Improving Online Instructor Presence and Student Engagement:

An Online Professional Development Intervention

by

Matthew Romanoski

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Approved March 2020 by the
Graduate Supervisory Committee:

Gustavo Fischman, Chair
Leigh Wolf
Heather Farmakis

ARIZONA STATE UNIVERSITY

May 2020

ABSTRACT

The purpose of the project was to explore the extent to which an asynchronous online professional development (PD) model focusing on instructor presence would improve feedback and interactions with students. The study is grounded in Community of Inquiry theory, which situates learning at the intersection of teaching presence, social presence and cognitive presence. The study aimed to improve student success by empowering instructors to integrate engaging strategies and technology tools into fully online courses. The participants were 4 higher education instructors teaching in fully online degree programs delivered to 160-200 undergraduate students. For eight weeks the 4 instructors participated in the PD. The goals of the PD were to learn strategies for improving instructor presence and integrating student engagement opportunities in a collaborative online format. Data was collected from pre- and post-intervention offerings of the instructors' courses to determine the impact of participation in the PD. Results suggest that the PD model was an effective intervention to increase presence and engagement. Presence and engagement were found to have increased in participants' courses. Interactive video was found to serve multiple purposes including increasing instructor presence and student engagement, facilitating feedback between instructors and students, and elevating the level of cognitive presence of students. As a result, instructors and students both indicated a perception of improved interactions and feedback.

DEDICATION

This dissertation is dedicated to my wife, Ashley, and my children, Mason, Madelyn and Charlotte.

To my wife, Ashley: Your hard work and dedication to our family and your teaching inspire me. Thank you for the unending support you have given me these last few years. You are the glue that holds us together. I love you!

To my son, Mason: I love your curiosity and passion for research. Never stop seeking answers to your questions. Thank you for being my homework buddy.

To my daughter, Madelyn: You motivate me with your determination and drive for learning. I know nothing will ever get you down. Thank you for always inspiring me to push through the sticking points.

To my daughter, Charlotte: I love your imagination and cleverness. You always make me laugh when I need it the most. Thank you for always knowing when to pull me away from my writing.

ACKNOWLEDGMENTS

Thank you to the faculty and cohort members who were a part of this journey with me. It was truly a pleasure to spend the last few years together learning, exploring, and venting. Thank you, especially, to my doctoral committee for the constant support and guidance. Thank you, Dr. Gustavo Fischman, for always lowering my anxiety levels and providing thoughtful feedback. Thank you, Dr. Leigh Wolf, for helping me to grow as a researcher and being a constant source of positive support and encouragement. Thank you, Dr. Heather Farmakis, for your support in developing my writing style early in the program and for your helpful feedback as my dissertation developed. Finally, thank you to my fellow LSC members. We have gotten to know each other well during the last half of this program and there is no way I would be at this point without the continuous support of all of you.

I am grateful to all of my professional colleagues who were a part of making this project possible. To my friend and colleague Angela Gunder for encouraging me to apply to the program. To my office leader, Melody Buckner for allowing me to conduct the study and being so supportive of my endeavors. Thank you to Janet Smith and Cathy Russell who oversaw the redesign cohort thus making this study possible. To the instructors and students who participated: Thank you for being willing to share your experiences and help to explore new avenues of online course design.

To my family and friends, without none of this would have been possible. Thank you to my parents for always encouraging me to pursue education and be a lifelong learner. To my mom: Thank you for all the “G’Ma” Sundays spent playing with the kids so I could finish my assignments. To my dad: I would not be in education if not for your

example. Thank you. To my in-laws: Thank you for helping with the kids, pitching in with dinners and the constant support to our family. To all of the teachers in my life whether they be my own teachers or my colleagues, thank you for your contributions to my growth and your commitment to the advancement of education. Finally, to all our friends who have helped with the kids, given encouragement, or any other kind of support, thank you!

TABLE OF CONTENTS

Page

LIST OF TABLES viii

LIST OF FIGURES ix

OTHER LISTS x

CHAPTER

1 INTRODUCTION AND PURPOSE OF THE STUDY 1

Situated Context 5

Purpose of the Study 7

Research Questions 8

Definitions of Terms and Concepts 9

2 THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT 11

Instructor Presence 11

Studies Based on Community of Inquiry 14

Studies on Instructor Presence in Online Education 16

Sense of Community 18

Action Research Cycles 20

3 METHOD 23

Action Research Methodology 23

Setting 23

Participants 24

CHAPTER Page

Role of Researcher 25

Intervention 25

Instruments 27

Procedure 30

4 DATA ANALYSIS AND RESULTS 33

Results 36

Quantitative Data 36

Instructor Data 36

Student Data 44

Qualitative Data 50

Open-ended Survey Responses 55

Intervention 59

Facilitation 66

Reliability of Data Sources 70

Summary of Findings 71

5 DISCUSSION 73

Complementarity of the Quantitative and Qualitative Data 73

Supporting Quantitative and Qualitative Sources 74

Understanding of Action Research 75

Results in Relation to the Extant Literature 76

Lessons Learned 78

Limitations 81

CHAPTER Page

Implications for Practice 82

Implications for Future Research 85

Conclusion 86

REFERENCES 90

APPENDIX

A COMMUNITY OF INQUIRY CODING TEMPLATE 95

B INSTRUCTOR PERCEPTIONS SURVEY INSTRUMENT 97

C STUDENT PERCEPTIONS SURVEY INSTRUMENT 102

D FIRST INSTRUCTOR INTERVIEW PROTOCOL 106

E SECOND INSTRUCTOR INTERVIEW PROTOCOL 108

F STUDENT SURVEY DESCRIPTIVE STATISTICS 110

G INSTRUCTOR CONSENT LETTER 114

H STUDENT CONSENT LETTER 117

I IRB APPROVAL 119

LIST OF TABLES

Table		Page
1.	Study Timeline	32
2.	Overview of Courses	34
3.	Description of Quantitative and Qualitative Sources	35
4.	Instructor Survey Response Frequencies	37
5.	Instructor Survey Descriptive Statistics	40
6.	Instructor Presence and Student Engagement Opportunities	43
7.	COI Coding of Observations	44
8.	Student Survey Response Frequencies	45
9.	LMS Engagement Statistics	49
10.	Discussion Engagement Statistics	49
11.	Themes, Components and Assertions of Instructor and Student Perceptions	52
12.	Themes, Components and Assertions Related to the Intervention	53

LIST OF FIGURES

Figure Page

1. COI Framework 12

OTHER LISTS

List Page

1. Definitions of Terms and Concepts 9

CHAPTER 1

INTRODUCTION AND PURPOSE OF THE STUDY

The Digital Learning Compass' report on distance education, using data from the National Center for Education Statistics' (NCES) Integrated Postsecondary Education Data System (IPEDS) which has tracked enrollment numbers relating to distance education, indicated just over 6 million higher education students or 29.7% of all students enrolled in higher education courses were taking at least one distance education course and of those students 48.2% of the 6 million higher education students were enrolled exclusively in distance or online classes and degree programs, with nearly 5 million or 83% of them being undergraduate students (Digital Learning Compass, 2017). Notably, these numbers represented a 3.9% increase in distance education students between 2012 and 2015. By comparison, there was a decrease of nearly 1 million students, or 5.09%, studying exclusively or in part on physical campuses (Digital Learning Compass, 2017). Distance education's increasing numbers highlight their importance to higher education enrollments. From 2012 to 2015 overall enrollment numbers in higher education decreased 3.2% in contrast to the period from 2002 to 2012 when numbers steadily increased on an annual basis (Digital Learning Compass, 2017). With overall numbers decreasing, higher education institutions may be forced to compete for a smaller number of students, which has made alternative options like online learning desirable to make-up for lower total enrollment numbers.

