FACULTY PERSPECTIVES AND PRACTICES OF SOCIAL PRESENCE IN ONLINE POST-SECONDARY LEARNING ENVIRONMENTS

A Dissertation

SUBMITTED TO THE FACULTY OF THE

UNIVERSITY OF MINNESOTA

BY

Julie Ann Smith

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

DOCTOR OF EDUCATION

Joyce Strand, Ph.D., Adviser

April 2018

Acknowledgements

This dissertation would not have been able without my patient adviser, Dr. Joyce Strand, who continued to support me throughout the years and help me to finally finish this research project. The last three years of trying to finish my dissertation included the caregiving to my mother and father. My father spent over two years in assistive care at the end of battling a long war with Alzheimer's. He needed my mother's help and she needed mine. This, and a concurrent divorce to my husband of 23 years, prolonged my ability to complete the writing of this dissertation, thus a long time had passed since the literature review.

Many thanks go to my committee and doctoral chair who patiently provided me excellent advice in educational theory, interview and survey questionnaire revisions and/or dissertation guidance: Drs. Helen Mongan-Rallis, Craig Stroupe, Terrie Shannon, and Linda Deneen, and Chair Dr. Frank Guldbrandsen. Acknowledgements also go out to the faculty survey respondents and interviewees. Without their volunteer time, participation, and input, I would not have results to advance the study of social presence in the Community of Inquiry model. Additional thanks go to the faculty and staff and my cohort of the Education Doctorate in Teaching and Learning program at the University of Minnesota Duluth in the College of Education and Human Service Professions. Last but not least, is acknowledgement for the vast base of research on the Community of Inquiry framework originated by Drs. Garrison, Anderson, and Archer and its open understanding of its evolving structure as online learning continues to transcend traditional education.

Dedication

This paper is dedicated to my mother, Esther E. Filson, and my father, Gerald H. Filson. Gerald sadly passed away a year before I was able to finish this research dissertation. My parents' love and support for me throughout my life is a precious gift in which I am truly grateful.

Abstract

This study explored the almost 20-year-old Community of Inquiry (CoI) social presence construct through faculty's perspectives and practices of their online teaching. Social presence has many CoI-identified characteristics, but overall it is the ability of a student to project their persona into the classroom. The preponderance of investigation has been on the other two CoI constructs, teaching and cognitive presences. Questions have arisen whether social presence is even necessary or achievable in online learning. This research was to provide more insight on the importance of online social presence and its characteristics in the online learning environment. The investigation invited faculty of a Midwestern university who teach solely online courses to share their perspectives on and practices supporting social presence. Methodology employed was inquiry-based, qualitative research utilizing survey and interview questionnaires. The sample consisted of 62 survey respondents and six interviewees.

Data and information gathered were survey respondents' demographics, type and sizes of courses they taught, and responses to qualitative and Likert-scaled questions, as well as interviewees' qualitative responses. These findings were analyzed using descriptive statistics, Pearson correlations, and qualitative information review to find patterns to help answer the research questions. From the survey data, significant Pearson Correlations were present related to very small (less than 21 students) and very large classes (over 80 students). Most social presence CoI characteristics were rated at least important to extremely important by over 50% of the faculty responses. Only two characteristics rated mostly somewhat important or not important.

From the survey and interview responses, patterns arose that social presence is contextually important and can be impacted by class size, instructor course design, the course level (undergraduate versus graduate), subject matter, student's self-regulate learning, and the amount of time and resources allotted to the instructor. A few survey responses stated that social presence is not at all important. Interviewees relayed that online social presence can be just as important as it is in face-to-face courses for learning outcomes. This investigation warrants more social presence research regarding class size and level, subject matter, institutional supports, instructor course design, student self-learning abilities, and CoI construct-to-construct impacts.

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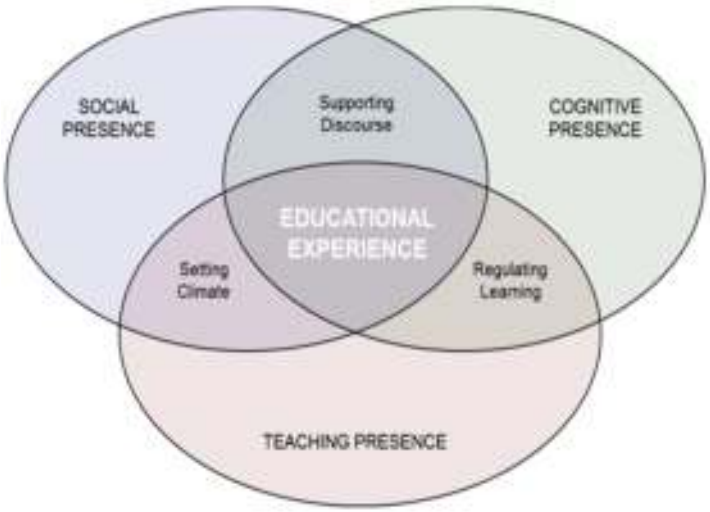
CHAPTER 1. INTRODUCTION

Introduction and Background

Online learning environments have been infiltrating higher education since the popularization of the Internet through the World Wide Web in the 1990s, however, educators continue to question the quality of online education. Research on evaluation tools to measure quality online learning are still relatively in their infancy. This research study analyzed one such evaluation tool called the Community of Inquiry (CoI) and its constructs of teaching, cognitive, and social presences with a focus on social presence in online post-secondary learning environments.

Figure 1. Community of Inquiry Framework



From D.R. Garrison, T. Anderson, and W. Archer, W., 2010, "The first decade of the community of inquiry framework: A retrospective," p. 6, *Internet and Higher Education, 13*, 5–9.

The CoI framework (as shown in Figure 1) was introduced by Garrison, Anderson, and Archer in 2000. The CoI survey was validated by multiple research studies: Swan and Shih (2005) regarding social presence survey questions; Arbaugh and Hwang (2006) regarding teaching presence survey questions; Garrison, Cleveland-Innes,

and Fung, (2004) regarding cognitive presence survey questions; and the entire survey in 2008 by two research groups (Arbaugh et al., 2008; Swan et al., 2008). The CoI framework and survey have been utilized to evaluate online learning in research and practice for almost two decades, and in 2009 the CoI framework had already been involved in over 250 research studies worldwide based on Rourke and Kanuka's 2009 award winning paper that conducted a critical review of published CoI research. However, Rourke and Kanuka's paper relayed their criticism as to its inability to evaluate deep and meaningful learning in an online learning environment. Even with this criticism, the CoI framework and survey continue to be utilized and researched and validated (Akyol et al., 2009; Arbaugh et al., 2008; Barber, 2011; Jézégou, 2010; Kawachi, 2011; Swan, Matthews, Bogle, Boles, & Day, 2012; Swan, Shea, Richardson, Ice, Garrison, Cleveland-Innes, & Arbaugh, 2008).

Evaluations and assessments of online learning are needed in post-secondary education to help validate this relatively new form of learning in institutions where face-to-face education has been prominent for hundreds of years. The history of correspondence schools and distance learning has been one relatively absent in U.S. brick and mortar classrooms. However, with the evolution of Internet and mobile technologies, distance education has transformed online, which now has been embraced by many brick-and-mortar post-secondary educational institutions. According to Allen and Seaman's (2013, 2016) studies, U.S. higher education has increasingly been offering fully online courses or courses with a mix of face-to-face and online activities (i.e., hybrid courses). The rate has also increased of the numbers of post-secondary institutional offerings of

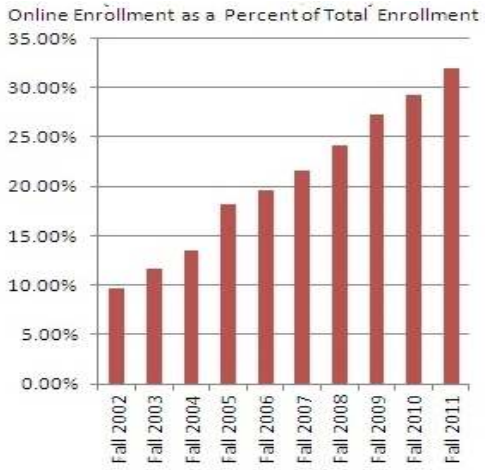
fully online programs (Allen & Seaman, 2013, 2016). In fact, for higher education, online learning enrollment has continued to increase in the last thirteen years where traditional face-to-face enrollments are leveling and in some cases beginning to decline (Allen & Seaman, 2013, 2016, 2017; National Student Clearinghouse, 2012).

U.S. college and university offerings of online courses is a relatively new field of research. Issues of misalignment are emerging between the increasing adoption of online courses and programs with the institutional strategic goals and faculty acceptance of online learning in U.S. colleges and universities (Allen & Seaman, 2013, 2016). The ten year survey conducted by Allen and Seaman (2013) reported a steady increase in online enrollments (Figure 2); however their results also conveyed a decreasing rate of faculty acceptance of online learning, specifically between 2011 and 2012. Furthermore, in the last ten years of their study results, higher education chief academic officers (CAOs) have increasingly stated that online learning is critical for their institutional strategy; but problematically, online learning tends to be missing in formally adopted strategic plans (Allen & Seaman, 2013). Their 2016 report has also confirmed this trend in public post-secondary institutions of increasing online enrollments, but an overall decline in faculty online learning buy-in and lack of institutional strategizing regarding online courses and programs (Allen & Seaman, 2016).

For higher education to fully employ successful online learning environments, faculty's low level of acceptance of online learning and the absence of online learning from strategic plans need to be identified as problems. These issues could partially be addressed through evaluating and assessing online learning to determine whether or not

deep and meaningful learning takes place online, particularly in an environment that is not face-to-face, where seemingly limited communications occur between students and teachers and students and students.

Figure 2. Percent Growth Rate of Students Learning Online



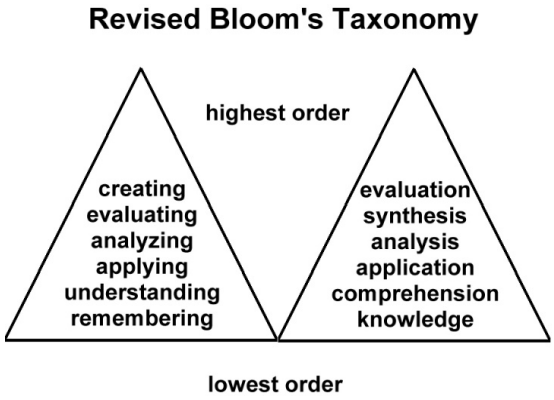
Adapted from I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States," Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

Robust evaluation tools of online learning environments are needed, and one such tool is the CoI framework that has been heavily studied for more than a decade and continues to be used in research and teaching. For example, Garrison et al. (2001) discussed the purpose of the framework as a way to help determine if "deep and meaningful understanding" (p. 2) takes place in an online or hybrid learning environment. Deep and meaningful understanding or learning has been a focus of other research articles (Anderson et al., 2001). However, the definition of deep and meaningful learning has not been fully operationalized by educational researchers. Michael Fullan, a leading,

and world-renowned, educational reformist and researcher, had written a white paper with Maria Langworth entitled, "Towards a New End: New Pedagogies for Deep Learning" (2013), where they have sought to operationalize "deep learning" (p.2) in their studies.

Research on deep and meaningful learning has a foundation in Bloom's Taxonomy. Anderson et al. (2001) revised Bloom's taxonomy (Figure 3) to reflect higher cognitive orders through action verbs (Atherton, 2010; Anderson & Dron, 2012; Krathwohl, 2002; Munzenmaier & Rubin, 2013). These researchers defined deep and meaningful learning through the use of the revised taxonomy.

Figure 3. Revised Bloom's Taxonomy 2001



Retrieved from http://www.learningandteaching.info/learning/bloomtax.htm

For this research the definitions of deep learning and meaningful learning were defined as follows:

> Deep learning is when students engage in non-surface level learning, which can be active, learner-centered activities providing levels of meaning and understanding applicable to their lives (Garrison & Cleveland-Innes, 2005; Tagg,

2003).

> Meaningful learning is accomplished "when the learner chooses consciously to integrate new knowledge to knowledge that the learner already possesses" (Novak, 2002, p. 549).

Furthermore, the social presence definition employed by Garrison, Anderson, and Archer (2000) was also utilized:

> Social Presence is defined as “the ability of learners to project their personal characteristics into the community of inquiry, thereby presenting themselves as 'real people'” (Communities of Inquiry, https://coi.athabascau.ca/coi-model/description-social-presence/, para 1).

These definitions relay the importance of social constructivism and student-to-teacher and student-to-student communications and interactions as necessary aspects in a successful online learning environment. As Garrison (2011) had stated, "discounting social presence is to discount the importance of critical discourse in a connected, knowledge-based society" (Garrison, 2011, p. 251). Because of this, the CoI framework construct of social presence was the core of this investigation.

This research studied the perspectives of faculty at a Midwestern U.S. university who teach online courses using a social presence construct, whether or not they directly or unknowingly utilize the CoI social presence construct as defined by Garrison, Anderson, and Archer (2000). From analyzing the faculty perspectives and practices of the social presence construct, this study also tried to determine if deep and meaningful learning can arise from using a social presence construct in the online learning environment.

This paper provides a literature review on the history and trends of online learning in the context of U.S. post-secondary educational institutions, CoI, and deep and

meaningful learning. It also reports on the methodology employed, research findings, and conclusions. The following sections of this chapter elaborate on the problem studied, purpose of investigation, and rationale and significance for conducting this study on the CoI framework. The research goals and questions and definitions of terms conclude this chapter.

Statement of the Problem

The problem is that few measures exist to evaluate the rigor of online learning environments to uphold formal post-secondary educational goals (Arbaugh, 2007). The CoI framework, encompassing a teacher, social, and cognitive presence construct, is one that has been utilized in practice and research for over a decade (Garrison, 2012). It continues to be a focus of research and is being regularly used in teaching and learning. However, this framework has not been immune to scrutiny. Criticism exists as to the need for a social presence construct for distance learning and whether this framework can make conclusive evaluative statements of what level of learning takes place in fully online learning contexts, such as the work from Annand (2011) and Rourke and Kanuka (2009). In addition, other studies, such as Guri-Rosenblit and Gros' (2011), have deduced that too much online learning research is centered on the student with an exaggerated view of self-directed learning abilities by the students.

Purpose of the Study

The purpose of this research was to gain an understanding of social presence in higher educational online courses and its importance in the learning process. This inquiry was through the perspectives and practices of faculty who integrated social presence in

their online learning environments whether or not they were directly or unknowingly using the CoI framework's social presence construct. CoI has almost 20 years of research analyzing its constructs (Garrison, 2012), however further study is recommended to fully understand the need and use of its constructs, especially the social presence (Annand, 2011; Shea, 2006; Swan & Ice, 2010).

The purpose of this research was to shed light on successful learning in online, academic environments, specific to the CoI framework and its three constructs: Teaching, cognitive, and social presences, and most importantly what part social presence has to play in online deep and meaningful learning. CoI is in need of this further evaluation due to criticism such as by Rourke and Kanuka (2009) and their recommendation encouraging "more substantial studies of learning in CoI" (p. 44). A more recent criticism of the framework was undertaken by Annand (2011) where the social presence construct was specifically criticized: "This research [CoI] needs to be reevaluated to more clearly determine the relative influence of group-based social presence categories on the [online] learning process" (para. 31).

The CoI framework also has many proponents advocating the use of CoI for evaluating online learning as well as needing more social presence understanding and research (Shea, 2006; Swan & Ice, 2010). The framework and survey have been revised, showcasing it as a work in progress, but worthy of attention. This study included other recommendations from articles that highlighted CoI as helpful in evaluating online and blended learning (Akyol et al., 2009; Barber, 2011; Jézégou, 2010; Kawachi, 2011;

Swan, Matthews, Bogle, Boles, & Day, 2012).

Significance and Rationale

A need to study this phenomena is based on Allen and Seaman's (2013 & 2016) investigations resulting in increased rates of online courses and enrollment through the years in public education, but a low rate of faculty confidence, as well as, a lack of institutional strategies for online growth. The significance of this study was to further investigate and understand the social presence construct in the context of post-secondary online educational learning environments through the perspectives and practices of faculty. By doing this, post-secondary educational institutions may be provided more knowledge on how to understand the importance of social collaborations in obtaining higher cognitive outputs, and deep and meaningful learning environments. This study tried to help refine and/or help validate CoI as an evaluation tool for online learning. The results of this study may also be able to assist in institutional and faculty buy-in on the merits of online learning and a social presence construct.

The rationale for choosing the CoI framework for investigation was because of a long history of published research studies analyzing CoI. The CoI framework originated in 2000 and the CoI survey (Appendix A) was introduced later and validated in 2008 (Arbaugh et al., 2008; Swan et al., 2008). The framework has been employed by researchers and practitioners for almost two decades with the survey utilized and revised. For instance, over 250 research studies had used the CoI framework in their studies as reported through Rourke and Kanuka's (2009) review of the CoI literature from 2000-

2008.

Another rationale for investigating CoI was that it is an evaluation tool focusing on deep and meaningful learning. Garrison et al. (2000) discussed the purpose of the framework as a way to help determine if critical discourse can take place in a less formal online learning environment. Traditional U.S. post-secondary educational institutions are incorporating varying online technologies as well as informal learning in their formal classrooms (Ravenscroft et al., 2012). Online course and program offerings in the U.S. have increased each year in public higher education (Allen & Seaman, 2013, 2016, 2017). More and more students are also choosing online courses for their post-secondary degree programs (Allen & Seaman, 2013, 2016; Barnard, Paton, & Rose, 2007). However, issues are arising that oppose online learning adoption, such as Allen and Seaman's (2013, 2016) studies reporting low rates of faculty acceptance. Another issue to overcome online learning fears is that attrition rates have been usually higher in online courses than in traditional U.S. face-to-face classrooms (Allen & Seaman, 2013; Boston & Ice, 2011). Paradoxically online learning is also usually not directly addressed in college and university strategic plans even with the growing adoption of online courses (Allen & Seaman, 2013, 2016).

Further rationale and significance of this study was to help understand the depth and meaningfulness of online learning that may benefit both the traditional and nontraditional student. Even with preferences for online adoption in higher education, the need persists to offer quality online learning options for nontraditional students. Studies reported online learning can be very successful for specific students. For

example, Pontes, Hasit, Pontes, Lewis, and Siefring (2010) reported online course alternatives have aided in course and degree completion especially for working adults with families and those with mobility disabilities. Additionally, the history of distance education provides alternative forms of learning was partially created based on the need for education to reach rural, poor, disadvantaged students (Zucker, 2008).

The need exists to evaluate online learning in higher education, but this is difficult without a valid framework. To further study an existing and popular evaluation framework for online learning, such as CoI, may assist in affirming and developing ways to evaluate online learning. The teaching and cognitive presences have been widely researched, however the social presence construct has not and controversy exists, where more research has been advocated (Annand, 2011; Morris, 2011; Shea, 2006; Swan & Ice, 2010). The next sections list the research goals and questions, concluding with the study's definition of terms.

Research Goals and Questions

The research goals and questions were derived from the literature and addressed the study's problem statement. These goals and questions follow.

Research Goals

Through the context of a university online learning environment, the goals of this research were to seek understanding of

1. the social presence construct characteristics, and,
2. how to maximize social presence.

Research Questions

1. What describes the social presence construct in an online learning environment in higher education?
2. What are overlapping characteristics of the social presence construct with teaching presence and cognitive presence constructs in an online learning environment in higher education?
3. What practices can be employed to maximize the benefits of the social presence construct in an online learning environment in higher education?
4. What are successful outcomes of maximizing the benefits of the social presence construct in an online learning environment in higher education?

Definition of Terms

Cloud Computing. "Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction." (National Institute of Standards and Technology, 2011, p. 2)

Cognitive Presence. This is defined as "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication" (Communities of Inquiry, https://coi.athabascau.ca/coi-model/description-cognitive-presence, para 1).

Deep Learning. Deep learning is when students engage in non-surface level learning, which can be active, learner-centered activities providing levels of meaning and understanding applicable to their lives (Garrison & Cleveland-Innes, 2005; Tagg, 2003).

Distance Education. Distance education as stated by Sherry (1996, para. 5) is "the separation of teacher and learner in space and/or time (Perraton, 1988), the volitional

control of learning by the student rather than the distant instructor (Jonassen, 1992), and noncontiguous communication between student and teacher, mediated by print or some form of technology" (Keegan, 1986; Garrison and Shale, 1987).

Flipped Classroom. A flipped classroom "relies on technology to introduce students to course content outside of the classroom, so that students can engage that content at a deeper level inside the classroom" (Strayer, 2012, p. 171). Lecture material does not necessarily require the presence of the instructor, so students review recorded and digital lecture files outside of class on their time; then discussion and activities of the lecture materials are conducted in the classroom with other students and the instructor.

Hybrid Learning. This learning environment helps alieve seat time in classroom and entails face-to-face and online activities to help enhance the learning environment (Solomon & Schrum, 2010; Watson, 2008).

Learning (or Course) Management Systems. A learning management system involves Internet-based applications to manage users, course materials, administration, and communications involving instructors, students, guests, and/or designers (Barchino, Gutiérrez, & Otón, 2005).

Massive open online course (MOOC) is where a large number of students voluntarily participate in an online course for no fee to network and collaborate in content construction utilizing various online technologies synchronously and asynchronously. MOOCs are based on a constructivist approach and may change the traditional teacher-student roles (Thompson, 2011).

Meaningful learning. Meaningful learning is accomplished "when the learner

chooses consciously to integrate new knowledge to knowledge that the learner already possesses" (Novak, 2002, p. 549).

Online Learning. This is the utilization of various technologies and media for educational purposes, many of which are interactive and reside on the World Wide Web (Clark & Mayer, 2011).

Social Networking. Social networking entails communications through electronic and Internet tools that connect users for cooperating and collaborating for information-sharing in online communities (Lamb & Johnson, 2006).

Social Presence. This is defined as "the ability of learners to project their personal characteristics into the community of inquiry, thereby presenting themselves as 'real people'" (Communities of Inquiry, https://coi.athabascau.ca/coi-model/description-social-presence/, para 1).

Teaching Presence. This is "defined as the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educational worthwhile learning outcomes" (Communities of Inquiry, https://coi.athabascau.ca/coi-model/description-teaching-presence, para 1).

Web 2.0/Web 3.0. Web 2.0 s a term that refers to the change from the original World Wide Web (WWW) of static pages, to a web that is user-interactive, where content can be created and changed by the end-user. Web 2.0 has transformed to Web 3.0. Web 3.0 bringing about interactive online applications and sophisticated real-time communications that cater to individual users (Solomon & Schrum, 2010)

World Wide Web. The World Wide Web was invented in 1990 by Timothy

Berners-Lee who created the first hyper-linked networked pages on an interconnected server for use on the Internet (World Wide Web Consortium, 2012).

Summary

This research investigated the social presence construct originated from the CoI framework through the perspectives and practices of faculty who teach in online higher education learning environments at a Midwestern university. The importance was to help advance the field of online learning evaluation and assessment by examining a well-utilized framework called CoI with a focus on one of its lesser researched construct, social presence. It was hoped to assist institutional and faculty understanding that online learning can be evaluated to show whether or not its value and legitimacy is comparable to traditional U.S. face-to-face learning in higher education.

This paper provides an investigation based on the literature review and through the research question generation that created the conceptual framework to guide the methodology. The next section of the study gathered data and information for analyses and evaluation. Lastly it provided discussion of the results and concluding statements of the CoI framework investigation regarding its social presence construct as well as directions for future research. These details are discussed in the subsequent four chapters. The next chapter is the literature review.

CHAPTER 2. LITERATURE REVIEW

Introduction

This literature review describes how U.S. post-secondary educational institutions have been incorporating more distance learning options in curricula largely due to new technologies, alternatives to limited physical space, the need to provide options for rural, poor, minority, disabled, and English language learners, as well as because of the increasing student demand for online course and program options (Allen & Seaman, 2013, 2016; Moore, 1989; Sherry, 1996; Watson, 2008). However, please note that the majority of this literature review took place during 2013 and 2014. More recent research is discussed in Chapter 5 to supplement this chapter.

Today, some college courses are designed for instruction partly in face-to-face classes with online components (i.e., hybrid or blended learning), while others are entirely online (Watson, 2008). Traditional face-to-face education in the U.S. is also seeking ways to evaluate and assess distance learning. Evaluation of online learning is necessary as many U.S. faculty are not accepting it as valuable and legitimate according to Allen and Seaman's (2013, 2016) decade long report: "For the past nine years no more than one-third of chief academic officers report that their faculty accept the value and legitimacy of online education" (p. 6). Furthermore, even with more options of online learning opportunities provided in higher education, distance education is generally not formally adopted in institutional strategic plans (Allen & Seaman, 2013, 2016). One evaluation method is the CoI framework which has been utilized for over a decade with

hundreds of published research focusing on the framework and its cognitive, teacher, and social presence constructs (Garrison, Anderson, & Archer, 2010).

From this research study's results, it was hoped to more fully understand social presence in online learning and its abilities of improving the quality of online education in the context of online courses in U.S. academic institutions, and improve the ability to assist faculty and institutional strategic buy-in. The following provides a history and transformation of distance learning in higher education; examines the incongruent relationships between online course adoption with institutional strategic plans and faculty lack of acceptance; outlines both traditional and online learning evaluation and assessment tools; expounds on the CoI framework and its constructs; and outlines deep and meaningful learning through the revised Bloom's taxonomy for online learning evaluation.

Distance Learning

Michael G. Moore, Associate Professor in the College of Education at Penn State University, provided a report to the U.S. Congress, Office of Technology Assessment on May 31, 1989, entitled "The Effects of Distance Learning: A Summary of the Literature." The 1989 distance learning definition reported by Moore was "learning arrangements in which the learner and teacher are normally geographically separated....The most notable characteristic of all distance education is that communication between learners and teachers is through print and writing or by electronic media, such as broadcasts, recordings, narrowcasts by cable, satellite, ITFS, and fiber transmission, interactive telecommunication by computer, audio and video teleconferences or, as is increasingly

common, combinations of these media" (Moore et al., 1989, U.S. Congress, p. 1). Sherry (1996) had added another distance education key point related to pedagogy in that it involved the voluntary participation and discipline of the students to complete their studies where the instructor became more of an expert guide than a controller. In essence, Moore stated the new instructor's role was as "facilitator of interaction, course designer, and learner counselor" (Moore et al., 1989, p. 2-3).

Moore suggested to the U.S. Congress a healthy future for distance learning, even though it being more expensive (at that time), but higher in quality than traditional classroom instruction. His 1989 recommendation to Congress was that policy making needed to become more proactive in determining the public need of and involvement in distance education so its future advancement could benefit those students marginalized by poverty, minority status, as well as those whose primary language was non-English. Interesting to note, Moore's recommendation was given prior to Timothy Berners-Lee's introduction of his "World Wide Web" to the public in January 1991 (World Wide Web Consortium, 2012) that profoundly changed distance education. The following sections outline the technological advancements that have been pushing distance education into formal learning environments in U.S. grade, middle, and high schools as well as academia.

History

Forms of distance learning can be found in the medieval ages in Europe. Although Keegan (1986, p. 94) stated that you could "trace distance education back as far as the epistles of St. Paul," and Willis (1994, p. 5) proposed that "itinerant wanderers

delivering information by word of mouth were perhaps the world's first distance educators [however that] distance education did not really begin until the rise of industrial society." It was the end of the 1800's that well established "correspondence study" (Sumner, 2000, p. 273).

Early U.S. correspondence schools utilized written communications and the mail for distance education (Moore et al., 1989), however, in the later 20th century and early 21st century, the distance learning tools had evolved to electronic computing forms of media (Sherry, 1996; Moore et al., 1989) and then to the Internet and World Wide Web (Watson, 2008; Zucker, 2008). Correspondence schools are still thriving today, yet known by different names, using different technologies and pedagogies. The following sections describe the evolution of the correspondence schools.

19th century to mid-20th century correspondence schools. Correspondence schools of print media and mail were used by women, farmers, miners, and others not having the ability to go to a traditional school. These correspondence schools in the mid-1800s could be found in the U.S., Canada, and Europe (Clarke, 1995). "In 1883, the first correspondence program in the United States to gain academic respectability through recognition as a valid educational program was the Chautauqua Institute, which trained Sunday school teachers. In 1891, the International Correspondence Schools (ICS) grew from the Colliery Engineer School of Mines. ICS initially used correspondence to train miners, railroad, and iron workers" (Clarke, 1995, para. 2.) Paper and pen "was the accepted norm until the middle of century, when instructional radio and television

became popular" (Sherry, 1996, para. 6).

Radio and television correspondence schools. Radio and television correspondence education began in the late 1950s and early 1960s (Sherry, 1996). The productions were live and not interactive. Instructors of these early educational programs were not necessarily good at engaging and captivating a television audience of students as expected from television actors. The television education did not gain student viewership in the 1960s. However, in the 1970s, more professional educational programs were being produced as supplements to classroom curriculum; yet in the 1980's, another decline in television education was seen (Sherry, 1996).

> The major drawback of radio and broadcast television for instruction was the lack of a 2-way communications channel between teacher and student. As increasingly sophisticated interactive communications technologies became available, however, they were adopted by distance educators. Currently, the most popular media are computer-based communication including electronic mail (E-mail), bulletin board systems (BBSs), and Internet; telephone-based audioconferencing; and videoconferencing with 1- or 2-way video and 2-way audio via broadcast, cable, telephone, fiber optics, satellite, microwave, closed-circuit or low power television. Audiographic teleconferencing using slow scan or compressed video and FAX is a low-cost solution for transmitting visuals as well as audio. (Sherry, 1996, para. 4)

Late 20th century to early 21st century electronic learning. The promise of more robust learning through correspondence started to bloom in the mid-1990s. The technologies that assisted distance education to become more viable as a learning option was due to affordability, prevalence, and richness in multi-media forms and synchronous communications.

Interactive television and videoconferencing. The invention of the interactive television helped pave the way for renewed television-based correspondence schooling.

Interactive television, also known as ITV and videoconferencing, uses audio and video with television and/or the Internet (Schnurr & Smith, 1995). The interactive television was first publicly seen at the 1964 World's Fair with AT&Ts videophone. The concept was introduced, but was too expensive to be provided on a large scale basis at the time. The 1970s saw more interactive video technologies, but the concept for education was still too expensive (Sherry, 1996). As computers became less expensive and the Internet became publicly utilized along with the World Wide Web, affordable user-friendly applications for videoconferencing made the technology more feasible for classrooms (Zucker, 2008). Because of videoconferencing, distance education was becoming more promising and feasible for two-way, synchronous communications between teacher and student, as well as student-to-student communications (Pitler, Hubbell & Kuhn, 2012).

Computer assisted learning. As with interactive television/videoconferencing, the use of personal computers in the classroom began to flourish in the 1990s due to the decreasing cost, as well as, size of personal computers (Pitler, Hubbell & Kuhn, 2012; Zucker, 2008). For distance learners, a personal computer and the Internet provided higher quality and more interactions with teachers and students. The formal classrooms also flourished with the low-cost options of laptops. No longer were the chalk board, pencil, and paper the main sources of knowledge relaying and communications in traditional education. In the U.S. today, computerized technologies are not only essential, but their transformations to mobile devices are changing when, where, how, and what students learn (Zucker, 2008). The meaning of correspondence and distance schools started to change as formal educational institutions began to adopt these

technologies that transcended past their four-walled classroom (Zucker, 2008).

Web 1.0. As previously discussed, at the end of the 20th century, a new technology entered the mainstream media created by networked computer servers, called the Internet, and its intuitive, usable framework was added in 1991 by Timothy Berners-Lee, called the World Wide Web or the Web (World Wide Web Consortium, 2012). The first phase of the Web (i.e., 1.0) had static, but hyperlinked, networked webpages. Interactivity was limited, but the Web and email technologies assisted in communications, information, and education. The first World Wide Web was mostly asynchronous in nature, where distance learning was still as robust as mail correspondence. Although, Web 1.0 provided the ability for faster and a greater number of communication transactions between students and teachers. (Anderson & Dron, 2012)

Web 2.0. The inception of Web 2.0 began in the late 1990's but began to flourish in the early 21st century. The term, Web 2.0, refers to the change from the original World Wide Web of static pages, to a web that is user-interactive, where content can be created and changed by the end-user. Web 2.0 brought about interactive online applications and sophisticated real-time communications (Solomon & Schrum, 2010). Finally, correspondence schools had a feasible vehicle for both asynchronous and synchronous learning opportunities at a distance. Web 2.0 has evolved to Web 3.0 where Web 3.0 provides the end-user more targeted and specialized data and information specific to that user's preferences and needs.

Learning management systems. Because of the capabilities of the Internet and the Web, various forms of interactive applications can be utilized. Many distance

educational institutions have adopted learning management systems (LMS), also known as course management systems (CMS). LMS/CMS involve Internet-based applications to manage users, course materials, administration, and communications involving instructors, students, guests, and/or designers. Both traditional face-to-face and distance/online learning class environments can utilize these online systems to aid in curriculum management. (Barchino, Gutiérrez, & Otón, 2005)

Competition in the educational sector. Correspondence schools began to enter the U.S. marketplace as a major competitor for traditional "brick-and-mortar" educational institutions beginning in the late 1990s and early 21st century. With new technologies and accrediting boards granting their esteemed approval for qualifying correspondence schools, student interest in these options grew.

U.S. regional accreditation through the Higher Learning Commission for non-traditional, correspondence schools began to occur in the late 20th century. The possibility that the scholastic rigor of correspondence schools could compete with traditional post-secondary schools was beginning to be acknowledged. Examples of correspondence schools with regional accreditation are listed below:

1. DeVry University was founded by Dr. Herman DeVry in 1931 and was originally the DeForest Training School. The technical school was located in Chicago and has now grown to offer online accredited graduate programs with physical locations worldwide. (http://www.devry.edu/whydevry/75th-anniversary.jsp)
2. The University of Phoenix was established in 1976 by Dr. John Sperling, who was a Cambridge alum, and economist and professor. He began a higher educational correspondence school for working adults that offered convenient class times at local sites. The university has locations worldwide and is the largest private U.S. educational institution.

(http://www.phoenix.edu/about_us/about_university_of_phoenix/history.html)

3. Walden University was founded by two educators, Bernie and Rita Turner, in 1970. Their desire was to provide correspondence options for doctoral degrees. (http://www.waldenu.edu/about/who-we-are/history)

4. Capella University was founded in 1991 by Steven Shank, former CEO of Tonka Corporation, to provide innovative, non-classroom, educational options. Dr. Howard Abel, a former president of three universities, joined the school as the first President in 1993. (http://www.capella.edu/about/history/)

The major factor of acceptance of correspondence schools by academia was their ability to compete due to the changes in educational technologies, specifically those online. With the change in technology, the names for distance education also changed. Correspondence and distance learning are now commonly referred to as online or e-learning, however, the concept is relatively the same. Distance learning or distance education as stated by Sherry (1996, para. 5) is "the separation of teacher and learner in space and/or time (Perraton, 1988), the volitional control of learning by the student rather than the distant instructor (Jonassen, 1992), and noncontiguous communication between student and teacher, mediated by print or some form of technology (Keegan, 1986; Garrison and Shale, 1987)." Now with our 21st century technologies, contiguous, synchronous communications between students and teachers are possible, for example, chat, instant messaging, Skype™, Google Hangout™, Google Meet™, etc.. Additionally video-conferencing solutions enable synchronous online teaching and communication with and among many students (e.g., Adobe Connect™, WebEx™, and GoToMeeting™).

Online learning utilizes the Internet and World Wide Web for educational endeavors. Many schools utilize a mixture of traditional and distance learning strategies.

The terms blended or hybrid learning reflect this. They are "the integration of face-to-face and online learning to help enhance the classroom experience and extend learning through the innovative use of information and communications technology. Blended [and hybrid] strategies enhance student engagement and learning through online activities to the course curriculum, and improve effectiveness and efficiencies by reducing lecture time" (Watson, 2008, p. 6).

Successful international examples of distance learning. The U.S. higher educational paradigm may be very different than foreign institutions in acceptance of online learning, or embracing different forms of learning. Distance learning had its roots abroad prior to the creation of the U.S. public school system and creation of U.S. land-grant post-secondary institutions. Open University is an example that has a foundation in online and e-learning which was established in 1969. Open University had its inception when in 1926 the educationalist and historian J.C. Stobart dreamt of a "wireless university." Open University states that it became the world's first distance educational institution in 1969 that collaborates with many agencies, institutions, and people using various teaching tools and technologies. Labour Party leader Harold Wilson called it the "University of the Air" and appointed Minister of the Arts, Jennie Lee, to take it to reality. Now the Open University is the largest academic institution in the UK serving greater than 240,000 students (http://www.open.ac.uk/about/main/the-ou-explained).

Beyond online education, other means of learning, different from the traditional U.S. face-to-face classroom, have been evolving worldwide. An example that has received wide-spread acclaim is Sugata Mitra's "hole-in-the-wall" experiments where

both urban poor and rural poor children taught themselves how to use a computer, navigate the Internet, and teach each other English by just a computer and mouse provided in a kiosk or wall. His first experiment occurred outside his office in urban New Delhi, India. He expanded his experiment to rural India with continued success. This example utilizes the need for social educational interactions between users, but also lacks the teacher all together. This form of learning has been termed *minimally invasive education*. (Mitra, 2003)

The U.S. educational system overall may not have embraced early online learning and may still struggle with other forms of learning beyond traditional face-to-face classroom learning. However, the U.S. acceptance of online learning environments and their use are growing as the next sections will show.

Transformation of Pedagogy in Distance Learning

U.S. transformations in pedagogy and distance learning are a product of the U.S. public school history. In the U.S., this transformation was focused on disadvantaged rural areas (DeYoung, 1987). Public schools were built where the majority of students could congregate. In contrast little focus and resources were provided to rural schooling until the 1980s. Beginning with the Civil Rights Act of 1964, several legislative movements of the era advocated equality. The 1970s addressed inequity of schooling for the rural poor. Rural schools had fewer resources than urban areas. Rural, minority, and special needs students were not receiving the educational care in rural areas than in urban areas (DeYoung, 1987). From this concern, more distance educational opportunities

were created to help the needs of disadvantaged, rural students (Zucker, 2008).

