master's in Education from George Mason University in 2004. She has been employed by Fairfax County Public Schools as a teacher, technology specialist, and application specialist.