Growth in online distance education programs has increased the opportunity for students to pursue a degree by providing easier access both in terms of flexibility to take courses anytime and anywhere and in lowering the cost to students by spreading it out

over a larger population of students (Deming, Goldin, Katz, & Yuchtman, 2015; Nguyen, 2015). Students who like or prefer online learning tend to possess the same traits or characteristics that classify them as non-traditional students. A NCES report identified the following characteristics of non-traditional students: they were independent, they may have had a dependent, they did not enter a post-secondary school immediately after high school, or they may have been working during the time they were enrolled (NCES, 2015). Using these characteristics, the report claimed 74% of all undergraduate students possessed at least one of the characteristics (NCES, 2015). This meant an overwhelming majority of the students in higher education were classified as non-traditional students. A study conducted by Pontes, Hasit, Pontes, Lewis, and Siefring (2010) sought to determine if non-traditional students with risk factors, contributing to non-completion of undergraduate degrees, preferred distance courses. Their analysis was conducted using data compiled from about 80,000 postsecondary undergraduates participating in the National Postsecondary Student Aid Study. These were students "enrolled in postsecondary institutions in all 50 states, the District of Columbia, and Puerto Rico, who were eligible to participate in federal financial Aid programs in Title IV of the Higher Education Act." (Pontes et al., 2010, p.3) Online learning offered these individuals flexibility in ways a face-to-face curriculum could not (Herbert, 2006; James, Swan, & Daston, 2015). This included allowing working students or students with families to plan their schooling around online course availability. Moreover, it afforded flexibility for students who had transportation challenges or lived in rural locations. The characteristics of these students or the situations in which they found themselves would otherwise have acted as barriers to education and would have put students at risk to not complete their

education (Pontes et al. 2010). Despite these benefits, online learning also has brought its own set of challenges to the education process. These challenges have included such matters as access to the instructor, skills for navigating the technology requirements of online learning, reliable internet connections, or challenges arising from transitions between the face-to-face environment and online learning (Gayton, 2015; Gillett-Swan, 2017; Rovai & Downey, 2010; Shaw, Burrus, & Ferguson, 2016). Institutions developing online degree programs should keep these issues in mind as they build out those programs.

Retention and student success rates have been important benchmarks regardless of the program and modality through which it has been offered. One NCES study found approximately 59% of those who began a bachelor's degree in 2009 completed it within six years (NCES, 2017). That meant more than one-third were still working toward their degree or had given up entirely. Pontes et al. (2010) pointed out that students with a higher risk of drop out were more likely to enroll in distance education courses. Further, they suggested this knowledge may be important to increase the retention of these students. Pontes et al. also contended that a substantial number of distance or online dropouts may have been related to the fact that these students are non-high risk or non-traditional students and prefer face-to–face instruction. In such cases, focus needed to be redirected to the portion of the population that was dropping out due to their risk factors. While there are many common themes that may be used in determining student success, there is "no single set of factors" that exist to predict the attrition rate in online courses (Gaytan, 2015, p. 58). Institutions who focus surveys and studies on their populations to

understand the reasons for student drop out in their own online courses can then develop effective interventions to address these student retention and program completion.

In summary, online learning has been growing in the higher education sector in the United States as evidenced by the Digital Learning Compass report on higher education online student enrollment. One of the larger student populations enrolling in online courses and programs were non-traditional students who were attracted by the flexibility in terms of physical location and time setting that online learning offered (Herbert, 2006; James et al., 2015; Pontes et al. 2010). Non-traditional students brought with them challenges and risks for drop out that were not as prevalent in traditional students. Despite these risk factors a 2015 study focused on retention in online courses showed that there was not enough evidence to suggest that students enrolled in entirely online courses were significantly more likely to drop out than those in fully on ground programs (James et al., 2015). This study was conducted using data collected through the Predictive Analytics Reporting (PAR) framework of 656,258 undergraduate student records and investigated retention rates for students solely enrolled in on ground courses, solely online courses and students taking some combination of both. In many cases the perception of higher education administrators that fully online students are more likely to drop out is only supported by anecdotal evidence they receive from peers (Allen & Seaman, 2015; Phillips, 2015). When looking at retention and completion rates from a raw numbers standpoint, the importance of making improvements is supported by the need for institutions to maintain enrollments. The study from James et al. (2015) found that online programs are giving older students access in the same way community colleges provide access to younger students and as the number of online students

increases these students will represent a sizeable population. In that study younger students were defined as being less than 26 years of age and older students as being 26 years of age or older. While there are many documented reasons for why these students do not complete their programs, more research is needed to determine a dominant cause and develop solutions (Bawa, 2016; Gaytan, 2015; Ice, Gibson, Boston & Becher, 2011). Ice et al. (2011) in looking for evidence of the relationship between course disenrollment and instructor presence, concluded that reasons for dropping out may be too student specific to address on a large scale. Institutions offering online programs should then conduct needs assessments to seek out the factors that might be the most dominant in their programs and develop appropriate interventions to improve their own retention and completion rates.

Situated Context

In the fall of 2015, the researcher's institution launched its fully online undergraduate campus. In conjunction with the fully online campus' launch, the Office of Digital Learning (ODL) was established to support the development and continuous improvement of the courses offered through the online campus. ODL was made up of a team of instructional designers (ID), videographers, graphic designers, instructional technologists, and quality assurance coordinators to assist instructors in the online course design process. IDs were assigned to various departments and worked with faculty to coordinate the services of the various team members in mapping out curriculum, building course sites, and selecting appropriate technologies to support instructional strategies. Examples include using the ODL studio to record lectures, conversations, and virtual field trips and leveraging VoiceThread to facilitate virtual discussions.

Upon completion of the online campus' first year, a review of student success rates identified a key demographic that demonstrated a below average rate of success. Students classified as freshmen, or having fewer than 30 units entering the semester, were found to be underperforming, as indicated by overall GPA and rate at which they received a grade designation of D, E, or Withdrawal (DEW). Onground students were outperforming their fully online counterparts, but there are some differences between the populations that should be noted. Fully online students categorized as having fewer than 30 units made up a significantly smaller proportion of the fully online campus. While the percentage within the group was high relative to the onground students the percentage relative to their larger population was smaller. This is in part attributed to the online campus' demographic, which largely includes students who have some schooling and are returning to complete their degrees. Preliminary feedback from academic success coaches identified that the most consistent concerns for these students were being prepared for college coursework or feeling isolated in the learning process. This information prompted ODL to consider how their process could be leveraged to build better student experiences in online campus courses. At the conclusion of the fall and spring semesters during year one IDs conducted reflections with their instructors on the course design process and the facilitation of the course. These were courses taught to undergraduate students. After conducting these reflections, IDs reported back that many instructors had a positive experience, but recognized the need for improvement. A common theme was that instructors were largely focused on gathering and developing their content and they sought to refine their course in the areas of student interactions and instructor facilitation. There was little that ODL IDs could do to better prepare students for college courses, but

they did have influence on the student experience, particularly with respect to engagement and building an instructor led learning community. My personal interest in studying this problem was derived from several reasons. First, it has been and continues to be my desire to see students succeed in attaining a college degree and ultimately having a positive influence on their lives and those around them. Second, I have had an interest in my institution being successful, because this ultimately reflected on my work and skill as a leader. Third, in investigating this problem of practice (POP) I hoped I might be able to make changes to my office's design process which would benefit all students.

Purpose of the Study

The problem of practice that drives this study is the need to improve student success and completion rates in fully online degree programs. ODL provides resources and tools to assist instructors in building learning environments that foster student success. Student motivation has been shown to be a significant factor in ensuring student success (Glynn, Aultman, & Owens, 2005; Jessup-Anger, 2011; Preigitzer & Clements, 2013). To leverage student motivation effectively, it has been imperative to understand what has driven students toward particular goals (Glynn, et al, 2005). Community of Inquiry (COI) theory demonstrates a relationship between student success and instructor presence (Garrison, Anderson, & Archer, 2000). This relationship is connected through the increase in student engagement in the course as a result of strong instructor presence. In this context instructor presence is defined as instructors actively interacting and engaging with students through a variety of methods, either directly or indirectly. Examples include, but are not limited to; announcements, email communication,

discussion board interactions, instructor videos, and virtual office hours. This notion of instructor presence serves as the underlying justification for this study; that increasing or improving instructor presence in fully online programs should increase student achievement and retention rates.

Driven by feedback from instructors via IDs and students' feedback given to success coaches, ODL sought to find a solution that would allow instructors to improve the student experience in their courses and ultimately make students feel less isolated in the learning experience. To fill that need, a redesign cohort was developed that provided instructors that had already worked with an ID in designing and facilitating their course an opportunity to build on the foundation of their course, particularly with respect to employing strategies to cultivate a sense of community and strengthen instructor presence in the course.