The pedagogical history of those teaching in urban public schools versus early correspondence schools differed because of the distance and amount of communications between the teacher and the student. The face-to-face arena in a brick-and-mortar educational institution provided interactive teacher-to-student and peer-to-peer opportunities. Both asynchronous and synchronous learning activities could be maximized. The pedagogical options could range from behaviorist to social constructivist in nature. However, in a distance learning environment with primarily asynchronous opportunities, pedagogy was primarily using behaviorist-cognitivist strategies (Anderson & Dron, 2012). This situation is further elaborated in the following sections.

Behaviorism. In the last century, the pedagogical framework has been formed generally by society's understanding on how students learn and how we teach them, yet at the end of the 20th century little research had been done as to how teaching should be done for effective learning (Donovan, Bransford, & Pellegrino, 1999). In the last hundred years, some main theories of teaching and learning arose with the concept of behaviorism. In the turn of the 20th century, Pavlov and Thorndike were two of the leaders in behaviorism that was based on experimentation and cause and effect (Ormrod, 2008). Behaviorism has been the pinnacle of distance learning, where a student is graded on their learning by exhibiting behavior proving they have learned. Response and stimulus are also tenets of behaviorism in that the student will learn something with the proper stimulus (Anderson & Dron, 2012; Garrison, 2012; Bransford, Brown, & Cocking,

1999).

Cognitivism. Another main theory was led by Jean Piaget in the 1920s, which is cognitivism (Anderson & Dron, 2012; Ormrod, 2008). Cognitivism arose to address that students learned from their past knowledge associated with new knowledge (Ormrod, 2008). This contrasted with behaviorism, which did not predicate learner's own previous knowledge base in learning. Cognitivism took off in the 1950s to address the growing complexity of society. This theory of learning embraced a multi-disciplinary approach as well as addressed important social and cultural factors in learning (Bransford et al., 1999). The behaviorist paradigm is that we learn from that which is outside of ourselves, which is reality. Cognitivists see that each person utilizes their own thought processes for understanding. However, each of these theories regard knowledge and reality as absolute (Dede, 2005; Ormrod, 2008). Both behavioral and cognitivist theories of learning have played a large part in distance education. Both have had a rich history in quantitative experimentation for empirical evidence (Bransford et al., 1999; Garrison, 2012).

Constructivism. Constructivism is another theory of learning that may be more difficult to prove that learning occurs. Constructivism involves students utilizing prior and new knowledge to construct meaning themselves based on their environment and social and cultural situations. It departs from behaviorism and cognitivism, as reality is constructed and defined by each student. (Dede, 2005) Constructivist pedagogies assist online learning environments where instructors help students construct knowledge through collaboration. The educators bring an online design that supports critical

thinking and reflection formed by the student. (Huang, 2002)

Social constructivism. Social constructivism is a theory branched off of constructivism that was derived by scholars in the 1970s regarding Lev Vygotsky's early 20th century work, which relayed that instructors' social interactions with their students altered their students' learning (Ormrod, 2008). Another leader of social constructivism was John Dewey who saw learning in the context of groups of learners, rather than individualistic constructivist learning (Anderson & Dron, 2012). Learning occurred through social activities, either between teacher and student or student peers. Social constructivism has not been in the pedagogical vernacular for distance education for long, as the ability for teacher-student and student-student interactions was limited or non-existent other than for asynchronous grading or feedback purposes prior to the Internet (Anderson & Dron, 2012; Garrison, 2012).

With distance education classrooms, per say, growing from one student to many students, more opportunities arose for these pupils to communicate and learn from their peers (Zucker, 2008). Anderson and Dron's research (2011, 2012) addressed the ever-changing technology landscape affecting pedagogy. The cognitive-behaviorist pedagogy focused on the traditional distance-education where postal mail was the technology of choice, which had an individual learning focus and a need for proof of learning through empirical means. Whereas social constructivism can now address distance learning through the abilities of both asynchronous and synchronous technologies largely due to the World Wide Web (Anderson & Dron, 2012).

Connectivism. The transition of pedagogy from behaviorism-cognitivism to

social constructivism in distance education, according to Anderson and Dron (2012) and Dron (2012), is largely based on the transformation of technologies as well as social, cultural, and political factors. As previously described, the transition from the cognitive-behaviorist, as well as constructivist paradigms of individual, long-distance learning has transformed largely due to technological innovations. We have come from an educational paradigm of Jean Piaget as a cognitive-behaviorist (but who also set the stage for social constructivism) to Lev Vygotsky and John Dewey who advocated social constructivism in the educational setting, in thanks to the Web.

Now, because of the evolving nature of the Web, an emerging field of pedagogical study is connectivism. Anderson and Dron (2012) summarized this new field through the seminal works of Siemens (2005a, 2005b), Downes (2007), Castells (1996), and Latour (1993):

> The third generation of distance education pedagogy emerged recently and is known as connectivism. Canadians George Siemens (Siemens, 2005a, 2005b, 2007) and Stephen Downes (2007) have written defining connectivist papers, arguing that learning is the process of building networks of information, contacts, and resources that are applied to real problems. . . Connectivism was developed in the information age of a networked era (Castells, 1996) and assumes ubiquitous access to networked technologies. Connectivist learning focuses on building and maintaining networked connections that are current and flexible enough to be applied to existing and emergent problems. Connectivism also assumes that information is plentiful and that the learner's role is not to memorize or even understand everything, but to have the capacity to find, filter and apply knowledge when and where it is needed. Connectivism assumes that much mental processing and problem solving can and should be off-loaded to machines, leading to Siemens' (2005a) contentious claim that "learning may reside in non-human appliance". Thus, connectivism places itself within the context of actor-network theory, with its identification of the indiscriminate and overlapping boundaries between physical objects, social conventions, and hybrid instantiations of both, as defined by their initial and evolved application in real life (Latour, 1993)
>
> (Anderson & Dron, 2012, p. 5)

Anderson and Dron (2012) see connectivism as a by-product of the rapid transformation in technologies for the new distance education teaching and learning paradigm. The social networking and participatory nature of utilizing Web 2.0 technologies creates a new environment of social constructivism. However, we now have Web 2.0 merging to Web 3.0, which many call the semantic web that Timothy Berners-Lee initially envisioned as the Web (Berners-Lee, 1998). The semantic web is not only where people can participate, but is also where technology participates in helping people (Berners-Lee, 1998), in this case students. Technology is now providing students and groups of students what they prefer, and even predicting and offering information and tools that fit their needs. Technology will be our assistants in education. Individualized learning plans while working with one another are becoming a reality.

However, connectivism is not a panacea for teaching in a Web 2.0 or Web 3.0 world. All the main pedagogies have been evolving and playing off each other (Anderson &Dron, 2012; Ireland, 2007). Connectivism contains behaviorism, cognitivism, constructivism, and social constructivism. There is no one right pedagogy or technology for application but understanding can assist with selecting the best match and mix to the course's learning outcomes, which is now a responsibility of both the educator and the pupil (Anderson & Dron, 2012). Although it is important to acknowledge and understand connectivism –- how technology has helped transform pedagogy as well as that we learn from each other in a connected world. Teachers are students and students are teachers where each has a participatory role in these social-constructivist and connectivist paradigms (Anderson & Dron, 2012).

Acceptance in U.S. Formal Education

Since Penn State Professor Moore's report to U.S. Congress in 1989 to advocate the use of electronic communication technologies in U.S. education, secondary and post-secondary institutions have been inundated with computerization and online learning. According to Samarawickrema and Stacey (2007), a majority of higher educational institutions are becoming deliverers of online, educational content to their students for success in their programs through learning management systems. "By 2025, Dunn (2000) stated that some experts believe that traditional universities will be replaced by a network or consortia of course providers with online delivery systems that completely bypass the traditional classroom" (as cited by Woods, 2001, para. 1). Increasing use of online learning tools in higher education and a transition from Web 1.0 to Web 2.0 to Web 3.0 is changing the learning environment and roles of teachers and students; and creating new ways of learning (Anderson & Dron, 2012).

Before the digital era began to affect the classroom, it first infiltrated the physical infrastructure of schools. Not only is higher education taking online learning environments seriously, it first took major steps in online infrastructures. Many institutions adopted integrated computerized as well as online systems for human resources and financial and student data management. Integrated digital systems are known as enterprise systems, which are "commercial software packages that enable the integration of transactions-oriented data and business processes throughout an organization (and perhaps eventually throughout the entire inter-organizational supply chain)" (Markus & Tanis, 2000, p. 176). In addition to these enterprise systems,

productivity packages through Google and other vendors provide university business to be undertaken through *Cloud Computing*. Cloud computing "is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction" (National Institute of Standards and Technology, 2011, p. 2).

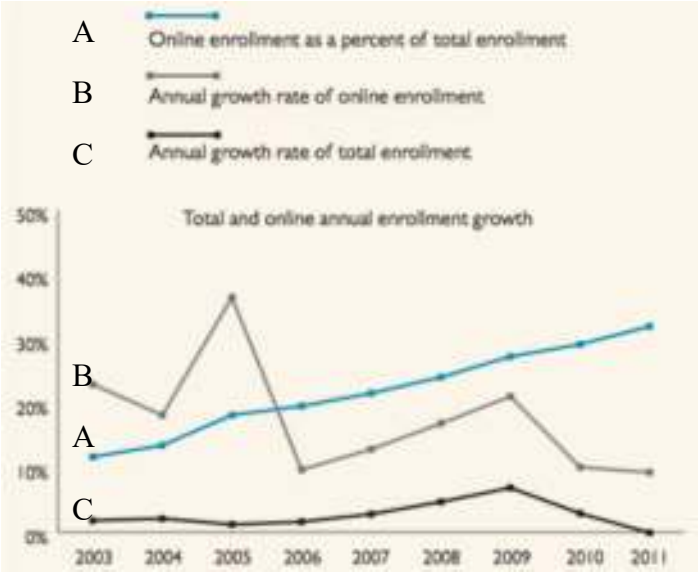
With the business activities of education going online, many educators and administrators have thought that it only makes sense to take courses online as well. Higher educational courses in the U.S. are being offered in many formal post-secondary schools both as fully online courses and also via blended or hybrid learning environments, where both face-to-face and online learning are utilized (Watson, 2008; Solomon & Schrum, 2010). And more and more distance learning strategies are being employed in traditional education, where the class is entirely online.

In 2013 a publication shed light on the increased rate of online adoption and enrollments in higher education. The 10 year Babson Survey Research by Allen and Seaman (2013) entitled, "Changing Course: Ten Years of Tracking Online Education in the United States" occurred between 2002 and 2012 and involved interviews with more than 2800 U.S. Chief Academic Officers (CAOs) of colleges and universities. In the last decade, online enrollments have risen as seen in Figure 2 (Allen & Seaman, 2013). They reported that in 2012 online enrollment was at its highest at 32% with a growth rate of 9.3%. Note that since this initial report, Allen and Seaman have released additional reports that have reflected the same trends in public higher education (Allen & Seaman,

2016, 2017). Figure 4 shows that every year online enrollments exceed the percent growth of total enrollments. Table 1 also exhibits the increasing offerings of online programs by higher education (Allen & Seaman, 2013). For example, as seen in Table 1, small schools (less than 1500 enrollments) increased from 17.0% in 2002 to 51.6% in 2012 for adopting online programs. Large schools (15,000+ enrollments) increased from 72.4% in 2002 to 82.8% in 2012 for adopting online programs. (Allen & Seaman, 2013)

With the hybrid or fully online course adoption, online learning (or course) management systems, such as Moodle™, Canvas™, and WebCT™ (now Blackboard™) have also been employed by many formal institutions. These systems involve Internet-based applications to manage users, course materials, administration, and communications involving instructors, students, guests, and/or designers (Barchino et al., 2005). Many popular social networking online applications are being utilized within or in conjunction with the learning management system. Social networking is a means to connect to and communicate with others over the Internet usually through an online website that has multi-functions, such as instant messaging and uploading files in which each account reflects the individuality of the owner (Lamb & Johnson, 2006). A few popular social networking examples are FaceBook™, Twitter™, and Linked In ™. In Chapter 5 of this dissertation, more recent practices as well as a multitude of new technologies to encourage social presence and to assist course design are discussed.

Figure 4. Every Year Online Enrollments Exceed Percent Growth of Total Enrollments



From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States" Supplemental Figures, Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports /changingcourse.pdf

Table 1.

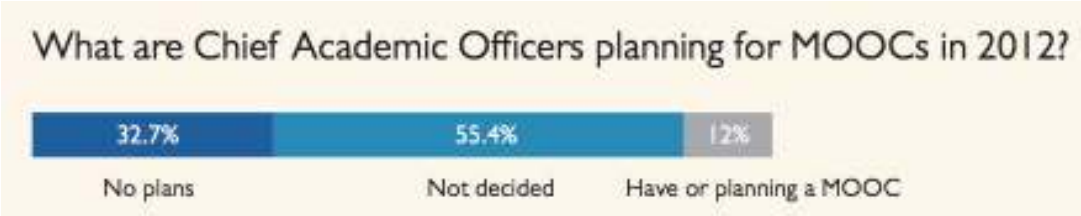
Growth of Online Academic Programs Based on School Size

Institutional Size		Program + online courses	Online courses only
Under 1500			
	2002	17.0%	28.4%
	2012	51.6%	26.0%
1500-2999			
	2002	29.3%	49.9%
	2012	54.5%	33.7%
3000-7499			
	2002	46.0%	44.7%
	2012	75.9%	18.8%
7500-14999			
	2002	54.4%	42.0%
	2012	81.5%	16.8%
15000 +			
	2002	72.4%	25.3%
	2012	82.8%	16.3%

Adapted from I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States" Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

The educational sector now understands that providing online options helps meet evolving student demand as well as helping to begin to address equity and access problems for people of color, those with disabilities, and/or those in poor or rural areas (State Educational Technology Directors Association, 2008; Zucker, 2008). One technology that a few universities are offering free to the public are "Massive Open Online Course" (MOOC) options. A MOOC is where a large number of students participate in an online course for no fee to network and collaborate in content construction utilizing various online technologies synchronously and asynchronously. MOOCs can be based on a constructivist approach and may change the traditional teacher-student roles (Thompson, 2011).

Figure 5. 2012 Plans for a Higher Education MOOC

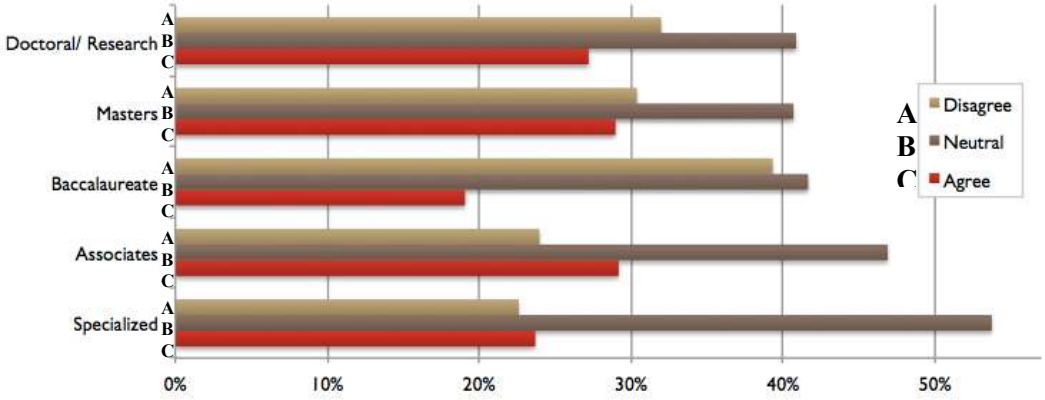


From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States" Supplemental Figures, Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

Allen and Seaman's (2013) research also reported that 12% (Figure 5) of the 2800 institutions have already implemented or are planning to offer a MOOC. Over half have not decided whether to provide MOOC learning options. Figure 6 represents their results on whether CAOs see MOOCs as sustainable options to offer their courses with 20-30%

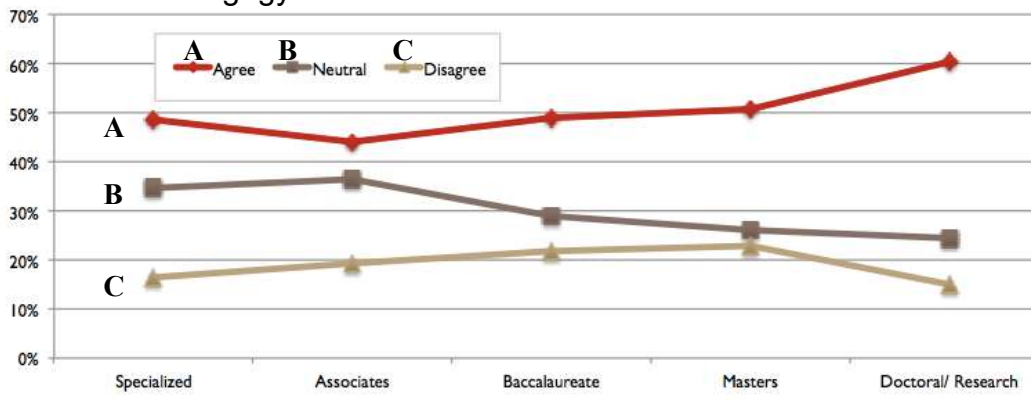
of CAOs agreeing for varying degree program types. MOOCs were also thought important for online pedagogy for over 40% of the CAOs responding per degree type, with over 60% agreeing specific to doctoral/research degrees (Figure 7).

Figure 6. MOOCs are a Sustainable Method for Offering Courses - 2012



From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States," p. 10, Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

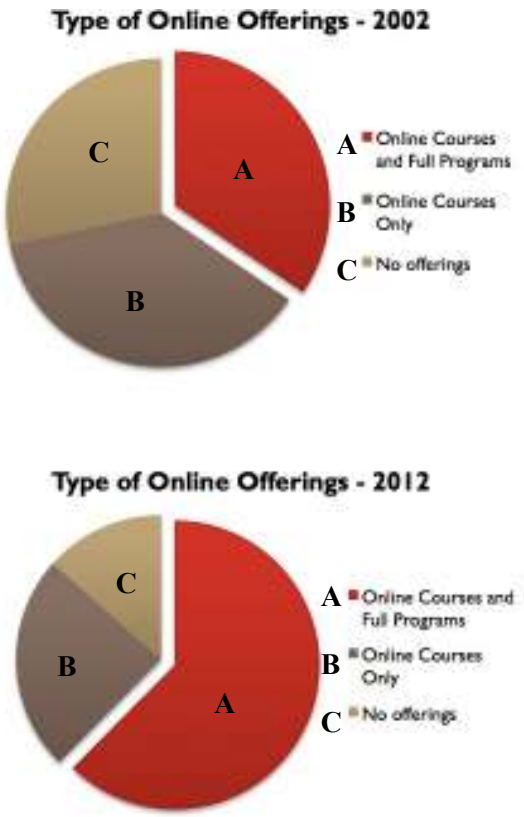
Figure 7. MOOCs are Important for Institutions to Learn about Online Pedagogy 2012



From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States, "p. 11, Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

As online enrollments in higher education have increased in the last ten years (Figure 2), so have online programs as seen in Figure 8 (Allen & Seaman, 2013). Allen and Seaman

Figure 8. Type of Online Offerings



From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States, "p. 20, Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

(2013) see this as the largest increase of new entrants offering online courses and programs each year. Ten years ago, over 71% of colleges and universities in their study reported to have some form of online learning, which meant over 28% did not have any online offerings. As of 2012, the percentage of institutions with no online learning option

dropped to 13.5%. (Allen & Seaman, 2013).

Technology has dramatically transformed the correspondence school. It is now affecting traditional education in a profound way, not only in how universities and colleges conduct their business, but also by how they deliver their courses. "The idea that the world we shape in turn shapes us is a constant. Newspapers, television, and computers—all human inventions—help formulate our beliefs, perspectives, and even competencies. And from each medium we create new realities" (Jones-Kavalier & Flannigan, 2006, para. 7), which is supported by Anderson and Dron's research (2011, 2012)

The growth of online learning in post-secondary educational institutions is evident as represented in Table 1 and Figures 2, 4, and 8 in Allen and Seaman's (2013) research. It also is transforming higher education in pedagogy and theories of learning (Anderson & Dron, 2012). However, even with the growth of online learning in U.S. colleges and universities, CAOs are reporting a stagnant and poor representation of faculty's "value and legitimacy of online education" (Allen & Seaman, 2013, p. 40). This disconnect could jeopardize the production of quality online learning environments. Not only instructional tools are necessary, but evaluation and assessment tools of online learning are needed, as the next section will discuss.

U.S. Barriers to Valuing Online Learning

Pedagogy and theoretical views of how people learn are partially changing because of our high tech society (Anderson & Dron, 2011-12), although many educators are resisting this change. Both faculty and potential employers of students have concerns

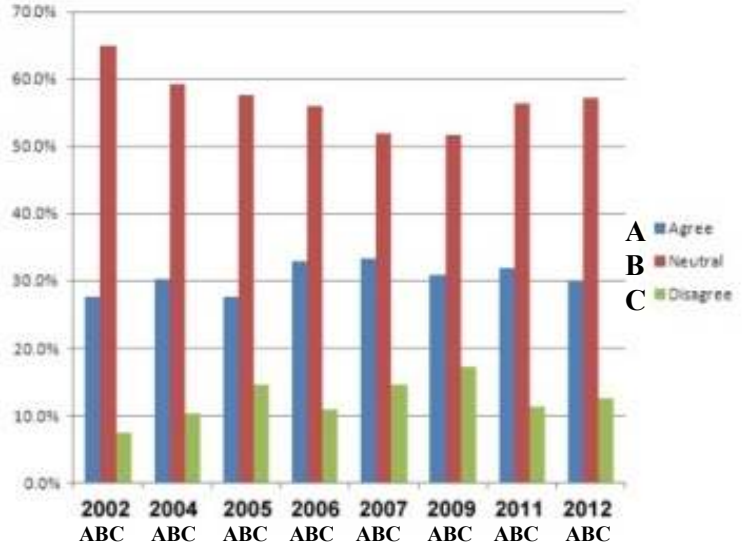
regarding the quality of learning that takes place online which can foster resistance in changing the educational landscape (Allen & Seaman, 2013). Also, according to Allen and Seaman's (2013) research, institutional strategic plans lack online educational initiatives, even with an accelerating rate of adoption of online programs, as well as CAOs' confirmation of its strategic importance (Allen & Seaman, 2013).

U.S. Faculty and employer buy-in. Ertmer (2004) examined the beliefs of teachers and their alignment with a constructivist pedagogy with technology. She stated that it appeared at that time that teachers are not yet at the point of combining their technologies with their pedagogies in the classroom. Ertmer relayed how the trend has been changing for teachers with more technology access, aptitude, and training, but generally their beliefs about using technology have not changed significantly. "Furthermore, given that these skills are unlikely to be used unless they fit with teachers' existing pedagogical beliefs, it is imperative that educators increase their understanding of and ability to address teacher beliefs, as part of their efforts to increase teachers' technology skills and uses. In the best of all worlds, then, this will not only enable teachers to use computers to their full potential but will enable students to reach their full potential as well" (Ertmer, 2004, last para.).

As previously discussed, Allen and Seaman's (2013) survey resulted in the increased trend of online learning adoption in higher education (Table 1 and Figures 2, 4, and 8). Their study further evidenced a gap between online adoption and faculty acceptance and value and legitimacy of online learning environments (Figure 9). CAO's reported a decrease from 2011 to 2012 of their perception of the level of acceptance of

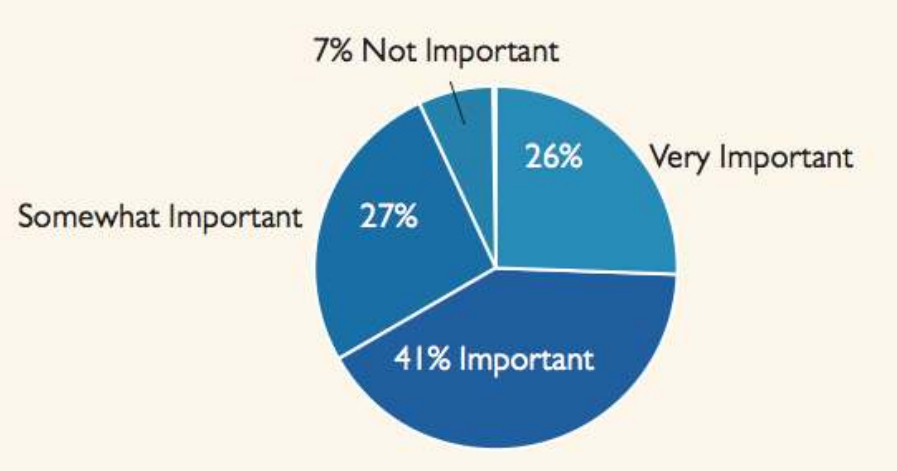
online learning by faculty. A little over 30% of the CAOs of the 2800 academic institutions thought faculty accepted the value and legitimacy of online learning. This percentage was lower than that recorded on the 2004 survey. This appears to be critical as Figure 10 shows that 68% of the CAOs thought faculty acceptance of online education was important (41%), very important (26%), or somewhat important (27%) to successfully implement online programs and courses. Note that there was also 7% of these CAOs stating that faculty's acceptance of online learning was not important. (Allen & Seaman, 2013)

Figure 9. The Faculty Accept the Value and Legitimacy of Online Education



Adapted from I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States, "p. 40, Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

Figure 10. Chief Academic Officers Weighted Faculty Lack of Acceptance as Important Online Adoption Barrier



From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States" Supplemental Figures, Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

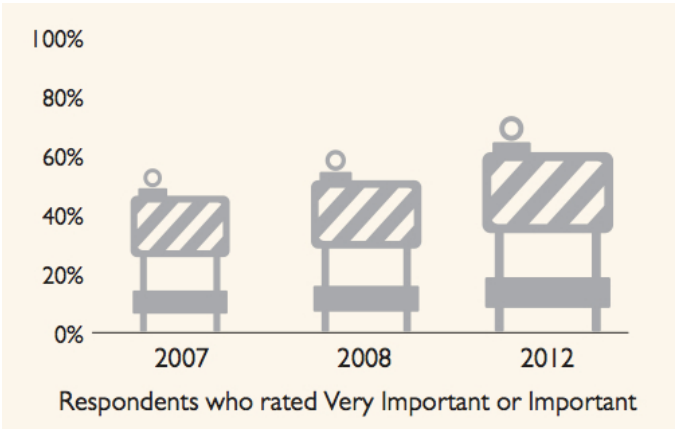
Each year since 2002, the CAOs percentage believing faculty accepted online education remained low with little change (Figure 11). This lack of acceptance of online education by faculty was one of the barriers for successful online adoptions in higher education according to Allen and Seaman (2013). Other barriers impacting online learning adoption include low retention rates and employers not seeing the value of online education. (Allen and Seaman, 2013)

Figure 11. Little Change in Faculty's Acceptance of Value and Legitimacy of Online Education

From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States" Supplemental Figures, Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

Retention rates are a very real barrier for both traditional and online learning environments for post-secondary education. Retention rates in online learning environments have become issues that higher education is trying to address. Drop rates are significantly higher in an online learning course than face-to-face (Ice, Gibson, Boston, & Becher, 2011). Allen and Seaman (2013) reported that CAOs agreed that online learning environments had a lower rate of retention than traditional face-to-face

Figure 12 Lower Retention Rates in Online Courses is Seen as a Growing Barrier to Wide-spread Adoption

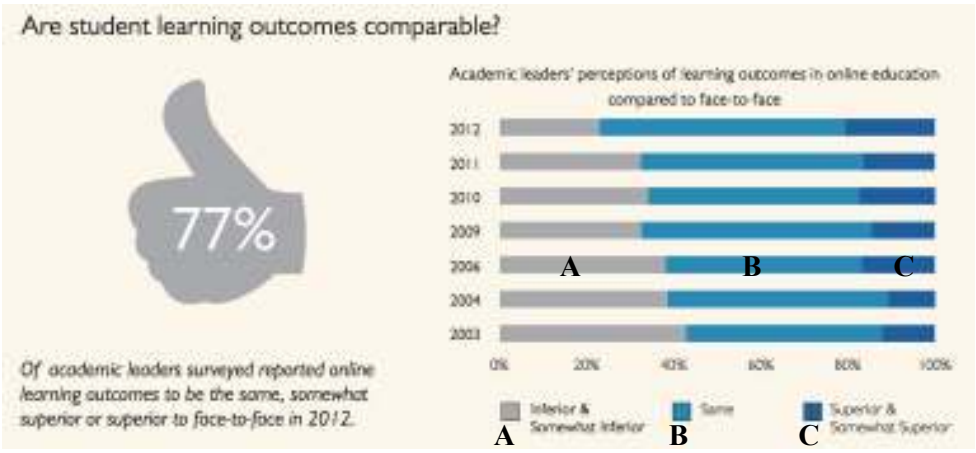


From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States," Supplemental Figures, retrieved from http://www.pearsonlearningsolutions.com/assets/downloads/reports/changing-course-survey.pdf

courses. Figure 12 shows that lower retention rates in online courses are considered a growing barrier to successful wide-spread online course and program adoption. (Allen & Seaman, 2013)

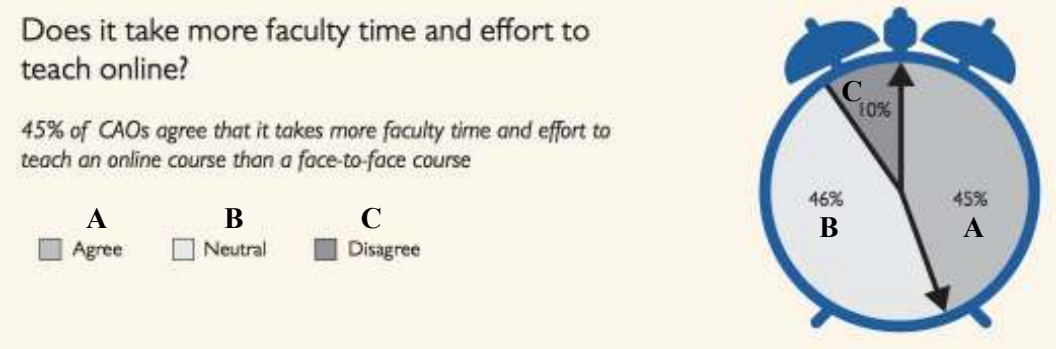
Even with higher drop-out rates and lack of faculty acceptance of online education, 77% of CAOs thought that online learning outcomes were at par or superior than traditional classroom learning outcomes (see Figure 13). About 45% of the CAOs did acknowledge that more time and effort were needed by faculty to successfully implement an online course than a traditional course (46% remained neutral on the issue –- see Figure 14). (Allen & Seaman, 2013)

Figure 13. Chief Academic Officers Rate Online Learning Outcomes to Traditional Classrooms



From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States, "Supplemental Figures, retrieved from http://www.pearsonlearningsolutions.com/assets/downloads/reports/changing-course-survey.pdf

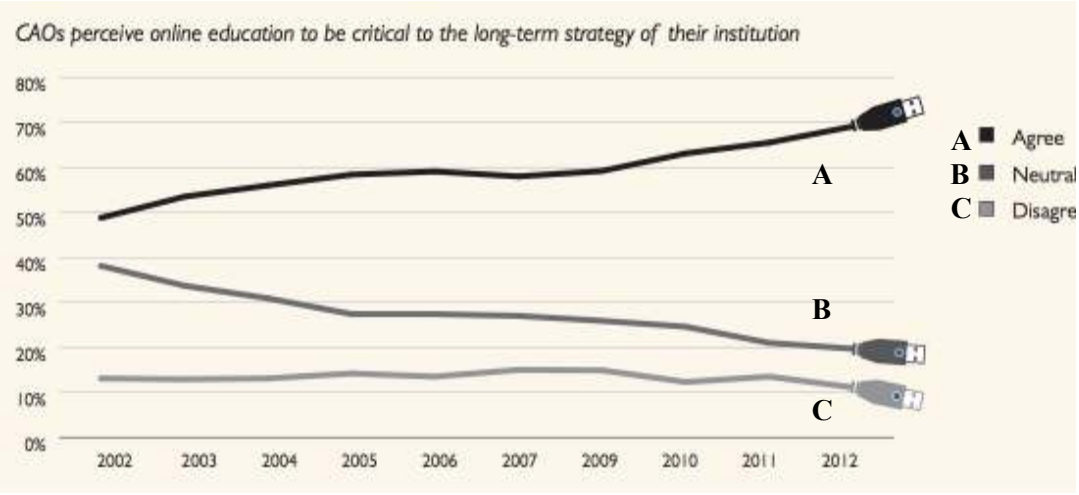
Figure 14. Chief Academic Officers Think More Time and Effort Needed to Teach Online Compared to Traditional Face-to-Face Teaching



From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States, "Supplemental Figures, retrieved from http://www.pearsonlearningsolutions.com/assets/downloads/reports/changing-course-survey.pdf

Strategic planning. Regarding the importance of online education for the college and university strategy, CAOs largely stated in agreement (70%) of its long-term strategic importance in 2012 as shown in Figure 15 of Allen and Seaman's (2013) study. This is more than a 20% change since 2002. However, the instance of formal adoption of

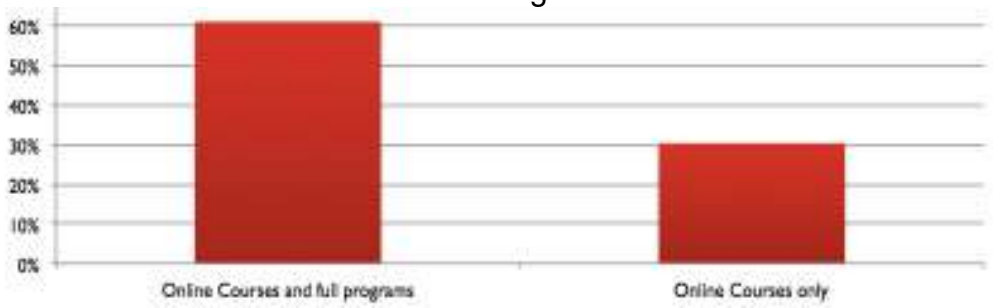
Figure 15. Is Online Learning Strategic?



From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States, "Supplemental Figures, retrieved from

online learning in the strategic plan of the institution was only 60% for online programs and around 30% for online courses only as seen in Figure 16. (Allen & Seaman, 2013)

Figure 16. Percent Agreeing Online Education is Significantly Represented in Institution's Formal Strategic Plan



From I.E. Allen and J. Seaman, 2013, "Changing course: Ten years of tracking online education in the United States, "p. 16, Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

Learning outcomes. Additional information retrieved from Allen and Seaman's (2013) report regarding learning outcomes relayed that "The 2012 results show some small improvements in the perception of the relative quality of online instruction as compared to face-to-face. In the first report of this series in 2003, 57.2 percent of academic leaders rated the learning outcomes in online education as the same or superior to those in face-to-face. That number is now 77.0 percent. A minority (23.0%) of academic leaders continue to believe the learning outcomes for online education are inferior to those of face-to-face instruction." (Allen & Seaman, 2013, p. 5)

Minimizing barriers. There are many barriers for successful online adoption that are in need of more research. Even with CAOs high response in favor of online courses, Allen and Seaman (2013) pointed out employers and faculty have been reluctant

to accept the value of online learning. Learning outcomes and lower retention rates in online educational courses and programs were problematic for buy-in as well as the lack of strategic planning involving online learning. The study by Cleveland-Innes, Garrison, and Kinsel (2007) also showcased the issues at hand for new learners in online environments. A certain process of adjustment was necessary to succeed in the online learning environment. This study concluded that more knowledge is required to understand proper educator support and facilitation to assist, and perhaps retain, students in online learning environments.

To assist with proper online course and program design as well as to facilitate online learning, faculty should be provided professional development to aid in their pedagogical approaches. This could also improve online educational buy-in. Many studies stressed that the proper design of the online course is critical for learning success (Clark & Mayer, 2011). In addition, looking at the National Educational Technology Standards (NETS, 2012) in the classroom by International Standards for Technology in Education (ISTE), instructors' roles have changed in the online class environment to facilitators and coaches. Rather than instructors teaching to students and being the source of knowledge, the faculty member could become more facilitative in nature for the construction of knowledge by the students in an online environment.

Another issue for online success is that few tools are available that evaluate and assess learning in an online environment (Zucker, 2008), as well as the online learning tools themselves for accessibility and navigability (Ardito et al., 2006). The limited opportunities to evaluate and assess online programs may contribute to educators' as well

as employers' lack of value of online learning. The U.S. Department of Education's (2010, September) meta-analysis study found no evaluations prior to 2006 comparing online versus face-to-face education. However, their updated study found more contrast between online courses and face-to-face courses from 2006 and 2008. This study did state modest evidence existed that students, on average, had better performance online than in face-to-face classrooms.

Regarding the lack of online education formally included in higher educational strategic plans as relayed in Allen and Seaman's (2013) study, perhaps the lack of evaluation measures prevents the inclusion into these plans. The evaluation and assessment of online learning can impact accreditation of post-secondary institutions. The purpose of accreditation is to push institutions to "excellence in teaching and learning" (Patrizi, Ice, & Burgess, 2013, p. 118). As formal education moves more courses into blended or fully online learning environments, strategies of evaluation and assessment need to transform. Accreditation policy changes in the last few decades have additional burdens for online education where it is a necessity for "aligning content to goals and objectives and for evidencing learning effectiveness" (Patrizi et al., 2013, p. 119).

U.S. Evaluation and Assessment of Learning

As difficult as the task may be for evaluation and assessment of online learning, faculty teaching in traditional classrooms have been grappling with the same task to measure learning outcomes and higher cognitive thought processes of the student. Course evaluations and program and school assessments are at the forefront of political and economic debate in the U.S. for accountability in education (Hess & Petrilli, 2007;

Popham, 2006; Shavelson, 2006).

Overall learning assessments utilized by colleges and universities include the Collegiate Learning Assessment (CLA). This test was created and updated by the Council for Aid to Education (CAE). CLA assesses critical-thinking skills and is reliable and valid (Shavelson, 2006). The Critical Thinking Assessment Test (CAT) focuses on student higher cognitive thinking to solve practical problems in their lives (http://www.tntech.edu/cat/home). Another institutional assessment is the Collegiate Assessment of Academic Proficiency (CAAP). CAAP is an assessment that is nationally-normed and was created by ACT to measure the two-year learning outcomes of new undergraduate students (http://www.act.org/caap). The ETS Proficiency Profile was previously known as the Measure of Academic Proficiency and Progress (MAPP). ETS has assessments for undergraduate students to assess critical thinking, math, reading, and writing (https://www.ets.org).

Regarding course evaluations in higher education, new and evolving formats, both quantitative and qualitative, and also summative and formative, for measuring student learning are being created, such as periodic student evaluations before, during, and near course completion, student self-assessments, and peer feedback (Hernandez, 2012). A traditional course evaluation tool utilized at the end of the quarter or semester is the Teaching Assessment Blank (TAB), which originated by Holmes in 1971 to assess the instructors performance, but not student learning. Many variations of this are used today in traditional classrooms.

Revised traditional U.S. assessments to quantitatively measure the success of a

course by evaluating the instructor are being readily used online, such as the Student Evaluation of Teaching (SET) which assesses teaching quality (Student Evaluation of Teaching, Loveland, 2007). Many of these revised evaluations can be conducted through online surveys and/or learning management systems, such as Canvas™, Blackboard™ and Moodle™. Results of studies provide that the use of traditional quantitative (bubble sheet) teacher evaluations online do not vary significantly in teacher ratings (Donovan, Mader, & Shinsky, 2006; Heath, Lawyer, & Rasmussen, 2007). However, when qualitative questioning is included in the evaluation, students produce more formative comments online rather than through pencil and paper formats (Donovan, Mader, & Shinsky, 2006; Heath et al., 2007).

Evaluating only the instructor's methods through revised TABs cannot constitute the evaluation of student learning. How can this be measured to understand learning outcomes and the attainment of higher cognitive skills by the students to better evaluate and assess online learning? One model to evaluate online as well as hybrid courses that has been provided considerable amount of research study since 2000 is the CoI framework. What is interesting about the CoI framework is that it involves the teaching, social, and cognitive presences in an online classroom environment. However, for evaluating student learning outcomes, what appears to be lacking in the CoI research is the operationalized definition of deep and meaningful learning. This model was the focus of this paper specific to the social presence construct. The next section discusses the framework in more depth.

CoI Framework

History

Almost two decades have passed since the publication of the seminal article by Garrison et al. (2000) on the Community of Inquiry (CoI) framework. This framework arose in 2000 through a meta-analysis of transcripts from computer conferencing and little has changed. In 2001, the authors stated, "this framework for a community of inquiry consists of three overlapping core elements and is intended to be applied to improving the practice of computer conferencing in higher education" (Garrison et al., 2001, p. 2). The CoI framework is Deweyian in nature where education involves practical experience intertwined with social constructivism (Garrison, 2010). CoI has three constructs that play a significant role in learning: Social presence, cognitive presence, and teaching presence. (Swan, Garrison, & Richardson, 2009)

Going back to 2007, Arbaugh argued the verification of the three CoI presences. He stated the study found "empirically distinct measures of social, cognitive, and teaching presence. The results of the study strongly support Garrison's conclusion that CoI research now needs to move beyond exploratory descriptive studies to the use of both qualitative and quantitative methods" (p. 82). Garrison et al. (2010) saw their framework as a reliable and valid way to study online learning environments. They stated they "look forward to seeing the framework used as a predictor of learning processes and learning outcomes both from the perspective of individual courses/programs of studies and lifelong learning attitudes and participation" (p. 9).

Subsequent publications further have elaborated and validated the CoI model:

Anderson, Rourke, Garrison, and Archer (2001), Rourke, Anderson, Garrison, and Archer (2001), and Rourke and Anderson (2004). Garrison et al.'s (2000) seminal paper also focused on meta-analysis, which is a more accepted research practice today. Strijbos, Martens, Prins, and Jochems (2006) stated CoI can be used to quantitatively analyze and evaluate online learning environments, however strict guidelines need to be adhered to for meta-analysis.

The original CoI framework has remained relatively intact regarding its constructs, has had 14 revisions to the survey, and is still being utilized around the world (Garrison et al., 2010). From these works and others' research, the CoI framework and survey have become a means to evaluate online social constructivist learning.

Constructs and Criticism

Constructs. According to Garrison et al. (2000), the three CoI constructs, cognitive presence, teaching presence, and social presence, all play a necessary role in successful online learning. Figure 1 displays the overlap of these constructs where the educational experience occurs with supporting discourse, setting climate, and regulating learning between each of the constructs. The authors have stated these constructs work in various and over-lapping and inter-dependent ways based on the context (Garrison et al., 2010).

The cognitive presence is defined as "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication" (Communities of Inquiry, http://communitiesofinquiry .com/cognitive_presence, para 1). The social presence is "the ability of learners to

project their personal characteristics into the community of inquiry, thereby presenting themselves as 'real people'" (para 1) (Communities of Inquiry, http://communitiesofinquiry.com/socialpresence, para 1). The teaching presence is expressed "as the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educational worthwhile learning outcomes" (Communities of Inquiry, http://communitiesofinquiry.com/ teaching presence, para 1).

These three interrelated constructs are core elements of the CoI model. Garrison et al. (2010) stated that their "CoI framework is consistent with John Dewey's work on community and inquiry" (p. 6). It is deeply rooted in social constructivism and as technologies have evolved, distance education has branched out from an individualistic, asynchronous environment to a social synchronous environment (Garrison, 2012; Anderson & Dron, 2012).

Criticism. The constructs and their weights may be limited regarding what some researchers have reported. Studies have recommended the utmost importance of the teaching presence construct (Garrison, Anderson, & Archer, 2010; Swan & Shih, 2005; York & Richardson, 2012), and others denigrating the social presence construct (Annand, 2011; Guri-Rosenblit & Gros, 2011); while others have offered new constructs to the framework (Beaudoin, Kurtz, & Eden, 2009; Kawachi, 2011; Shea & Bidjeranoc, 2012). Other criticism exists as to whether this framework can make any conclusive evaluative statements of what level of learning takes place in online or blended learning contexts

(Rourke & Kanuka, 2009).

Importance of the teaching presence affecting social presence. Research focused on the teaching presence has relayed how critical the instructor is in the entire process (York & Richardson, 2012). Student-teacher as well as student-student interactions are integral to the social construct in CoI (Garrison, Anderson, & Archer, 2010; York & Richardson, 2012). An early study regarding these interactions and instructor involvement was conducted by Swan and Shih (2005). Their study produced results that "highlight the importance of instructor presence, instructional design, and students' own presentation of themselves in online discussion." They suggest that "social presence can be fostered through pro-social instructor behaviors and careful design of online discussions, as well as faculty development focusing on social presence issues" (p. 131).

The instructor role as social designer was furthered by York and Richardson (2012). Their study involved concepts of social, cognitive, and teaching presences in that learning and critical thinking were improved through more student-student and student-instructor online communications. It was the onus of the instructor to develop strategies to create opportunities for these communications to be generated and to flourish for a positive, social, learning environment. Their research produced specific strategies that can be employed to foster a social constructivist online environment. Their future study will try to relay which strategies are most important and appropriate in specific scenarios. (York & Richardson, 2012). Lowenthal and Dunlap (2010) also successfully used CoI by using digital storytelling which established online social presence. The digital

storytelling was a way to gain the trust of participants to improve social presence and interactions.

Social presence questioned. The social presence construct has had its share of criticism, primarily by Rourke and Kanuka (2009) and Annand (2011). The social presence construct in the CoI framework represents the level of connectedness of students with their peers in the online learning environment and their ability to represent themselves as a real person in a virtual environment (Garrison et al., 2000). This construct is tantamount to social constructivist and connectivist pedagogical theories (Anderson & Dron, 2012). The construct reflects the level of comfort felt by students for expression and identifying with the group (Akyol & Garrison, 2008). Sharing and networking is considered an important aspect of a successful online course to assist in achieving learning goals and outcomes (Anderson & Dron, 2012). Some studies have relayed that inactive online students can become more active when in online small group activities (Jahng, Nielsen, & Chan, 2010). Informal peer-to-peer online communications are becoming increasingly important for our formal educational institutions to understand (Ravenscroft et al., 2012).

The social presence construct of the three CoI constructs has had the least amount of investigation by other researchers. A study by Guri-Rosenblit and Gros' (2011) deduced that too much online learning research is centered on the student with an exaggerated view of self-directed learning abilities by the students. In the last several years, criticism has arisen regarding the social presence construct as well as the entire CoI framework itself. Annand (2011) criticized the CoI social construct as idealized like

"communities of practice" by Wenger (1998). Wenger's seminal research regarded situated learning and cognition that stemmed from a systems theory approach and was the predecessor to Garrison et al.'s (2000) social presence construct. Even Wenger discussed that communities of practice are not necessarily harmonious and based on consensus or positive collaboration. They can be both "a strength and a weakness" (p.85) depending on the situated learning context. They can "give rise to an experience of meaningfulness; and, conversely, to hold us hostages to that experience" (Wenger, 1998, p. 85). Garrison's (2012) review of Annand's article furthered that the social construct is necessary but is not a romanticized and simple construct that is idealized.

Annand (2011) and other researchers' criticisms may be largely based on empirical theories of learning from the early distance learning practices; whereas today's online environment and technologies pedagogically support learning in social networking and relationship building. Garrison (2011) stressed that Annand and others have incorrectly criticized the CoI framework by having the wrong focus on individual learning in a distance education empirical framework, which is not the CoI paradigm. Annand's remarks are from a behaviorist-cognitivist perspective rather than a social constructivist perspective according to Garrison (2011). "Discounting social presence is to discount the importance of critical discourse in a connected, knowledge-based society" (Garrison, 2011, p. 251).

Even with only asynchronous communication technologies, there have been successful online learning case studies involving peer-to-peer interactions. Barber (2011) conveyed that the asynchronous discussion technologies worked in a graphic design

program because additional time was provided for reflection and critical discourse. With more advanced technologies, more opportunities have arisen for new and varying social interactions (Anderson & Dron, 2012). An example of student preference for online social interactions was by Swan and Ice (2010). It resulted in a high degree of congruence between students' learning and their preferences of utilizing social learning groups. A recent successful CoI research project conducted by Swan et al. (2012) won the Sloane-C award for the outstanding online program for design-based research. Swan used the CoI framework as well as the Quality Matters (2005) rubric for faculty-oriented peer review in a Masters of Teacher Leadership course.

According to Swan and Ice (2010), the CoI social presence still has not been adequately researched compared to the teaching and cognitive presence constructs. Some researchers believe that the social presence construct is not as necessary for learning. The study by Akyol and Garrison (2008) relayed that social presence did not impact learning but did improve student satisfaction of the course. Annand's work (2011) criticized the emphasis on the social involvement in the course and stated more research is needed to help prove its "relative influence of group-based social presence categories on the learning process" (para. 32).

Another criticism by Rourke and Kanuka (2009) of CoI researchers is being "preoccupied with tangential issues such as student satisfaction with e-learning" (p. 20). Student satisfaction of online courses is not necessarily a negative aspect in researching online learning environments nurturing higher cognitive skills. Morris (2011) conducted research regarding all three constructs relating to student satisfaction. Through this

perspective, insights on instructor participation and design were discovered. Furthermore, even if the social construct is found to be a key factor for student satisfaction, but may not directly impact higher level cognitive learning as teaching presence and course design, it is still important. Students are choosing online educational options at an unprecedented rate (Allen & Seaman, 2013; Dunlap, Sobel, & Sands, 2007). And student satisfaction of online courses assist with retention and completion rates (Barnard, Paton, & Rose, 2007).

The importance of group or social learning is not a new phenomenon in education. Traditional face-to-face classrooms have utilized group projects to meet learning expectations and outcomes. With the proliferation of online learning environments, more research is being focused as to how the historical behaviorist/cognitivist distance learning model can successfully incorporate group and social learning. Findings provide that an abundance of methods are available for team work and network building because of technology as well as students own choices in collaboration and social organizing that enhance learning (Cocea & Magoulas, 2010; Conrad, 2005).

A recent study by Nada Dabbagh and Kitsantas (2012) examined social media and networking to create a "Personal Learning Environment (PLE)" which they believe can enrich pedagogy. Their focus of self-regulated learning with social media was to discover whether or not this PLE structure enhances learning. They found that it depended on the student's technology and self-regulatory learning skills. From this study, once again, the instructor was necessary to assist and facilitate their self-regulatory

and technology skills. Shea (2006) had also found that student perceptions and satisfaction in online learning were affected by instructor participation and online learning environmental design affecting their sense of community.

Other variables. Not only is the instructor's course design important to foster social presence, but also many other factors, one of which is the decision as to how long the course will run. The study by Akyol, Vaughan, and Garrison (2011) looked at the variable of time affecting a community of inquiry in a graduate blended learning environment using the CoI survey and transcript analysis. Since there are great variances between comparing different online/blended learning courses provided by different instructors, this study utilized a course directed by the same instructor, yet one was offered for 13 weeks and the other for 6 weeks in duration. The results found that there were differences between the duration of the course and effect on cognitive, teaching, and social presences.

Beyond the time variable, subject matter of the course may also affect the decision as to whether CoI should be adopted for evaluating the learning environment. The study by Arbaugh, Bangert, and Cleveland-Innes (2010) relayed that the discipline variable impacted the CoI constructs between two institutions and 1500 student participants. They began their inquiry per other studies seeking to determine if certain disciplines have certain types of favorable teaching methods for student online success. Their recommendation was that further research needs to be conducted to determine if certain subject matter is more successful using CoI than others.

With almost 20 years of CoI study, research has validated the CoI framework as

well as criticized the framework. Some stating the constructs or variables are incomplete, such as proposing new constructs of telepresence, emotional presence, absent presence (Kawachi, 2011), or learning presence (Shea & Bidjeranoc, 2012), as well as consideration of the student's cultural environment (Beaudoin, Kurtz, & Eden, 2009).

What about cognitive presence and deep and meaningful learning? Future research recommendations that arose from Garrison and Arbaugh's 2007 CoI literature review called for quantitative framed studies evaluating and assessing CoI as well as multi-disciplinary studies using CoI. They furthered the need to identify factors that contribute to understanding the CoI constructs and online learning outcomes. As previously discussed many researchers thought additional constructs and variables may be needed to improve the model as well as its utilization specific to subject matter and/or course durations.

Whether or not CoI needs to be altered or applied differently may not be the problem at hand. It should first be known whether or not deep and meaningful learning can be evaluated in an online course using the CoI framework. To address institutional, faculty, and employer concerns about the value of online education (as seen in Allen and Seaman's 2013 research), the CoI method may need to be validated in its ability to evaluate higher cognitive learning, and which constructs may be more important in attaining this goal. For higher education to fully employ successful online learning environments, these issues could be addressed by employing successful evaluations of online learning outcomes. The CoI framework has been heavily studied for almost 20 years and continues to be used in research and teaching. Garrison et al. (2001) discussed

the purpose of the framework as a way to help determine if "deep and meaningful understanding" (p. 2) takes place in an online or hybrid learning environment. Deep and meaningful understanding or learning has been a focus of other research articles (Anderson et al., 2001). However, the definition of deep and meaningful learning has not yet been fully operationalized by educational researchers, especially in relation to CoI (Fullan & Langworthy, 2013). Where some researches have been adamant that the social presence construct has no importance in deep and meaningful learning (Annand, 2011; Rourke & Kanuka, 2009).

Deep and Meaningful Learning

The phrase "deep and meaningful learning" has arisen in the educational field and is used frequently, however few papers define what this means. Regarding the CoI literature, Garrison et al. (2000) discussed deep and meaningful learning specifically in the cognitive presence construct as well as the importance that the other constructs have on "deep and meaningful learning in higher education" (p. 93). More specifically, "when social presence is combined with appropriate teaching presence, the result can be a high level of cognitive presence leading to fruitful critical inquiry" (p.96). In their 2001 paper, they stated "critical thinking is both a process and an outcome. As an outcome, it is best understood from an individual perspective—that is, the acquisition of deep and meaningful understanding as well as content-specific critical inquiry abilities, skills, and dispositions" (p. 2). In Garrison's 2009 article, he stated, "the CoI framework has as its goal deep and meaningful learning approaches and is taking hold in online and blended learning" (p. 100). Critics of Garrison et al. (2000) are Rourke and Kanuka (2009), who

stated, “the review indicates that it is unlikely that deep and meaningful learning arises in CoI” (p. 19). To study the CoI framework, one needs to understand what is deep and meaningful learning? What is this phrase so commonly utilized? What does it measure, if anything at all?

To define portions of this phrase, *deep learning* is when students engage in non-surface-level learning, which can be active, learner-centered activities that provide levels of understanding and meaning applicable to their lives (Garrison & Cleveland-Innes, 2005; Tagg, 2003). *Meaningful learning* is accomplished "when the learner chooses consciously to integrate new knowledge to prior knowledge that the learner already possesses" (Novak, 2002, p. 549). Because of this definition, meaningful learning can be associated with constructivist and social constructivist theories of learning.

Bloom’s Taxonomy Revised

Anderson and Dron (2012), Atherton (2010) and Mayer in Anderson et al. (2001) related deep and meaningful learning to the Bloom’s Taxonomy that was revised in 2001 by Anderson et al. (Figure 3 and 17). The Bloom’s Taxonomy has been used by many instructors for designing curriculum since its inception in 1956 introduced by Benjamin Bloom (Munzenmaier & Rubin, 2013). The taxonomy relays higher cognitive skills with the lowest form being knowledge (Anderson et al., 2001; Atherton, 2010). Bloom and his committee had four principles, “be based on student behaviors; show logical relationships among the categories; reflect the best current understanding of psychological processes; and describe rather than impose value judgments” (Munzenmaier & Rubin, 2013, p.2). Its three domains are cognitive (what students

should learn/know), affective (what students should care about), and psychomotor (what students should be able to do). (Munzenmaier & Rubin, 2013) Many of these early principles are behaviorist and cognitivist in nature.

A 2001 revision of this taxonomy was initiated by Lorin Anderson and colleagues (Anderson et al., 2001) to describe the hierarchy in verbs rather than nouns (Table 2).

Table 2.

Revised Bloom's Taxonomy – Verbs from Lower to Higher Order Thinking Skills

LOWER ORDER		→			**HIGHER ORDER**
Remembering	**Understanding**	**Applying**	**Analyzing**	**Evaluating**	**Creating**
Recognizing	Interpreting	Executing	Differentiating	Checking	Generating
Recalling	Exemplifying	Implementing	Organizing	Critiquing	Planning
	Classifying		Attributing		Producing
	Summarizing				
	Inferring				
	Comparing				
	Explaining				

Adapted from L.W. Anderson, D.R. Krathwohl, P.W. Airasian, K.A. Cruikshank, R.E. Mayer, P.R. Pintrich . . . M. C. Wittrock, 2001, "A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives," New York: Longman.

The revision was "to refocus attention on the value of the original handbook in developing accountability programs, aligning curriculums, and designing assessments" and "to update the original based on new understanding of learning and new methods of instruction" (p. 17). Anderson et al.'s (2001) revision of Bloom's taxonomy further

refined the cognitive, affective, and psychomotor elements initially identified by Bloom and his committee in 1956. Rather than representing levels of higher order cognition reflected as nouns to assist the creation of learning objectives, Anderson et al. revises these levels in terms of actions with an object/noun. The verb references to actions are associated with cognitive processes. The noun then describes the knowledge the students construct. (Anderson et al., 2001) This new taxonomy has been assisting teachers in writing learning objectives and targeting the preferred level of student performance. (Munzenmaier & Rubin, 2013). The new taxonomy takes the learning theory of constructivism into consideration.

Another revision to Bloom's Taxonomy had taken place in 2007. Andrew Churches (2008) revised Bloom's taxonomy further to a digital taxonomy. This was based on the changes in pedagogy and technological tools that creates changes in learning environments and behaviors. Churches argued that the original Bloom's taxonomy takes traditional, face-to-face learning into account. The original is based on whether certain actions have taken place, and his revision focuses on the quality of the actions that take place in an online environment. He also advocates that learning does not go through specific steps on the hierarchy, but rather it is an interactive process between the layers of cognitive abilities. (Churches, 2008)

Table 3 highlights the dimensions of knowledge from factual to metacognitive. Factual knowledge is commonly accepted by the majority of people as real data and information such as terms and details of an object. *"Metacognitive knowledge* is knowledge of [one's own] cognition and about oneself in relation to various subject

matters" (Anderson and Krathwohl, 2001, p. 44). This transforms the taxonomy from a cognitive-behaviorist paradigm to a constructivist paradigm.

Figure 17. Revised Bloom's Taxonomy of the Knowledge and the Cognitive Process Dimension

From Iowa State University Center for Excellence in Learning and Teaching; http://www.celt.iastate.edu/pdfs-docs/teaching/RevisedBloomsHandout.pdf; Model created by: Rex Heer, Iowa State University, Center for Excellence in Learning and Teaching, Updated January, 2012, Licensed under a Creative Commons Attribution.

Table 3.

Knowledge Dimensions of Bloom's Taxonomy

factual	**conceptual**	**procedural**	**metacognitive**
knowledge of terminology knowledge of specific details and elements	knowledge of classifications and categories knowledge of principles and generalizations knowledge of theories, models, and structures	knowledge of subject-specific skills and algorithms knowledge of subject-specific techniques and methods knowledge of criteria for determining when to use appropriate procedures	strategic knowledge knowledge about cognitive tasks, including appropriate contextual and conditional knowledge self-knowledge

Adapted from L.W. Anderson, D.R. Krathwohl, P.W. Airasian, K.A. Cruikshank, R.E. Mayer, P.R. Pintrich . . . M. C. Wittrock, 2001, "A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives," New York: Longman.

Anderson et al. (2001) took the seminal Bloom's Taxonomy that was cognitive-behaviorist in nature and transformed it into a social constructivist paradigm. The revised taxonomy appears to assist online learning outcomes using multiple pedagogies (Anderson & Dron, 2012). However, in contrast to Anderson et al.'s (2001) revision of Bloom's taxonomy, Churches' (2008) "Digital Bloom's Taxonomy" reflects the Web 2.0 world. The key terms for this taxonomy are "recognizing, listing, describing, identifying, retrieving, naming, locating, and finding" (Churches, 2008, p. 7). This is a relatively new way of looking at how students learn and downplays the need for memorization skills. It may also reflect Anderson and Dron's (2012) discussion on the new connectivism theory

of learning. Since this literature review was conducted there has been a proliferation of easy to use online tools as well as tablet and smartphone apps designed to enable creativity. Chapter 5 discusses these new tools that have made it increasingly possible for students to be engaged in learning activities as well as assessment tasks that are focused on creativity (e.g., ExplainEverything™, Shadow Puppet™, and also the proliferation of coding and 3D printing).

Bloom's Taxonomy may be applied to an online or hybrid course to assist in determining whether deep and meaningful learning is achieved. Evaluating and assessing educational outcomes are necessities for secondary and post-secondary educational institutions. With the transitioning from formal classrooms to online learning environments, being able to measure learning outcomes will be critical for the 21st century. Understanding the definition of deep and meaningful learning can assist in helping measure these new educational outcomes in online environments. Further research is warranted as to what deep and meaningful learning means and whether it can be operationalized to assist with evaluating online learning using the CoI framework.

Utilizing the CoI Framework

Few studies exist that explicitly convey whether or not deep and meaningful learning has occurred in online learning environments. Some studies seem to indicate that in certain online environments, deep and meaningful learning cannot be achieved. According to Gorsky, Caspi, and Blau's study (2012), deep and meaningful learning did not occur in asynchronous online learning environments.

Regarding the CoI framework, the social presence construct is criticized as

unimportant for deep cognitive learning (Annand, 2011). Rourke and Kanuka (2009) insisted that the CoI framework could not evoke deep and meaningful learning. Although one study by Akyol and Garrison (2011) appears to have demonstrated that it can. They conducted a mixed methodological study utilizing transcript analysis along with interviews after identifying the learning outcomes using the CoI model. They sought perceived learning and satisfaction to determine if learning outcomes occurred as well as to identify higher cognitive skill achievement. They found that the hybrid and online-only courses achieved deep and meaningful levels of learning that can be associated with Bloom's higher cognitive functions using CoI.

With few CoI studies directly addressing the social presence construct as well as deep and meaningful learning, further investigation of the CoI framework is warranted. CoI's history and abundance of research call for more validation to determine its ability to evaluate higher cognitive achievements in an online learning environment.

Concluding Statements

Distance learning has been utilized since early historical records and has moved beyond in the U.S. from the formal, four-walled classroom because of the capabilities of online learning technologies. The rapid changes in technology have altered and created new pedagogies. The way teaching is being conducted and learning is occurring have transformed. Because fully-online post-secondary educational opportunities appear to be the future of education for U.S. colleges and universities, it is important to adopt evaluations and assessments to determine online learning success. However few frameworks for online design as well as evaluation methods of online learning exist to

assist in its valuation. The ability to understand online learning environmental variables as well as to assess online learning may assist in institutional, employer, and faculty acceptance of this relatively new practice in U.S. higher education, which in turn may assist in the production of well-designed and successful online learning programs.

The CoI framework has been advocated for further use and research, specifically the social presence construct. Hundreds of research studies have utilized the CoI framework where it has been tested, praised, as well as criticized throughout the years. With all of the research employing the CoI model and affirming reliability and validity, it is possible that the framework can help to evaluate specific courses in terms of deep and meaningful learning and learning outcomes.

Based on the literature, further investigation of the social presence construct is especially warranted. Through the context of a university online learning environment, the goals of this research were to seek understanding of the social presence construct

characteristics, and how to maximize social presence. The research questions that form Chapter 3's methodology are as follows:

1. What describes the social presence construct in an online learning environment in higher education?
2. What are overlapping characteristics of the social presence construct with teaching presence and cognitive presence constructs in an online learning environment in higher education?
3. What practices can be employed to maximize the benefits of the social presence construct in an online learning environment in higher education?
4. What are successful outcomes of maximizing the benefits of the social presence construct in an online learning environment in higher education?

The results may provide further understanding of the validity of the CoI social presence construct and CoI framework itself. The next chapter provides the methodology of this study.

CHAPTER 3. METHODOLOGY

Introduction

The methodology of this study employed inquiry-based, qualitative research utilizing survey and interview questionnaires to gather data and information from faculty at a Midwestern U.S. university regarding the social presence construct in online learning environments in higher education. Its design was inductive and exploratory in nature, thus theories were not tested. Both quantitative (through Likert-scale questioning) and qualitative data and information were generated by utilizing an online survey and interviews. This chapter describes the methodology involving its conceptual framework and research purpose and questions. It discusses the research design and rationale inclusive of procedures, participants, instruments, data collection and analysis, ethical considerations, and concluding statements.

Conceptual Framework

The conceptual framework of this investigation was based on the CoI framework (Figure 1) that includes a social presence construct that is advocated by Garrison, Anderson, and Archer (2000,2010) and others (Arbaugh et al., 2008; Cleveland-Innes, Garrison & Kinsel, 2007; Shea, 2006; Swan & Ice, 2010) as important to success in online learning. Garrison, Anderson, and Archer (2000,2010) further stated, along with this construct, teaching presence and cognitive presence are also critical constructs for online learning success. Per the literature review, some critics do not believe social presence is necessary (Annand, 2011; Rourke & Kanuka, 2009) while others have argued that it depends on the course subject matter being taught (Arbaugh, Bangert & Cleveland-

Innes, 2010). Social presence could also be jeopardized by the duration of the course according to Akyol, Vaughan, and Garrison (2011) as well as not addressing other variables, such as cultural and socio-political influences (Beaudoin, Kurtz, & Eden, 2009). In any case, the literature revealed that social presence can be very important in certain online learning contexts and that additional research is warranted to further the scholarship of this construct. This study sought to expand understanding of social presence in online learning environments in a Midwestern university through the perspectives and practices of faculty who teach online courses.

Research Purpose and Research Questions

The research purpose was to further investigate the social presence construct in a university's online settings through the perspectives and practices of faculty teaching in online learning environments. Through the context of a university online learning environment, the goals of this research were to seek understanding of the social presence construct characteristics and how to maximize social presence. Because this research did not test a theory and was an inquiry-based investigation, no hypothesis was tested. The methodology was qualitative in nature where research questions were addressed and answered.

The research questions that form Chapter 3's methodology are as follows:

1. What describes the social presence construct in an online learning environment in higher education?
2. What are overlapping characteristics of the social presence construct with teaching presence and cognitive presence constructs in an online learning environment in higher education?
3. What practices can be employed to maximize the benefits of the social

presence construct in an online learning environment in higher education?

4. What are successful outcomes of maximizing the benefits of the social presence construct in an online learning environment in higher education?

Research Design and Rationale

From the research purpose and questions, an inductive, qualitative methodology was warranted based on grounded theory (Creswell, 2009). This study's purpose explained the research importance and its directions and knowledge to be produced. This investigation proposed questions inquiring as to what is the nature of a social presence phenomenon, which is inductive in nature (Blaikie, 2010). Because this research was an inquiry into the problem of not fully understanding social presence in online learning environments, hypothesis-testing was not warranted as a theory was not being tested (Blaikie, 2010; Creswell, 2009).

Procedures

For the research, there were two phases: 1) Survey research during spring semester 2014, and 2) interview research during summer and fall semesters in 2015. The plan of work is illustrated in Table 4. This highlights the research activities throughout the study inclusive of gaining Institutional Review Board (IRB) and administrative approvals prior to conducting the research.

The procedures outlined in Table 4 involved the creation of consent forms and online survey and initial interview questions in 2014-15. For data analysis, Statistical Package for the Social Science (SPSS) and Microsoft Excel databases were utilized. The interactive online survey was created using Qualtrics; and, the researcher gathered instructor emails from the publicly available university class schedule and web directory.

During the month of February in 2015, the online survey was field-tested by faculty, staff, and students who were not the population being researched. Revision of the online survey was made based on feedback.

Email invitations were sent to the university faculty who teach online or hybrid courses for them to voluntarily participate in the online survey and/or to participate in the interview (see consent forms in Appendices B & C) after the IRB application was approved. Note that instructors who taught online only courses were allowed to continue the survey per the nature of this research. Email reminders were sent to help improve the response rate. As de-identified survey data was generated and sent to the researcher via email, it was entered into Excel and SPSS, and interview data was analyzed for themes. Quantitative (Likert-scale) data was entered into Excel, coded, and pasted into SPSS. Qualitative information (answers to open-ended questions) was grouped for themes and pattern generation. Those faculty providing positive responses and selected through a randomized process to be interviewed were contacted. Interviews were set-up based on the faculty member's preference of date and time as well as format, such as face-to-face location or via phone or Skype/Google Hangout.

Based on the survey response data analysis, interview questions were finalized. Interviews were conducted and the qualitative information generated from the interviews were analyzed for themes and pattern generation of the six interviews. Data and information entry and coding and generation of results were finalized fall semester 2016. Findings and conclusions were reported in December 2017.

Table 4.

Social Presence in Post-secondary Online Courses Timeline

Preparation to conduct research: **Two months**	**Two months**		**Two months**
Create consent forms, Qualtrics online survey and partial interview questions. Fill out and submit IRB application for approval.	Acquire PC; load SPSS; setup databases; program online survey with approved questions, gather instructor emails from University class schedule and web directory.	Field-test online survey with consent form and revise if necessary. Send email invitation for online survey and interview once IRB approved.	Send email reminder request for survey and interview participation with consent forms; collect and enter responses and code. Set up interview dates for those volunteering in summer and fall semesters.
Two months	**Three months**		**Three months**
Finish data analysis and reporting on survey results. Generate final interview questions based on survey results.	Conduct interviews for those volunteering & selected; continue to enter and code data and information. Finalize data and information entry and coding; analyze data and information.		Report findings and conclusions; finalize dissertation and defend.

The tools used in this inquiry involved survey and interview questionnaires with both quantitative and qualitative questioning to generate data and information from university faculty who teach in fully online courses in the 2014 academic year. All faculty meeting the criteria teaching online or hybrid classes were invited to participate in the survey, however, the survey limited participants to only those who taught courses fully online to further delineate the population to study online social presence. These individuals also were invited to be part of the interview phase of the research. This sample is a convenience sample as they are from a "semi-natural" environment as discussed by Blaikie (2010) in that the participants "report on their own and/or other people's activities, attitudes . . ." (p. 166).

To further try to obtain a significant sample size, multiple email invitations for both the survey and interview were conducted. A follow-up mailer was also employed. No incentives were provided for taking the survey or being interviewed. This procedure was decided even though monetary or award incentives do provide higher response rates as it has become increasingly difficult to obtain a significant response rate in survey and interview research (Blaikie, 2010).

After the survey data and information was gathered from the two populations, they were assessed and evaluated. Quantitative data was analyzed in SPSS. Only six interviews were obtained, and themes were easily detected. Blaikie (2010) stated that data should be reduced for analysis, such as quantitative data "keying in responses to a questionnaire" for statistical analyses (p. 25) with data generated through Likert scale questions and Cronbach's alpha utilized to determine internal consistency of the questions in which this study utilized these methods. Per Creswell (2009), qualitative validity was ensured through triangulation from the different information/data questioning sources, and thick descriptive text from the open-ended questions to determine major themes. Primary data was generated by this study, no secondary data was utilized, which constitutes primary research (Blaikie, 2010).

Instruments

Because this study was inquiry-based and qualitative in nature as previously described, two questionnaire instruments were used to generate the applicable data and information needed to better understand social presence in online post-secondary learning environments. The survey questionnaire appears in Appendix D and consists of Likert-

scaled questions as well as closed-ended and open-ended questions. Questions 1-5 were closed-ended questions that seek demographics, background of the instructor and employment of online courses in higher education. Questions 6 and 8-18 were Likert-scale questions, and questions 7 and 19-20 were open-ended questions seeking information on their perspectives and practices of the use of social presence in online learning in higher education. Questions 8-18 Likert-scale questions sought the perspectives of faculty regarding social presence and its importance in online learning addressing CoI's social presence construct from the CoI survey. The last question was an open-ended question for faculty to provide additional information they believe was applicable to the study, but not necessarily asked in the survey questions. Beyond descriptive analysis, possible relationships of the quantitative Likert-scale data with demographic and background were analyzed. Correlation coefficients and regression analyses were conducted to determine if any relationships existed.

The choice of the self-administered, online survey questionnaire was due to convenience, cost, and the high rate of use in the research community (Robson, 2002). The survey questions used were fixed and part of a quantitative design, for example yes/no/not applicable or Likert (Robson, 2002); however, other questions were qualitative in nature for information generation that provided further insight regarding issues related to the social presence construct in online post-secondary learning environments, which reflected the qualitative design (Creswell, 2009).

The interview questionnaire was finalized based on the survey responses that were received and analyzed, and it contained only open-ended questions (see Appendix

E). These questions formulated from the survey results had significant correlation as well as the patterns that originated from the open-ended questions. The results of the investigation generated new questions not apparent in the literature and/or by the principal investigator, such as contradictory responses regarding class size effects on social presence.

The invitations to participate in the survey and interview were a cross-sectional design. Numerous email invitations were made to try to increase the response rate of the online survey conducted spring 2014 and participants for interviews that occurred spring semester 2015. The survey and interview responses were considered analyses at a single point in time discerning patterns and themes of information within the population or sample (Robson, 2002). The next section describes the validity and reliability of these instruments and research design.

Validity. The problems and limitations of this study are initially identified as the results of the survey and interview questionnaires as not being representative of the situation in other higher educational institutions. Qualitative research is regarded as not generalizable (Creswell, 2009) thus external validity cannot be verified. Qualitative research employs an "unfolding model of inquiry" (Creswell, 2009, p. 173) where determining design issues initially can be problematic. The process of forming themes and patterns may also misrepresent the data (Robson, 2002; Welsh, 2002).

The methodology was partially flexible in design as a means to build upon existing theory (but did not test theory) and/or generate new theories. The interview questionnaire was fully created only after the survey responses were analyzed. This

provided an opportunity of discovery (Creswell, 2009) to more fully try to understand the social presence phenomena in online learning.

In addition to problems with external validity, qualitative research can be difficult in solving other problems of validity. From Huberman and Miles (2002), Maxwell stated that "validity categories are of much less direct use in qualitative research than they are (or are assumed to be) in quantitative and experimental research"(p.56). Quantitative, or experimental, research utilize controls where reproducible results can be achieved (Robson, 2002), which are not feasible nor appropriate for this research inquiry.

The internal validity of this study should be confirmed. The questionnaires and their field testing ensured they inquired about the phenomenon studied, which is the social presence construct. The questions in the survey tool were targeted to acquiring data and information on faculty perspectives and practices of social presence in their online classrooms. The questions were also worded to try to evade ambiguity or misunderstanding, which assists internal validity (Robson, 2002).

Face validity was also ensured, as the appearance of measuring what should be measured (Robson, 2002) was apparent by the question constructs. This investigatory study used multiple tools which helped increase both face validity as well as construct validity. As Robson (2002) stated, construct validity may reveal that "any one way of measuring or gathering data is likely to have its shortcomings, which suggests the use of multiple methods" (p. 103). The minimization of errors in using these tools were also made to ensure internal validity and construct validity.

Reliability. Reliability was enhanced by field testing the survey and interview questionnaires to ensure they are understandable. "Reliability is more straightforward. By presenting all respondents with the same standardized questions, carefully worded after piloting, it is possible to obtain high reliability of response" (Robson, 2002, p. 231). Although this research did not conduct a pilot study (i.e., prior study on the population), field testing was done seeking others familiar with online courses (but not of instructors involved in the research population) to review the questions and provide feedback on understandability of the questions. Although each of the participants may have provided different answers, the questionnaire tools were answered in a reliable fashion.