Research Questions

This study seeks to evaluate a model for supporting instructors in effectively integrate "instructor presence", understood as actively interacting and engaging with students through a variety of methods either directly or indirectly in their online courses. More specifically, this project will explore: To what extent does instructor participation in a PD focusing on the model of "instructor presence" improves instructors' feedback and online interactions with students?

Definitions of Terms and Concepts

This section contains the definitions and descriptions of the major terms and concepts that are used throughout this manuscript.

Community of Inquiry Framework: The Community of Inquiry theoretical framework represents a process of creating a deep and meaningful (collaborative-constructivist) learning experience through the development of three interdependent elements – social, cognitive and teaching presence. (Garrison, Anderson, & Archer, 2000)

Cognitive Presence: The extent to which participants in a community of inquiry are able to construct meaning through sustained engagement. (Garrison, Anderson, & Archer, 2000)

Instructional Designer: Support staff assigned to work with instructors to build online courses including but not limited to; mapping out curriculum, building learning objects, designing assessments, building course sites, and selecting appropriate technologies to support instructional strategies

Instructor Presence: The designing of the educational experience to support and enhance social and cognitive presence where instructors actively interact and engage with students through a variety of methods, either directly or indirectly. (Garrison, Anderson, & Archer, 2000) May include video presence, participation in discussion boards, text-based communication, virtual meetings or other forms of interactions.

Redesign Cohort: The name given to the professional development model implemented as the intervention in this study.

Social Presence: The ability of participants in the Community of Inquiry to project their personal characteristics into the community and present themselves as "real people" to the other participants. (Garrison, Anderson, & Archer, 2000)

Student Engagement: Interactions occurring within the course between the student and either the instructor, content, or another student. May include interacting with materials, participating in discussion boards, or any other opportunities for engagement build into the learning experience.

CHAPTER 2

THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

Chapter 1 focused on the background information of the project including the various contexts, purpose, and research questions. In Chapter 2, I have presented theoretical perspectives used to guide the study, which include; the concepts of instructor presence and sense of community and their importance to the online learning process. These concepts will be described in relation to the supporting theories in the following sections.

Instructor Presence

Community of Inquiry (COI) theory developed by D. Randy Garrison, Terry Anderson, and Walter Archer, establishes three levels or elements of presence; cognitive, social, and teaching. Instructor presence is a foundational component for student satisfaction, sense of community and perceived learning (Garrison & Arbaugh, 2007). Garrison, Anderson, & Archer (2000) developed a coding template, which provides indicators for each of these elements. Studies demonstrate that instructors do recognize these indicators within their courses, but still desire more support with respect to how to best include these principles into the course design process (Richardson, Besser, Koehler, Lim, & Strait, 2016; Richardson et al., 2015). Students also are able to recognize these indicators and confirm if they perceive a high or low level of instructor presence (Thomas, West, & Borup, 2017). Teaching presence served as a guiding concept in determining if participation in training has enabled instructors to improve their interactions and feedback with students. When instructors are actively engaged in administering course activities, establishing and maintaining community, and providing direct instruction there becomes a connection to student success and overall satisfaction

(Hegeman, 2015; Ice et al., 2011; Ice, Curtis, Phillips, Wells, 2007; Oyarzun, Barreto, & Conklin, 2018; Rapp-McCall & Anyikwa, 2016; Richardson et al., 2015; Thomas et al., 2017). This concept aligns with the research question that sought to answer if instructors participating in the PD model would experience improved interactions with students and ultimately an increase in student engagement. The review of literature established a link between student engagement and student success or satisfaction. For the purposes of this study the focus was on determining if increased instructor presence resulted in an increase in student engagement. Figure 1 illustrates how the concept of instructor presence interacts within the larger COI framework.



Figure 1. COI Framework: Credit: https://coi.athabascau.ca/coi-model/

Rovai and Downy (2010) conducted a study reviewing why some online programs fail while others succeed, citing one of the key factors as faculty development.

The study makes the point that "an investment in faculty development is essential for delivering quality online programs" and yet they also note that there are few notable programs for accomplishing this at the institutional level in higher education (Rovai & Downy, 2010, p. 145). Jorge Gaytan (2015) expands on this notion, making the recommendation that online faculty should be required to participate in training that improves their understanding of appropriate online teaching strategies and the importance of faculty-student and student-student interactions, as well as the need for appropriate and effective feedback. There has been more research done with respect to what is considered appropriate faculty development, but there is a lack of focus on the concept of instructor presence specifically and the most effective means for delivering this training. One study conducted by Holmes, Singer and MacLeod (2010) investigated exploring the use of a distance learning style PD that focused on instructor presence. In this study, participants enjoyed the cohort model and the experience of learning in a community and felt they increased their knowledge, but there was no measurement of how the knowledge they acquired was used or if it impacted student achievement. Additionally, this study was comprised of only K-12 educators limiting its transferability to the higher education population. It is important to note that the strategy may still be transferable as the strategies used in facilitating the cohort aligned with those that were advocated for as "effective" in the Rovai and Downy (2010) study, including modeling effective strategies and participating in communities of practice. A similar study was conducted as a part of a doctoral dissertation looking at the relationship between a PD program and student completion and success rates. This study, conducted by Marie Gardner (2016) demonstrated improved student success after PD participation, but it should be noted that

the focus was on adjunct instructors in a community college program so there may be some limitations in transferability.

Studies Based on Community of Inquiry

Several studies have been conducted investigating various aspects of online learning utilizing COI as the theoretical framework. These studies often reach the conclusion that the role of the instructor is key in establishing a social presence in the course and instructors that successfully do this in turn positively impact student achievement (Shea, Sau Li, Swan, Pickett, 2005; Richardson, Koehler, Besser, Caskurlu, Lim, & Mueller, 2015; Richardson, Besser, Koehler, Lim, & Strait, 2016; Oyarzun, Barrreto, & Conklin, 2018; Nolan-Grant, 2019). Focus is often centered on investigating the perceptions of the instructors and students or on what the impact of a strategy or tool to achieve presence is on student achievement. Instructors are generally aware that an increase in presence allows them to have a greater impact on student achievement (Richardson et al., 2016). The question most studies then focus on is what type of presence best contributes to the success of students. Examples include a study that focused on audio feedback to enhance teaching presence. In this study it was discovered that students overwhelmingly were in favor of audio feedback, but more research was needed to determine if this form of feedback was the most effective (Ice, Curtis, Phillips, & Wells, 2007). Another study demonstrated the need for students to have easy access to support and immediate feedback, but more research was needed regarding the most effective means of deploying that feedback (Lee, Srinivasan, Trail, Lewis, & Lopez, 2011). What is clear from the literature is that feedback and interaction with students

should be the focal point of instructors and those working with instructors to build out online courses.

As these studies illuminate the best practices for instructors to integrate their presence into courses, a noticeable piece of the puzzle that is missing is how to do it. Richardson et al. (2015) suggested that future research should focus, in part, on "the possibility of course design as a mediating factor for the role of instructor presence (p. 275). This study is key in understanding both the importance of instructor presence and how to fill in the gaps related to addressing this topic with respect to student success. This notion is supported by the work of Oyarzun et al. (2018), which contends that, "effective design and facilitation of collaborative learning assignments can benefit an online learner's academic growth (p. 632), because the development begins with the instructor in the course design process. A recent study conducted by Candace R. Nolan-Grant investigated the use of the COI framework as a learning design model to guide the building of online modules. The study found that integrating video interaction and discussion opportunities and tying those items to the release of new content resulted in a significant increase in student engagement (Nolan-Grant, 2019). This study did acknowledge that the results may not be representative of students in online courses generally, but the results are in alignment with other studies suggesting COI be used as the framework for building online courses (Nolan-Grant, 2019). The literature provides evidence that presence is important and has presented several examples of the types of interactions that help to achieve an appropriate level of instructor presence, but what instructors need is the medium through which to get the training and support to best build

their classes with presence and interactivity integrated (Shea, Sau Li, Swan, & Pickett, 2005).