To try to increase the validity and reliability of this qualitative research, the entire population of current faculty at this Midwestern university who are listed as teaching online courses in the 2014 academic year were sought for their participation. To help maximize the response rates of the voluntary survey and interview, multiple email invitations were employed. The survey was online for the volunteers' convenience. In addition interviews were done via face-to-face, online (i.e., Skype), and/or on the telephone based on the interviewees' preferences and availability. It was decided not to provide survey participants and interviewees any compensation as an incentive, however that may have helped improve response rates for reliability.

Participants

The participants of this study were faculty at a Midwestern university who teach fully online, rather than hybrid courses in the 2014 academic year. These faculty who taught on any of the University's campuses were invited to voluntarily participate in both

the survey and interview phases of this study. Identification of these faculty were queried through the online class schedule and web directory. All faculty listed on the class schedule teaching these online forms of classes were invited. The following population and sample variables were sought:

N=represented all faculty at this Midwestern university who teach fully online courses in academic year 2014

n1=represented faculty invited to and participated in the survey

n2=represented faculty invited to and participated in the interview

The participants were those faculty who submitted responses to the survey and/or through the interview process.

Participants were recruited by multiple emails with a follow-up mailer inviting them to take the online survey and/or volunteer to be interviewed. The online survey generated the data and information that were automatically emailed to the researcher. The interview was audio recorded and the resultant data and information was transcribed.

Survey participants could take the online survey at their availability where they have access to the Internet. The interviews took place on the participant's campus at a pre-arranged location approved by both the participant and the interviewer. The location was to ensure the comfort of the interviewee. Alternatively, the interview participants could provide answers to the interview questionnaire via written form, on the telephone, or using online conferencing, such as Skype or Google Hangout.

Data Collection and Analysis

As previously described, two tools were used to gather data and information: 1) An online survey, and 2) an interview. Both quantitative and qualitative methods were

utilized for data collection and analyses. Descriptive quantitative data was generated from the answers to the Likert-scale questions in the survey. SPSS was utilized to analyze this data. The answers to Likert-scale questions produced the ability to generate descriptive statistics. Utilization of statistics helped ensure accuracy, precision, validity, and reliability of a research study's findings and SPSS has been a widely utilized statistical analysis program (Norusis, 2006). The quantitative data was first entered and coded in Excel before it was uploaded in SPSS for analysis.

Qualitative data and information was collected as the answers to the open-ended questions in the survey as well as the interview questionnaire. Careful transcribing and coding of the interview audio-recordings was essential to ensure validity and reliability of any appearance of patterns and themes. Careful organizing of the data and information into themes without losing information was essential (Welsh, 2002), so every response was kept in context, as some information generated was not able to be grouped into themes, but reported on their own, specific to those interview questions. The thematic group helped provide a way to look at all of the information at each level from specific interviewee data to themes generated by multiple or all interviewees (Welsch, 2002).

Ethical Considerations

Prior to any research activities, an IRB application was submitted to ensure the confidentiality and protection of survey and interview participants. IRB protocols and Family Educational Rights and Privacy Act (FERPA) and Health Insurance Portability and Accountability Act (HIPPA) laws were followed (note that health information was not being sought in this study, however, a participant may have voluntarily offered health

information in the survey and/or interview). To ensure ethical conduct in research, both the researcher and mentor successfully took Collaborative Institutional Training Initiative (CITI) training which educates researchers on research history, laws, and ethical behavior. Survey and interview participant anonymity was ensured. Only aggregate data and analyses were represented in the research study's findings to ensure this anonymity.

Concluding Statements

The study's methodology was to answer the research questions concerning social presence in online learning environments at any of the campuses of this Midwestern university through the perspectives and practices of faculty. This was a qualitative inquiry-based investigation to more fully understand the social presence construct and its importance in online learning. Multiple tools, an online survey and interview questionnaire, were used to gather data and information. Both qualitative and descriptive quantitative data were analyzed using thematic coding and SPSS respectively. Chapter 4 follows and describes the research data and information results and analyses. This paper then ends with Chapter 5 that summarized and discussed the results and limitations and provides recommendations for future research.

CHAPTER 4. DATA COLLECTION AND ANALYSIS

Introduction

This chapter contains the study's resultant data and analyses to address its research goals and to help answer the research questions. The sections in this chapter first summarize how data and information were collected then addresses the survey questions and results followed by the interview questions and results. From the survey results and patterns of information generated from the interviews, the research questions are answered. A summary of findings concludes the chapter.

Data Collection Summary

This study encompassed a three year timeframe of data collection and reporting, encompassing two data collection tools from the 2014 spring semester using an online survey through the 2015 spring semester conducting interviews of faculty from this Midwestern university. Data reporting occurred in 2017. As previously stated in methodology, Excel and SPSS were used to analyze quantitative data, whereas qualitative information of answers from open-ended questions and interviews were manually analyzed for patterns and themes. The next two sections provide the results of the survey questionnaire and interviews to help achieve this study's goals and to answer the research questions.

Survey Questionnaire

A survey questionnaire (Appendix D) was distributed to faculty who teach fully online courses on any campus of the Midwestern university. Invitations were sent to those faculty listed as teaching online and hybrid courses, however, as shown in the

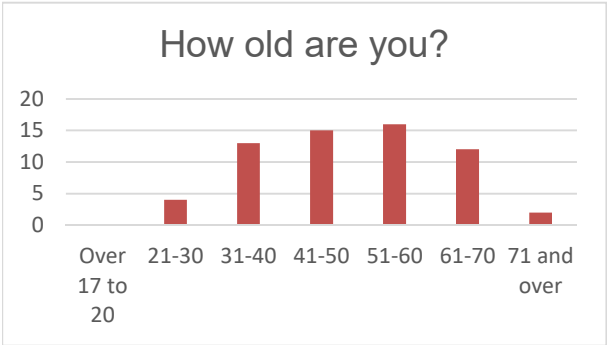
survey, only those who had the experience of teaching fully online courses were permitted to continue the online survey. The survey was conducted after the receipt of the IRB approval (1404E50244). The following are the results of that survey after SPSS analyses were conducted using descriptive statistics and Pearson correlations, as well as finding patterns of results from the qualitative questioning.

A total of 390 email invitations were sent out. Of these, 80 responded (20.51%), and of the 80, 62 qualified (15.90%) for teaching fully online (two had to be thrown out as they did not fill out the majority of the survey; initial n1=64, final n1=62). Of the 62 surveyed, six (n2=9.68%) opted to be interviewed and were interviewed spring semester 2015.

Questions on Demographics and Classroom Data

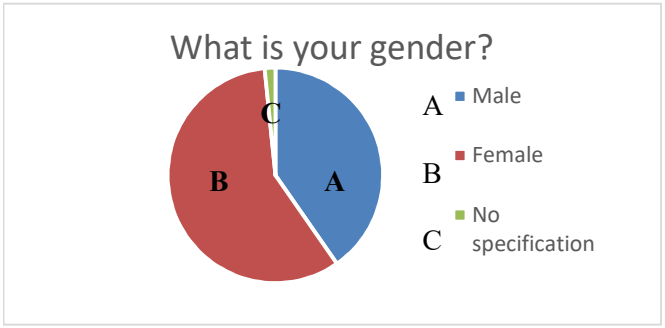
Regarding question one of the survey (Figure 18) seeking the respondents' ages, all 62 responded to this question. The majority were 31 through 60 years of age with almost 23% over 61 and only 6.5% from 20-30 years of age.

Figure 18. Survey Question 1: Participant Age



Question two (Figure 19) asked about the respondents' gender. All 62 responded and the majority, over half (58.06%), were female.

Figure 19. Survey Question 2: Participant Gender



Question three, part a, asked how long respondents had been teaching undergraduate courses in post-secondary education. Figure 20 shows the results. All 62 respondents answered and the majority, over half, taught undergraduates between one and 15 years where almost 10% had no undergraduate teaching experience. Those having over 15 years teaching experience for undergraduate courses were approximately a third of the respondents, and two had over 40 years' experience teaching undergraduates.

Figure 20. Survey Question 3a: Teaching Undergraduate Courses

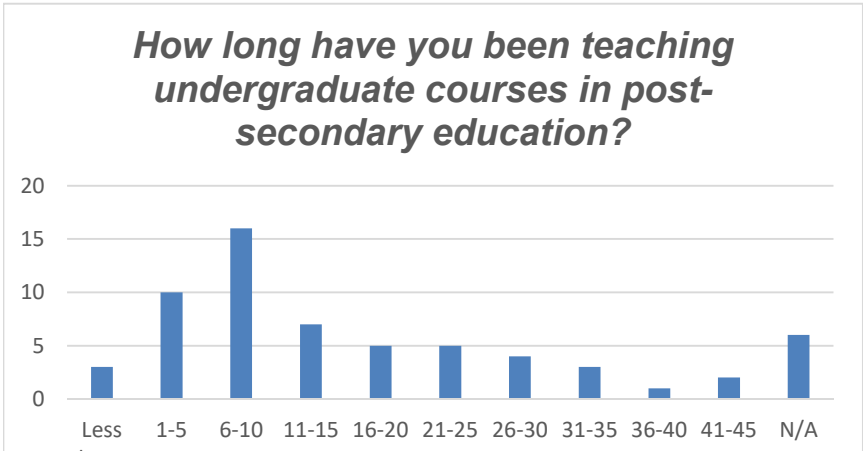


Figure 21. Survey Question 3b: Teaching Graduate Courses

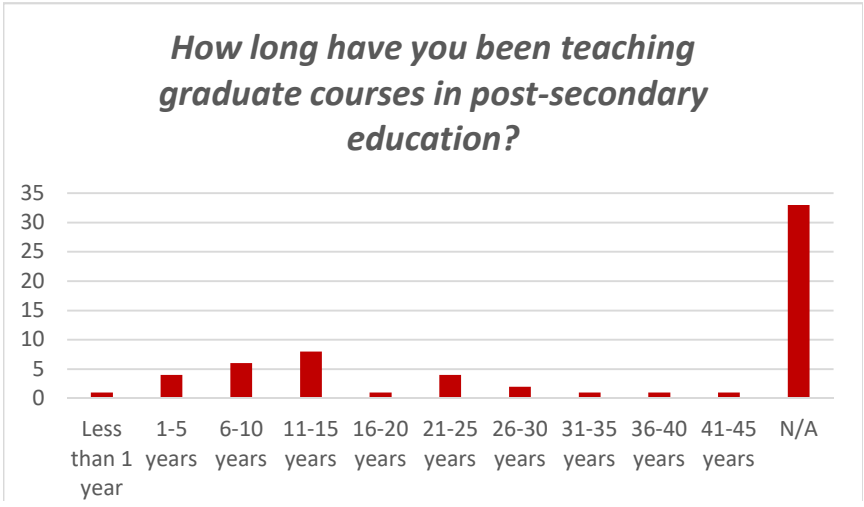


Figure 21 represents the answers to question three, part b, which asked how long they had been teaching graduate courses in post-secondary education. All responded and

over half did not teach graduate courses (53.23%, 33 respondents). Those who did, almost a third had one to 15 years teaching graduate students.

Figure 22. Survey Question 4: Teaching Online Courses

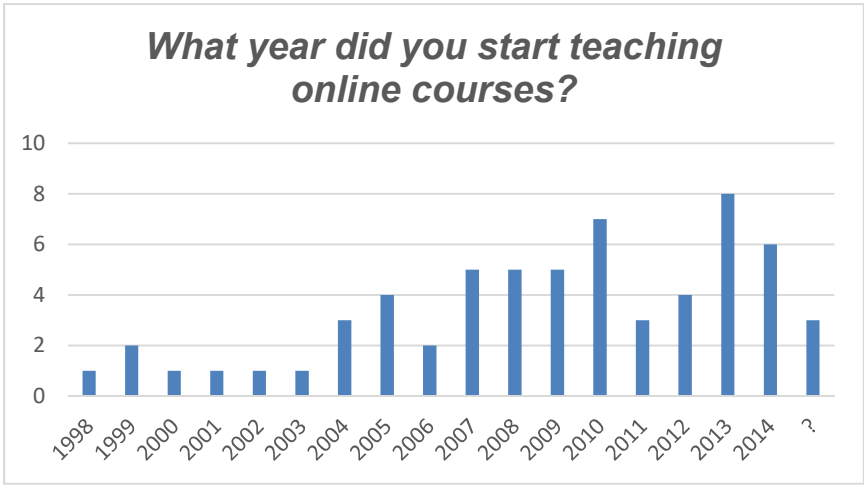


Figure 22 shows the responses from question four regarding when they began teaching online. Of the 62 responding, over half (57%) began teaching online between 2005 to 2011. One (1.61%) stated as early as 1998.

Answers to part a of question five are represented in Figure 23, which are responding to how many completely online courses they had taught in higher education. All but one responded to this question. Most (over 80%) taught one to 25 online courses.

Answers to part b of question 5 are represented in Figure 24, which are responding to how many different subjects had they taught completely online in higher education. All responded to this question. Most (87%) taught one to four subjects with 42% teaching only one subject.

Figure 23. Survey Question 5a: Number Online Courses Taught

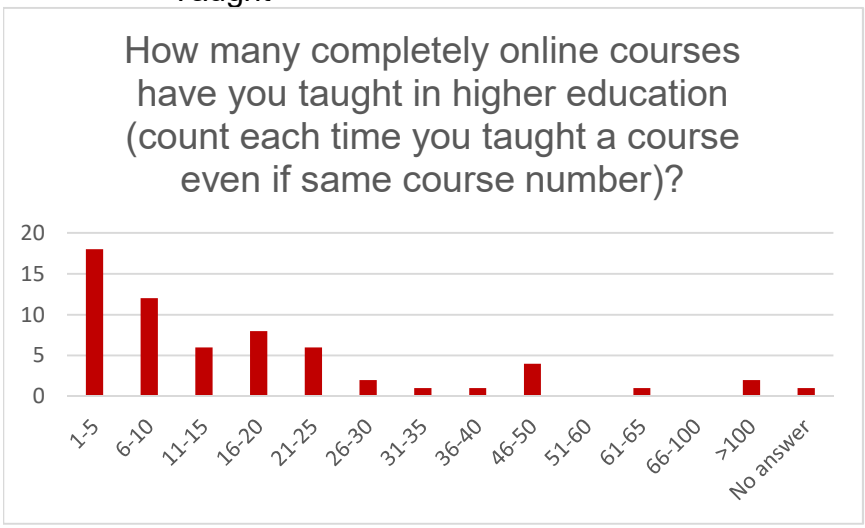


Figure 24. Survey Question 5b: Number Different Subjects Taught Online

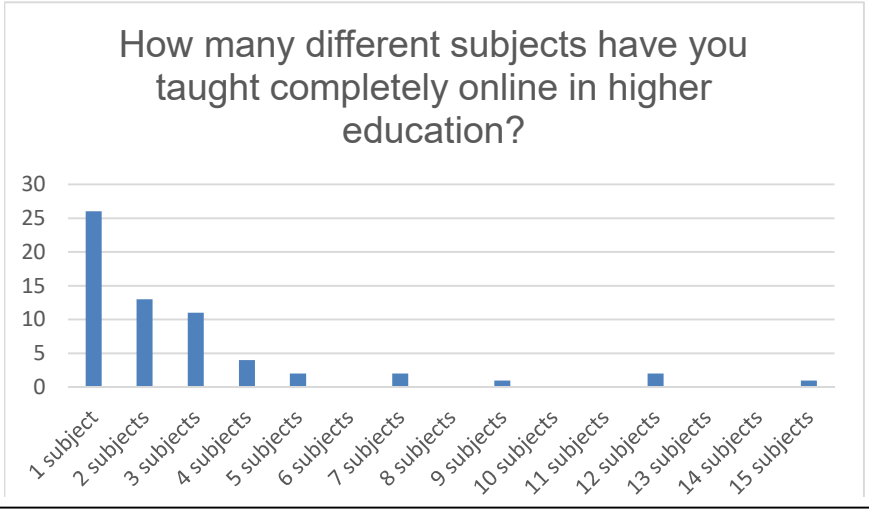
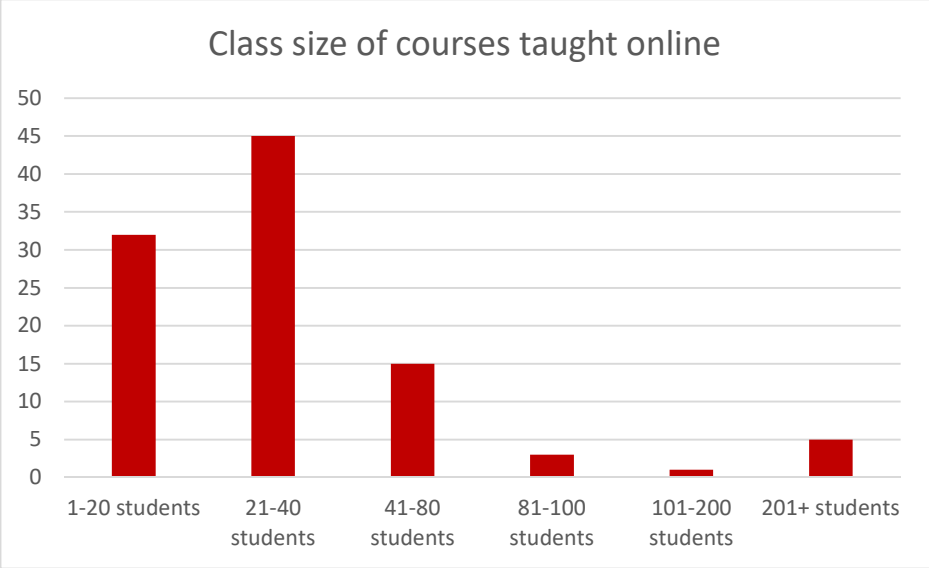


Figure 25 shows the results of question five, part c: Please select the size of classes taught that have been completely online, checking all that apply. Every participant responded to this question. Almost 45% of the respondents stated that their class sizes were between 21 and 40 students, with most (over 90%) being one to 80 students. There were five (5%) participants who taught online courses of over 200 students.

Figure 25. Survey Question 5c: Online Course Class Size



Part d of question 5 was seeking out the level of the completely online classes taught: Undergraduate, graduate, or non-degree/continuing education/other course. Most (52, 65%) were undergraduate and over a quarter (22, 27.5%) were graduate. Six (7.5%) specified non-degree-seeking/continuing education/other fully online courses taught. All responded to this question.

Figure 26. Survey Question 5d: Level of Completely Online Class Taught

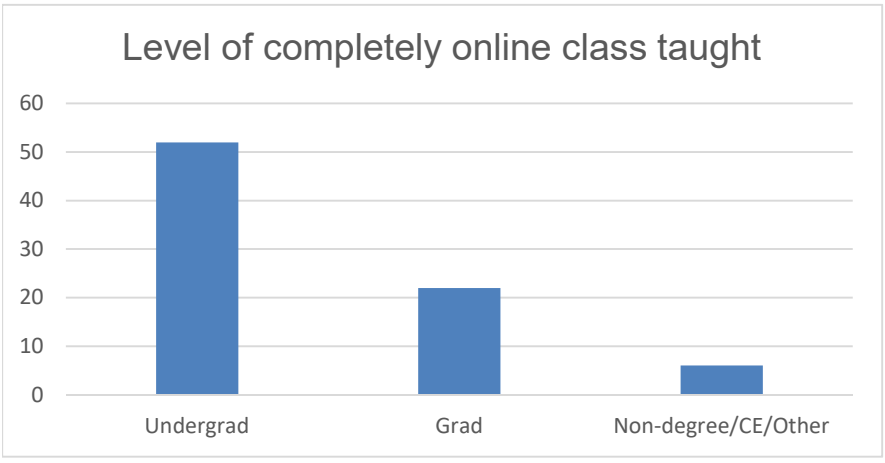
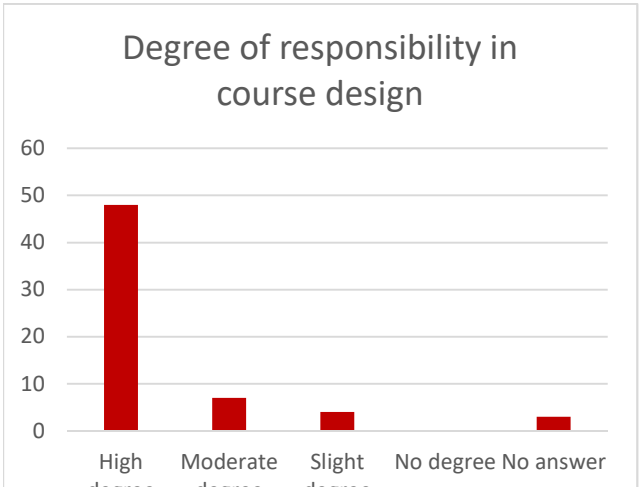


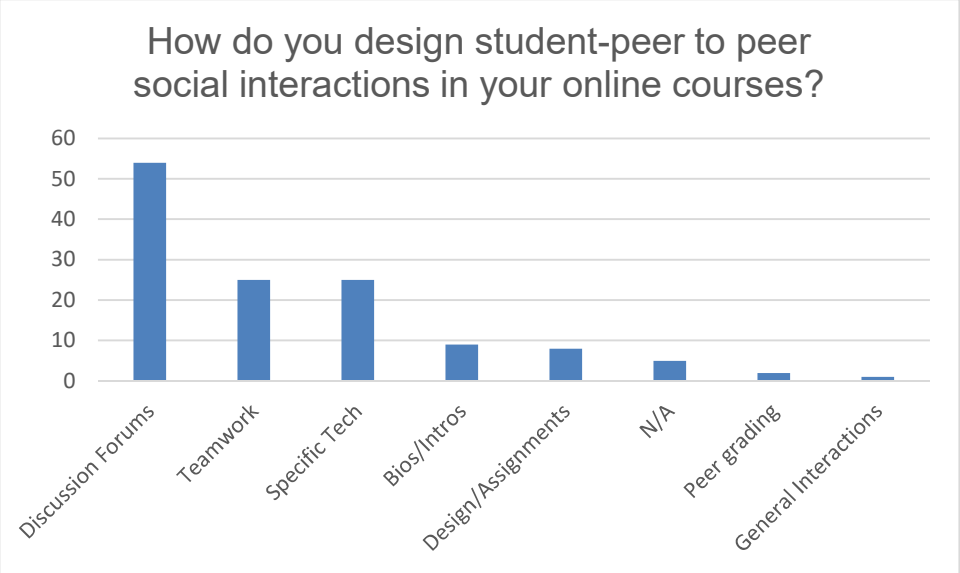
Figure 27 represents the answers to the degree of responsibility in online course design. Most (48, over 77%) had a high level in their responsibility for the design of the course. Seven (11.29%) stated they had a moderate degree and four (6.45%) a slight degree. Three (4.84%) did not answer, and none stated they had no degree in responsibility of the course design.

Figure 27. Survey Question 6: Degree of Responsibility in Course Design



Question seven results are shown in Figure 28. This question asked how, as instructors, do they design online courses for student interactions that are peer-to-peer. Aggregated results (of 54 responding) were mainly through the use of discussion forums (41.9%) where teamwork (19.38%) and specific technologies used (19.38%) comprised the other almost 40%. Additional results were nine (6.98%) stating bios/introductions, eight (6.20%) stating rubric design/assignments, two (1.55%) stating peer grading, and one (0.78%) stating general interactions. Eight participants did not respond to this question and five (3.88%) stated that this was not applicable to them or their online course(s). Appendix F provides the aggregated results divided out with specific responses in these groups.

Figure 28. Survey Question 7: Design Student Peer-to-Peer Interactions

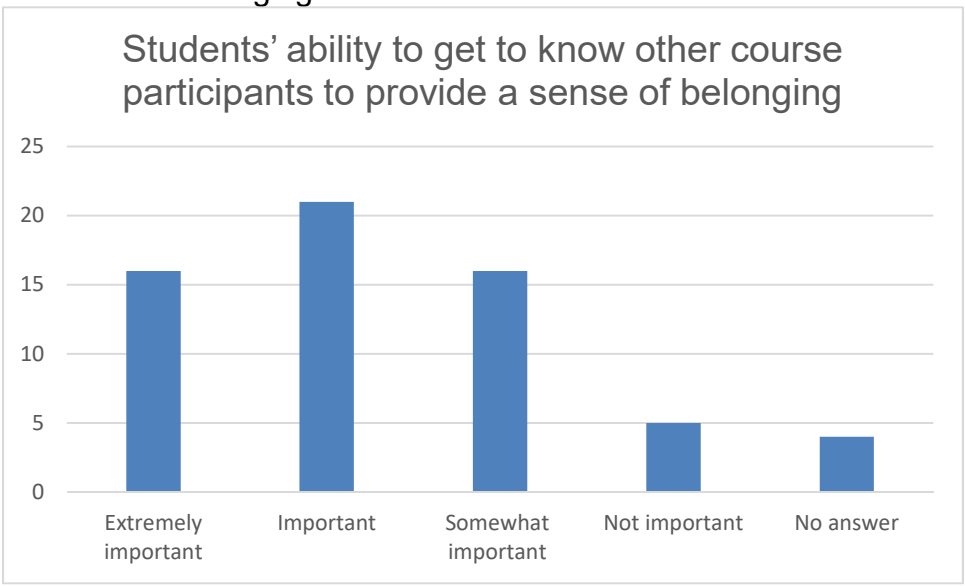


Likert Questions

For questions eight through 18, Likert scaling was used and both descriptive statistics and Pearson Correlations were conducted. The correlations follow question 20 results. Likert scaling was based on the instructors' selections of the level of importance for successful online learning per question: Extremely important (value=1), important (value=2), somewhat important (value=3), or not important (value=4). These Likert questions are based on the CoI framework's social presence construct characteristics.

Figure 29 represents the answers from question eight. The question asked about the importance, as it pertains to social presence, of the students' ability to get to know other course participants to provide a sense of belonging in the course. Over a third stated this important (34%). Over half selected either extremely important (26%) or somewhat important (26%) with 86% selecting at least somewhat important. Table 5

Figure 29. Survey Question 8: Students' Ability to Get to Know Other Course Participants to Provide a Sense of Belonging



shows the mean (2.17=important), median (2=important), and mode (2=important) with minimum (1=extremely important) to maximum (4=not important). Fifty-eight out of 62 survey respondents answered this question and the standard deviation was .939. This question had significant correlations with class sizes over 200 as well as class sizes between 81-100 as seen later in this section.

Table 5.

Statistics Question 8

N	Valid	58
	Missing	4
Mean		2.17
Median		2.00
Mode		2
Std. Deviation		.939
Minimum		1
Maximum		4

1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

Question nine asked the level of importance the students are able to form distinct impressions of some course participants. Figure 30 shows the results and Table 6 represents the statistics of mean (2.76=somewhat important to important), median (3=somewhat important), and mode (3=somewhat important) with a minimum (1=extremely important) to maximum (4=not important) and standard deviation of .844. Over 37% (23 responses) selected this as somewhat important and another third (32.26%) selected this as important. Only three (4.84%) selected this as extremely important and interestingly almost 20% (12 respondents) stated this to not be important. Four (6.5%)

did not answer this question. A significant correlation occurred between this question and class size over 200 students and is discussed later in this section.

Figure 30. Survey Question 9: Students are Able to Form Distinct Impressions of Some Course Participants

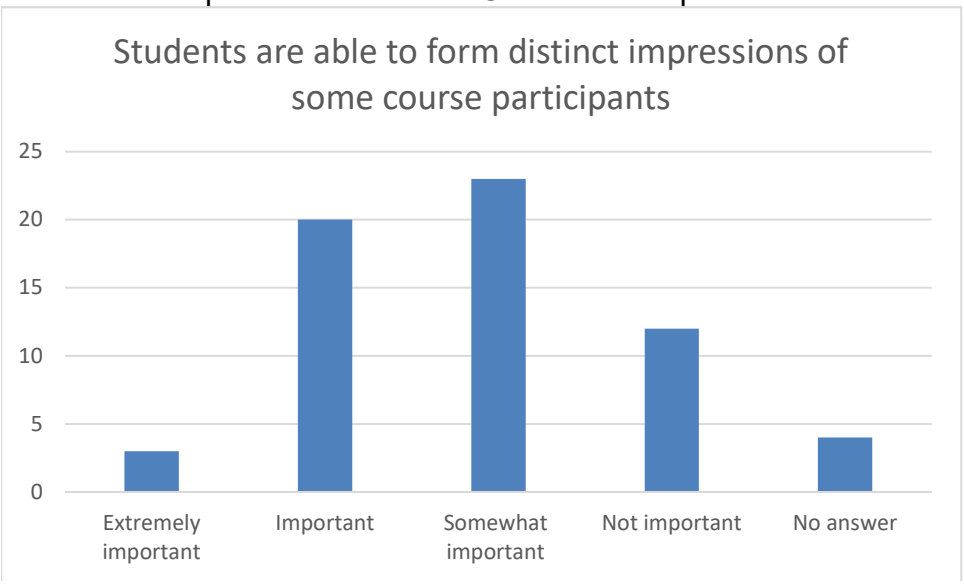


Table 6.

Statistics Question 9

N	Valid	58
	Missing	4
Mean		2.76
Median		3.00
Mode		3
Std. Deviation		.844
Minimum		1
Maximum		4

1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

Question ten was regarding the level of importance on whether online or web-based communication is an excellent medium for social interaction. Figure 31 shows the results and Table 7 represents the statistics of mean (2.38= important to somewhat important), median (2=somewhat important), and mode (3=somewhat important) with a minimum (1=extremely important) to maximum (4=not important) and standard deviation of .926. Almost a third (32%) stated this as somewhat important with 20 responses and almost another third (31%) thought it important with 19 responses. Eleven (18%) thought this to be extremely important with six (9.5%) stating this not important and another six (9.5%) not responding of the 62. No significant correlations occurred.

Figure 31. Survey Question 10: Online or Web-based Communication is an Excellent Medium for Social Interaction

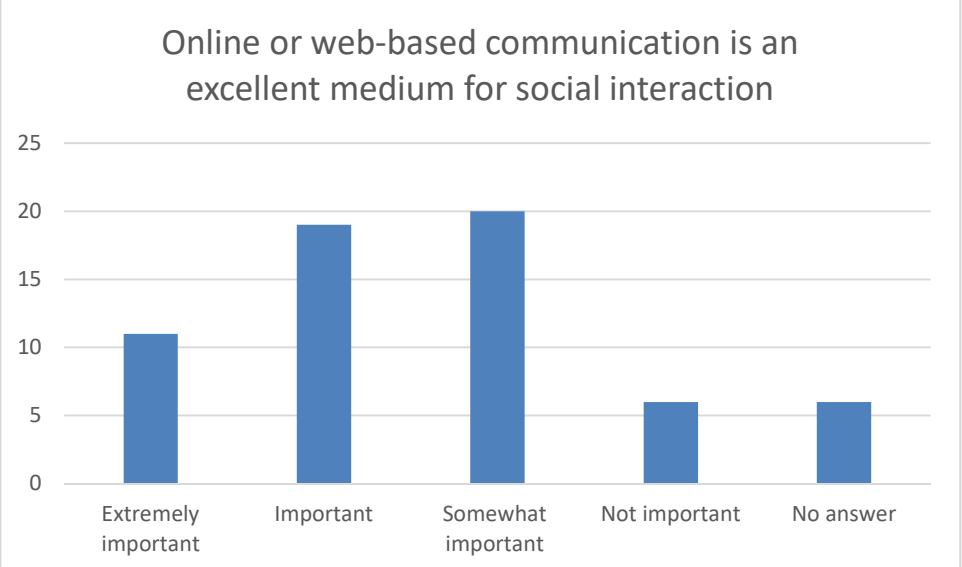


Table 7.

Statistics Question 10

N	Valid	56
	Missing	6
Mean		2.38
Median		2.00
Mode		3
Std. Deviation		.926
Minimum		1
Maximum		4

Question 11 asked the participants to rate the level of importance regarding students feeling comfortable conversing through the online medium. Over 78% selected at least important, with 40.3% (25 respondents) selecting extremely important and 38.7% (24 respondents) selecting important. Only 4.84% (3 respondents) selected not important and 8.06% (5 respondents) selected somewhat important (5 did not respond to this question out of the 62). Figure 32 represents the results of question 11 and Table 8 shows the statistics of mean (1.75=extremely important to important), median (2=important) and mode (1=extremely important) with a standard deviation of .830. Significant correlations did occur with this question and class sizes of 81 to 100 and over 200 students and are explained later in this section.

Figure 32. Survey Question 11: Students Feel Comfortable Conversing through the Online Medium

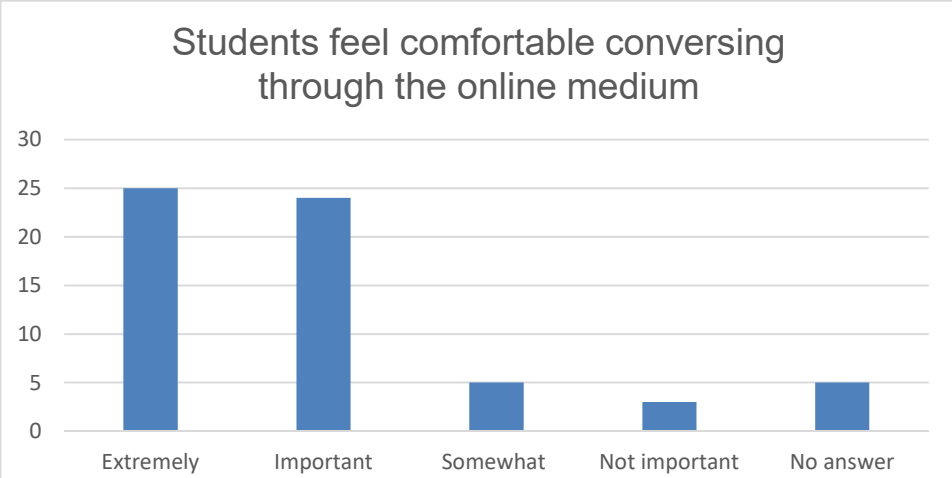


Table 8.

Statistics Question 11

N	Valid	57
	Missing	5
Mean		1.75
Median		2.00
Mode		1
Std. Deviation		.830
Minimum		1
Maximum		4

1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

Question 12 asked the level of importance of the student feeling comfortable participating in the course discussion. An overwhelming majority of 60% (37 respondents) stated extremely important and another 21% (13 respondents) stated important. Only three (4.8%) selected somewhat important and four (6.5%) not important. Eight percent (five respondents) did not respond out of the 62 participants.

These results are shown in Figure 33, and Table 9 represents the statistics of mean (1.54=extremely important to important), median (1=extremely important), and mode (1=extremely important). The standard deviation was .888. This question had one significant correlation, discussed later, with a class size over 200 students.

Figure 33. Survey Question 12: Students Feel Comfortable Participating in the Course Discussions

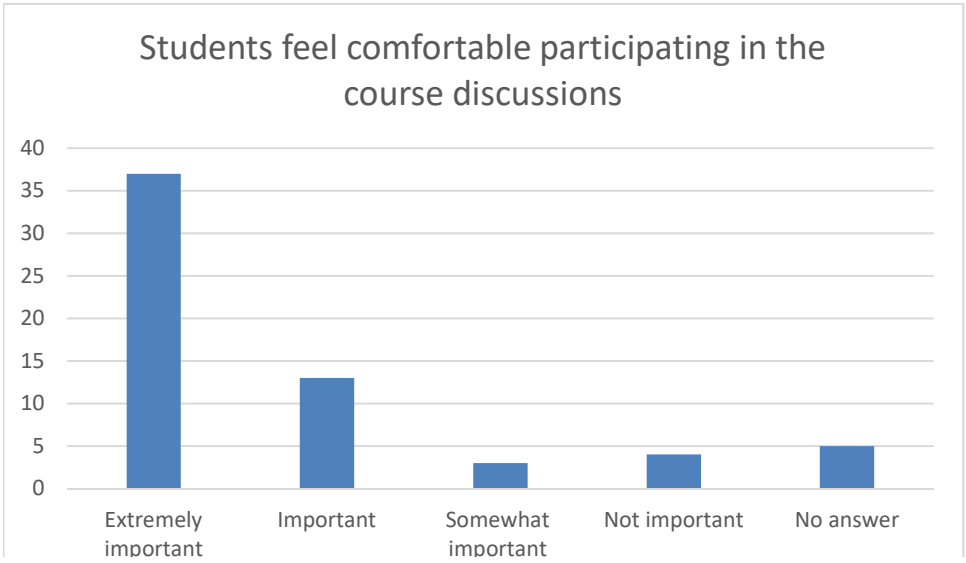


Table 9.

Statistics Question 12

N	Valid	57
	Missing	5
Mean		1.54
Median		1.00
Mode		1
Std. Deviation		.888
Minimum		1
Maximum		4

1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

Question 13 sought the level of importance for the students to feel comfortable interacting with other course participants. Over 70% thought it at least important: 25 respondents (40.32%) selected extremely important and 21 respondents (33.87%) selected important. Six respondents (9.68%) selected somewhat important with five (8.06%) selecting not important (five did not respond out of 62). Figure 34 and Table 10 show the results and statistics of mean (1.84=extremely important to important), median (2=important), and mode (1=extremely important) with standard deviation of .941. There were two significant correlations with class size over 200 and class size of 81 to 100 discussed at the end of this section.

Figure 34. Survey Question 13: Students Feel Comfortable Interacting With Other Course Participants

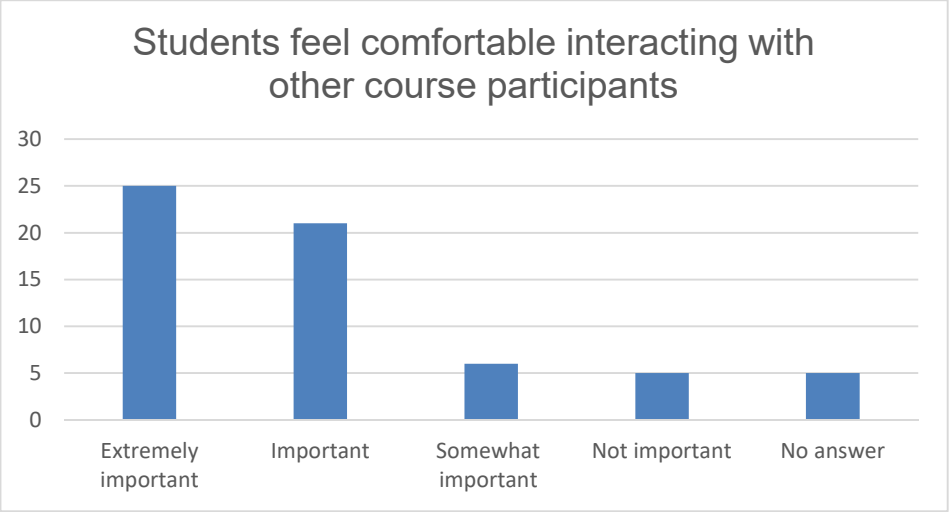


Table 10.

Statistics Question 13

N	Valid	57
	Missing	5
Mean		1.84
Median		2.00
Mode		1
Std. Deviation		.941
Minimum		1
Maximum		4

1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

Question 14 asked the level of importance of the student feeling comfortable disagreeing with other course participants while still maintaining a sense of trust. An overwhelming majority of 39% (24 respondents) stated extremely important and another 34% (21 respondents) stated important. Only seven (11.3%) selected somewhat important and five (8%) not important. Eight percent (five respondents) did not respond out of the 62 participants. These results are shown in Figure 35, and Table 11 represents the statistics of mean (1.88=extremely important to important), median (2= important), and mode (1=extremely important). The standard deviation was .946. This question had three significant correlations, discussed later, with class sizes over 200, between 81 and 100, and one to 20.

Figure 35. Survey Question 14: Students Feel Comfortable Disagreeing with Other Course Participants While Still Maintaining a Sense of Trust

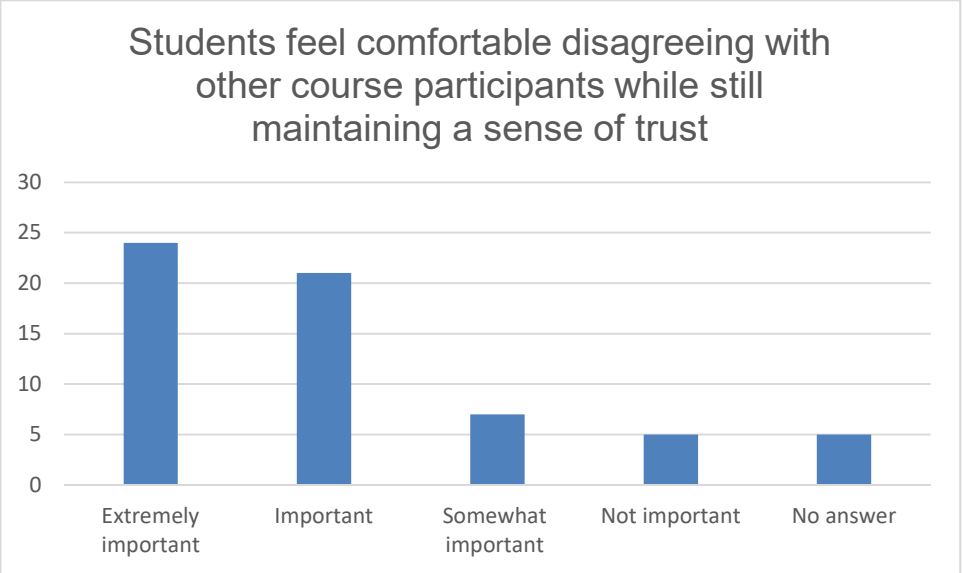


Table 11.

Statistics Question 14

N	Valid	57
	Missing	5
Mean		1.88
Median		2.00
Mode		1
Std. Deviation		.946
Minimum		1
Maximum		4

1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

Figure 36 represents the answers from question 15. The question asked about the level of importance of students' feeling that their own point of view was acknowledged by other course participants. The majority of results, over 66%, were 22 (35.5%) selecting extremely important, and 19 (30.7%) selecting important. Eleven (17.7%), less than 20%, selected somewhat important, five (8.06%) selected not important, and five (8.06%) did not answer. Table 12 shows the mean (1.98=extremely important), median (2=important), and mode (1=extremely important) with minimum (1=extremely important) to maximum (4=not important). Fifty-seven out of 62 survey respondents answered this question and the standard deviation was .973. This question had a significant correlation with class sizes over 200, discussed in this section later.

Figure 36. Survey Question 15: Students Feel that their Own Point of View was Acknowledged by Other Course Participants

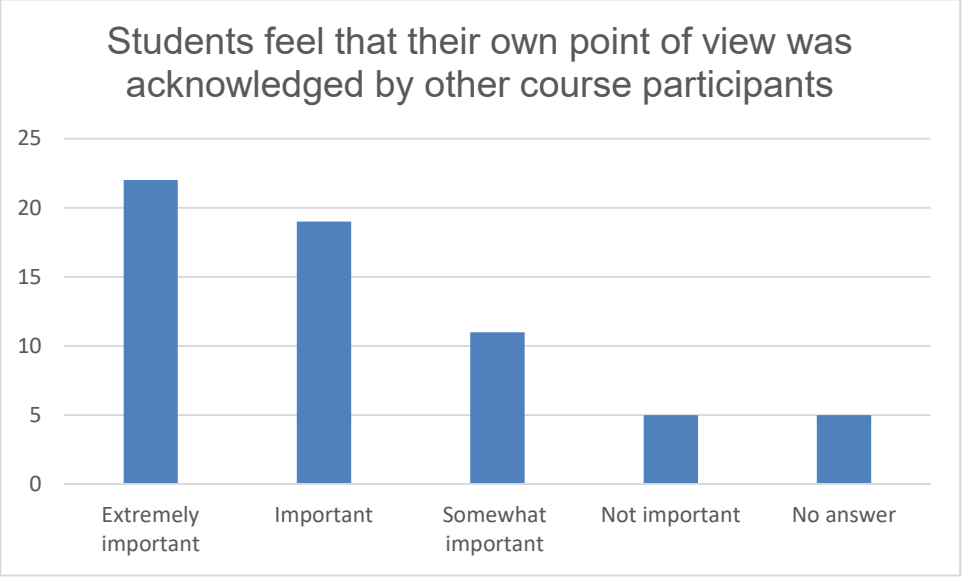


Table 12.

Statistics Question 15

N	Valid	57
	Missing	5
Mean		1.98
Median		2.00
Mode		1
Std. Deviation		.973
Minimum		1
Maximum		4

1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

Question 16 asked the participants to rate the level of importance regarding group cohesion of students in the online learning environment. Over 72% selected at least somewhat important, with 38.7% (24 respondents) selecting important and 33.9% (21 respondents) selecting somewhat important. Seven (11.3%) selected not important and five (8.06%) selected extremely important (5 did not respond to this question out of the 62). Figure 37 represents the results of question 16 and Table 13 shows the statistics of mean (2.53= somewhat important to important), median (2=important) and mode (2 = important) with a standard deviation of .826. Significant correlations did occur with this question and class sizes of less than 20, 81 to 100 and over 200 students and are explained later in this section.

Figure 37. Survey Question 16: Group Cohesion of Students in the Online Learning Environment

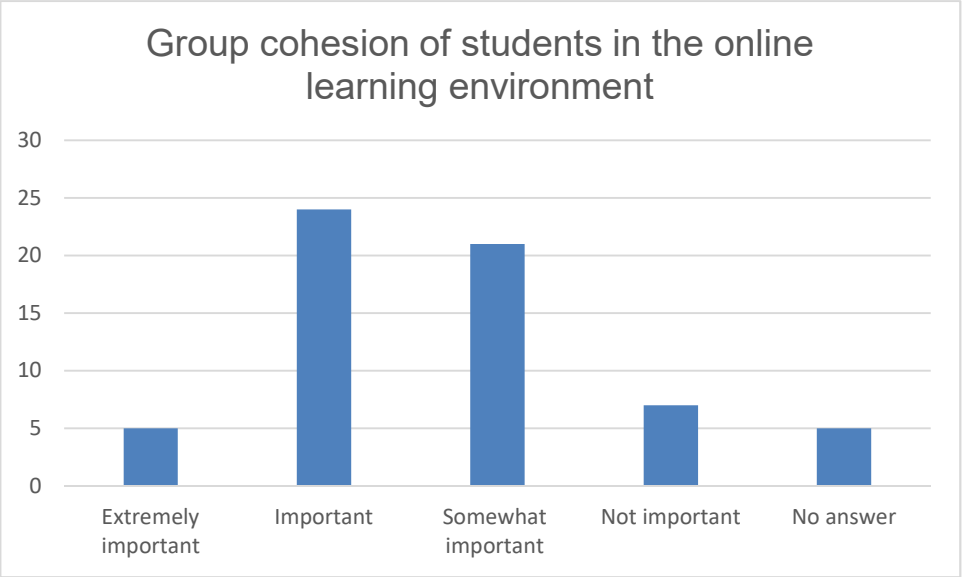


Table 13.

Statistics Question 16

N	Valid	57
	Missing	5
Mean		2.53
Median		2.00
Mode		2
Std. Deviation		.826
Minimum		1
Maximum		4

1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

Figure 38 represents the answers from question 17. The question asked about the level of importance of open communication of students in the online learning

environment. Over three quarters thought this to be at least important: 18 (29%) selected extremely important, and 29 (47%) selected important. Less importance was relayed by six (9.7%) selecting somewhat important and four (6.5%) selecting not important with five (8.06%) not responding. Table 14 shows the mean (1.9=important), median (2=important), and mode (2=important) with minimum (1=extremely important) to maximum (4=not important). Fifty-seven out of 62 survey respondents answered this question and the standard deviation was .842. There was one significant correlation with class size over 200 shown at the end of this section.

Figure 38. Survey Question 17: Open Communication of Students in the Online Learning Environment

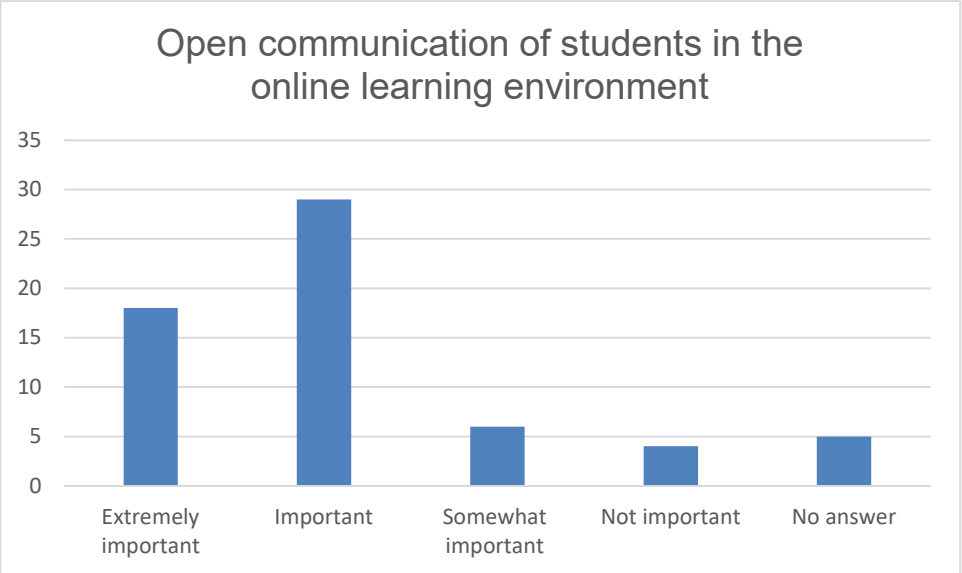


Table 14.

Statistics Question 17

N	Valid	57
	Missing	5
Mean		1.93
Median		2.00
Mode		2
Std. Deviation		.842
Minimum		1
Maximum		4

1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

The last Likert-scaled question, 18, was asking respondents on the level of importance of affective expression of students in the online learning environment. Over 45% (28 respondents) thought this important and almost a quarter (15, 24.2%) thought this only somewhat important. Eight (12.9%) stated it was extremely important and five (8.06%) thought it not important. Six participants (9.7%) did not respond to this question out of 62. Figure 39 represents these results and Table 15 shows statistics of the mean (2.3=important to somewhat important), median (2=important), and mode (2=important) with a standard deviation of .829 (minimum is 1, maximum is 4). This question has one significant correlation with class size over 200 as discussed further in this section.

Figure 39. Survey Question 18: Affective Expression of Students in the Online Learning Environment

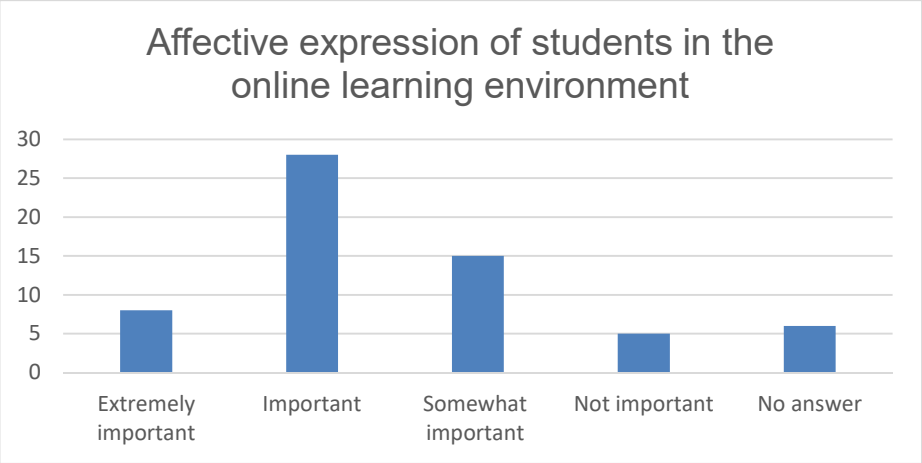


Table 15.

Statistics Question 18

N	Valid	56
	Missing	6
Mean		2.30
Median		2.00
Mode		2
Std. Deviation		.829
Minimum		1
Maximum		4

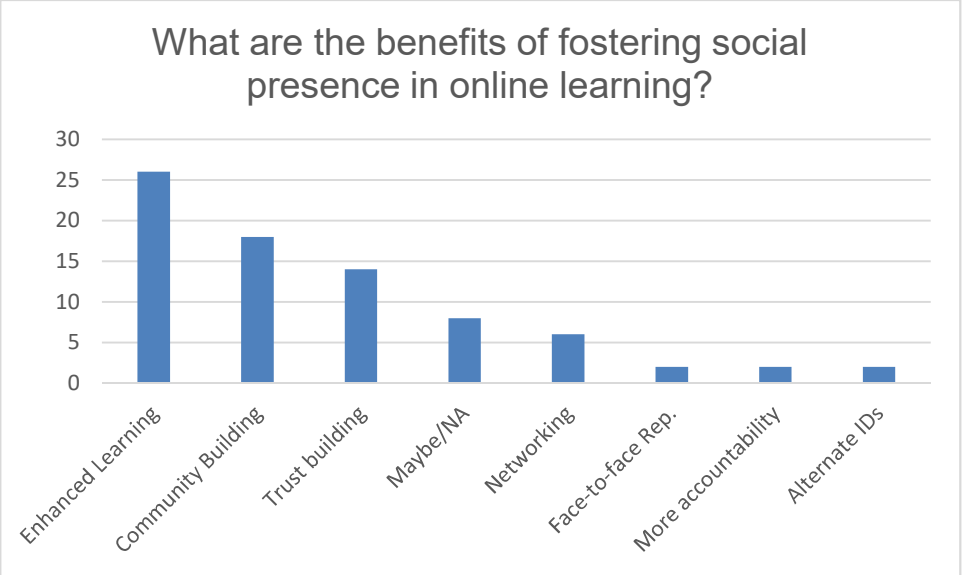
1=Extremely Important; 2=Important;
3=Somewhat Important;4=Not Important

Qualitative, Open-ended Interview Questions

Question 19 was an open-ended question seeking the answer to what are the benefits of fostering social presence (as previously defined) in online learning. The following are the results of that question and shown in Figure 40. Appendix G provides the detailed results. Of the 62 respondents, 13 did not answer this question. The answers

were grouped based on themes: 26 (33.33%) enhanced learning; 18 (23.08%) community building; 14 (17.95%) trust building; eight (10.26%) may/may not be applicable; six (7.69%) networking; two (2.56%) representative of face-to-face learning; two (2.56%) more accountability to others; and two (2.56%) creating alternate/new identities/personas.

Figure 40. Survey Question 19: Benefits of Fostering Social Presence in Online Learning



The last interview question, 20, was open-ended and the responses are in Appendix H. The question was, "please provide us any additional information you believe is pertinent to this study not covered in the previous questions." Note that 43 of the respondents of the 62 did not respond. These results are summarized in Appendix H where patterns were formed: Time and administration, size of class/group, instructor's role in social presence, relationship building, and CoI survey concerns.

Time and administration. Some answers were about time and administration. One respondent stated that maximizing social interaction online takes more time from instructors – "more time than most administrators who do faculty reviews and who do scheduling consider." Another said that they contribute a lot of time devoted to the design of new and newer online courses in addition to teaching face-to-face. Additionally, the many different types of instructors, some part-time, some full-time, some adjunct, can reflect on social presence.

Size of class/group. The size of courses or groups for social presence came up. One said that the online community does not have the same quality of a campus community group and is in question. What is needed is to build the networking of students for this to occur as well ensuring graduate student relationships exist with faculty. Quite interesting, larger classes with teaching assistants were promoted to assist with building an online community network, according to one survey taker. Whereas another shared that small groups created from the large courses are critical for social presence. This type of discrepancy between large and small groups of learning for social presence maximization also showed up in interview results as reported later.

Instructor's role in social presence. Others relayed instructor requirements and their course design as being vital for nurturing social presence. Instructors need to be respectful and responsive. They need to accommodate many different learning styles which means that multiple modes of communication/learning are critical for success. Another stated that the instructors need to check on students and provide input periodically so the class is not on auto-pilot. Regarding course design, personal

information could be sought out and provided in forums; Google Hangouts™ may be used in small groups for synchronous online learning/projects; video technologies could help personalize the course; and social media, like FaceBook™ and Twitter™, are newer tools used in academia that could accentuate social presence. Another pointed out that blogging and chats may work and relayed these are rarely offered to instructors for their use.

There were two points regarding course design that appeared to not reflect social presence as they were not for student-to-student interactions but for student-to-instructor communications. One specifically focused his answer on using email, especially with fast turn-around of emails by the instructor with students. Lastly, the ability for students to communicate only with the instructor was relayed as important by another respondent.

Relationship building. Relationship building was also addressed. One instructor stated they get to know their online students better than their face-to-face students. Another said that many students formed social relationships because of meeting in the online course and continued relationships afterwards even after moving to other geographic locations.

CoI survey concerns. Concerns with the CoI survey or survey items were addressed as well or that CoI is considered not applicable for the online course. Three said that the course subject matter does not require social presence (e.g., statistics and chemistry courses), and another stated that the level of course (i.e., an introductory/undergraduate course) does not necessarily need social presence. One response was that the survey was too social presence focused, more should be on student

learning and student-course material interaction for students to learn and then construct knowledge. One respondent stated they skipped most of the questions and recommended the survey be re-designed without providing any recommendations.

Pearson Correlations

When Pearson Correlations were conducted on all questions, many had significant correlations between specific Likert questions and the class sizes, either the very small (less than 21 students) or the very large (over 80) and specifically some over 200 students. Tables 16 through 32, which follow, show the statistics of mean, standard deviation, those responding, and Pearson Correlation with 2-tailed significance specifying confidence at the 0.05 and/or 0.01 level for those questions (Q) and class size. The basis of generating interview questions were from these correlations of the small class size to the very large class size as seen in Appendix E, "Online Social Presence Interview Questions."

Table 16.

*Question (Q) 8 and Class Size Over 200: .405***

Descriptive Statistics	Mean	Std. Deviation	N
Class size over 200	.08	.275	62
Q8	2.17	.939	58

Correlations		Class size over 200	Q8
Class size over 200	Pearson Correlation	1	.405**
	Sig. (2-tailed)		.002
	N	62	58
Q8	Pearson Correlation	.405**	1
	Sig. (2-tailed)	.002	
	N	58	58

**. Correlation is significant at the 0.01 level (2-tailed).

Table 17.

*Q8 and Class Size 81 to 100: .291**

Descriptive Statistics	Mean	Std. Deviation	N
Q8	2.17	.939	58
Class size 81-100	.05	.216	62

Correlations		Q8	Class size 81-100
Q8	Pearson Correlation	1	.291*
	Sig. (2-tailed)		.027
	N	58	58
Class size 81-100	Pearson Correlation	.291*	1
	Sig. (2-tailed)	.027	
	N	58	62

*. Correlation is significant at the 0.05 level (2-tailed).

Table 18.

*Q9 and Class Size Over 200: .309**

Descriptive Statistics	Mean	Std. Deviation	N
Class size over 200	.08	.275	62
Q9	2.76	.844	58

Correlations		Class size over 200	Q9
Class size over 200	Pearson Correlation	1	.309*
	Sig. (2-tailed)		.018
	N	62	58
Q9	Pearson Correlation	.309*	1
	Sig. (2-tailed)	.018	
	N	58	58

*. Correlation is significant at the 0.05 level (2-tailed).

Table 19.

*Q11 and Class Size Over 200: .416***

Descriptive Statistics	Mean	Std. Deviation	N
Class size over 200	.08	.275	62
Q11	1.75	.830	57

Correlations		Class size over 200	Q11
Class size over 200	Pearson Correlation	1	.416**
	Sig. (2-tailed)		.001
	N	62	57
Q11	Pearson Correlation	.416**	1
	Sig. (2-tailed)	.001	
	N	57	57

**. Correlation is significant at the 0.01 level (2-tailed).

Table 20.

*Q11 and Class Size 81 to 100: .261**

Descriptive Statistics	Mean	Std. Deviation	N
Q11	1.75	.830	57
Class size 81 to 100	.05	.216	62

Correlations		Q11	Class size 81 to 100
Q11	Pearson Correlation	1	.261*
	Sig. (2-tailed)		.049
	N	57	57
Class size 81 to 100	Pearson Correlation	.261*	1
	Sig. (2-tailed)	.049	
	N	57	62

*. Correlation is significant at the 0.05 level (2-tailed).

Table 21.

*Q12 and Class Size over 200: .298**

Descriptive Statistics	Mean	Std. Deviation	N
Q12	1.54	.888	57
Class size over 200	.08	.275	62

Correlations		Q12	Class size over 200
Q12	Pearson Correlation	1	.298*
	Sig. (2-tailed)		.024
	N	57	57
Class size over 200	Pearson Correlation	.298*	1
	Sig. (2-tailed)	.024	
	N	57	62

*. Correlation is significant at the 0.05 level (2-tailed).

Table 22.

*Q13 and Class Size over 200: .415***

Descriptive Statistics	Mean	Std. Deviation	N
Q13	1.84	.941	57
Class size over 200	.08	.275	62

Correlations		Q13	Class size over 200
Q13	Pearson Correlation	1	.415**
	Sig. (2-tailed)		.001
	N	57	57
Class size over 200	Pearson Correlation	.415**	1
	Sig. (2-tailed)	.001	
	N	57	62

**. Correlation is significant at the 0.01 level (2-tailed).

Table 23.

*Q13 and Class Size 81 to 100: .293**

Descriptive Statistics	Mean	Std. Deviation	N
Q13	1.84	.941	57
Class size 81 to 100	.05	.216	62

Correlations		Q13	Class size 81 to 100
Q13	Pearson Correlation	1	.293*
	Sig. (2-tailed)		.027
	N	57	57
Class size 81 to 100	Pearson Correlation	.293*	1
	Sig. (2-tailed)	.027	
	N	57	62

*. Correlation is significant at the 0.05 level (2-tailed).

Table 24.

*Q14 and Class Size Over 200: .402***

Descriptive Statistics	Mean	Std. Deviation	N
Class size over 200	.08	.275	62
Q14	1.88	.946	57

Correlations		Class size over 200	Q14
Class size over 200	Pearson Correlation	1	.402**
	Sig. (2-tailed)		.002
	N	62	57
Q14	Pearson Correlation	.402**	1
	Sig. (2-tailed)	.002	
	N	57	57

**. Correlation is significant at the 0.01 level (2-tailed).

Table 25.

*Q14 and Class Size 81 to 100: .282**

Descriptive Statistics	Mean	Std. Deviation	N
Q14	1.88	.946	57
Class size 81 to 100	.05	.216	62

Correlations		Q14	Class size 81 to 100
Q14	Pearson Correlation	1	.282*
	Sig. (2-tailed)		.033
	N	57	57
Class size 81 to 100	Pearson Correlation	.282*	1
	Sig. (2-tailed)	.033	
	N	57	62

*. Correlation is significant at the 0.05 level (2-tailed).

Table 26.

*Q14 and Class Size 1 to 20: -.316**

Descriptive Statistics	Mean	Std. Deviation	N
Q14	1.88	.946	57
Class size 1 to 20	.52	.504	62

Correlations		Q14	Class size 1 to 20
Q14	Pearson Correlation	1	-.316*
	Sig. (2-tailed)		.017
	N	57	57
Class size 1 to 20	Pearson Correlation	-.316*	1
	Sig. (2-tailed)	.017	
	N	57	62

*. Correlation is significant at the 0.05 level (2-tailed).

Table 27.

*Q15 and Class Size Over 200: .432***

Descriptive Statistics	Mean	Std. Deviation	N
Class size over 200	.08	.275	62
Q15	1.98	.973	57

Correlations		Class size over 200	Q15
Class size over 200	Pearson Correlation	1	.432**
	Sig. (2-tailed)		.001
	N	62	57
Q15	Pearson Correlation	.432**	1
	Sig. (2-tailed)	.001	
	N	57	57

**. Correlation is significant at the 0.01 level (2-tailed).

Table 28.

*Q16 and Class Size Over 200: .411***

Descriptive Statistics	Mean	Std. Deviation	N
Class size over 200	.08	.275	62
Q16	2.53	.826	57

Correlations		Class size over 200	Q16
Class size over 200	Pearson Correlation	1	.411**
	Sig. (2-tailed)		.002
	N	62	57
Q16	Pearson Correlation	.411**	1
	Sig. (2-tailed)	.002	
	N	57	57

**. Correlation is significant at the 0.01 level (2-tailed).

Table 29.

*Q16, Class Size 81 to 100: .328**

Descriptive Statistics	Mean	Std. Deviation	N
Q16	2.53	.826	57
Class size 81 to 100	.05	.216	62

Correlations		Q16	Class size 81 to 100
Q16	Pearson Correlation	1	.328*
	Sig. (2-tailed)		.013
	N	57	57
Class size 81 to 100	Pearson Correlation	.328*	1
	Sig. (2-tailed)	.013	
	N	57	62

*. Correlation is significant at the 0.05 level (2-tailed).

Table 30.

*Q16 and Class Size 1 to 20: -.268**

Descriptive Statistics	Mean	Std. Deviation	N
Q16	2.53	.826	57
Class size 1 to 20	.52	.504	62

Correlations		Q16	Class size 1 to 20
Q16	Pearson Correlation	1	-.268*
	Sig. (2-tailed)		.043
	N	57	57
Class size 1 to 20	Pearson Correlation	-.268*	1
	Sig. (2-tailed)	.043	
	N	57	62

*. Correlation is significant at the 0.05 level (2-tailed).

Table 31.

*Q17 and Class Size Over 200: .434***

Descriptive Statistics	Mean	Std. Deviation	N
Q17	1.93	.842	57
Class size over 200	.08	.275	62

Correlations		Q17	Class size over 200
Q17	Pearson Correlation	1	.434**
	Sig. (2-tailed)		.001
	N	57	57
Class size over 200	Pearson Correlation	.434**	1
	Sig. (2-tailed)	.001	
	N	57	62

**. Correlation is significant at the 0.01 level (2-tailed).

Table 32.

*Q18 and Class Size Over 200: .319**

Descriptive Statistics	Mean	Std. Deviation	N
Class size over 200	.08	.275	62
Q18	2.30	.829	56

Correlations		Class size over 200	Q18
Class size over 200	Pearson Correlation	1	.319*
	Sig. (2-tailed)		.016
	N	62	56
Q18	Pearson Correlation	.319*	1
	Sig. (2-tailed)	.016	
	N	56	56

*. Correlation is significant at the 0.05 level (2-tailed).

Table 33.

Summary of Pearson Correlations per Question (Q) and Class Size

Questions	Pearson Correlation
Q8 and Class size over 200	.405**
Q8 and Class size 81 to 100	.291*
Q9 and Class size over 200:	.309*
Q11 and Class size over 200:	.416**
Q11 and Class size 81 to 100:	.261*
Q12 and Class size over 200:	.298*
Q13 and Class size over 200:	.415**
Q13 and Class size 81 to 100:	.293*
Q14 and Class size over 200:	.402**
Q14 and Class size 81 to 100:	.282*
Q14 and Class size 1 to 20:	-.316*
Q15 and Class size over 200:	.432**
Q16 and Class size over 200:	.411**
Q16, Class size 81 to 100:	.328*
Q16 and Class size 1 to 20:	-.268*
Q17 and Class size over 200:	.434**
Q18 and Class size over 200:	.319*

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 33 displays the summaries of the significant Pearson Correlations of those applicable questions. It appears that class sizes that are either very small or very large can affect the social presence construct. Even two instances have negative correlations with a class size under 21, which later in the interview section, some results contradict with as well as affirm these statistical findings. These two negative correlations with small class size had to do with these two social presence constructs (as defined by CoI):

1. Small class size negatively correlated with question 14 addressing the social presence characteristic that "students feel comfortable disagreeing with other course participants while still maintaining a sense of trust."
2. Small class size negatively correlated with question 16 that addressed the social presence characteristic of "group cohesion of students in the online learning environment."

This and the positive correlations with large class sizes seem to be anomalies, however, the interview results expound on these differences.

All of these questions with significant correlations on class size asked the level of importance related to the CoI framework's social presence characteristics. Question eight was about the students' ability to get to know other course participants to provide a sense of belonging in the course. Both class sizes over 81 to 100 and over 200 had significant correlations (.291 at the 0.05 level and .405 at the 0.01 level respectively). Both were positively correlated for large classes. Similar results occurred for three other questions. Questions 11 (class size from 81 to 100 of.261 at the 0.05 level; over 200 of .416 at the 0.01 level) asked about the students feeling comfortable conversing through the online

medium. Question 13 (class size from 81 to 100 of.293 at the 0.05 level; over 200 of .415 at the 0.01 level) asked about the students feeling comfortable interacting with other course participants. Question 14 (class size from 81 to 100 of.282 at the 0.05 level; over 200 of .402 at the 0.01 level) asked about students feeling comfortable disagreeing with other course participants while still maintaining a sense of trust. However, again, question 14 also had a negative correlation with class sizes less than 21 (-.316 at the 0.05 level).

Question 12 regarding the students feeling comfortable participating in the course discussions only had a positive correlation with class sizes over 200 (.298 at the 0.05 level). Question nine had this same relationship with class sizes only over 200 (.309 at the 0.05 level) which was about students able to form distinct impressions of some course participants; as well as question 15 (.432 at the 0.01 level), which was about students feeling that their own point of view was acknowledged by other course participants. Questions 17, which was about open communication of students in the online learning environment, and 18, which was about affective expression of students in the online learning environment, also had positive correlations with class sizes over 200 (.434 at the 0.01 level; .319 at the 0.05 level respectively).

For question 16, which asked the level of importance of successful online learning regarding group cohesion of students in the online learning environment, it had both a positive correlation with class sizes 81 to 100 and over 200 (.328 at the 0.05 level; .411 at the 0.01 level respectively), but again, a negative correlation with class sizes less than 21 (-.268 at the 0.05 level).

Lastly, regarding any class size, there were no significant correlations for question ten. This question was regarding the level of importance of successful online learning for online or web-based communication as an excellent medium for social interaction.

For us to fully understand as to why instructors who taught really small classes and those teaching large classes had these significant correlations specific to social presence characteristics, the interview questionnaire was created. The next section provides the results of those faculty interviewed and their thoughts not only on class size possibly impacting social presence, but also the faculty's online practices, technologies used, and this construct's characteristics, as well as, to further clarify other patterns of feedback from the survey responses.

Interview Questionnaire

An interview questionnaire was formulated (Appendix E) based on the survey results, those answers with significant correlations pertaining to class size as well as themes and patterns from answers to the qualitative survey questions (Appendices F, G, and H). The significant correlations are represented in the previous section under "Survey Questionnaire" and listed per question in Appendix E for each interview question.

The survey invitation included an interview request. After the survey completion, interviews were provided to those six faculty accepting the invitation who taught online at any campus of the Midwestern university. The faculty members were of unknown age and various online teaching experience. Two female faculty and four male faculty volunteered after taking the survey and were interviewed. One male was interviewed

face-to-face, one female via Skype, and the other four via telephone conferences. Main results of those interviews are represented in Figure 41, the interview pattern diagram, which shows the overlap of information that generated the patterns of results. The interview thematic results representing five or six out of the six interviewees are represented in Figure 41, and are that social presence

1. is necessary in online learning as well as face-to-face learning;
2. needs to have it designed into the course by the instructor, such as group and individual postings and responses to postings and is essential to both online and face-to-face courses; and,
3. is more conducive for small classes or small groups/teams created from larger classes, either online or face-to-face.

These three points were generated from the answers to interview questions 1 and 2, specifically related to class size, and question 3, which related to the course design, resources, and tools available to the instructor. There are exceptions to all of these three points. For example, point three is shown to have disparities in that students could feel comfortable in disagreeing with each other even in a large class, and students not feeling comfortable disagreeing with each other in small classes, which is discussed later. Comfort in disagreeing with other students was identified as a characteristic of the social presence construct in the CoI framework, and again, this was negatively correlated with social presence in the previous statistical section.

For Figure 41, the number in parentheses show how many of the six interviewees made similar statements in response to interview questions 1, 2 and 3 specific to class size and course design effects on the social presence construct of the CoI framework.

Each lettered box represents an interviewee and their responses and overlap with others. However, the asterisks (*) show an anomaly that the class size does not seem to affect whether students will be comfortable disagreeing with each other, which is part of the CoI social presence construct characteristics.

Specific to interviewees are those answers represented only in their box. The box labelled "D" shows this interviewee teaches and prefers to teach online, and has won a university teaching award for online learning. Her courses are usually small. Students seem comfortable, but they do not disagree with each other, they are "too polite." She would like to see them disagree for critical thought as well as constructive dialogue more often and will interject to help them disagree.* This affirms the negative correlation of the social presence characteristic of question 14 and small class size.

The box labelled "C" in Figure 41 shows that this interviewee said their graduate students are more engaged and will disagree more.* This also affirms results from the survey of class level affecting social presence. The interviewee also has had experience teaching online at another higher educational institution. This interviewer teaches small online courses however has the experience in large classes as well.

Figure 41's box labelled "E" represents an interviewee who teaches only small online courses and stated that their students are comfortable with each other and will disagree*. This contradicts the negative correlation of the social presence characteristic of question 14 and small class size. However, he also believes small courses help create social presence and specifically designs for many learning styles and preferences.

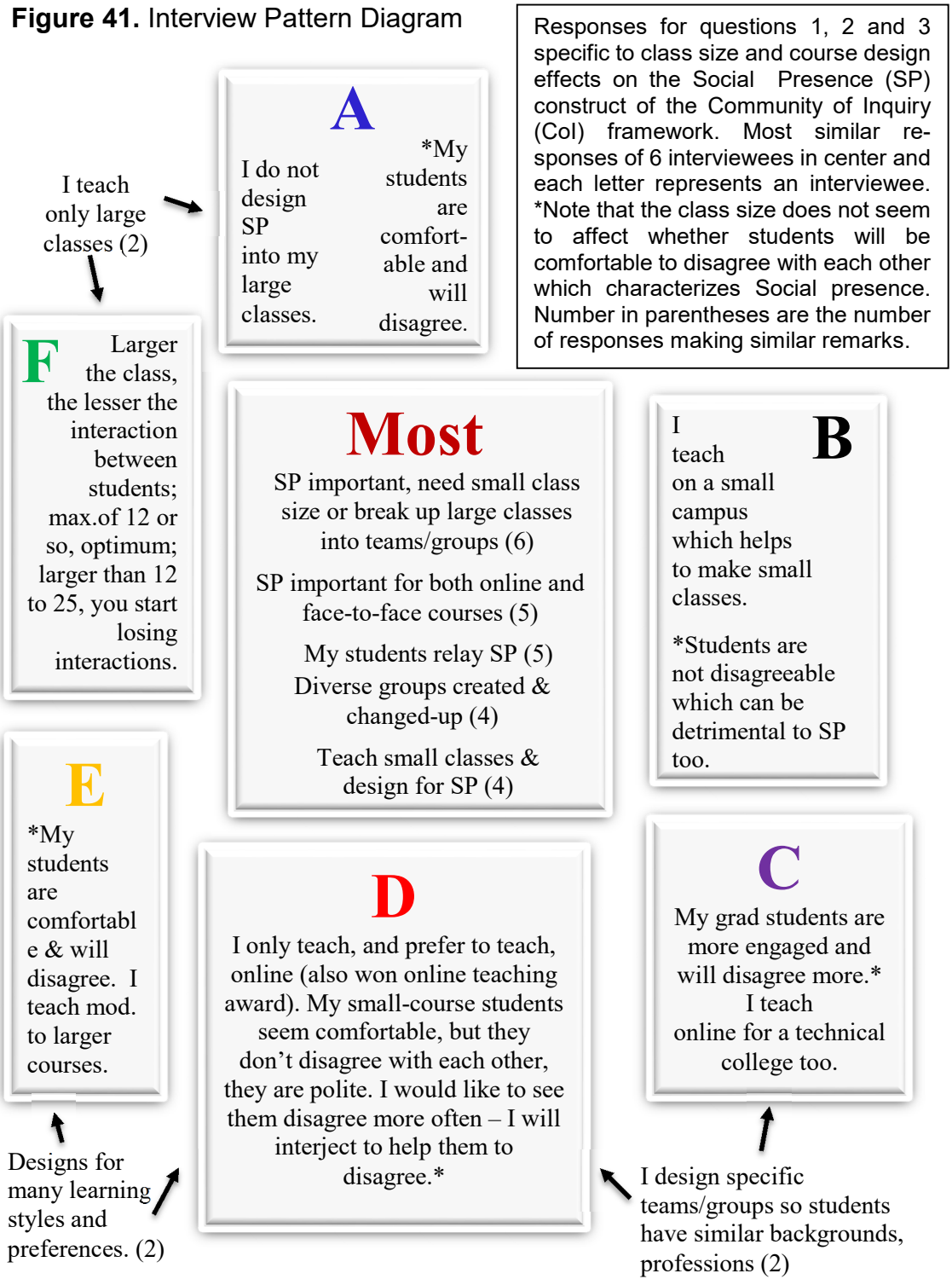
The box labelled “F” with statements in Figure 41 are for an interviewee who relays that they teach large online courses, but also says, the larger the class, the lesser the interaction between students. Generally this was a statement from all interviewees, that intuitively as well as having actual experience, social presence can be nurtured better in a small class/group size online setting. This interviewee furthered that the maximum of 12 or so in a class is optimum –- larger than 12 and to 25, you start losing interactions.