Studies on Instructor Presence in Online Education

Several studies have investigated the importance of instructors leveraging their presence to build community in online learning in relation to student success. Alfred Rovai (2002a) investigated the connection between students' sense of community and perceived cognitive learning in online learners. Rovai gathered data from 26 online classes and measured community in each course using the Classroom Community Scale and a self-report questionnaire of perceived cognitive learning. Findings from this study showed sense of community to be a common factor affecting learning and dropout rate in online courses (Rovai, 2002a). Wighting et al. (2008) found sense of community was not a distinguishable factor for discriminating between online and face-to-face students. This latter outcome confirmed community was as important in online learning as the sense of community built in face-to-face classrooms. Thus, it can be inferred that instructors should be conscious of building community with and among students in their online courses. When online learners felt connected by a feeling of sense of community, they felt less isolated, had higher self-efficacy and satisfaction and were more likely to continue their program (Rovai, 2002a). Rovai suggested one technique to foster a sense of community was close instructor facilitation of discussions to ensure that one or two students did not dominate the conversation. Further, Rovai noted that close facilitation of discussions allowed for instructor interjections to raise different viewpoints and encourage participation. Thus, instructors' level of activity in their courses facilitated a positive sense of community.

Martin Andrew (2014) investigated how course developers and facilitators could build and maintain a sense of community to support and socialize online learners. In this study, Andrew explored how an e-community influenced learning in a postgraduate online writing program. Using qualitative approaches, feedback data were collected from e-moderators and students relating to their semester experiences. Results demonstrated the presence of the community and ability to collaborate were key, yet some autonomy was needed to facilitate the development of an individual voice (Andrew, 2014). Andrew offered 12 suggestions on how instructors and course builders could build a sense of community within an online course to best support student learning. With respect to these suggestions, the overarching theme involved instructor engagement and providing opportunities for learners to engage with each other (Andrew, 2014). This study built on the conclusions from Rovai's (2002a) earlier study and offered concrete examples on how to achieve a sense of community that was effective.

Results from studies have demonstrated the need for strong instructor presence and facilitation and consistent feedback as important factors that contribute to student success and retention in online learning (Rovai 2002b; Andrew, 2014; Topal, 2016; Budash & Shaw, 2017). Budash and Shaw (2017) found that half of the instructor participants in their study noted, "an unresponsive instructor could discourage distant learners and aggravate difficult situations" (p. 7). The authors noted that instructors should have carefully considered the non-traditional time structures of online classes and that those who were willing to commit to being available outside the traditional window will enhance persistence in the course. Among the recommendations to improve the online experience were screening potential learners at admission, establishing clear

course expectations, paying close attention to students' external factors, and maintaining open communication to address challenges, and fostering a sense of community (Budash & Shaw, 2017). These findings reiterated the need for instructor presence, communication, and developing community.

Sense of Community

This study sought to improve instructor presence and interactions with students. To measure the effectiveness of the intervention, sense of community within the online learning environment was used as an indicator of that improvement. It explored whether students were engaging with the instructor and one another and to what extent. Another aspect of community in the online learning environment that was central to the study is the format of the PD, which modeled community building in online classrooms by engaging the instructors in an online learning community. Sense of community, defined by McMillan and Chavis (1986) as "a feeling that members have of belonging, a feeling that members matter to one another and to the group", has been shown to be an important factor in positive learning environments. (p. 9) Later, McMillan (1996) expanded on this notion by claiming friendship served as the central catalyst in forming a sense of community. As online learning developed, researchers began examining the existence of sense of community in online classrooms and how instructors could best integrate a sense of community in the online environment. Alfred Rovai applied the work of McMillan and Chavis' sense of community to online learning environments in the early days of the field. Rovai (2002a) suggested sense of community in a learning situation was built on "the most essential elements of sense of community [included]: mutual interdependence among members, connectedness, trust, interactivity, and shared values and goals" (p.

321). When students participate in discussions or peer reviews, they are demonstrating mutual interdependence with respect to their construction of knowledge. If students do not participate in the discussion, there is no one to reply to and there is no new construction of knowledge. Likewise, in a peer review setting, students are dependent on their partner providing feedback to support their growth. If the partner does not participate then the student does not receive the benefit of their knowledge. These are examples of how a community of learning exists in the online modality. In online learning, connectedness needs to be carefully built, because the physical presence is lacking. Instructors are responsible for providing opportunities for connections by designing learning activities that support collaboration (Gillett-Swan, 2017; Rovai, 2002b; Shea, 2006; Shea, Li, Swan & Pickett, 2005; Thomas et al., 2017).

In building a sense of community in online classrooms instructors inject their presence into the learning environment (Richardson et al., 2015; Richardson et al., 2016). Their teaching presence occurs at the intersection of the instructor presence and social presence or community component of COI (Richardson et al., 2015). A sense of community and instructor presence went hand in hand serving as the key concepts in evaluating the research question of this study. These two concepts were used as both the indicators of success in the student environment and were replicated in the PD environment for the instructors.

Instructors need to be present in the classroom to ensure that a trusting and safe environment exists for the free exchange of ideas and knowledge. Investing in these ideas can help create an environment with more interactivity and engagement among students and ultimately strengthen the sense of community among learners. On the other hand,

non-involvement in the community, or a lack of community has the potential to leave students feeling lonely, isolated, having low self-esteem and motivation to learn leading to low success and dropout (Gibbs, 1995). Instances where instructors integrate their presence and actively engage should foster a sense of community that allows students to be actively engaged and leads to improved student success, which addresses the problem this study's innovation sought to address.

Action Research Cycles

Cycle 0. In cycle 0 the research investigated an intervention that paired general education courses to build a sense of community and foster student success. The results of the cycle 0 research appeared to confirm that the community environment is important to student success in online learning. Both instructors indicated that students that were engaged with the class, their peers, and the instructor tended to have higher levels of success. With a limited data set, however, it was inconclusive as to whether the paired model was the appropriate avenue for building a sense of community. Both instructors indicated that they needed more information and student data to make a statement with regards to the paired course model's impact on student success. There was, however, evidence to further explore strategies for increasing student engagement, providing better strategies for instructors to build their presence, and develop stronger academic support models for students.

Based on the results, courses should be developed to ensure that opportunities for student engagement with content, students, and instructors exist. The data also suggested that utilizing the tools of the learning management system (LMS) may be helpful in prompting students to be more consistent with logging in and engaging with the course.

Instructors have access to a video studio for recording and providing information on why maintaining an instructor presence is important may be helpful in motivating instructors to utilize this resource. It also may be beneficial for instructors to have more access to examples of other online courses and veteran online colleagues to discuss best practices and strategies for engaging students and maintaining a consistent level of instructor presence.

Cycle 1. In cycle 1 of the research process the study sought to continue the work of cycle 0 investigating the paired course model. It was during this cycle of research that it became necessary to review and change the intervention for this study. When an administrative decision was made to open the classes up to accommodate enrollment, the purpose of the innovation, to foster community and establish connections between content was lost. From this cycle of research three themes emerged that contribute to the understanding of student success in online courses. First, student engagement, whether it be with the content, the instructor, or other students is a key component for identifying student success or struggle. Instructors feel this is especially true of student-instructor interactions. Another area that instructors identified as key to student success is student readiness to take college-level courses. Instructors most commonly highlighted that the skills in need of support are writing, time management, and general study skills. This supported the findings from cycle 0 after reviewing current literature and provided evidence for needing to address these elements in future cycles to improve student success. A final theme that emerged underscored the importance of instructor readiness in implementing best practices and strategies for teaching online. This theme provided support for the revision of the innovation that was implemented in this study.

Cycle 2. In cycle 2 of the action research process the study took the shape of the current model. Cycle 2 built upon the findings in the previous cycles and zeroed in on a strategy for increasing student engagement in courses. A review of literature showed that one of the most effective methods for increasing engagement was to increase instructor presence. The strategy that was developed was to build a professional development opportunity that was online, asynchronous and allowed for instructors to participate as part of a cohort of learners. In this cycle an emphasis was placed on understanding what the instructor needs were, how they identified instructor presence and student engagement, and how participation in the cohort impacted their ability to build engaging opportunities in their courses.

Results demonstrated that instructors found value in the strategy for learning new techniques and for engaging with their peers. They also indicated a positive perception of the delivery modality as it allowed them to experience the strategies they were learning and the learning environment from their students' perspectives. While cycle 2 was successful in identifying a strategy that instructors supported it remained unclear as to if instructors who took the course were able to successfully increase their presence in their own courses or if they perceived an increase in student engagement in their courses. The next cycle of research needed to investigate what, if any, impact translated from the participation in the cohort.

CHAPTER 3

METHOD

Action Research Methodology

Action research was central to the development and implementation of this study. The engaging and cyclical nature of participating in the action research process makes it an ideal framework for use by practitioners in studying and reflecting on their practices. Action research is an iterative process that involves reflecting on one's practices and implementing changes based on findings from previous cycles to future cycles of research (Mertler, 2014). It allows for the practitioner to develop, practice, and refine practices in an ongoing research process. In this study action research was employed to develop a solution to a problem of practice and then test it and refine it over several cycles. The framework, research questions, tools and innovation of this study were all a result of reflection on previous cycles. These reflections allowed for the refinement of instruments and procedures and illuminate which research questions should be focused on. Reflection is an integral part of the action research process (McLean, 1995). Mertler (2014) stresses the importance of taking a retrospective look back to reexamine an action research study and apply those lessons going forward. Action research was further grounded within this study as the innovation itself asked instructors to take a reflective look back on their courses and make revisions based on those reflections and their interactions with the facilitator, content, and other participants.

Setting

The setting for this study was within the fully online undergraduate campus of a Research I higher education institution in the Southwestern United States. Specifically,

the study investigated the impact of an intervention in the form of a PD model that focuses on instructor presence and to what extent instructor feedback and online interactions with students improved. The PD model, or redesign cohort, was facilitated fully online in a community setting. This study explored the experience of the participants in this cohort and whether instructor presence as previously defined, feedback and opportunities for interactions with students in their courses increased. To evaluate this relationship, the instructors' courses were utilized to demonstrate evidence of that change.

Participants

Four participants were selected from members of the redesign cohort. These participants represented online campus instructors that participated in a full course design process with ODL and are teaching courses that have been offered online at least three times. After three offerings the courses are up for review in the production cycle, which is how the instructors were selected. Instructor experience teaching online ranged from three semesters to several years.

As a part of onboarding a program to the online campus all courses are assigned an ID, whether it be a new course never taught in any modality, an existing online course, or conversion from a face to face onground format. The category that the course falls under determines the level of production that is needed with the ID. It is communicated through the home academic departments that participants are to work with IDs to ensure that their courses meet the standards expected of online campus courses. Ultimately, instructors have control over the final decisions with respect to course design, but there is

an expectation that they work with an ID to meet minimum quality assurance guidelines. Participation in the intervention was designed to build upon the initial build process.

Role of the Researcher

In the context of this study I was an observer of the intervention facilitation and the pre- and post- intervention versions of the instructors' courses to measure levels of instructor presence and student engagement. It was my intention that my findings would allow me to learn from the participants to improve my instructional design methods and the methods of the members of my team. My stake in the results of the study was not tied to the success or failure of the instructor's efforts. It was solely to acquire data that would inform and improve upon the practices of the office in developing quality online courses that increase student success.

Intervention

This study's proposed intervention was built around the redesign process for online campus courses within the framework of an action research study. In the initial planning and building stages of an online course the instructor worked with an ID from ODL to map out the curriculum and build the instructional goals and activities of the course. Feedback from instructors indicated that they often felt pressured to get the course up and running and focused more time on content than interactions. Part of the life cycle of an online campus course includes a three-year review to update and improve the course. This review is conducted using the Quality Matters rubric in conjunction with an assessment of any needed updates to content or technology tools. Utilizing this continuous improvement model, a redesign cohort was developed to give instructors an opportunity to reflect and improve upon their course. This model aligned with the

previous cycles of action research that identified the needs of the stakeholders and how the intervention should address those needs. The work done in previous cycles facilitated the development of the various data collection instruments, the construction of the specific research questions for the study, and development of the delivery of the redesign cohort. In short, previous cycles identified barriers to the instructors integrating their presence in online courses and the intervention was then developed to eliminate those barriers and ultimately improve student engagement.

Instructors up for review were placed into a cohort with other online campus instructors, which was then facilitated by the ODL Continuous Improvement (CI) team. The cohort was conducted asynchronously in the same online learning environment that the participants' students utilize for their courses. This modality was selected to allow for the modeling of strategies, the opportunity to experience the learner perspective, and to accommodate the need for a flexible schedule for the participants. A review of literature identified that a key concept related to student success that ODL could support improvement upon was instructor presence. This is especially true in building a learning environment that promotes a sense of community and student interactivity. In this model instructors were provided an opportunity to reflect on their teaching and be introduced to research supported best practices for implementing and strengthening instructor presence. Additionally, the intervention fostered collaborative learning by engaging online instructors with one another to share best practices, learned lessons, and overall experiences teaching in the online format. Given the online campuses previously discussed unique demographic, providing instructors a forum and opportunity for sharing common experiences from the online campus setting was important. In addition to

collaboration with colleagues, the instructors received additional ODL support in reviewing and updating their courses. After completion, the instructor's course had undergone a complete evaluation and revision that was driven by collaboration and grounded in research-based recommendations with the goal of improving feedback and interactions with students via an increased instructor presence.

Instruments

Qualitative and quantitative data were collected to evaluate the instructor experience in the cohort and form an understanding of both student and instructor perceptions of instructor presence in the classroom and its connection to improving student interactions and feedback. The Community of Inquiry coding template in Appendix A was used to guide the collection of data from the pre- and post- intervention versions of the course. This data was collected from all instructors who elected to participate in the study, being four out of the five cohort participants. Quantitative data was collected tabulating the instances of evidence of instructor presence and student activity. The Community of Inquiry coding template was used to assess the type of and level of engagement as recorded through observations. This data was used to assess the impact of participation in the intervention on the instructors' feedback and online interactions with students.

The COI coding template assigns a series of codes to each of the three themes within the framework; cognitive presence, social presence, and teaching presence. The template was developed by Garrison, Anderson, & Archer (2000) who provide permission to use and modify the template on their COI website. Additional codes were added to the template as a result of the data collection. These codes were utilized in

reviewing the qualitative data for evidence of instructor presence and student engagement. The cognitive presence codes were utilized to understand what level of engagement is taking place. The primary focus, however, was on whether teaching presence and student engagement increased respectively. Evidence of social presence contained the codes; emoticons, risk-free expression, and encouraging collaboration. Teaching presence employed the codes; defining & initiating discussion topics, sharing personal meaning, focusing discussion, direct instruction, general communication, feedback. Distinguishing between these types of teaching and social presences helped in understanding if there was a relationship between an increase in a type of teaching presence and in increase in student engagement. The central focus, again, was whether presence and engagement increased. In addition to the template, the texts were analyzed by developing descriptive open codes using a grounded theory approach. In previous cycles this technique bubbled up themes outside the coding template that were key in the development of the study innovation. The technique was employed again for that reason. Initially, these codes were to be cross-referenced with the COI template, but upon doing so it was determined that the COI template was more appropriate for coding and categorizing the evidence of instructor presence and student engagement than the qualitative data. These codes were reviewed and refined and arranged into larger categories. From those larger categories, themes were developed from which assertions about the experience were made. This process was applied to both sets of instructor interviews and qualitative responses to the surveys so that both instructor and student perceptions could be considered. Analysis of the qualitative data took place in HyperResearch v. 4.5.0.

Following the post- intervention course a survey located in Appendix B was distributed to the participants to gauge their perceptions about their preparedness to teach online, of their integration of presence and engagement in their courses, and of student engagement in online learning. This survey consisted of 18 items measured on a 6-point Likert. The scale was set up as follows; 6 = *Strongly Agree*, 5 = *Agree*, 4 = *Slightly Agree*, 3 = *Slightly Disagree*, 2 = *Disagree*, and 1 = *Strongly Disagree*. Additionally, there were six open-ended and two demographic questions.