Figure 41’s box labelled “B” designates an interviewee who teaches on a small campus which helps to make small classes and groups for higher social presence. However, they stated that *students are not disagreeable which can be detrimental to social presence. Once again this affirms the negative correlation of the social presence characteristic of question 14 and small class size.

The box labelled “A” in Figure 41 is of an interviewee who teaches larger online courses and does not design social presence into classes. However, this interviewee also stated that the students are comfortable and will disagree with each other.* This interviewee is also indirectly affirming the negative correlation of the social presence characteristic of question 14 and small class size.

Again the asterisk (*) represents a discrepancy in that small or large classes based on these interviews do not foretell whether students are comfortable in disagreeing with each other, which is a CoI marker for the social presence construct. Some of the interviewee responses may be foretelling of this anomaly. Two interviewees stated that in large classes, anonymity may bring out shy people and they may be more willing to respond and provide critical (disagreeing) feedback. One of these interviewees went

Figure 41. Interview Pattern Diagram



further to state that it may also bring out bullying behavior that is disagreeable and not helpful to discourse. Regarding the small classes that are "too polite," one interviewee had professional students who knew each other well, which may (or may not) dissuade the students from critical postings.

The responses for each part of question one (a-j) of the interview questionnaire were similar for all six interviewees, where some lumped all or most parts together with one or a few responses as noted below. Since it was difficult to address each part of question one individually by all interviewees and to find patterns from their answers, specific responses to each of these are as follows. However, the one clear pattern that came from the interviewees answering questions one and two were that small classes or team work or assigned small groups in large classes were more beneficial to promote social presence overall albeit with some contradictory remarks.

Question 1a was, "how do you think large online class sizes (80+ students) affect the social presence construct for the students' ability to get to know other course participants in providing a sense of belonging?" One respondent stated that it was their experience that an online course with 80+ students would be near impossible for social presence to be encouraged. The largest course taught by this respondent was 40-45. For the large courses, they stated that the students do not have in-depth postings, they are just "going through the motions." Another interviewee stated that it is very difficult for social presence and a sense of belonging to be involved in their large online courses they teach, and they do not try to achieve that for a class over 80.

One respondent stated, that they had no experience with a course that size, so they passed up answering the other sections of question one. Their classes ranged in size from 20-35, so not applicable. Another also stated they did not teach courses this large, but they still provided answers to question one. For part a, they responded that there are a number of factors that could assist social presence and a sense of belonging: Instructor organization of the course and teaching presence and being involved in the online setting. They believed that this involvement and teacher comments on postings are meaningful to the students, as students have relayed this. Another instructor had no experience with a large course, but provided feedback as well. They currently had two sections of a course online encompassing 42 students, but never had a course that was over 80. It seemed that more than 80 students in a larger class would be more challenging. They relayed that perhaps if the instructor got the students into groups and assignments were done on a frequent basis, there would be an opportunity to create social presence. It is a pedagogical question rather than regarding class-size, and whether students can get along together.

Even in a large class, social presence can be built in, according to another instructor. This answer also reflected the importance of pedagogy. Social presence is always important in her classrooms, online or offline. Also, social presence occurs naturally, for instance, when the students see each other outside of the online course, such as at a conference or elsewhere they greet each other and they are happy to see each other from her experience. This interviewee stated she had a bias towards social presence as she thought it strange for her to teach or the students to learn without it.

For question 1b, “how do you think large online class sizes (80+ students) affect the social presence construct for the students to form distinct impressions of other course participants,” one respondent stated that his students will only converse with postings they are familiar with and just stick with that and not get to know other students. He thought it negligible in importance. Another instructor responded to this question as agreeing that forming distinct impressions for social presence is problematic for large courses, however forming groups would be helpful. Another stated that he does not design for this construct for his large online courses, so they do not form distinct impressions of other course participants.

Another teacher reiterated their answer from part a as the large course being “a little bit more challenging.” They too offered a solution of working in small groups (or pairs) on a frequent basis over the semester, or working in groups for assignments. They furthered that this can form distinct impressions of course participants, but not all participants. They stated that face-to-face larger classes also utilize groups to gain more social presence. In the large classrooms, they see students recognizing certain people, depending how the students have interacted before, what the students have done, and how students made their presence known. These are the factors of whether people connect with one another or not. This interviewee continued to say that there are so many extraneous factors regarding social presence, it seems like it is not just based on class size.

For question 1c, “how do you think large online class sizes (80+ students) affect the social presence construct for the students to converse through the online medium,”

one provided the same answer to this part of question one as well as for part 1b. As an instructor their courses are open to all students and assigning smaller groups and organizing well will help with the larger classes. Another stated that it depends on the online medium. The interviewer interjected with the respondent to ask about the University's official online learning management system at the time, called Moodle™ (now replaced with Canvas™), and if this was the medium being used. He responded affirmatively, and stated there is a tool for group work and they select students into those groups. He stated that changing your groups throughout the course can be problematic if trying to maximize social presence, however, if you do not change the groups, some ineffective groups may be that way throughout the whole course. He stated there are always those groups where one member will "leach" off others and not take the responsibility they should. He also stated the type of group does influence team dynamics, such as the maturity level and possible disparity of work ethic, timeliness, etc. The older (graduate) student tends to be very responsible versus the younger students, however they can also over-dominate groups. He tries to offer homogenous groups of students and will purposefully change them throughout the course.

One interviewee stated that over 80 students in an online course is just too many. Students are not conversing, they are just posting, and then responding. This is not effective communication, just going through the motions, and the students do not get to know anybody. In a large class, students may gravitate to just certain people.

In another interviewee's experience, the students start conversing with each other when broken up into small groups, and that is all they see of the whole class, they can

always respond to each other, but he as the instructor, does not require it. They have the opportunity to respond so they can read others feedback and say if they agree or not. The questions are posed by him and not between students and their peers. Perhaps in the future he may design it differently.

One instructor reiterated they form small groups out of large classes and divides them in small (base) groups and stay in their base groups for the semester. She works with teachers, so she designs groups based on roles: Kindergarten group, K-9, middle school, or high school group, etc. so they have similar roles to help them converse and get to know each other.

For question 1d, "how do you think large online class sizes (80+ students) affect the social presence construct for the students to feel comfortable participating in the course discussions," one response was noteworthy because of all the responses stating it difficult for a large course to have social presence if not broken up into groups. This instructor had only large courses and students were comfortable in these online courses with over 80 students, according to his experience. There were other responses stating this should not be a problem to encourage student comfort in large classes as this depends on the professor's investment and students' willingness. Another furthered that the reason for this could be that the shy students were more willing to participate in large, anonymous-like settings. Maybe these students think people are not reading their postings or they appear anonymous. Whereas in small classes, everyone may read.

As an instructor, student postings are important and graduate students tend to provide the kind of input an instructor wants, such as a student will post something that is

open-ended to illicit responses. However undergraduate level input may gravitate for just the yes/no answers. Another promoted this response that the older students will take the lead in groups, but the youngest, are usually not able to perform well socially except in a peer group of the same age.

Another interviewee reiterated their recommendation of creating the small group format to encourage social presence between students. This person further agreed with another respondent by stating that if a student is extremely shy, they just may be better in a larger group so they can remain anonymous. However, a large course is unwieldy. Getting them into groups, is infinitely more meaningful. Much better active participation by and comfort of the students will occur. This goes back to the instructor's pedagogy and how do you organize the course for students to feel comfortable and to get to know each other for interaction to take place, which leads into the next question.

For question 1e, "how do you think large online class sizes (80+ students) affect the social presence construct for students to feel comfortable interacting with others," one response stated that a large class with so many people may be inhibiting and some students may make themselves invisible. However, for some students it may be more comfortable. One respondent stated that he does not ask if the students are comfortable or not, so he does not know if they are comfortable interacting with one another. Another stated that in a large class, students will start interacting with just a few people. One respondent stated that the learning outcomes need to be stressed and include interaction. Maybe some form of training in leadership will help, and the older, more educational

savvy (i.e., graduate students), will have it easier. Creating groups with a mix of ages and diverse working groups will help in a large course.

Question 1f was, "how do you think large online class sizes (80+ students) affect the social presence construct for the students to feel comfortable disagreeing with other course participants while still maintaining a sense of trust." This was answered by one individual who thought this was easier for graduate students. He said there is a higher sense of trust and graduate students are more comfortable disagreeing in class and supporting each other. His experience involves large classes using small groups. He sees the undergraduate students are more cautious and less experienced. This trust depends on the level of education. Another's opinion, was that in a larger class, they could see anonymity as being comfortable: How are you going to know who says what and how can you find out? On a negative aspect, they see more trolling (bullying) and aggressive types of comments in a large class. That is one worry he would have in a large class, worse natures may come out and need to be managed.

Some thought with the larger the class size, the students are less comfortable in disagreeing and trusting, but again there were remarks contrary to this (as well as the negative correlational statistics). One stated that this was really hard to gauge for a large class. Another relayed that there are more unknowns, such as students they have never met or interacted before are present. However the older students may be more comfortable, but this can be good and bad. For example, with an older student group with great age range, the younger student knows less, therefore their contribution appears to be less valued. The older student may try to take over and "rebel" and keep on

questioning. These students may have stronger personalities, the other students may disagree, but the older student will generally have more wisdom to counteract.

Another negative to the larger class size is that they have experience in more aggressive and abusive postings than they would have face-to-face. This instructor would intervene when necessary. When he saw aggressive postings and it was not moving the problem forward, but rather back, he comes in and posts what is acceptable and what is not. This respondent also stated that some of the students are just reiterating what the strongest group members say. This is not constructive. Others may be more aggressive, they do not see the hurt they cause and their language skills could easily offend someone else. The younger students are accustomed to short and hurtful messaging.

One instructor relayed that she had small classes/groups of students displaying comfort with high social presence, however, she found her students "too polite" and do not overtly disagree –- not as much as she would like. She would like to challenge each student more. She said that they tend to be reticent. She does encourage them to be more critical in their postings. She provides the principles of online etiquette, as to what she would like to see in their online interactions and the type she finds most meaningful to serve as learning experiences. Some students in her classes are more comfortable than others in questioning each other. She, however, has never seen anyone attack another. They learn from each other extremely well. She also relayed these answers appear to be appropriate for questions 1g and 1h as well.

Question 1g was "how do you think large online class sizes (80+ students) affect the social presence construct for the students to feel that their own point of view was acknowledged by others." One answered that if this was not happening, the class should be divided into smaller groups to feel acknowledged. The class needs to be organized and structured well by design. Another interviewee relayed that this was not applicable to their courses. Yet another stated in-depth posts and acknowledgement will show as to the quality of the post and when they post. Those posting close to the deadline may not receive a lot or any feedback. One respondent relayed that if a student overwhelms the learning environment with their background and their experiences which in turn blocks out others, there will be a low social presence with this type of acknowledgement. Students with lesser experience (and younger) also may not feel that they belong. There can be serious consequences to learning if they feel inadequate.

Question 1h was "how do you think large online class sizes (80+ students) affect the social presence construct for affective expression of the students to occur." One interviewee said that they could see a large class organizing cliques and only responding to their special group and this could drive others to do the same. Two interviewees relayed that they did not see any group cohesion in their large online courses. Again, the age disparity in one instructor's course is a continual issue that would affect group cohesion. It would be another follow-the-leader (leading student) and others would feel unwelcome and not feel part of the group. Specifically for this respondent, he has diversity in his courses (e.g., cultural, gender, professional diversity), but he relayed that the level of experience/maturity as well as students' biases can hurt group cohesion. He

provided an example of cultural backgrounds in which some are very patriarchal and talk down to women in the courses. Instructors need to be involved to maintain the equitable balance in the groups to ensure one or a few do not dominate or side-track the discussion.

For question 1i, "how do you think large online class sizes (80+ students) affect the social presence construct for open communication of the students to occur," one answer was that the instructor's rubric and course design are instrumental. Students will likely not post or not post as frequently to assignments that are not graded by the instructor. Whether there is a grade at all will influence student participation in online discussions. Another respondent stated that open communication and social interaction occurs between students close to their age and post less with others who are older. Younger generations have a great distrust of older generations as they are responsible for the bad environment and situations they are currently in. There are other dynamics, such as cultural issues, that could help or hurt online communications. However, this interviewee stated that it is easier online than in a classroom to facilitate constructive criticism in groups. As previously stated some are more likely to communicate and respond if they are anonymous. Students who would not say anything in a classroom may talk incessantly online. Online these students generally complete the course requirements of discussion posting. His colleagues agree that this occurs when there is comfort in anonymity. This interviewee is responsible for online courses at the regents-approved level.

Lastly another interviewee stated that the student postings are not peer-to-peer, so social presence is not part of his courses. He does have open communication occurring in

his courses, but responses are directed to him and students do not have to respond to each other.

For question 1j, "how do you think large online class sizes (80+ students) affect the social presence construct for affective expression of the students to occur," two thought a larger group can substantially repress this. Another stated that they can see a large class size inhibiting this, however good course design and smaller groups will help. One respondent stated that this was hard to answer since he did not have a course with 80+ students. Students do get points for their involvement by responding, however, this is not really affective expression. To make this happen the instructor workload is very huge for large classes.

Answers by all six interviewees to question one that addressed very large class sizes clearly ascertained that a small online class size or large class with break-out groups (or team creation) are preferable to a large class size in maximizing the social presence construct. Incorporating good course design also helps as well. However, some respondents did specify the benefits of a large class size for certain students and one said he saw students display comfort in his large classes.

For question two the same issue occurred of not being able to create distinct patterns for each of the three parts of question 2. What follows are responses to questions two a through c.

Question 2a is "how do you think small online class sizes (1-20 students) affect the social presence construct for students to feel comfortable interacting with other students." One instructor says small break-outs encourage social presence. The

respondent groups their small classes in meaningful ways to encourage this. These groups can be based on their role, major, interests, etc. This instructor encouraged synchronous activities too, such as using Adobe Connect. The classes have weekly threads with live sessions and which seem to be a very important part for learning. The chat box is where they communicate for course objectives and even for just personal interactions.

One respondent stated that the students start to know each other and recognize that they had worked in class before, because of the small class setting. You will see postings stating they enjoyed reading the other students' postings, and there is a sense of social recognition created. For another respondent, they get the sense that their students are generally quite comfortable with one another. A conflict does occur sometimes, but this instructor never had to step in for projects, no complaints by students that anyone has mentioned, with no objections on the projects. Their students seem fairly comfortable. However, this instructor provides a section where there is a private chatroom where he specifically does not go in and view. This provides the students their student space. He also uses autobiography and to help put the teams together and to make them as diverse as possible. He starts with professional backgrounds and then gender and then what appears to be their ethnic background. He tries to diversify the teams and everyone seems to be comfortable.

Another respondent replied that the smaller class is encouraged and they are on a small campus, which helps. The instructor provides an assignment for introductions for the students, and they communicate through forums and recognize others in their classes.

Repeated smaller classes encourage that kind of comfort level. Another instructor agreed that up to 20 students is a perfect size, even the shy people are more comfortable online in a small online course than a face-to-face large class. There was one instructor who preferred to require postings and responses to others as this is more meaningful than rote memory assignments.

Question 2b is "how do you think small online class sizes (1-20 students) affect the social presence construct for students to feel comfortable disagreeing with other course participants while still maintaining a sense of trust." One respondent stated that the students will have repeated courses and will establish themselves and recognize other peers from other groups and become very comfortable with their peers. Another respondent said that they get a sense they are okay in disagreeing with others, and the instructor also sees them deferring to one another. However, the students are not likely to challenge someone else unless the topic at hand is fairly discreet, and if it is opinion based, they generally will not disagree with each other. Another stated that his courses are large, but thinks providing small groups can help social presence and disagreement to happen. In his large courses, there are superficial postings, so the assignments in small groups can reduce this tendency. He requires that the students do their assignments together and there is a lot of power in that. They learn from one another and have to interact with someone else. These are points that come from his students and are pedagogical questions.

Another instructor also responded affirmatively that the support for disagreement can happen in smaller classes. Still another respondent agreed too, however, they thought

the students feel more comfortable to disagree as they progress in the class. This instructor purposefully tries to get the students to disagree, as their students know each other well and disagreement does not readily happen because of that. The instructor also reads over their postings (especially larger classes) to see if this is occurring, but in a small class, this instructor gets to know each student very well. The last responder to this question stated that they had been teaching since 2013, and could think of only one person who was bypassed completely by other students. His students are older, working adults and they are more socially savvy. There is a lot of professionalism, but the younger students stay away from disagreements. Students generally eschew the disagreement or not respond to the disagreeable person.

Question 2c is "how do you think small online class sizes (1-20 students) affect the social presence construct for group cohesion of students to occur?" One interviewee replied that this is easier because of the smaller class size, and if they have the same subjects in their major, they will recognize others. Students tend to form groups online and on campus, so some may even try to get into the same online course. It is highly probable that you will see students resonating to certain students for group projects. Another stated that group cohesion was certainly easier than for the large groups. This instructor has class sizes that are fairly intimate about 20 to 25 students. However larger, these classes do not seem as intimate, and the smaller the class, students interact better.

One instructor questioned how small is small? If only 2 or 3 people in a group, does this work? That seems maybe too small for disagreement. This instructor does get classes of 18 students and still puts them in small groups. The students get a lot out of

working with others, as shown in responses from students. His experiences involve class sections of 18-20 students, and now two sections of 40 students. Regarding both of those experiences, the students prefer the small group settings and get to know the whole class that way. Pairs and small groups with individuals who have similar roles, make a big difference as well.

One interviewee stated that group cohesion is difficult online no matter what the size. Another agreed with this and relayed that his students who are working adults with families and others just taking the course to fulfill a requirement may not need or want this group cohesion. Students need the time and desire for this to occur. Additionally, his campus requires online courses to be a part of a program for students to graduate, so fulfilling this requirement is the goal, not group cohesion. Another respondent stated group cohesion can occur, but stressed course design, especially when using social media, like FaceBook™. The instructors are needed to set up the courses correctly and be responsible, so the students experience good interactions and cohesion. However, this instructor stated, that if they were teaching a math class, there really would be no need for this social presence interaction. His experience at another institution required the need for institutional fill rates, so the classes can get large. This is not practical for instructors to require long papers or small group interactions that needed to be graded per student as that would encompass a difficult instructor workload. These large classes may be efficient for institutions but it is not better for learning regarding social presence or group cohesion.

Figure 41 displays that the design of the course and specifically breaking out students into diverse and changing groups, not only relates to questions one and two, but also to question three regarding course design. Specific answers to interview question number three are additional information related to the main themes resulting from the survey question: How do you design student-peer to peer social interactions in your online courses, and is there a theme you see missing for designing efficient and effective student peer-to-peer social online interactions, if so, please expound. The survey themes listed were as follows.

a) Specific course design (e.g., rubrics, layout, weekly assignments, etc.)
b) Student biographies/introductions
c) Discussion forums (peer review, discussion, posting)
d) Assignments involving teamwork/group work
e) Peer grading and/or team-based grades
f) Wise use of specific technologies (e.g. Moodle™, chats, Google+™, email, Pinterest™, videos, etc.)

One respondent relayed that discussion forums are the most important structure for the discussions, however, if too open, with some students, they will write two pages, and others just 3-4 sentences. It is important for the instructors to provide good structure and directions for great discussion forums. There are helpful tools in Moodle™ so new discussions are seen and students are not able to dismiss parts or recent posts of the dialogue. Students can also highlight posts and then respond so things are in context. In Moodle™ things can get out of context and the instructor needs to design things so posts make sense and things do not get lost. All the students work on their "product" and all students must contribute and get points for moving the idea of someone else forward. If

there are 400 postings and if everyone posts and responds, students get to know each other and feel comfortable with each other.

Another interviewee stated that everything in the survey response list is something they design in their classes. They also use peer review far more than his colleagues. He also uses Qualtrics™ and has students rate each other, but not for discussions as they are rich postings. Other course characteristics for social presence use introductions and autobiographies, multimedia eBooks, information brought in by students, articles or videos from the Internet, instructor weekly videos, and independent chatrooms where he does not view if students want to talk about something irrelevant to the course material. This instructor also tries to mix course design to students; and, attend to preferred learning styles (i.e., some students are audiovisual, hands-on, or work best reading and moving forward). He teaches with models of various learning styles represented in articles, videos, sample quizzes, etc.

One respondent clearly stated they do not use Moodle™, but instead NING™ is utilized. She also uses peer-review and grading, however she provides feedback. Her students are teachers and must do curriculum and assessment so they get feedback from the instructor and their peers, as well as, the final draft they turn in. They get graded on how well they provide feedback. She creates rubrics, and provides how to give feedback, and the students see all the rubrics ahead of time so they know what to expect. One thing she does with discussion forums with small groups, is to assign a different group leader every week, and it is set up so students do not post only once, they have to engage in conversation. The group leader has to post a comment and questions, but by Thursday

each week at 9 pm they all post until Saturday noon and have until midnight on Sunday to finish the assignment conversations with other students. This is what helps create social presence. Rather than just posting, they have to get to know each other through their posts. This instructor also uses VoiceThread™ for a project providing an elevator speech on emergent education and everyone has to respond to the video/audio speeches. FlipGrid™ is another tool, not yet used, but probably will for introductions. Introductions are important but can get cumbersome. The course management system used is NING™, and it is like FaceBook™, but it is for a group and not an individual. One thing you can do is friend everyone. Send individual messages to each other and then they can have a Mypage for themselves. Lastly, everyone is encouraged to post personal pictures. The students see each other's families and you can see everyone's pictures, and these loop on the site. These are benefits of NING™ that Moodle™ does not have and it contributes to a sense of community as well.

Another respondent stated he could talk about all of the course design elements listed for this question. His specific courses have a weekly schedule of assignments and chapter readings with posts and responses required to each forum. Students can check off when they are done. As an instructor, he says it is important to making it easy, and having specific things to do and due each week. Brief biographies are sought asking things like, what is your major, why did you choose this campus, etc. Some students respond and few students say hello and greet others, but this social activity does not usually occur until later in the course. Overall his students respond because they have to per his requirements. An example is that he picks out an important idea, and students

provide a quote or answer. However, he does not assign team work as most of his students are working adults and it does not work well with their schedules and family life. Because he has many writing classes, he would need more time for groups, and he would try to troubleshoot and help group work to make it right. He does have group work in his offline, face-to-face courses. He also does not have team grading. Chats are not used, but email works well. He also does not use Pinterest™, Google+™, or other online apps and platforms, just Moodle™.

One respondent replied to this question to relay that there is little change in his course design as it aids the student with routine. For success in classes there is always the same format every single week with good student response. Students know when they need to post and they do it. With the layout and rubrics, students know exactly what to do. The main syllabus is about 20 pages, however, there is an online learning guide module away from the syllabus, so the students can open it and see what they need to do each week. That has been really successful. He does use student biographies and FlipGrid™. This helps social presence in that you can see and hear other students, as well as getting to know the instructor and each student. This is good for the instructor to get that bond. Each week there is also an instructor posting of 5-10 minutes that updates the students and clarifies activities. This replaces the responses from the instructor each week unless student posting gets out of control. The students can respond and it seems like it works. They know who you are as the instructor if you meet them face-to-face, and the instructor can identify them as well. He also does not use teams or peer grading. For postings, open-ended questions are used and are successful. Students run the

discussions unless it gets out of hand. An example from his experience is that the construction discussions regarding labor and unions can be polarizing, but students do debate and never had fights online –- they have been respectful. FlipGrid™ works for the instructor, but not sure if this benefits the students. Posting content and when they are posted are instructor reviewed. NING™ has recently been used by him, and he found that more interactive and better than Moodle™. Also he likes to use FaceBook™, as it is more interactive. His other institution's platform he has used is D2L™, which has easier formatting than Moodle™. This instructor likes to mix and match D2L™ with NING™, and has tried to convince the university to try D2L™.

The last respondent relayed that peer grading is a good tool and discussions help with learning. However, for postings, questions need to be structured properly. Grades are half the class postings and half responses for this instructor's courses. There are pro and con discussions that also work well. NING™ and other apps and other learning management tools have been used too, but Moodle™ has enough capabilities offered for this instructor's classes.

Regarding the interview question number four, varying results occurred as to whether subject matter would affect the need for social presence. The question was stated as "how may the course subject matter affect the importance of the social presence construct in the success of learning in a higher educational online classroom?" One interviewee said that subject matter should not matter, as students still connect in many subjects during and before and after, so it is interesting to think that social presence does not apply to certain subjects. This instructor wants every class, be it online or not, to be a

community of learners, and tries to deliberately make that happen. She has students from many different states, locations, and cultures, and prides herself that many of her students do build a community and friendships in her classes.

A mathematics course came up in two interviews. One interviewee who teaches large online courses stated that this may be subject related, or just that the class is too large for it to be conducive to social presence. Another interviewee stated that they see greater social interaction where the material is less discrete. For example, this instructor sees less social activity in their finance class where they are looking at assessment calculations. Contrast this with his bioethics class that involves topics, such as electric terminations, where the content is affecting the amount of social exchange.

Another response made clear that subject material should not matter regarding social presence. They said that if we do not have a social presence in online learning, we are losing something. There are campus-wide learner outcomes of working with others and if social presence is invisible to other students then something is really wrong with our teaching.

This person responded that the subject matter is key to social presence as it is about pedagogy. She is teaching teachers, so they are all in this community and interested in emergent education. She contrasts this with a statistics course and says that humans are social beings and we are likely to interact regardless of subject matter. However some situations like hers are more social presence centered, such as subjects of teaching and pedagogy for teaching-the-teacher. Her students are passionate and talented and want to share. Their kind of community is incredibly rich in small groups.

One respondent alluded to business writing online and composition online being very different. The business writing course is much better at facilitating social presence. All of the students are working professionals, and they have shown online to provide great and interesting forums and excellent participation. However, the Composition 2 course is much harder and students are not really responding to each other academically. Another way why subject matter affects social presence is that some courses are required for the student to graduate. Social presence is not a priority, although the student and their teacher can be more involved rather than student-to-student involvement.

Subject matter also affects social presence as to the degree the students are passionate about the subject, according to another interviewee. People share their opinions and experiences. They will interact rather than just respond. The last respondent stated that social presence is not needed in his class as it is about content and based on postings. Also, for example, problem solving in math versus philosophy, the former may not need social presence and the latter requires more discussion and thought. Albeit, overall, it is challenging for the instructor to create an online course for more social presence and discussion. He also believes that graduate students are better with discussions between each other, thus the level of course may be indicative of social presence as discussed in the next section.

Question five was "how may a graduate course differ from an undergraduate course regarding the importance of the social presence construct in the success of learning in a higher educational online classroom?" Interviewees expressed that graduate students appeared to be more able to present their personal lives online (i.e., providing

social presence), then undergraduate students. Some ideas for this were the level of maturity, more experience in education and/or online environments, and/or that the students were engaged professionally in the subject matter and had more personal information to share that was pertinent to the course (e.g., faculty member was teaching K-12 teachers coursework related to their professions). Other specific responses relayed that undergraduate course content is to gain knowledge where graduate learning is about application and applying the knowledge with other students. However, another respondent stated that it is equally important in teaching both undergraduates and graduate students in a meaningful way that involves social presence. The graduate courses take more advantage of social presence, and these participants are more comfortable in a classroom than a sophomore or freshman. They also seem to know one another, which is important for feeling comfortable and communicating with one another. Social presence is important for face-to-face classrooms as well, although again, the social presence construct is seen more in graduate student courses than undergraduate. Another respondent shared that graduate students are working full-time with families and end up sharing personal family photos and such. This interviewee questioned if undergraduate students do the same type of sharing. Yet another interviewee shared that graduate students are just more experienced with online courses. An interesting response was that ego played a part as some students use this to be a "top dog" for their research. Each topic and interest would funnel to their research and graduate students would use this opportunity to talk about their research. Lastly, a response to this question related to a bachelor's degree program, where students are spoon-fed, but the graduate students are

prepared to discuss in class. These levels of courses ask for instructors and students to do things differently. From his experience, it is also drastically different between University and community college students. These types of students have very different ways of expressing themselves. The same expectations are not there. Posting for open-ended questions to undergraduates is difficult. This instructor also prefers hybrid courses for graduate level, as there is more discussion with social presence. Undergraduates memorize and do not discuss and interact as much.

Question six was "what specific technologies/applications, if any, do you use that assist in students' social presence?" The answers provided additional technology information regarding creating social presence. NING™, VoiceThread™, FlipGrid™, D2L™, Google Hangouts™, GoogleMeet™, and Skype™ were the discussed technologies used for social presence in conjunction with or without Moodle™, the university's adopted learning management system (at that time).

An interviewee shared their desire to set up an online student union for sharing or meeting up, as there is not a place for students to do this, unless this is designed in the online course. He wanted to get his students actively involved with each other by doing their own thing. This would be done through the use of posting in an area only for students, where they could communicate and post whatever they wanted to. This posting area would be available for the instructor to view only. He said that he's seen very little activity. However unsuccessful, he keeps providing this per course and thinks this is good for all online courses to have. Two other instructors shared similar online course

design to provide student-only areas for sharing. One said they specifically tell students they do not view this area to assist in increasing student comfort to post.

Another instructor stated that they were still experimenting with apps and technologies in their online course. They pretty much rely on the learning platform (i.e., Moodle™), on video, and peer review. He also avoids certain technologies, such as clickers. Another respondent stated that he uses mostly FlipGrid™ with Moodle™, however, in another position at another institution, he uses D2L™, which he prefers as a course management system. Online video postings, information from the web with a combination of YouTube™ videos, and then commenting have worked well for him too. This can spur an education of online research, and for students to become better researchers. Although, he discourages Wikipedia™, and that the overuse of Google™ and the Internet is not necessarily good for research, as there is still a need to go to the library. He requires the goal for students to come to him as the instructor with a question as well as with a possible answer. He stated that he has become a better researcher, and he uses as an example his mother who is 72 years old. She used to ask him questions, now she just Googles it for the answers. Time has changed for seeking knowledge and conducting research.

Another technology input for social presence provided was on having Moodle™ project workshops where students would share their work and peers would grade. Again, discussion and forums were stated as very important, and many different ways to conduct these are available.

Question seven asked, "Do you try to create a class community to assist in students' comfort to share, and if so, what are some key elements to achieve this?" All but one interviewee stated that they try to create a class community. Even though all six interviewees stated social presence was important, the issues that may prevent instructors from trying to promote it is time, the enormity of the course (i.e., 200 students), and possibly the subject matter of the course. In other words, there are ways to educate the course topic without the need for student-to-student interactions and sharing of personal information.

Overall, whether the interviewees taught online large and/or small courses, varying subject matter, and/or to undergraduates and/or graduate students, they all agreed that social presence was important to online learning, just as it is in face-to-face learning. The large class sizes were mostly detrimental to designing social presence, where creating small groups helped, however in some courses it is just not feasible to do so. The creation of small groups and peer-to-peer interactions were relayed as essential to designing the course and to help provide social presence activities. Some learners are shy and self-driven. It was relayed that some learners love the anonymity of the online course, where some would never think of speaking up or providing critical inquiry in a face-to-face classroom, yet open up in an online environment. Other students react quite the opposite in an online forum. Even if the instructor designs for social presence or for a class community, the student themselves may (or may not) hinder their social presence.

Another means for creating a class community was to allow it to happen. Do not design for it, but see if it gets created naturally. As the students start to know each other,

they form their own groups as they gain trust and comfort with each other. However, if it did not form, it can be designed into the course, as many interviewees attested to and reiterated. This can be accomplished with the course rubric and assignments as well as the use of specific tactics. Many brought up students providing their autobiographies or introducing themselves to each other. Having options for (or requiring) teamwork is another tactic, however one instructor stated that he "gets push back but still presses on." The online place created just for the students and not for the instructor was relayed again. The students need a place to go that is on the learning platform that is just for students.

The actual type of assignments can create (or not create) a community of learners. One interviewer shared that he provides assignments where the entire class or groups discuss a particular topic. Some will satisfy the assignment with a dry answer and they get equal credit and others will relate to their lives and will also get credit. Other instructors require and grade the students on in-depth and meaningful postings with each other, so those courses made it mandatory.

One interviewee stated that rubrics and overall course design are critical to ensuring a class community. She stated that her rubric provided is one that she and the students fill out. She created a sheet of online etiquette that she addresses and posts. These specifically provide the goals of the course through the students as online community builders. Students in her course are graded on key elements in their online community building. They must follow directions, their posting and follow-up questions must be meaningful and substantive as well as meeting length criteria. Students need to treat other students with care and have concern to not leave anyone out of the online

community they are building. Students must show a cultural understanding. They need to challenge others' points of view constructively. Strong reading skills are required. Additionally students need to resolve conflicts in respectful ways. Each student must also self-reflect on their progress to ensure they are participating in ways that are expected of them.

The last interview question, question 8 asked, "What else would you like to share that you believe important to this study?" Three stated that they feel they have already shared their perspectives and practices. One interviewee relayed that online courses are very different than face-to-face, so an evaluation tool for online courses is needed. There are some similarities for evaluation between the two, as well as, the need for evaluation of hybrid courses. The University does not have distinction between these types of courses for evaluations, so there are no online specific course evaluations unless the instructor designs and creates one themselves.

Two instructors brought up asynchronous versus synchronous online activities for online courses. One believed that asynchronous learning is not as rich as in-class, face-to-face experiences. However, he admitted to not having enough synchronous online experience to know if it can be done well. Social presence in asynchronous course activities is difficult when communicating to someone who cannot relay the facial cues, vocal tones, etc. The other respondent provided more options, such as Google™ Hangouts/Meet™, WebEx™ and ITV, for asynchronous technologies in the online environment. He relayed that hybrid courses can also be beneficial for social presence and building a community of learners.

Regarding subject matter again, social presence is a model based on social constructivism, as one instructor relayed. Some subjects, say finance versus bioethics, may have less or more opportunities for socially constructed knowledge respectively. However, each course can be designed in a way to create a community of learners for meaningful learning whatever the subject may be.

One respondent was adamant in saying that social presence is very important and should be one of the constructs of the CoI framework. It can be difficult, but it is valuable and ideal for learning in which instructors should try to achieve. Another interviewee's last statement was that the biggest asset, for teachers and students, is that you have to be open to online learning. If you go to a class with the bias against online courses, it will impact your teaching and learning.

Research Questions

This section addresses the research goals and questions and if the results from the study achieved these goals and answers the research questions. The goals were to seek understanding, through the context of a university online learning environment, of the social presence construct characteristics and how to maximize social presence based on the input by faculty who teach fully online courses. As shown in Appendix A, the social presence characteristics includes affective expression of students to get to know other course participants, have a sense of belonging in the course, form distinctive impressions of other students, and be helped by the online or web-based communication. Open communication is another key characteristic of the social presence construct. It strives to help students feel comfortable conversing through the online medium, participate in

discussions, and interact with other students. The third main characteristic of social presence through the CoI framework is group cohesion. This aids in students to feel comfortable disagreeing with others while still maintaining a sense of trust. It also helps students feel that their views are acknowledged by other course participants, and that the online discussions helped them to develop a sense of collaboration. (Garrison, Anderson, and Archer, 2000, 2010)

Overall the goals were achieved by answering the following research questions, although partial success was obtained because research question two was not fully answered. The following provides answers to these questions.

Research Question One

Research question one asked what describes the social presence construct in an online learning environment in higher education. The answers from both the survey and interview tools may have supported most of the social presence characteristics, but did not directly provide additional characteristics of the social presence construct as defined by CoI. A few responses stated the importance of student self-directed learning skills to aid in social presence. In all, the answers both affirmed the CoI framework's definition and characteristics (as shown in Appendix A), as well as contradicted them specifically regarding these results,

1. The social presence characteristic that "students feel comfortable disagreeing with other course participants while still maintaining a sense of trust" was rated highly by survey takers, but seems to be dependent on class size and

negatively correlated to small class size, even though faculty promoted small classes/groups for maximizing social presence.

2. The social presence characteristic of "group cohesion of students in the online learning environment" appears to be dependent on class size and negatively correlated to small class size even though small class size/groups were recommended by the instructors.
3. All social presence characteristics are dependent on class size, except for the social presence characteristic that "online or web-based communication is an excellent medium for social interaction," which was also not highly rated as important for social presence in online learning.
4. The social presence characteristic that "students are able to form distinct impressions of some course participants" was not highly important for social presence in online learning.