To assess the students' perceptions of the instructors' presence and interactions, a survey was distributed near the completion of the course, which can be found in Appendix C. This survey consisted of 29 items measured on a 6-point Likert scale with three free-response questions. This scale was set up as follows; 6 = *Strongly Agree*, 5 = *Agree*, 4 = *Slightly Agree*, 3 = *Slightly Disagree*, 2 = *Disagree*, and 1 = *Strongly Disagree*. This survey was developed from the larger COI Survey Instrument, which is available as an open resource under Creative Commons license (Ice, Gibson, Boston, & Becher, 2011.) It is made up of three constructs which focused on the specific areas of presence identified in COI theory.

Additional qualitative data was collected through interviews of the instructor participants and through observations from the researcher during the intervention facilitation process. The COI coding template was used to guide the observation collection from the intervention facilitation process. This data was used to assess the instructor participation and interactions in the PD. Instructor interviews took place twice. The first interview was conducted at the conclusion of the intervention using the 16 items located in Appendix D. This interview focused on three areas; the instructors'

perceptions of presence, engagement, and feedback in online learning, their cohort experience, and their planned changes to their course. They lasted between 30 and 45 minutes. The second interview was conducted at the conclusion of the post- intervention facilitation of the instructor's course. This interview protocol, found in Appendix E, contained 8 items and revisited the instructors' perceptions of presence, engagement, and feedback in online learning with an emphasis placed on how they sought to infuse those concepts into their courses as well as discussing their observations of how those concepts may have been impacted by changes they made to the course. These interviews lasted between 20 and 30 minutes. Both interviews collected data to demonstrate the impact that participating in the intervention had on improving feedback and online interactions with students.

Procedure

Five instructors were identified for participation in the cohort based on the initial development of the course and number of times it has been offered. Once identified these instructors were sent a recruitment letter to participate in a study examining the experience and extent of the impact from participation on presence, feedback and student interactions. Four instructors elected to participate. They identified the course they taught and then the researcher examined the pre- intervention version of the course to collect evidence of instructor presence and interactions with students. During this time the researcher also conducted observations of the cohort progress and the engagement between the cohort members. The COI coding template was used to guide observation of the cohort and to collect evidence of instructor presence and student interactions with the students. A copy of this coding template can be found in Appendix A. Once instructors

completed the intervention, a survey was distributed to collect quantitative data on the intervention experience and instructor perceptions of instructor presence. Instructors were then asked to participate in the interviews. The first interview took place in August and was focused on their experience in the cohort. The second interview took place after the Fall 2020 facilitation of their course. Since all of the courses were 7.5 week courses being offered at different times during the semester, the actual month of the interview varied from course to course. That interview focused on how their perceptions in teaching the course was influenced by participation in the intervention. These interviews were conducted via Zoom and recorded for transcription purposes. Near the end of the course, a survey was distributed to instructors and the students that participated in their courses to collect data on their perceptions of instructor presence and engagement. Once the courses were completed the researcher reviewed the courses using the COI coding template to collect data on the evidence of instructor presence and student interactions.

Table 1

Timeline and Procedures for Data Collection

Time Frame	Actions	Procedures
April 2019	-Identified instructors participating in redesign cohort and recruited participants for the research study.	-Sent recruitment letter to instructors to participate in the study.
April – May 2019	-Instructors participated in the intervention. -Quantitative data collected from pre-intervention courses.	-Reviewed pre-intervention courses to collect evidence of instructor presence and student interactions. Approximately 5-6 hours per course. -Observed facilitation of course and collected evidence of participants' interactions with each other.
June 2019	-First interview with intervention participants. -Collected quantitative data from instructors.	-Interviewed instructors about their experience. Allocated 20-30 minutes per instructor. Conducted interviews via Zoom.
August – October 2019	-Instructors began facilitation of post-intervention courses. -Analyzed participant interviews.	-Transcribed and coded first interviews. Allotted about 10 hours per interview. -Analyzed codes and developed themes from the data.
October – November 2019	-Collected student data. -Conducted final interview with intervention participants.	-Distributed survey to instructors and students collecting quantitative data. -Conducted 20-30 minute interviews with instructors via Zoom. -Transcribed and coded final interviews. Allotted about 10 hours per interview.
December 2019 – January 2020	-Analyzed participant interviews. -Analyzed quantitative and qualitative data.	-Analyzed codes and developed themes for second interviews. -Triangulated data and developed themes.

CHAPTER 4

DATA ANALYSIS AND RESULTS

Results and analysis from the study are presented in this chapter. The chapter includes an introduction of the data sources, followed by a discussion of the quantitative and qualitative data, concluding with information pertaining to the reliability of the data and concluding thoughts. Within the presentation of the data, the analysis will examine the instructor participation in the intervention and what impact, if any, participation in the intervention had on the post-intervention facilitation of the course. The quantitative data section will present instructors survey results, evidence of instructor presence and student engagement, student survey results, and student engagement analytics from the learning management systems (LMS). The qualitative section first present analysis on the instructor and student open-ended survey responses, followed by assertions that emerged from the first instructor interview and then the second instructor interview.

Four instructors elected to participate in the study. Table 2 provides a brief overview of the courses. Courses and instructors are identified by a corresponding assigned number, with one exception. Instructor #2 participated in the intervention but did not facilitate the post-intervention offering of their course due to a change just before the start of the fall 2019 semester. The course was instead facilitated by a graduate student teaching assistant (TA), who had facilitated previous offerings of the course. The TA is referred to as instructor #5. Both instructor #2 and #5 participated in the instructor survey. Instructor #2 participated in the post-intervention interview, but not the post-facilitation interview. Instructor #5 participated in the post-facilitation interview, but not the post-intervention interview. Table 3 provides a summary of the data sources.

Table 2

Overview of Courses

Course	Course Description
Course #1	7.5 week undergraduate tier one general education course. Typically taken by first or second year students.
Course #2	7.5 week undergraduate upper-division course required to satisfy program degree requirements. Typically taken by third or fourth year students.
Course #3	7.5 week undergraduate entry level course required to satisfy program degree requirements. Typically taken by first year students.
Course #4	7.5 week undergraduate intermediate level course required to satisfy program degree requirements. Typically taken by second year students.

Table 3

Description of Quantitative and Qualitative Sources

Data Collected	Analysis
Post-intervention instructor interviews Post-facilitation instructor interviews *3 completed both, 1 faculty completed post-intervention interview, 1 TA completed post-course facilitation interview	Qualitative
Instructor survey	Quantitative, 18 items Qualitative, 6 open-ended
Student survey	Quantitative, 29 items Qualitative, 3 open-ended
Engagement analytics (LMS, Third-party tech tools	Quantitative
Researcher cataloging	Quantitative (record instances) Qualitative (code presence and engagement)

The quantitative data included: instructor and student survey results, analytics from the course LMS, analytics from third-party applications, and cataloging of instances of instructor presence and student engagement opportunities. Analytics were collected from the pre-intervention and post-intervention offerings of each course. Twenty-nine participants out of a possible 222 responded to the student survey across four courses.

Qualitative data included: instructor interviews and open-ended responses from both instructor and student surveys. Instructors were interviewed twice during the study

apart from course #2 which had a different facilitator than intervention participant. In this instance the intervention participant took part in the first interview, while the facilitator took part in the second. The remaining three instructors participated in both.

The results of the data provide insights into the PD experience of instructors and the resulting student experiences. These insights contribute to answering the study's research question, "To what extent does instructor participation in a PD focusing on the model of "instructor presence" improves instructors' feedback and online interactions with students?"

Results

Quantitative Data

The quantitative data will be presented in two sections. First instructor data collected from the Likert scale items from the instructor survey and the cataloging of evidence of instructor presence and student engagement will be presented. Next the Likert scale items from the student survey and engagement analytics from the LMS and third-party technology tools will be presented in the student data section. Data was analyzed using descriptive statistics.

Instructor Data

Instructor survey data. The number of instructors that took the survey was five. Four of these participated in the intervention and three of the instructors participated in the intervention and facilitated the post-intervention version of the course. The instructor that facilitated the course but did not participate in the intervention was given the survey to provide data based on their experience with the student engagement and feedback elements of the study. The instructor was asked to not respond to questions related to the

intervention but given that all items had five responses it appears likely that the instructor did. This may account for the deviation from the overall responses to some of the items from the survey. Table 4 provides frequency statistics for the instructor survey. Mean, median and standard deviation statistics are presented in table 5.