On many survey questions, a few stated social presence was unimportant or they did not understand the construct and perhaps that explains contradictions. However, the majority of the survey results and in all the interviews, social presence was contextually important. All of the survey Likert questions regarding social presence characteristics had a majority specifying at least being somewhat important to extremely important. Those with the highest ratings by survey takers were as follows in ranking from extremely important to less important.

a) The level of importance of the student feeling comfortable participating in the course discussion produced results of 60% stating extremely important and another 21% stating important.

b) The level of importance regarding students feeling comfortable conversing through the online medium had results of over 78% who selected at least important with 40% selecting extremely important.

c) The level of importance for the students to feel comfortable interacting with other course participants resulted in over 73% thinking it at least important: 40% selected extremely important and 34% selected important.

d) The level of importance of the student feeling comfortable disagreeing with other course participants while still maintaining a sense of trust, had an overwhelming majority of answers with 39% who stated extremely important and another 34% who stated important.

e) The level of importance of students' feeling that their own point of view was acknowledged by other course participants had results of 36% selecting extremely important and 31% selecting important.

f) The level of importance of open communication of students in the online learning environment had over three quarters stating this to be at least important: 29% selected extremely important and 47% selected important.

g) The level of importance of affective expression of students in the online learning environment were over 45% selecting this important and almost a quarter (24%) thought this only somewhat important with 13% stating it was extremely important.

h) The level of importance regarding the students' ability to get to know other course participants to provide a sense of belonging in the course was rated at least somewhat important by 86% of respondents with over a third stating this important (34%) and over a quarter (26%) rating this extremely important.

i) The level of importance regarding group cohesion of students in the online learning environment had 73% responses for at least somewhat important, with 39% selecting important and 34% selecting somewhat important.

j) The level of importance on whether online or web-based communication is an excellent medium for social interaction was mostly rated as somewhat important (almost a third at 32%) or important (31%).

k) As previously stated, the lowest scored social presence characteristic was "students are able to form distinct impressions of some course

participants" (rated not important by almost 20% and over 37% selected this as somewhat important).

Even with a majority of the survey takers and interviewees agreeing that social presence is contextually important for online learning, the extreme responses on either side of the spectrum, as well as contradictory statements and correlations, provide incentive for further research on social presence. Additionally, this study's results may provide insight for the need of additional research based on class size. For instance, the size of the class had many significant correlations in the survey responses. The correlations with social presence were either very large (over 80 students) or very small classes (less than 21 students) with the importance of certain social presence characteristics. Based on the interview results, for most questions, the smaller class or break-outs in large classes were thought as most conducive for social presence. However, the correlations did not support this.

The discrepancy between large and small classes may have been answered in the interviews, where large class design would involve creating smaller groups of students for increasing social presence, as what is commonly practiced in face-to-face classrooms. However, even though interviewees agreed that social presence was nurtured in small groups or classes, it did not matter if the class was small or large with no break-out groups for students to feel comfortable in disagreeing with one-another. This specific social presence characteristic of students comfortably disagreeing with one another was one of the higher rated items in the survey for promoting social presence. Furthermore, the interviewees agreed that student-to-student constructive criticism (i.e., disagreeing with one another) was important for social presence and learning. This could lead to

further investigation as to what group comfort and cohesion is in a small or large group to foster constructive criticism between students related to the social presence construct.

Another contradiction was that the qualitative survey and interview results showed the importance of pedagogy, course design, and use of technologies for maximizing social presence. However, few of the survey responses thought online communication as important or extremely important. One would think that having good online communications is part of the course design (e.g., incorporating discussion forums, areas for chats and other postings, etc.) and critical for social presence to exist.

Overall, research question one is answered by the already existing CoI framework (Figure 1 and Appendix A) as survey and interview respondents reported. Extraneous variables that were identified in the survey and interviews may be beyond the instructor's control (teaching presence), such as class size, subject matter, or class level affecting social presence. Other variables affecting social presence characteristics may already be incorporated in the CoI framework, where the instructor (teaching presence) has control, such as their paradigm, pedagogy, and course design. However, other extraneous details were reported that involved administrative control, such as instructor allotted time per course, frustrations with the officially-adopted course management system, other available tools provided to the teacher, etc. Lastly, it was hinted that students can self-organize and that self-directed learners may be able to improve their social presence with others. This could possibly be another characteristic of the social presence construct.

Research Question Two

This question was not wholly answered by the study's research results due to limitations of information generated. It sought answers of overlapping characteristics of the social presence construct with the teaching presence and cognitive presence constructs in an online learning environment in higher education. Not enough data and information were produced by the two study's questionnaires to provide these overlapping characteristics. However, there is key information generated from this study that is part of the CoI Framework (Figure 1). The students' educational experience with social presence overlapping teaching presence, called setting the climate (Figure 1). This is the critical piece of teachers designing courses to maximize social presence, as reported in this investigation. Also, instructor paradigms and biases (as well as the students') can also affect social presence in the online classroom as reported by both survey and interview respondents.

For social presence overlapping cognitive presence, called supporting discourse (Figure 1), it was reported in this research that social presence is important in learning both online as well as in face-to-face classrooms. It was repeatedly recommended for rubrics with learning outcomes to incorporate social presence for higher cognitive goals.

All of the six interviewees, as well as survey results, stated that social presence was important and provided details that relay to these overlaps between teaching and cognitive constructs, however not specifically addressing the CoI framework. As previously stated, perhaps student self-learning skills, stressing the importance of the instructor to promote social presence, the type of online classroom, and external

administrative controls may help strengthen the social, teacher, and cognitive presences of CoI.

Research Question Three

This research question sought answers as to what practices can be employed to maximize the benefits of the social presence construct in an online learning environment in higher education. The research specifically answered this question. Most of the survey respondents had a great degree of or total control over the design of their online courses, where in both the interview and survey responses it was relayed that the online course design is critical in and can maximize social presence. Most relayed the importance of what was provided in the posted rubric and team assignments or responses to peer postings. They also relayed varying and specific technologies (e.g., FaceBook™, NING™, VoiceThread™, Google Hangouts™, Skype™, use of videos posts, and various discussion forums, chats, bulletin boards, blogs, etc.) that could be employed in addition to or in replacement of a learning (or course) management system, such as Moodle™ (the university's official system at the time). Some of these technologies could be used for synchronous learning activities in addition to the asynchronous online environment. It was also relayed that an instructor could be a facilitator of the course, but the instructor still needed to lead and guide the students through the course to ensure course goals and objectives were accomplished. Many relayed that the institution needed to provide them more resources and time to ensure their online course practices could maximize social presence.

Research Question Four

The fourth research question, "What are successful outcomes of maximizing the benefits of the social presence construct in an online learning environment in higher education" was answered specifically from question 19 on the survey. Question 19 was an open-ended question seeking the answer to what are the benefits of fostering social presence in online learning. Figure 40 shows these results and they are also listed in detail in Appendix G. Of the respondents who answered this question, the answers were grouped based on themes. A third (33.3%) listed benefits of enhanced learning. Twenty-three percent stated a community building benefit. Eighteen percent made statements regarding trust building. Over ten percent stated that social presence may/may not be applicable, which alludes to its contextual importance. Almost eight percent said it has a networking benefit. Almost 3% said it is a benefit as it represents a face-to-face learning counterpart. Two said it was a benefit of more accountability to others, and two others stated that it was a means to create alternate or new identities or personas.

Summary of Results

This study explored the Community of Inquiry (CoI) social presence construct regarding faculty's perspectives and practices in their online teaching through a survey and interview process. The study's results from the two questionnaire tools provided answers to three of the four research questions to partially meet this investigation's goals of studying the social presence construct's importance and characteristics and how to nurture it in an online learning environment.

The survey tool had 62 qualified respondents (faculty from the Midwestern university who taught fully online courses on any of its campuses) from a total of 390 email invitations (15.9% response rate). The demographics of the university faculty online instructors were mostly 31 through 60 years of age with almost 23% over 61 and only 6.5% from 20-30 years of age. Over half (58%) were female. Over half also taught undergraduates between one and 15 years and almost a third had over 15 years teaching undergraduate courses (10% had no undergraduate teaching experience and two had over 40 years' experience teaching undergraduates). Over half also did not teach graduate courses and those who did, about a third had one to15 years teaching graduate students. Slightly over half began teaching online between 2005 to 2011.

Of the 62 survey respondents, most (over 80%) had taught one to 25 online courses. The majority (87%) taught one to four completely online subjects with 42% teaching only one completely online subject. Almost 45% of the respondents stated that their fully online class sizes were between 21 and 40 students, with most (over 90%) being one to 80 students. There were five (5%) participants who taught online courses of over 200 students. Most (65%) fully online courses were undergraduate and over a quarter (27.5%) were graduate. Six (7.5%) specified that they taught fully online non-degree-seeking/continuing education/other courses. Most (over 77%) had a high degree of responsibility for the design of the online courses.

The six interview participants (see Figure 41) had been invited to the interview stage through the survey. Of the six, two were female, and all taught courses that were fully online. One had recently received the university's award of excellence in online

teaching. Some taught very large online university courses, where four taught mostly small online university courses. Three had a mix of small, medium, and large classes. They each utilized various technologies and three primarily used the university's official course management system, Moodle™, with additional apps/online resources.

Research question one was seeking answers to what describes the social presence construct in an online learning environment in higher education. All of the CoI social presence construct characteristics were listed as being at least important by the majority. All questions had someone who did not respond and/or listed the characteristic as not important. Some respondents stated they did not understand this study or construct. Two characteristics worth noting as not being highly important were students forming distinct impressions of some course participants, as well as, online or web-based communication being important as a social presence characteristic.

The social presence characteristics from the survey results relayed that class size (either less than 21 or over 80) affected this construct through either positive or negative correlations. These correlations contradicted this study's faculty responses in both the survey and interview data and information. The interviewees clearly relayed that social presence is nurtured in either a small class size or using break-out groups in large classes. Large classes had positive correlations with social presence as well as two social presence characteristics having negative correlations with small class size. Perhaps the interviewees provided answers to these contradictions stating that a practice of creating small groups in large classes was common both online and in face-to-face courses. However, a dilemma occurred with the two negative correlations, one being that the

social presence characteristic of students feeling comfortable disagreeing with one another would be more difficult in small class sizes; the other characteristic of group cohesion of students being more difficult in small class sizes. There were remarks in the interviews that both supported these problems as well as disagreed with them.

Additional information arose from this study that could be added or investigated that further affect social presence. These were class level (graduate versus undergraduate students), subject matter, time, resources available, and student initiative/drive (self-learners, maturity level, reason for taking the course, etc.). Some of these are teacher-dependent and student-dependent and could add to the teaching presence construct or the social presence construct. Some of these are institutionally-dependent and may be out of the faculty's or student's control.

Research question two, as previously stated, was not directly answered by the study, however, key points in the CoI Framework were noted through survey and interview participants. The question was what are overlapping characteristics of the social presence construct with teaching presence and cognitive presence constructs in an online learning environment in higher education. The instructors' responses in the importance of designing social presence in the curriculum and online environment overlap with teaching presence, which is "Setting the Climate (Figure 1). The responses verifying the importance of social presence characteristics in learning overlapped with cognitive presence, "Supporting Discourse" (Figure 1).

Question three, which asked what practices can be employed to maximize the benefits of the social presence construct in an online learning environment in higher

education, was also answered. Faculty described their practices that aided social presence. Most (of 54 responding) were mainly through the use of discussion forums (42%). Teamwork (19%) and specific technologies used (19%) comprised the other almost 40%. Other results were nine (7%) stating biographies and introductions used in course design. Eight (6.20%) responded that rubric design and assignments were important, where two stated peer grading and one stated general interactions as important for these peer-to-peer interactions. Note that eight participants did not respond to this question and five stated that this was not applicable to them or their online course(s).

It was clear in these survey results and the interviews that instructor's design of the course can help maximize social presence. The design incorporated the need for posted rubrics focusing on social presence activities, such as discussion forum posting and responding to other student posts, requiring introductions/biographies, and the strategic use of apps and technologies they utilize in their online courses that could create both asynchronous and synchronous activities between students (e.g., use of videos, Google Hangouts™, Skype™, etc.). Technologies and apps were used with or without the learning course management system adopted by the University (i.e., Moodle™ at that time) to best maximize social presence. Also noted was the need for the institution to provide time and resources for instructors to achieve online.

Research question four was specifically answered through the survey question 19 by generating a list of successful outcomes of maximizing the benefits of the social presence construct in an online learning environment in higher education. The top three

responses were categorized as a benefit of enhanced learning (33.3%), community building (23%), and trust building (18%).

Of the overall results from the survey and interview responses, patterns arose that social presence is contextually important. Social presence was thought to be maximized in small classes or teams/groups created out of large classes (with the caveat of the contradictions explained), that both the student-drive and the instructor's course design can influence the level of social presence, and that the amount of time and resources allotted can impact social presence.

This chapter provided the results of the survey and interview questionnaires to investigate the social presence construct at a Midwestern university based on the faculty's perspectives and practices in their fully online learning environments. The research goals and questions were mostly addressed by these results. It is clear that additional research is needed on the social presence construct. The next section, Chapter 5, concludes with a results discussion and provides the study's limitations and recommendations for future research.

CHAPTER 5. RESULTS, RECOMMENDATIONS, AND CONCLUSIONS

Introduction

The results, recommendations, and conclusions of this study on the social presence construct of the CoI framework are presented in this chapter. As previously stated, the literature review was conducted in 2013-14, and many changes have occurred since. This section provides not only the results and limitations of the investigation, but also updated information. From this, implications of the research findings and recommendations for future research are provided. Lastly, the concluding remarks are made to finalize this research dissertation.

Results Discussion

The Community of Inquiry (CoI) social presence construct as well as the teaching and cognitive presence constructs were first seen in Garrison, Anderson, and Archer's (2000, 2001) seminal papers. It was initially critically addressed in Rourke, Garrison, Anderson, and Archer's (2001) paper that stated, "further study is needed, especially using instruments that triangulate participant perception of social presence and its values and the relationship between social presence and objective measures of learning outcomes" (p. 15). The CoI framework has had a long history, almost two decades worth. Other lead investigators on this topic have been Akyol, Annand, Arbaugh, Barber, Cleveland-Innes, Dron, Ice, Jézégou, Kanuka, Krathwohl, Richardson, Rourke, and Shea. Rourke and Kanuka's (2009) research, as well as Gorsky, Caspi, and Blau's (2012), Arbaugh's (2007), Annand's (2011), and Guri-Rosenblit and Gros' (2011) studies are some investigations that raised doubts on social presence effecting deep and meaningful

learning. However hundreds of research papers have been published with additional insight into social presence since the seminal CoI paper in 2001. The CoI has stood the test of time for its foundation along with its survey that has gone through many revisions as more data and information have been discovered and tested.

The results of this study's survey and interview methodology overwhelmingly showed support of social presence importance in online academic classrooms and its ability to be perceived between students by the instructor, especially in small groups/courses. These results did not provide objective measures of learning outcomes, however, instructors relayed the need to design social presence into their course that involved learning outcomes. Information also resulted in that students developed more of a social presence with other students as well as increased group cohesion as time went on in the online courses, as represented by Akyol, Vaughan, and Garrison (2011) and Akyol and Garrison's earlier investigation (2008).

Even with many research papers presenting social presence construct's importance, others have demonstrated that social presence may not necessarily be warranted (Annanda, 2011; Arbaugh, 2007; Arbaugh, Bangert, & Cleveland-Innes, 2010; Gorsky, Caspi, & Blau, 2012; Rourke & Kanuka, 2009). This study found both the respondents of the survey and interviewees agreeing that social presence may be only contextually important. For example, certain subject matter, such as math classes, do not necessarily need social presence to achieve learning objectives/goals. Another example may be that graduate level courses are more conducive for social presence to occur than undergraduate courses. Additionally, the class size may be too large for social presence

to even be addressed, although forming small groups in large classes was an advised solution. One interviewee, who was a winner of this university's "Outstanding Contributions to Graduate and Professional Education" award, stated that she believes social presence can be nurtured in any online environment, and if it is not, maybe there is something wrong with the instruction. Her social constructivist and perhaps connectivist pedagogy reflects Garrison's (2011) rebuttal of Annand's (2011) paper as well as others like Rourke and Kanuka's (2009) criticism, in that these researchers may have a paradigm reflecting the original distance education pedagogies of behavioral/cognitivist thought. For social presence to flourish online, the newer pedagogy of social constructivism and now connectivism may need to be addressed when studying this construct.

Regarding research question one that sought answers to what describes the social presence construct in an online learning environment in higher education, almost all characteristics as used in the CoI were accepted by the survey results of being important to extremely important. Only two social presence CoI characteristics were rated not important or somewhat important by most survey takers, with the least favored characteristic being, "students are able to form distinct impressions of some course participants."

As stated by all interviewees, the social presence construct is contextually important in online learning just as it is important in face-to-face learning as well. The practices relayed by these online instructors who took the survey and promoted the social presence construct were varied. Most stated that the use of discussion forums (42%)

were extremely helpful for student-to-student interactions. Teamwork (19%) and specific technologies used (19%) comprised the other almost 40% of online practices employed by the teacher. Additional results included biographies and introductions, rubrics and assignments, peer grading, and promoting general interactions between peers. What came across clearly was that the instructor's design of the course can help maximize social presence which is "Setting the Climate" as seen in Figure 1 that linked the social presence construct with the teacher presence construct. However, instructors relayed that the institution still needed to provide sufficient time and resources for them to achieve this, especially in large classes.

The study results also provided the top three social presence benefits to the online class environment by providing enhanced learning (33.3%), community building (23%), and trust building (18%). From either a social constructivist or connectivist view point, these are important aspects to help encourage students to construct new knowledge (from existing knowledge) through meaningful peer-to-peer connections. Deep and meaningful learning as defined in this study (Garrison & Cleveland-Innes, 2005; Novak, 2002; Tagg, 2003) appears to be enhanced through the social presence construct based on most of the answers from the survey and interviews. If this is correct, this construct also connects with the cognitive presence construct ("Supporting Discourse," Figure 1).

Understanding how to employ online educational strategies that produce meaningful learning (Novak, 2002) and deep learning (Garrison & Cleveland-Innes, 2005; Tagg, 2003) are aspects of the CoI framework. Rourke and Kanuka (2009) and Gorsky, Caspi, and Blau (2012) research produced results that raised doubts that social

presence and cognitive presence can occur in an online environment to allow for deep and meaningful learning. However, the results of this study provided insight into instructors' perceptions and practices that deep and meaningful learning can occur online and social presence helps students to integrate new course information with information they already know, albeit the instructor needs to design for and facilitate this.

Limitations

As previously explained, the literature review was conducted four years ago, and new information and research has been added to the knowledge pool since. Another limitation of this study is whether the results can be generalized to other educational institutions. The faculty perspectives and practices regarding social presence were from a sample from only one higher educational institution in the U.S. Other limitations are that perspectives and practices may have greatly changed regarding online courses and learning regarding social presence since 2014; and numerous literary sources on the CoI framework have been added to the knowledge base in the last four years. Also, to seriously consider studying social presence in an online environment, faculty and academic institutions must first acknowledge the importance of online courses. Academic institutions had relayed from the Allen and Seaman studies (2013, 2016) that online courses are not accepted as are face-to-face courses, where limitations could be the resources allotted to the instructor, such as online hours provided, the number of online courses being taught per faculty member, amount and type of training provided, and the learning management system and other online application/resources adopted to aid the instructor.

Limitations occurred regarding the methodology employed as well. To extract more information or to elucidate more meaning from answers, the researcher could have asked interviewees to expound more on the specific questions related to social presence construct characteristics in questions 1a-j and 2 a-c (Appendix E). This could have remedied the contradictory answers as to the importance of social presence, the influence of class size, and/or particular characteristics that may be more important than others. This refers to the contradictory responses regarding class size and social presence characteristics of comfort and disagreeing with one another. Students could be comfortable with one another whether or not disagreeing with each other in large classrooms without small group creation. And small class participants could know each other well and/or feel comfortable with one another, but would avoid disagreeing with one another. Additionally, some interviewees as well as survey takers said social presence could be designed in any course, while others said it depends on the course level or subject matter. Because of these answers, the social presence construct appears to be contextually or relatively important.

Another limitation is that survey response rates and the number of interview volunteers were low. If this study had a larger sample, such as faculty members from multiple educational institutions, with larger response rates, more substantive statistics and qualitative analyses may have been conducted. With more information it may have been possible to see resultant relationships between the social presence construct and the teaching presence construct and/or cognitive presence construct, which would have helped answer research question two.

Current Online Educational Practices Impacting Social Presence

Since the literature review of this study, interest still exists in correlating the level of social presence with achieving learning objectives as well as attaining higher cognitive thought. Thanks to the remarkable changes in online technologies, the ability to evaluate and assess online learning and how social presence affects learning outcomes are becoming easier as well as the ability to offer quality online programs.

Both formative and summative assessments on online learning have been analyzed by recent investigations. Formative assessment assists learning and summative assessment indicates what learning has been achieved at certain periods (Dolin, Black, Harlen, & Tiberghien, 2018). There are now specific online technologies that can be used for course assessments. For example, Poll Everywhere™ can be used for both formative and summative assessments. Using multiple tools can also help judge the success of a course as well as promote social presence and providing learning benefits. Having a varied content delivery methodology has been found to correspond with positive psychological benefits, self-regulated skills, and complex cognitive processes (McLaughlin & Yan, 2017).

One model to observe how online technologies have evolved in the classroom as well as examine higher cognitive skills in online learning is called SAMR (Puentedura, 2014). This acronym is short for "substitution, augmentation, modification, and redefinition" that is on a spectrum of increasing cognitive skills being utilized. "Redefinition" is the highest on Bloom's taxonomy (involving evaluating and creating). It is flexible and student focused and helps the understanding of the impact of technology

on learning. The SAMR model supports and enables teachers to design, develop, and utilize digital learning experiences using specific technologies. An example of how to use SAMR is word processing replacing handwriting (substitution), then a word processor adds audio (speech recognition of the text) to improve writing and speaking assignments (augmentation). These word and audio files are then shared online with other students for collaborative discussion (modification). A higher step in cognition would be to have students utilize multimedia tools to analyze and evaluate an assigned topic in place of the written assignment (redefinition).

Other tools to study social presence itself have been investigated as well. Satar and Akcan (2018) used a social network analysis (SNA) and content analysis to account for social presence in online courses. Using these analyses, they specifically found that a longer period of time participating online did not greatly influence social presence, even though the course they studied had more "stable and consistent" interactivities between the students with time.

Beyond assessing online courses for social presence and learning, online teaching has dramatically changed just because of technology and a vast array of online tools that are now available. Since this study's literature review, the learning management system had changed for this Midwestern university from Moodle™ to Canvas™. Canvas™ has increased sophistication in utilizing many different apps and technologies available for the instructor in their course design.

Synchronous activities are far easier to conduct online these days thanks to technology, and they can mimic face-to-face courses (Lee & Huang, 2018). Examples of

online synchronous audio/video beyond interactive television (ITV) include Skype™, WebEx™, and Google Meet™. The vast diversity of online tools that can be used today synchronously and/or asynchronously have greatly improved to assist students with their varying learning styles and provide an abundance of possibilities to help the teacher design courses specifically for collaboration and supporting social presence (Chen, Jones, & Xu, in press). Table 34 lists some technologies that have been utilized in courses in both secondary and post-secondary online educational settings.

Table 34.

Technologies Assisting Course Design and Social Presence

Technology and website	**Description**
Adobe Spark Video (www.spark.adobe.com)	Video creation/alteration/sharing
Blabberize (www.blabberize.com)	Photos: animate/audio
Blendspace (www.blendspace.com)	Create lessons
Bloomz (www.bloomz.net)	Class and peer-to-peer communications
Book Creator (www.bookcreator.com)	Ebook generator
Buncee (www.buncee.com)	Digital canvases
Canvas (www.canvaslms.com)	Course/learning management system
Capzles (www.capzles.com)	Timeline creations
Comic Book! (www.3dtopo.com)	Comics generated via photos
Do Ink (www.doink.com)	Animation creator
Easelly (www.easel.ly)	Infographic builder
Edpuzzle (www.edpuzzle.com)	Interactive videos
Explain Everything (www.explaineverything.com)	Whiteboard
FaceBook (www.facebook.com)	Social networking site
Flip Grid (www.flipgrid.com)	Video Reflections Responses
FlowVella (www.flowvella.com)	Presentation Maker that Looks like Digital Books
Go Formative (www.goformative.com)	Assessment tool
Go! Animate (www.goanimate.com)	Text-to-talk animator
Google Docs (docs.google.com)	Online Word-like document creation/sharing
Google Drive (drive.google.com)	Create/store/share files online
Google Expeditions (www.edu.google.com/expeditions)	Virtual reality trips

Table 34 *(continued)*

Google Sheets (sheets.google.com)	Online Excel-like document creation/sharing
Google Street (www.google.comstreetview)	Virtual reality
Hopscotch (www.gethopscotch.com)	Create/code games
Kahoot! (www.getkahoot.com)	Game generator
Kidblog (www.kidblog.com)	Safe blogging platform
Linked In (www.linkedin.com)	Professional/career networking site
Marvel (www.marvelapp.com)	Sketch out ideas for apps and websites
Moodle (www.moodle.org)	Course/learning management system
Newsela (www.newsela.com)	Current events tailored generator
Padlet (www.padlet.com)	Digital corkboard
Participate Learning (www.participate.com)	Resource aggregator
Pear Deck (www.peardeck.com)	Presentation app
PicCollage (www.pic-collage.com)	Create photo collages
Pixiclip (www.pixiclip.com)	Narrate your whiteboard
PlayPosIt (www.playpostit.com)	Videos w/quizzes
Poll Everywhere (www.polleverywhere.com)	Student response system
Popplet (www.popplet.com)	Multi-use collaborative
Qualtrics (www.qualtrics.com)	Survey/quiz generator
SeeSaw (www.web.seesaw.me)	Portfolio creator and collaborator
Shadow Puppet (www.get-puppet.co/education)	Story telling app
Socrative (www.socrative.com)	Student response system
Soundtrap (www.soundtrap.com)	Audio editor
Spiral (www.spiral.cc)	Multi-use collaborative
Spreaker (www.spreaker.com)	Podcast and radio broadcast generator
Stop Motion Studio (www.cateater.comstopmotionstudio)	Motion animation creator
Storybird (www.storybird.com)	Online book generator
Swift Playground (www.apple.comswiftplaygrounds)	Swift programming app
Tellagami (www.tellagami.com)	Create One Character Animation
Thing Link (www.thinglink.com)	add multi-media to pictures
Touchcast (www.touchcast.com)	Interactive video creator
Twitter (www.twitter.com)	Social/communications networking site
VoiceThread (www.voicethread.com)	Collaborations/discussions app
We Video (www.wevideo.com)	Video editor
WebEx (www.webex.com)	Synchronous online video/audio/chat/whiteboard
Weebly (www.education.weebly.com)	Website builder
Wikispaces (www.wikispaces.com)	Wiki

These and other technologies are being researched to investigate their use in online courses and effect on cognitive and social presences as well as student satisfaction. Many instructors have tried to design in technology that makes the course feel authentic rather than contrived. Qiao, Tang, and Hew (2018) relayed study results of cognitive presence evidenced in over a third of student communications in instant messaging technologies in their sample. Their investigation also showed social presence, as the students were using the online tools for academic as well as nonacademic communications. For their study, the authors relayed that most students favorably responded to the use of instant messaging (Qiao, Tang, & Hew, 2018). Almekhlafy and Alzubi's research (2016) used WhatsApp™ in an English foreign language class, which was highly favored by the students. Activities involved sending each other photos, links, and videos, as well as utilizing a chat feature with each other. It showed social presence occurring, however, these researchers found that non-academic and some disruptive uses occurred during their online courses.

Much of these new technologies and practices in online learning are very promising, however, there are still some research studies that have not found a link with social presence and student learning outcomes even with more time allotted as well as opportunities and technologies that encouraged social presence. For example, Lee and Huang's (2018) investigation relayed results that time and more opportunities for students to interact did increase social presence in an online learning environment. A 16-week semester increased social presence with the more interactive activities provided versus a

5 week course; however, they did not find that social presence was related to students achieving their learning outcomes.

Additionally, surprisingly enough, with all of these new technologies to support teachers and social presence, there were disappointing results in the Allen and Seaman's more recent reports of 2016 and 2017 that relayed continuing trends since their 2013 study. These trends are of low faculty acceptance of online learning as well as lack of institutional strategizing of online courses and programs even though there were continued increasing rates of online enrollments and course and program adoption in public institutions.

Implications and Future Research

Overall this study found that social presence online is just as important as in face-to-face learning. The survey and interview results provided that social presence is contextually important, is maximized in small classes or teams/groups created out of large classes, that instructor course design can influence the level of social presence, and that proper time and resources allocated to instructors may help increase social presence. However, as previously described, conflicting results arose regarding whether certain aspects of social presence can exist in large class sizes without break-out groups or teams. Additionally, this study's results and other literature presented that faculty buy-in and institutional strategies can be lacking for online courses and programs, which confounds the issue of instructor resources and ability to design an online course well for social presence. Lastly, there were responses in both the survey and interviews that

stated social presence is not necessarily important dependent on class size, subject matter, or level of course (e.g., undergraduate versus graduate).

Because of the contradictions that occurred in the results as well as the inability to fully answer the second research question, additional social presence research in online learning is warranted. Specifically studying class size, subject matter, and/or class level effects on this construct would assist in knowing its contextual importance. Understanding institutional and instructor's ability to effectively provide resources and course design to nurture this construct would also be important. Additionally, the importance of student self-directed learning and instructor's paradigms/biases affecting the social presence construct could be addressed, as well as students' perspectives on the CoI constructs. Lastly, studying CoI construct-to-construct characteristics (which would answer research question two) could assist in qualifying the interdependence of social, teaching, and cognitive presences as well as the CoI framework and its ability to evaluate online learning and possibly construct correlations with student learning.

Concluding Remarks

This study clearly relays from the faculty participants that the social presence construct is contextually important and can exist and be nurtured in online learning, just as it can be in face-to-face learning. In addition, the survey and interview respondents of this study stated that graduate- versus undergraduate-level courses, small classes/groups, subject matter, as well as the students and instructors themselves can affect social presence. Many of the respondents stated that maximizing social presence online requires the right kind of design, resources, and time, however, the proper institutional

strategic planning and support may not be adequate for this to occur. The curious findings of increased adoption of online courses in public higher education (Allen & Seaman, 2016, 2017) yet not an increasing rate of buy-in from faculty and inclusion of online courses in strategic decision-making were reported by Allen and Seaman's studies (2013 & 2016).

As stated in this paper, the study's data and information were collected in 2014 and 2015, however, more recent papers have shed light on the social presence construct of the CoI framework that are particularly important to this study.

1. Richardson, Maeda, Lv, and Caskurlu (2017) carried the theme that social presence is a contextually-important construct in the CoI framework. Results of their study were "that (a) the strength of the relationship between social presence and satisfaction was moderated by the course length, discipline area, and scale used to measure social presence; and (b) the relationship between social presence and perceived learning was moderated by the course length, discipline area, and target audience of the course" (p. 402).

2. The Watson, Watson, Janakiraman, and Richardson (2017) study contradicted the idea that a small group/course is most conducive to social presence as it investigated the CoI social presence construct in a MOOC, which is a very large classroom. It also used the teaching presence construct with an instructor design focus of this huge course to allow social presence to successfully work. Note that this study was employed by experienced online instructors who were "well-supported by their institutions" and stated that "by examining the design approach through the CoI framework lens, we can better understand how the instructional team and students collaborated within the MOOC to support social presence, teaching presence, and, ultimately, attitudinal learning" (p. 80).

3. Ironically, self-regulated students who may or may not need student-to-student interactions for learning, may be more likely to succeed in the CoI framework according to Cho, Kim, and Choi (2017): "highly self-regulated learners in our study are likely to perceive higher teaching, social, and cognitive presences, compared to those who are low self-regulated. High self-regulated learners are those who had high intrinsic goal orientation, high confidence in learning, high control of learning beliefs, higher task value, and

high effort regulation" (p. 15). This study may beg the question as to what is the core reason why students succeed no matter the learning environment. The authors proposed the need for a "learning presence construct" to be studied in the CoI framework.

4. Also in line with additional CoI presence constructs, Kozan and Caskurlu (2018) reviewed peer-reviewed journal articles since the seminal Garrison, Anderson, and Archer (2000, 2001, 2010) articles on CoI. They found that other investigators have proposed additional constructs and dimensions, and from their review, they identified seven new dimensions of the constructs: autonomy, distributed teaching, emotional, instructor, instructor social, teacher engagement, and learning.

These new studies are used to both contrast the results of this paper and support the importance of the social presence construct in the CoI framework, as well as a need to further evaluate and research CoI and its constructs (and possibly new constructs and their dimensions).

Also addressed in this study was the changing landscape of education from theory to technologies to even the revision of Bloom's Taxonomy. The paradigms of teachers as well as educational theories have changed over time. Social constructivism was the new and prevalent educational theory of the late 20th century (Ormrod, 2008), however, because of the changing nature of learning, connectivism has arrived as the modern educational theory specifically due to our new technological age (Downes, 2007; Ireland, 2007; Seimens, 2005a). Big data analyses of quantitative and qualitative data and information are creating a better understanding of people and our world as seen in school texts, such as *Quantitative Ethnography* (Williamson Shaffer, 2017). Online learning and degree programs have rapidly inundated higher education without few evaluative methodologies or little institutional support meeting this new demand as reported in Allen and Seaman's reports (2013 & 2016); and more recently, in their 2016 and 2017 reports

they relayed an increase in online enrollments (1 in 4 students in academia will have online courses in their program; Allen & Seaman, 2016, 2017) with a decline in faculty online course acceptance compared to 2013 and 2014 (Allen & Seaman, 2016).

The 21st century has brought about dramatic changes in everything we do: Online social media captivating the time and attention of millions of U.S. youth both positively and negatively (Dede, 2005; National Public Radio, 2017); artificial intelligent teaching assistants used in classrooms, like Ashok Goel's "Jill Watson" (Lopez, 2016); stores with no checkout cashiers, such as Amazon's GoStore™ (Forbes, 2018); the General Electric 2019 driverless car roll-out (Detroit Times, 2018); and most recently a Tesla Roadster out in space on a Falcon Heavy SpaceX™ rocket (Reuters, 2018). Will this new space race also affect how the U.S. teaches its children as the old one did (Pinar, Reynolds, Slattery, & Taubman, 2004)?

We are changing, education is changing, and it has been changing fast! We need to pay attention and respond. Thomas Kuhn (1996) may have said it best in his book, *The Structure of Scientific Revolutions* (p. 111):

> The historian of science may be tempted to exclaim that when paradigms change, the world itself changes with them. Led by a new paradigm, scientists adopt new instruments and look in new places. Even more important, during revolutions scientists see new and different things when looking with familiar instruments in places they looked before. It is rather as if the professional community had been suddenly transported to another planet where familiar objects are seen in a different light and are joined by unfamiliar ones at that.

Perhaps CoI is a familiar instrument to keep and improve upon. And as educators and educational administrators may understand the need for social presence in a face-to-face classroom, they still need to transport this into the online classroom as well. It has been

almost 20 years of research using the CoI framework, and debate on the validity of social presence is still on-going, such as confusion over its definition (Lowenthal & Snelson, 2017). This study clearly had more support from the faculty participants of social presence importance whether or not they were familiar with its CoI definition.

If social presence is critical in deep and meaningful learning face-to-face, then we should support the efforts of promoting it online as well. Let us not forget the history of distance learning. It began for nontraditional students, females, people of color, and those of low socio-economic backgrounds and/or with disabilities. It also began as a nontraditional learning mode due to the geographical issue of the distance between the student and the teacher and for nontraditional courses. Land grant universities and other educational institutions have had a history of expanding their student population demographics from their inception in the U.S. It is clear that online course alternatives have aided in course and degree completion especially for working adults and those with mobility disabilities and/or are socio-economically disadvantaged (Pontes, Hasit, Pontes, Lewis, and Siefring, 2010). Furthermore, it is clear that online course adoption is increasing and to hopefully deliver high quality learning in higher education.

We need to continue more robust research on the CoI framework and its social presence construct and/or develop new strategies and evaluation methods of online courses for the success of 21st century learning. Whether or not administration and faculty are embracing this relatively new, ubiquitous method of education and a new connectivist paradigm, online courses and programs are increasingly being demanded and adopted in traditional brick-and-mortar institutions.

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APPENDIX A

Community of Inquiry Survey Instrument

(draft v14 from https://coi.athabascau.ca/coi-model/coi-survey)

5 point Likert scale

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

Teaching Presence

Design & Organization

1. The instructor clearly communicated important course topics.
2. The instructor clearly communicated important course goals.
3. The instructor provided clear instructions on how to participate in course learning activities.
4. The instructor clearly communicated important due dates/time frames for learning activities.

Facilitation

5. The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.
6. The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
7. The instructor helped to keep course participants engaged and participating in productive dialogue.
8. The instructor helped keep the course participants on task in a way that helped me to learn.
9. The instructor encouraged course participants to explore new concepts in this course.
10. Instructor actions reinforced the development of a sense of community among course participants.

Direct Instruction

11. The instructor helped to focus discussion on relevant issues in a way that helped me to learn.
12. The instructor provided feedback that helped me understand my strengths and weaknesses.
13. The instructor provided feedback in a timely fashion.

Social Presence

Affective expression

14. Getting to know other course participants gave me a sense of belonging in the course.
15. I was able to form distinct impressions of some course participants.
16. Online or web-based communication is an excellent medium for social interaction.

Open communication

17. I felt comfortable conversing through the online medium.
18. I felt comfortable participating in the course discussions.
19. I felt comfortable interacting with other course participants.

Group cohesion

20. I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.
21. I felt that my point of view was acknowledged by other course participants.
22. Online discussions help me to develop a sense of collaboration.