Table 4

Instructor Survey Response Frequencies

	Response Frequency Percent					
Item (n=)	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I feel confident in my ability to create a feeling of engagement in my online course. (5)	0%	0%	0%	20%	40%	40%
I feel confident in my ability to build a sense of community in my online course. (5)	0%	0%	0%	40%	20%	40%
The cohort provided resources to be an engaging instructor in my online course. (5)	0%	20%	0%	40%	0%	40%
Resources that were provided to me in the cohort prepared me to be an engaging instructor in my online course. (5)	0%	0%	20%	20%	20%	40%
Resources that were provided to me in the cohort helped prepare me to build a sense of community in my online course. (5)	0%	0%	20%	40%	0%	40%

I was provided with examples in the cohort of how to be an engaging instructor in my online course. (5)	0%	0%	0%	40%	20%	40%
I was provided with examples in the cohort of how to build a sense of community in my online course. (5)	0%	0%	40%	20%	0%	40%
I provide opportunities in my online course for students to engage with me WITHIN D2L. (5)	0%	0%	20%	0%	20%	60%
I provide opportunities in my online course for students to engage with me OUTSIDE D2L. (5)	0%	0%	0%	0%	60%	40%
I provide opportunities in my online course for students to engage with one another WITHIN D2L. (5)	0%	0%	20%	20%	20%	40%
I provide opportunities in my online course for students to engage with one another OUTSIDE D2L. (5)	0%	20%	0%	0%	60%	20%
I utilize multiple modes of communication (e.g. email, announcements, discussion boards, etc.) for students and instructors to interact with each other. (5)	0%	0%	0%	0%	20%	80%
My course provides opportunities for students to interact	0%	0%	20%	20%	0%	60%

using audio/visual mediums (e.g. VoiceThread, Zoom). (5)						
The activities in this course provided opportunities for students to engage with each other. (5)	0%	0%	0%	0%	40%	60%
Students actively (had direct interactions) engaged with the instructor(s) in this course. (5)	0%	0%	20%	0%	40%	40%
Students actively engaged in all aspects of this course (e.g. assignments, discussions, assessments). (5)	0%	20%	20%	0%	0%	60%
I observed students engaging with classmates in required course activities. (5)	0%	20%	0%	20%	0%	60%
I observed or was aware of students engaging with classmates in other online spaces. (5)	0%	20%	20%	0%	40%	20%

Likert scale used for all questionnaire items: 1, Strongly disagree; 2, Disagree; 3, Slightly disagree; 4, Slightly agree; 5, Agree; 6, Strongly agree.

Table 5

Instructor Survey Descriptive Statistics

Item (n=)	Mean	Median	Standard Deviation
I feel confident in my ability to create a feeling of engagement in my online course. (5)	5.20	5.00	.837
I feel confident in my ability to build a sense of community in my online course. (5)	5.00	5.00	1.000
The cohort provided resources to be an engaging instructor in my online course. (5)	4.40	4.00	1.673
Resources that were provided to me in the cohort prepared me to be an engaging instructor in my online course. (5)	4.80	5.00	1.304
Resources that were provided to me in the cohort helped prepare me to build a sense of community in my online course. (5)	4.60	4.00	1.342
I was provided with examples in the cohort of how to be an engaging instructor in my online course. (5)	5.00	5.00	1.000
I was provided with examples in the cohort of how to build a sense of community in my online course. (5)	4.40	4.00	1.517
I provide opportunities in my online course for students to engage with me WITHIN D2L. (5)	5.20	6.00	1.304
I provide opportunities in my online course for students to engage with me OUTSIDE D2L. (5)	5.40	5.00	.548
I provide opportunities in my online course for students to engage with one another WITHIN D2L. (5)	4.80	5.00	1.304

I provide opportunities in my online course for students to engage with one another OUTSIDE D2L. (5)	4.60	5.00	1.517
I utilize multiple modes of communication (e.g. email, announcements, discussion boards, etc.) for students and instructors to interact with each other. (5)	5.80	6.00	.447
My course provides opportunities for students to interact using audio/visual mediums (e.g. VoiceThread, Zoom). (5)	5.00	6.00	1.414
The activities in this course provided opportunities for students to engage with each other. (5)	5.60	6.00	.548
Students actively (had direct interactions) engaged with the instructor(s) in this course. (5)	5.00	5.00	1.225
Students actively engaged in all aspects of this course (e.g. assignments, discussions, assessments). (5)	4.60	6.00	1.949
I observed students engaging with classmates in required course activities. (5)	4.80	6.00	1.789
I observed or was aware of students engaging with classmates in other online spaces. (5)	4.20	5.00	1.643

Likert scale used for all questionnaire items: 1, Strongly disagree; 2, Disagree; 3, Slightly disagree; 4, Slightly agree; 5, Agree; 6, Strongly agree.

The items that assessed the instructors' confidence in building community and engagement in online courses received responses of slightly agree, agree, or strongly agree from all five participants. The remaining questions focused on the resources and examples the instructors received on being an engaging instructor and building

community in their online courses. The responses to these questions showed that instructors generally agreed that they had received access to resources and examples in integrating presence and building community in online courses. There consistently was one participant who disagreed with these items and this variance might be explained by the instructor who took the survey, but did not participate in the cohort.

All of the mean and median measurements fell within the agree to strongly agree spectrum. Instructors indicated that they provided opportunities for students to engage with them both within and outside of the LMS. The data fell within the same range when asked about providing opportunities for students, although the response was closer to slightly agree whereas responses attributed to instructor engagement was closer to strongly agree. Instructors indicated at a high level that they provided multiple modes of communication with their students with the (M = 5.80, SD = .447). This is consistent with what was found in the qualitative data. Instructors also indicated that the opportunities they provided to their students to engage with another integrate audio/visual mediums (M = 5.00, SD = 1.414). Instructors were also asked to evaluate the level of engagement of the students with the content and other students. While the mean for all these questions ranged between 4.20 and 4.60 representing slightly agree to agree the standard deviation was between 1.60 and 2.00. This might be attributed to the instructor that facilitated course #2 but did not participate in the cohort. This data provides support for the conclusions about the qualitative data that will be discussed in a later section.

Presence and engagement data. Evidence of instructor presence and student engagement opportunities were cataloged and coded. Table 6 presents the evidence of instructor presence and student engagement opportunities for the pre- and post-

intervention versions of the course. These instances represent the observable evidence in the course and not communication or activities that took place outside of the LMS. Qualitative data will be presented later to address those elements.

Table 6

Instructor Presence and Student Engagement Opportunities

Course	Pre-intervention Instructor Presence	Post-intervention Instructor Presence	Pre-intervention Student Engagement Opportunities	Post-intervention Student Engagement Opportunities
Course #1	11	32	9	12
Course #2	63	48	5	14
Course #3	40	54	11	11
Course #4	12	17	5	7

Of note to this set of data. The change of instructor already discussed may account for course #2's decline in instances of instructor presence. While the number of engagement opportunities in course #3 remained the same, the type of engagement was different as the designed activities were replaced with activities that fostered a deeper level of engagement. A coding of the instructor presence and engagement opportunities was completed using the COI coding template. In addition to that template, codes were developed to better categorize the instructor presence. Instructor presence that did not align with the COI coding template fell into direct instruction, class communication, or feedback. The general trends observed with this data showed that in the post-intervention course instructors had increased their instances of class communication. When integrating themselves into discussions instructors largely fell into the "focusing discussion" category. The trend that was most telling that the student interactions had

improved is that in the pre-intervention courses student interactions largely fell into "exploration" category. In the post-intervention course the trend of student engagement demonstrated more evidence of the higher-level cognitive presence codes of "integration" and "resolution". Connecting to the research question, this section illustrated that instructors improved the quantity of their feedback and the level of student interactions. Table 7 provides details on the coding of this data.