Cognitive Presence

Triggering event

23. Problems posed increased my interest in course issues.
24. Course activities piqued my curiosity.
25. I felt motivated to explore content related questions.

Exploration

26. I utilized a variety of information sources to explore problems posed in this course.
27. Brainstorming and finding relevant information helped me resolve content related questions.
28. Online discussions were valuable in helping me appreciate different perspectives.

Integration

29. Combining new information helped me answer questions raised in course activities.
30. Learning activities helped me construct explanations/solutions.
31. Reflection on course content and discussions helped me understand fundamental concepts in this class.

Resolution

32. I can describe ways to test and apply the knowledge created in this course.
33. I have developed solutions to course problems that can be applied in practice.
34. I can apply the knowledge created in this course to my work or other non-class related activities.

APPENDIX B.

Survey Consent Form

UNIVERSITY OF MINNESOTA

Duluth Campus ***Department of Education*** *150 EduE*
Endazhi-gikinoo'amaading *412 Library Drive*
Duluth, MN 55812
phone: 218-726-7233
fax: 218-726-7008

SURVEY CONSENT FORM

Research Title:

"Faculty Perspectives & Practices of Social Presence in Online Post-Secondary Learning Environments"

University of Minnesota IRB study: #1404E50244

You are invited to be in a research study of an investigation of *social presence** in online learning environments in post-secondary education. This research study is being conducted by principal investigators, Julie Smith, and her advisor, Dr. Joyce Strand, Associate Professor and Head, from the University of Minnesota Duluth (UMD), Department of Education.

You were selected as a possible participant because you are listed on the university class schedule as someone who teaches online (or online + face-to-face) courses. We seek your participation in an anonymous online survey which seeks information on faculty perspectives and practices regarding social presence* in an online learning environment. We ask that you read this form and ask any questions you may have before agreeing to be in the study by contacting the principal investigator, Julie Smith, at jsmith7@d.umn.edu or 218-726-6002.

Background Information

The research purpose is to further investigate the social presence construct* in a university online setting through the perspectives and practices of faculty employing online learning environments. Through the context of a university online learning environment, the goals of this research are to seek understanding of the social presence construct characteristics, how to maximize social presence, and whether social presence contributes more or less to deep and meaningful learning.

***Social presence** is a construct of the Community of Inquiry (CoI) framework (Garrison, Anderson, & Archer, 2000, 2010). Its definition is as follows, however, you may be employing social presence in your online courses without specifically addressing CoI:

> Social Presence is defined as "the ability of learners to project their personal characteristics into the community of inquiry, thereby presenting themselves as 'real people'" (Communities of Inquiry, https://coi.athabascau.ca/coi-model/description-social-presence, para 1)

Procedures
If you agree to be in this study, we would ask you to do the following things: You will participate in an anonymous thirty-minute survey. Your option to participate in the survey is strictly voluntary. The anonymous self-administered survey will be employed online. You will be provided the URL and generic username/password to access the site and complete the survey.

Your participation in this research is voluntary and refusal to participate will involve no penalty or decrease of any benefits to you. Please note that the research could end at the request of the principal investigator at any time, but this will involve no penalty or decrease of any benefits to you. If significant new findings are developed during the course of this research which affects your participation, you will be notified immediately and your further consent will be sought. Example questions in the survey include the following:

- How long have you been teaching undergraduate courses in post-secondary education?
- How long have you been teaching graduate courses in post-secondary education?
- What year did you start teaching online courses?
- How many completely online courses have you taught in higher education
- What degree of responsibility do you have for course design?
- How do you design student-peer to pear social interactions practices that enhance peer-to-peer social interactions in your online courses?
- What are the benefits of fostering social presence in online learning?

Risks of being in the Study
The study has risks: risk could occur if breeches happen in confidentiality, however, because all information gathered from the survey will remain confidential and de-identified, risks, if any, will be minimized.

Benefits of being in the Study
There are no direct benefits for participating in the study.

Compensation:
There is no compensation for taking the online survey.

Confidentiality:
All information gathered from the survey will remain confidential and de-identified to ensure risks, if any, will be minimized or negated. The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify a participant. Research records will be stored securely and only the principal investigator, Julie Smith, will have access to the records that connects the information directly to any participant prior to the information being de-identified. Any survey data and information may be shared with her advisor, Dr. Joyce Strand, Associate Professor and Head, Department of Education, UMD, but will be held in confidence. Only aggregate, de-identified data and information will be reported.

Voluntary Nature of the Study:
Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the university and its campuses. If you decide to participate,

you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:
If you have any questions or issues prior to taking the survey regarding your rights and any possible risks, please contact the principal investigator, Julie Smith, at jsmith7@d.umn.edu or 218-726-6002, or her advisor, Dr. Joyce Strand at jstrand1@d.umn.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researchers, **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

You will be given a copy of this information to keep for your records.

Statement of Consent:
I have read the above information. I have asked any necessary questions that were answered. I consent to participate in the study. By my proceeding to the online survey linked below, I consent to being a survey participant in this study:

SURVEY LINK

APPENDIX C.

Interview Consent Form

UNIVERSITY OF MINNESOTA

Duluth Campus ***Department of Education*** *150 EduE*
Endazhi-gikinoo'amaading *412 Library Drive*
Duluth, MN 55812
phone: 218-726-7233
fax: 218-726-7008

INTERVIEW CONSENT FORM

Research Title:

"Faculty Perspectives & Practices of Social Presence in Online Post-Secondary Learning Environments"

University of Minnesota IRB study: #1404E50244

You are invited to be in a research study of an investigation of *social presence** in online learning environments in post-secondary education. This research study is being conducted by principal investigators, Julie Smith, and her advisor, Dr. Joyce Strand, Associate Professor and Head, from the University of Minnesota Duluth (UMD), Department of Education.

You were selected as a possible participant because you are listed on the university class schedule as someone who teaches online (or online + face-to-face) courses. We seek your participation in an interview which seeks information on faculty perspectives and practices regarding social presence* in an online learning environment. We ask that you read this form and ask any questions you may have before agreeing to be in the study by contacting the principal investigator, Julie Smith, at jsmith7@d.umn.edu or 218-726-6002.

Background Information

The research purpose is to further investigate the social presence construct* in a university online setting through the perspectives and practices of faculty employing online learning environments. Through the context of a university online learning environment, the goals of this research are to seek understanding of the social presence construct characteristics, how to maximize social presence, and whether social presence contributes more or less to deep and meaningful learning.

***Social presence** is a construct of the Community of Inquiry (CoI) framework. Its definition is as follows, however, you may be employing social presence in your online courses without specifically addressing CoI:

> Social Presence is defined as "the ability of learners to project their personal characteristics into the community of inquiry, thereby presenting themselves as 'real people'" (Communities of Inquiry, https://coi.athabascau.ca/coi-model/description-social-presence, para 1)

Procedures
If you agree to be in this study, we would ask you to do the following things: You will participate in a face-to-face interview that would be approximately 30 minutes to one hour in duration. Your option to participate in the interview is strictly voluntary. The interview will be conducted on your campus at a pre-arranged location approved by you and the principal investigator. The interview will be recorded via audio-recording and note-taking. You will have the option of declining an interview and/or to answer any of the interview questions. Participants may also re-schedule or seek an alternative location or form of interview, such as over the phone or answers provided in writing or via Skype.

Your participation in this research is voluntary and refusal to participate will involve no penalty or decrease of any benefits to you. Please note that the research could end at the request of the principal investigator at any time, but this will involve no penalty or decrease of any benefits to you. If significant new findings are developed during the course of this research which affects your participation, you will be notified immediately and your further consent will be sought. Although interview questions are not yet known until after the completion of the survey research phase, potential interview questions are as follows:

- What practices can be conducted to maximize this social presence and its benefits?
- What practices do you utilize for peer-to-peer introductions?
- What practices do you utilize for peer-to-peer conversations?
- How do you generate trust in an online learning environment between teacher-student and student-student communications?
- Please explain your thoughts and ideas as to the importance of your students being able to project themselves socially to other students?
- Please explain your thoughts and ideas as to the importance of trust building between your students?
- Please explain variables and/or scenarios where online social interactions are not necessary for successful online learning:
- Please provide us any additional information you believe is pertinent to this study not covered in the previous questions:

Risks of being in the Study
The study has risks: risk could occur if breeches happen in confidentiality, however, because all information gathered from the interview will remain confidential and de-identified, risks, if any, will be minimized.

Benefits of being in the Study
There are no direct benefits for participating in the study.

Compensation:
There is no compensation for the interview.

Confidentiality:
All information gathered from the interview via audio-recording or hand-written notes will remain confidential and de-identified to ensure risks, if any, will be minimized or negated. The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify a participant. If you prefer to hold

the interview via online Skype, your interview will take place without anyone but you and the principal investigator, Julie Smith, present. Research records will be stored securely and only the principal investigator, Julie Smith, will have access to the records that connects the information directly to any participant prior to the information being de-identified. Any survey and interview data and information may be shared with her advisor, Dr. Joyce Strand, Associate Professor and Head, Department of Education, UMD, but will be held in confidence. Only aggregate, de-identified data and information will be reported.

Voluntary Nature of the Study:
Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the university and its campuses. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:
If you have any questions or issues prior to being interviewed regarding your rights and any possible risks, please contact the principal investigator, Julie Smith, at jsmith7@d.umn.edu or 218-726-6002, or her advisor, Dr. Joyce Strand at jstrand1@d.umn.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researchers, **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

Please print a copy of this information to keep for your records.

Statement of Consent:
I have read the above information. I have asked any necessary questions that were answered. I consent to participate in the study.

Signature:_____ Date: _____
Volunteer

Signature of Investigator:_____ Date: _____
Julie A. Smith

APPENDIX D.

Online Social Presence Survey Questions

Please select whether you teach a fully online course(s) or teach a blended learning (a partially face-to-face course) course(s)—drop down option. *Only those with fully online course experience will be allowed to proceed to continue with the survey:*

❒ Fully online course(s)
❒ Blended/hybrid course(s)

1. What is your age?

❒ Over 17 to 24	❒ 31 to 34	❒ 51 to 60
❒ 25 to 30	❒ 35 to 40	❒ 61 to 70
	❒ 41 to 50	❒ Over 71

2. What is your gender? ❒Male ❒Female ❒Other ❒No answer

3a. How long have you been teaching **undergraduate courses** in post-secondary education? _____years

3b. How long have you been teaching **graduate courses** in post-secondary education? _____years

4. What year did you start teaching online courses?

5a. How many completely online courses have you taught in higher education (count each time you taught a course even if same course number)?

5b. How many different subjects have you taught completely online in higher education (please list all that qualify)? [link to list of all subjects offered in the University]

5c. Please select the size of classes you have taught that have been completely online:

❒ 1-20
❒ 21-40
❒ 41-80
❒ 81-100
❒ 101-200
❒ 201+

5d. Please select the level of class you have taught completely online:

❒ undergraduate
❒ graduate
❒ non-degree-seeking/continuing education/other

Please note that this survey is confidential and only the researcher will have access to the results. Only aggregate data and information will be reported.

6. What degree of responsibility do you have for course design?

__High degree

__Moderate degree
__Slight degree
__No degree*

7. How do you design student-peer to peer social interactions in your online courses?

For Questions 8-18, please select the level of importance of successful online learning from the <u>standpoint of you, the instructor</u>:

8. The students' ability to get to know other course participants to provide a sense of belonging in the course:
__extremely important
__important
__somewhat important
__not important

9. The students are able to form distinct impressions of some course participants:
__extremely important
__important
__somewhat important
__not important

10. Online or web-based communication is an excellent medium for social interaction:
__extremely important
__important
__somewhat important
__not important

11. The students feel comfortable conversing through the online medium:
__extremely important
__important
__somewhat important
__not important

12. The students feel comfortable participating in the course discussions:
__extremely important
__important
__somewhat important
__not important

13. The students feel comfortable interacting with other course participants:
__extremely important
__important

__somewhat important
__not important

14. Students feel comfortable disagreeing with other course participants while still maintaining a sense of trust:
__extremely important
__important
__somewhat important
__not important

15. Students feel that their own point of view was acknowledged by other course participants:
__extremely important
__important
__somewhat important
__not important

16. Group cohesion of students in the online learning environment:
__extremely important
__important
__somewhat important
__not important

17. Open communication of students in the online learning environment:
__extremely important
__important
__somewhat important
__not important

18. Affective expression of students in the online learning environment:
__extremely important
__important
__somewhat important
__not important

19. What are the benefits of fostering social presence in online learning?

20. Please provide us any additional information you believe is pertinent to this study not covered in the previous questions:

Thank you very much for your participation and time.

APPENDIX E.

Online Social Presence Interview Questions

[Text in brackets distinguishes the basis of the interview question generation and was not supplied to the interviewee – only in that the interviewer told participants that the questions were generated based on significant correlations and patterns of information from the survey results.]

[Questions 1 and 2 are based on significant correlations from the results of the survey responses:

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).]

<u>QUESTIONS 1a-1j:</u> How do you think large online class sizes (80+ students) affect the social presence construct

1a. for the students' ability to get to know other course participants in providing a sense of belonging?

[Based on correlation coefficient for survey Q8 and Class size over 200: .405**
Based on correlation coefficient for survey Q8 and Class size 81 to 100: .291*
Q8. The students' ability to get to know other course participants to provide a sense of belonging in the course:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

1b. for the students to form distinct impressions of other course participants?

[Based on correlation coefficient for survey Q9 and Class size over 200: .309*
Q9. The students are able to form distinct impressions of some course participants:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

1c. for the students to converse through the online medium?

[Based on correlation coefficient for survey Q11 and Class size over 200: .416**
Based on correlation coefficient for survey Q11 and Class size 81 to 100: .261*
Q11. The students feel comfortable conversing through the online medium:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

1d. for the students to feel comfortable participating in the course discussions?

[Based on correlation coefficient for survey Q12 and Class size over 200: .298*
Q12. The students feel comfortable participating in the course discussions:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

1e. for the students to feel comfortable interacting with other course participants?

[Based on correlation coefficient for survey Q13 and Class size over 200: .415**
Based on correlation coefficient for survey Q13 and Class size 81 to 100: .293*

Q13. The students feel comfortable interacting with other course participants:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

1f. for the students to feel comfortable disagreeing with other course participants while still maintaining a sense of trust?
[Based on correlation coefficient for survey Q14 and Class size over 200: .402**
Based on correlation coefficient for survey Q14 and Class size 81 to 100: .282*
Q14. Students feel comfortable disagreeing with other course participants while still maintaining a sense of trust:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

1g. for the students to feel that their own point of view was acknowledged by other course participants?
[Based on correlation coefficient for survey Q15 and Class size over 200: .432**
Q15. Students feel that their own point of view was acknowledged by other course participants:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

1h. for group cohesion of the students to occur?
[Based on correlation coefficient for survey Q16 and Class size over 200: .411**
Based on correlation coefficient for survey Q16, Class size 81 to 100: .328*
Q16. Group cohesion of students in the online learning environment:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

1i. for open communication of the students to occur?
[Based on correlation coefficient for survey Q17 and Class size over 200: .434**
Q17. Open communication of students in the online learning environment:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

1j. for affective expression of the students to occur?
[Based on correlation coefficient for survey Q18 and Class size over 200: .319*
Q18. Affective expression of students in the online learning environment:
Extremely Important - Important - Somewhat Important - Not Important
(level of importance of successful online learning from the standpoint of the instructor)]

<u>QUESTIONS 2a-c.</u> How do you think small online class <u>sizes (1-20 students)</u> affect the social presence construct
2a. for students to feel comfortable interacting with other students?
[Based on correlation coefficient for survey Q13 and Class size 1 to 20: -.279*
Q13. The students feel comfortable interacting with other course participants:
Extremely Important - Important - Somewhat Important - Not Important

(level of importance of successful online learning from the standpoint of the instructor)]

2b. for students to feel comfortable disagreeing with other course participants while still maintaining a sense of trust?

[Based on correlation coefficient for survey Q14 and Class size 1 to 20: -.316*

Q14. Students feel comfortable disagreeing with other course participants while still maintaining a sense of trust:

Extremely Important - Important - Somewhat Important - Not Important

(level of importance of successful online learning from the standpoint of the instructor)[

2c. for group cohesion of students to occur?

[Based on correlation coefficient for survey Q16 and Class size 1 to 20: -.268*

Q16. Group cohesion of students in the online learning environment:

Extremely Important - Important - Somewhat Important - Not Important

(level of importance of successful online learning from the standpoint of the instructor)[

[Questions 3 – 7 are based on qualitative data from the results of the survey responses:]

3. The **main themes** resulting from the survey question, **"how do you design student-peer to peer social interactions in your online courses"** are as follows. Is there a theme you see missing for designing efficient and effective student peer-to-peer social online interactions? If so, please expound.

- Specific course design (e.g., rubrics, layout, weekly assignments, etc.)
- Student bios/introductions
- Discussion forums (peer review, discussion, posting)
- Assignments involving teamwork/group work
- Peer grading and/or team-based grades
- Wise use of specific technologies (e.g. Moodle™, chats, Google+™, email, Pinterest™, videos, etc.)

4. How may the **course subject matter** affect the importance of the social presence construct in the success of learning in a higher educational online classroom?

5. How may a **graduate course differ from an undergraduate course** regarding the importance of the social presence construct in the success of learning in a higher educational online classroom?

6. What **specific technologies/applications**, if any, do you use that assist in students' social presence?

7. Do you try to **create a class community** to assist in students' comfort to share, and if so, what are some key elements to achieve this?

8. What else would you like to share that you believe important to this study?

Reference:

Garrison, D.R., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. *Internet and Higher Education, 13*, 5–9.

APPENDIX F.

Results to Open-ended Survey Question 7

Question 7. Responses to the survey question, "how do you design student-peer to peer social interactions in your online courses," are below.

DISCUSSION FORUMS (54)
Discussion forum participation (25)
Discussion forum participation (reading and posting)
Discussion forum participation: Forum postings in response to chapter readings.
Discussion forum participation: Using video and online discussion in the course platform.
Discussion forum participation: Discussion Forums and specific number of contact requirements
Discussion forum participation: Discussion forums, group projects and assignments
Discussion forum participation: Discussions
Discussion forum participation: Discussions and negotiation projects
Discussion forum participation: Discussions limited, only one or two
Discussion forum participation: Discussions online and noodle chats and hangouts
Discussion forum participation: Forums, email
Discussion forum participation: graded weekly chat (synchronous)
Discussion forum participation: I have a special area in Moodle where the students can discuss anything among themselves.
Discussion forum participation: I sometimes require small-group discussions within the course site (in forums).
Discussion forum participation: I use discussion forums
Discussion forum participation: I use discussion rooms.
Discussion forum participation: Online discussion forums primarily
Discussion forum participation: Online discussion forums, online post
Discussion forum participation: Peer reviewing the student-generated content and responding to this content.
Discussion forum participation: Q&A
Discussion forum participation: Required class discussions; Optional discussion forums
Discussion forum participation: Student peer review
Discussion forum participation: Student peer review of assignment documents
Discussion forum participation: The students then make contact by replying to other postings.

Discussion forum participation: through small groups to discuss questions/topics relevant to course content
Discussion forum participation: Through discussion forums -- requiring certain number or responses to other postings
Discussion forum participation: Weekly module discussion threads.
Discussion forum participation: weekly discussion forum posts
Discussion forum participation: discussion forums
Discussion forum disappointing results for peer interactions as an "optional" activity as a substitute for the University providing a real mentor

TEAMWORK (25)
Teamwork/Group work (2)
Team work/Group work: one semester I had a large group project, with 4 different group assignments
Teamwork/Group projects (e.g., research paper)
Teamwork/Group work: both individual and teamwork
Teamwork/Group Work: Encouraged students to work in pairs on assignments (which mostly failed to work)
Teamwork/Group work: graded threaded asynchronous discussion in every module (each week)
Teamwork/Group work: group assignments
Teamwork/Group work: group projects
Teamwork/Group work: groups allow interaction between group members
Teamwork/Group work: I always require a group class project, and provide mechanisms for the groups to work together both within the course (chat rooms, forums) and outside of the course (scheduled Google Hangouts meetings, use of Google Drive for data collection and writing).
Teamwork/Group Work: I assign group work where the students must interact within their group each week to discuss course topics - and at times they engage in social interactions in those groups. Also, each student in the class has an independent "My page" and students can send each other messages by visiting each other's "my pages". That's not something that I monitor.
Teamwork/Group work: I encourage and facilitate the formation of study groups and provide mechanisms for the study groups to interact within the course site if desired (e.g. chat rooms, forums).
Teamwork/Group work: I require students to work collaboratively (in Google Drive) to create the answer keys for each week's assignments.
Teamwork/Group work: One large workshop assignment when peers grade each other’s projects.
Teamwork/Group work: Scores/grades received in groups is the same for everyone that participated
Teamwork/Group work: small group (5-6 students) chats (synchronous)
Teamwork/Group work: small group (5-6 students) discussions asynchronous

Teamwork/Group work: small group collaborative assignments
Teamwork/Group work: small group projects
Teamwork/Group work: structured peer pairing on selected assignments;
Teamwork/Group work: Students assist peers with problems
Teamwork/Group work: students choose new group leaders every group assignment (e.g. students may choose group leaders alphabetically or by volunteering or any other method that they choose)
Teamwork/Group work: typically I assign small groups with a prompt / Sometimes it is a specific question to the whole group
Teamwork/Group work: utilize the input from advanced team leaders

SPECIFIC TECHNOLOGIES* (25)
**Moodle stated numerous times and assumed for most online courses as the university has adopted it as its official Online Course Management System*
Technologies: audio-based discussions
Technologies: Email
Technologies: Pinterest postings
Technologies: text-based discussions
Technologies: Blogs
Technologies: chat
Technologies: Chat rooms
Technologies: Chatrooms
Technologies: Chats- discussions through instructor moderated/facilitated live chat sessions
Technologies: email
Technologies: Email and social media communication encouraged as well
Technologies: Email communication encouraged
Technologies: Google docs
Technologies: Google docs
Technologies: Google Drive
Technologies: Google Hangouts
Technologies: Google Hangouts
Technologies: Google Hangouts
Technologies: Google Hangouts
Technologies: Google+ for multi-media interactions (e.g. videos, photo elicitation)
Technologies: Hangouts
Technologies: Students choose other communication modes to use of their choice
Technologies: video comments/tutorial communications
Technologies: video discussions
Technologies: wiki participation

BIOS/INTRODUCTIONS (9)

Student bios (3)
Student bios: Each student has to introduce her/himself in an introductory area and there they have to also address their hobbies and work experiences.
Student bios: Flipgrid introductions.
Student bios: Encouraged students to self-introduce in class forums (some success)
Student bios: posted introductions with family/self pictures;
Student bios: students enjoy doing photo elicitation because they can share and see personal visual aids; this helps with feeling connected).
Student bios: Students picture posts

DESIGN/ASSIGNMENTS (8)
Design based on research-based best practice suggestions mostly from adult teaching learning.
Design from information from the Center for Teaching and Learning when I am doing major redesign work to get additional insights on social interaction assignments.
Design from the standpoints that I should meet the students with appropriate technology (i.e. what technology are the students likely to be familiar and introducing new technology/applications only if it serves learning) and that the students should feel motivated to complete the assignment beyond receiving credit for doing so (e.g.
Design: assignment of presentation requirement yielded mixed results (i.e., some of the content was good quality and others struggled with the technology).
Design: assignments for Grad projects vs. Undergrad projects
Design: Rubric guidelines and evaluations of posts
Design: Set up per-topic and per-assignment class forums (fairly good interaction)
Design: weekly postings

NOT APPLICABLE (5)
Not applicable (2)
Not applicable: No peer-to-peer interactions
Not applicable: very little use
Not applicable (to study): Face-to-face: encouragement to meet virtually or FTF outside of class

PEER GRADING (2)
Student peer grading
Student peer grading (mostly failed to work)

GENERAL INTERACTIOS (1)
General: Interactions encouraged

APPENDIX G.

Results to Open-ended Survey Question 19

Question 19. Question 19 was an open-ended interview question seeking the answer to what are the benefits of fostering social presence (as previously defined) in online learning. The following are the results of that question. Of the 62 respondents, 13 did not answer this question. The answers were grouped based on themes: 26 (33.33%) enhanced learning; 18 (23.08%) community building; 14 (17.95%) trust building; eight (10.26%) may/may not be applicable; six (7.69%) networking; two (2.56%) representative of Face-to-Face learning; two (2.56%) more accountability to others; and two (2.56%) alternate or new identity/persona.

ENHANCED LEARNING

- Discussion of sometimes controversial issues
- I believe it helps applying the knowledge at a deeper level.
- I believe there are different learning styles that students bring to their educational experiences, both in an in-person setting and online.
- I think it is important -- but I also appreciate the fact that personality can be detached from learning to a certain extent. As a professor, it is nice to have less subjectivity. I grade in a less bias manner BECAUSE I don't know them in person as I would in a physical classroom.
- More learning
- Multiple points of view are expressed
- Richer discussions
- Social presence contributes significantly to learning through expanded perception and mindfulness.
- Social presence is critical for student engagement and constructive interaction.
- Higher levels of engagement and deeper engagement of course materials
- Social presence is likely to encourage students to be more engaged in online discussions.
- The online discussion and wiki areas have character and life simply due to the personalities involved. Ideally this should encourage recalcitrant learners (for whatever reason) to engage more authentically. This seems to make sense and be the case, but without research I'm not sure whether or how much this happens from class to class.

COMMUNITY BUILDING

- Important of feeling of belonging

- Building a community of learners is critical to empowering individuals to gather and exchange and share information with each other. This offers the opportunity for diverse perspectives and the formation of bonds and bridges between individuals and their networks.
- Building community is important to the learning process. It fosters the learning process. Social learning theory applies.
- Creates the learning community - "Our" class, not my/their class
- For some students, feeling they "belong": in the class is important and helps them participate and then helps them learn more.
- I think it helps to create a better online course community. With the "My page" mechanism students can upload pictures and I've asked that they provide some personal information about themselves (not only what they do professionally but also what they enjoy doing in general.) We also meet weekly for live sessions using UMConnect and students interact a lot in the chat box feature - they also work in groups or pairs to complete course assignments. A lot of social interaction occurs in the context of the academic work that they do.
- I think it is important because it is a form of ethos. One's writing is always "there" when the individual cannot be. Being sensitive to how one comes across to an audience is vital to a student's ability to succeed as a writer in both professional and academic contexts.
- I think it provides a sense of community and belonging that may help some students do better in my courses.
- Introducing themselves
- It better connects students to each other and to the instructor. Also allows for students' deeper connection to the content being taught and how to apply it to their daily lives.
- It makes up for all of the "humanity" that is often taken for granted in classroom-based learning, which is of the utmost important in a field such as literature (which I teach), as so much of its study relies on subjective feelings, etc.
- It provides a potential community for support in learning a difficult subject.
- It seems to provide a greater sense of belonging in the class
- It's easy to feel isolated in an online course. In an in-person course, you walk in and you may see other students that you know or be able to find people that you identify with based on your personally held identities (e.g., personal interests, race, gender). Having a social presence in an online course allows students to connect to others which gives them a sense of connection to the course. I feel like students are more likely to be engaged with the course and the content if they feel like they're checking into a community that cares if they (in a holistic sense) are there.
- Students also benefit from feeling a sense of community; they need to feel like they have a "classroom" of sorts.
- Students can know others through social presence
- Students need to feel not alone
- They need to build relationships and learn about each other - to build trust and awareness or others perspectives so they can learn from each other.

TRUST-BUILDING

- Bring their personal characteristics (their honest opinions) into this course.
- Coherence, honest exchange
- Discussion board where students post responses

- Help students learn from each other
- Helps students to feel less isolated and more integrated in the learning environment.
- I think it is important because it is a form of ethos. One's writing is always "there" when the individual cannot be. Being sensitive to how one comes across to an audience is vital to a student's ability to succeed as a writer in both professional and academic contexts.
- It helps them to better connect with one another. In my course, that is important because a strong component of the course is supporting one another in the area of transition from college to work.
- It prevents the students from feeling as isolated in an online course as they otherwise might.
- It's easy to feel isolated in an online course. In an in-person course, you walk in and you may see other students that you know or be able to find people that you identify with based on your personally held identities (e.g. personal interests, race, gender). Having a social presence in an online course allows students to connect to others which gives them a sense of connection to the course. I feel like students are more likely to be engaged with the course and the content if they feel like they're checking into a community that cares if they (in a holistic sense) are there.
- Knowledge of individual personality lends to open expression and validation of self-truth
- More comfort in communicating on-line through rapport development
- Not applicable to my class, except with regards to instructor-student relationship.
- Responding to other students
- They need to build relationships and learn about each other - to build trust and awareness or others perspectives so they can learn from each other.

MAY OR MAY NOT BE APPLICABLE

- I don't know
- Unclear
- I also don't believe that group cohesion needs to be an outcome of every course. When 'social presence' is integrated into the framework of the course, it needs to be simple and with clear expectations. I also think the establishment of weekly habits in an online setting is important. In other words, if students are required to do self-driven coursework for the first month, it is not in an instructors interest to disrupt this habit by then engaging students in group work. If group work or group discussion is part of the course framework, then it should be implemented right away from week one to establish this as an expectation.
- I have no idea what this is - despite the definitions you provided. Students do not work with each other in this class - nor do they get to know each other. They are in groups and they can view each other's forum responses to reflection questions but that is all. They do get constant feedback from instructors and TA's on their reflections. They feel comfortable with this and benefit from one on one time with us. Is this social presence? Not sure.
- Important as much as the student will join, collaborated, etc. in that presence.
- It would seem to me that this might depend on the class and the goals and objectives of the class, etc. It may or may not be an added benefit to have a social presence. The vast majority of students tell me that they find the social component (such as discussions) to be useless. That does not mean that they are useless (student evals are often not consistent with actual learning outcomes), but most students report that to me. They tell

me that in almost every class that requires an online discussion, they do the minimum amount of work to get the points. A minority of students tell me that they benefit from online discussions.
- Other students are simply more interested in completing the course or are more independent in their approach to study, not needing as much social presence to accomplish their goals.
- The benefits of social presence are limited. The primary purpose of online learning is that each student learns and masters the content of the course.

NETWORKING
- Establishing a source network for developing, expanding and sustaining one's career
- Increase the social benefits by improving access or the potential for each class of students to know the pathways that other classmates are taking, their strengths as well as to identify others that may share similar interests.
- It better connects students to each other and to the instructor. Also allows for students' deeper connection to the content being taught and how to apply it to their daily lives.
- It helps them to better connect with one another. In my course, that is important because a strong component of the course is supporting one another in the area of transition from college to work.
- It might help students connect with the material in a more personal manner, and that other students can read and understand the variety of these connections would enhance all learners' experience.
- Networking and professional relationship building is a very important aspect of a university education. Online learning as I designed it, is by its very nature asynchronous and it is a challenge to design it in a way that will allow the students that want to network to have that opportunity. I find that my alumni LinkedIn page is another venue where my senior students can interact with graduates and that seems to be very successful.

ALTERNATE OR NEW IDENTITY/PERSONA
- A benefit would be to experiment with identity and identity formation.
- Perhaps it allows some students to also try on a new persona compared to their normal classroom persona.

MORE ACCOUNTABILITY
- More accountability to others
- It probably also makes them feel more accounTable - to themselves and to their peers for maintaining a presence in the online community.

REPRESENTATIVE OF FACE-TO-FACE LEARNING
- Having discussions with 'real people' will lead to more robust discussion.
- Online learning can only be successful if we are able to capture the positive qualities of traditional classroom learning. There are some challenges creating an environment online that fosters communication without letting the technology become a barrier, but that doesn’t make the communication any less important. Ignoring the loss of real-time communication and technology just getting in the way, it is just as difficult to create authentic, safe, and meaningful discussion in the classroom as an online environment.

APPENDIX H.

Results to Open-ended Survey Question 20

Question 20. The last interview question, 20, was open-ended and the responses are listed below. The question was, "please provide us any additional information you believe is pertinent to this study not covered in the previous questions." Note that 43 of the respondents of the 62 did not respond. The patterns from this information is reported in the Chapter 4 of the study: Time and administration, size of class/group, instructor's role in social presence, relationship building, and CoI survey concerns.

- I would argue by the end of an online class that even though I have not met the students in person that I know them better than students I have in a traditional class.
- Multi-channel forms of presentation are vital to accommodate varied, preferred learning styles among the students. Accommodating learning styles enriches the learning while fostering a sense of belonging.
- There can be the temptation of preparing the lessons and once they are up, to allow the class to be "auto piloted". It is essential to check in periodically so the students recognize your presence, even if there are TA's.
- Outside of an individual course or series of courses for a major, I have serious concerns about online learning. I have taken a number of courses online for a degree and resonate with some challenges my students have expressed. 1. The loss of a campus community. While a community may exist within a course or within a major, how can we as an institution create a sense of community for students across disciplines? This is important for our students to create a diverse network of peers while earning a degree. This network is what will be critical for online students to have a sense of community required for active participation in alumni networks. Without our alumni networks and the pride associated with the place learning has happened, we are really just service providers. 2. For graduate courses, working remotely presents the larger challenge of building meaningful faculty relationships. This limits the ability of students to identify a research area unless one is provided externally (employer or peer institution). I was fortunate to build relationships with my graduate faculty and it was instrumental to my success and identifying what my research area should be. 3. The use of adjunct/part-time faculty can be detrimental in an online setting. As real-time communication cannot be guaranteed, student expectations for responses are heightened. Adjunct faculty must be able to commit the time necessary for regular communications, not just a few hours a week. Smaller online class sizes do not fix this issue. Larger class sizes with multiple TA's to assist with the communications would be better for online communication. I am a champion of online learning, although I find it much more tedious than the traditional classroom experience. Additionally, while I believe I can be very effective in the classroom, I am marginally effective online. I adapt my materials each semester to try and get the right student experience, but still am not satisfied.
- This is a statistics course.
- I design social interaction a bit differently depending on the course topics, the level of the students, and the length of the course. So I was struggling with your scaled items which

make it appear like what might be important or not as important is static across any online or blended course.

- I do not have any additional comments to add.
- The only course I have so far taught on line is Introduction to Philosophy. It is a 1000 level exploratory course and often has a significant number of students involved. So, I think, the level and purpose of the course lends itself toward students not needing or expecting social presence as much as some other course might. For example, I am preparing an introductory course in Ethics for launch this coming spring. I will be hoping for more interaction among students, than the Philosophy course, because more of our work will center on arguing through specific issues. In either setting however, class size always makes a difference. The larger the class- sometimes near 40- the more difficult facilitating interaction and social presence becomes.
- I teach intro chemistry courses where social interaction isn't really necessary to learn the basic material.
- What is important for me and, I think, ought to be important for you is whether students are learning. Your survey seems to be mostly about social presence. I am interested in how students interact with the materials of the course to construct their knowledge. Student-material interaction is a "poetic process," in that the student needs to interact with the materials to construct a poetic image of the knowledge at hand. Expanding that knowledge construction to discussion forums and individual presence, as your study inquires, becomes more social-focused in nature than learning-focused. Some, albeit partial, insight into online education as "Poetic" can be found in the following: Huglen, Mark. "An Image of Online Education as `Poetic Humanism.'" _Kentucky Journal of Communication_ (2004): 43-54. The Poetic is part of social presence, identity, and identity formation as well.
- I ended up skipping many of your questions because they didn't make sense (particularly with the question stub). This survey needs careful thought / re-design.
- Two other strategies that I use to foster community and social presence in my class is to start the course off with small groups that only have the responsibility of working through a few short-term assignments (an assignment per week for the first 4 weeks of class) and Google Hangouts with these small groups. I share my reasoning behind these interactions with my students (i.e. online course can be isolating). Some students find connections this way, and appreciate seeing me and the other students. Much can be lost in writing or in pre-recorded videos in regard to social interaction-- I feel like students feel more connected during "real-time" interactions (and I feel more connected to them). These video meetings can be difficult to coordinate, however, and may go against the asynchronous nature of online learning. On Google+, I can tag students in my comments; if I see opportunities to foster discussions amongst smaller groups of students, I will tag them in a comment together. We did an activity, for example, where students had to name a top personal value; I tagged the six students who shared that "family" was their top value with a related prompt. I can share some personalized instructing moments through these naturally connected students.
- The course I teach is large 400 plus. We force groups of 25 in Moodle so the students are building the community of learners is critical. Also an avenue for students to talk to you without the whole group involved is important.
- Fostering this kind of social interaction online takes more time from instructors - more time than most administrators who do faculty reviews and who do scheduling consider.

Unfortunately there is a belief that online means large class sizes and efficient delivery. Larger classes though make social engagement between students difficult. I do a lot of modeling and priming the pump and establishing the culture for social interaction in my online classes. I need to be present, be responsive in respectful ways that encourage student interaction, review and monitor content for learning, occasionally break up disputes that arise, and more. There are some tools that include video that lend efficiency and a more personal dimension that text alone doesn't offer. Instructors need to be aware of these and be supported in their effective use (not all work well for most purposes). Also, there is power in connecting to traditional social media like Facebook and encouraging students to learn ways to offer a social presence online (e.g., blogging, commenting). These are rarely discussed or offered as options to instructors. More on these to contemporize social learning in classes online (and as complements to offline) is needed.

- At UMC I was used as teaching machine by teaching up to 60 credits a year. Since I am a P&A appointment I had to do whatever my boss wanted me to do and I frequently taught new subjects so that I could develop the site that was then given to someone else the next year. If you look at the numbers of courses taught over the years you must realize that was only my online load, I also had to teach on campus.
- Some of my students have forged very close friendships and have stayed in touch and visited each other in other states and countries. I have students from multiple states and 7 countries besides the US in my 2 sections of an online class this term
- For me, one of the most important parts of the class is communication through email. I am able to get excellent work out of my students because I have a fast turnaround (same day) response to students' emails. Whether I comment on students' papers or comment on their questions in email, I am helping them. I would rather help students before they turn in a paper rather than afterwards.
- Faculty teach both part time and full time. Some are clinicians. Some start as adjunct faculty. All make important contributions.