Table 7

COI Coding of Observations

Code	Pre-cohort Course #1	Post-cohort Course #1	Pre-cohort Course #2	Post-cohort Course #2	Pre-cohort Course #3	Post-cohort Course #3	Pre-cohort Course #4	Post-cohort Course #4
Direct Instruction	4	22	49	40	4	7	9	10
Course Communication	7	7	5	0	36	47	3	6
Feedback	3	5	1	1	3	3	0	0
Focusing Discussion	0	0	8	0	0	0	0	0
Risk Free	1	1	0	0	1	1	2	2
Exploration	8	9	5	5	0	0	3	4
Integration	0	0	0	9	4	8	0	1
Reflection	0	2	0	0	0	0	0	0
Collaboration	0	0	0	0	6	6	0	0

Student Data

Student survey data. Data from the student surveys show that students were generally favorable towards the instructors' facilitation and their own course experience. Frequencies and Descriptive statistics related to this data set can be found in Appendix F. Response frequencies from the survey are displayed in Table 8. Following are some of

the student responses that stand out in support of the study research question and the other collected data sources. Students felt that it was important that their instructors had presence as a real person (M = 5.28, SD = .841) and that they maintained that presence throughout the course (M = 5.21, SD = .861). The instructors provided feedback in a timely fashion (M = 5.24, SD = .912). Students felt comfortable participating in discussions (M = 5.38, SD = .677) and interacting with their peers (M = 5.21, SD = .902) These results provide support for what the instructors perceived their own presence to be as well as their perceptions of the students' engagement with other students. It also demonstrates that students that responded to the survey were happy with feedback from their instructors.

Table 8

Student Survey Response Frequencies

	Response Frequency Percent					
Item (n=)	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
The instructor clearly communicated course topics. (29)	6.9%	0%	6.9%	3.4%	31.0 %	51.7%
The instructor clearly communicated course goals. (29)	6.9%	0%	3.4%	10.3%	27.6 %	51.7%
The instructor provided clear instructions on how to participate in course learning activities. (29)	6.9%	3.4%	6.4%	6.9%	37.9 %	41.4%
The instructor clearly communicated due	6.9%	3.4%	0%	6.9%	34.5$	48.3%

dates/time frames for learning activities. (29)						
The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking. (29)	10.3%	0%	3.4%	13.8%	24.1 %	48.3%
The instructor helped to keep course participants engaged and participating in productive dialogue. (29)	3.4%	6.9%	3.4%	10.3%	34.5 %	41.4%
The instructor encouraged course participants to explore new concepts in this course. (29)	3.4%	3.4%	3.4%	13.8%	37.9 %	37.9%
Instructor actions reinforced the development of a sense of community among course participants. (29)	3.4%	0%	6.9%	27.6%	34.5 %	27.6%
The instructor helped to focus discussion on relevant issues in a way that helped me to learn. (29)	6.9%	3.4%	3.4%	6.9%	51.7 %	27.6%
The instructor provided feedback that helped me understand my strengths and weaknesses. (29)	6.9%	6.9%	0%	17.2%	31.0 %	37.9%
The instructor provided feedback in a timely fashion. (29)	0%	3.4%	0%	10.3%	41.4 %	44.8%
Getting to know other course participants gave me a sense of belonging in the course. (29)	3.4%	10.3%	6.9%	41.4%	24.1 %	13.8%
Online or web-based communication is an	3.4%	6.9%	10.3%	31.0%	27.6 %	17.2%

excellent medium for social interaction. (28)						
It is important that instructors have a presence as a real person in online courses. (29)	0%	0%	3.4%	13.8%	34.5 %	48.3%
I felt that my instructor in this course maintained a sense of presence throughout the course. (29)	0%	0%	3.4%	17.2%	34.5 %	44.8%
I felt comfortable participating in the course discussions. (29)	0%	0%	0%	10.3%	41.4 %	48.3%
I felt comfortable interacting with other course participants. (29)	0%	0%	6.9%	10.3%	37.9 %	44.8%
I felt comfortable disagreeing with other course participants while still maintaining a sense of trust. (29)	3.4%	0%	6.9%	13.8%	48.3 %	27.6%
Online discussions help me to develop a sense of collaboration. (29)	6.9%	0%	17.2%	17.2%	37.9 %	20.7%
Questions posed in assignments and activities increased my interest in course issues. (29)	3.4%	0%	3.4%	20.7%	48.3 %	24.1%
Course activities piqued my curiosity. (28)	3.4%	0%	6.9%	13.8%	58.6 %	13.8%
I felt motivated by course activities to explore course topics more deeply. (29)	0%	0%	17.2%	13.8%	44.8 %	24.1%
I utilized a variety of information sources to	0%	3.4%	13.8%	10.3%	37.9 %	34.5%

explore concepts in this course. (29)						
Discussing course content with my classmates was valuable in helping me appreciate different perspectives. (29)	6.9%	0%	10.3%	13.8%	44.8 %	24.1%
Learning activities helped me construct explanations/solutions aligned with course objectives. (29)	3.4%	0%	0%	20.7%	51.7 %	24.1%
Reflection on course content and discussions helped me understand fundamental concepts in this class. (28)	0%	3.4%	10.3%	13.8%	41.4 %	27.6%
I can describe ways to test and apply the knowledge created in this course. (28)	0%	3.4%	6.9%	6.9%	44.8 %	34.5%
I have developed skills from course objectives that can be applied in practice. (28)	0%	0%	10.3%	0%	37.9 %	48.3%
I can apply the knowledge created in this course to my work or other non-class related activities. (28)	0%	0%	3.4%	10.3%	34.5 %	48.3%

Likert scale used for all questionnaire items: 1, Strongly disagree; 2, Disagree; 3, Slightly disagree; 4, Slightly agree; 5, Agree; 6, Strongly agree.

Student engagement analytics. Every course that was reviewed as a part of the PD model experienced an increase in students engaging with the LMS or learning activities. Each course also demonstrated an increase in evidence of instructor presence and increased or maintained the number of opportunities for student engagement. This

section will present the statistics that represent those increases. The increase in engaging directly with the LMS ranged from 6 minutes and 43 seconds to 3 hours 52 minutes. The breakdown for each course's engagement is presented below in Table 9. It should be noted that this statistic represents the time that the student is logged into the LMS and does not detail how they are engaging with the LMS nor represent engagement outside of the LMS.

Table 9

LMS Engagement Statistics

Course	Pre-cohort Avg. Time	Post-cohort Avg. Time
Course #1	10:04:27	10:16:11
Course #2	16:27:40	20:19:40
Course #3	11:59:31	15:02:20
Course #4	8:22:40	8:29:23

Three of the four courses experienced an increase in participation in discussions. These statistics include discussion threads and replies from the LMS discussion forums and VoiceThread, an audio/visual discussion tool that allows for text, video, and audio discussions. Table 10 details the average number of posts per user in the pre- and post-intervention versions of the course.

Table 10

Discussion Engagement Statistics

Course	Pre-cohort Avg. Posts	Post-cohort Avg. Posts
Course #1	8.03	12.07
Course #2	12.21	12.37
Course #3	13.88	7.11
Course #4	8.6	9.09

One trend of note is that course #1, which had the largest increase in discussion engagement, also had consistent instructor interaction in the discussions in the post-cohort course. Course #4 provides data that the course's use of Flipgrid, a video discussion tool generated 16.6 hours of engagement among the students and instructor. It is not possible to translate this data into a measurement that applies to the discussion statistics referenced in table 6, but it is additional engagement that occurred. It should be noted that additional evidence of engagement exists for which there are no statistics available. This includes virtual meetings, email communication, chat messages and other third-party tools, such as the annotation software Hypothes.is. Course #3 experienced the only decrease in discussion engagement, but it should be noted that in the post-cohort course the instructor moved some of these engagement opportunities to other applications. So, while the measurable engagement may have decreased, the opportunities for engagement remained consistent. A final comment on the engagement statistics is that course #2 was facilitated by an instructor that did not initially design the course or participate in the intervention. While the revised version from the cohort was used, the pre- and post-intervention versions of the course were facilitated by separate instructors.

Qualitative Data

The quantitative data established that instructors felt they had been prepared by their participation in the PD to build online courses with presence and engagement and felt confident in their abilities. To better understand the quantitative findings a qualitative approach was used to evaluate the experience of participating in the cohort and how that shaped the way that instructors designed their courses and interacted with their students.

Qualitative data was collected to build a narrative around the results of the quantitative data and support those findings with specific examples. Data sources included open-ended questions from the student and instructor surveys, a post-intervention and post-facilitation instructor interviews, and observation notes from the researcher. The instructor interview questions are located in Appendixes D and E. The qualitative questions distributed with the instructor and student surveys can be found in Appendixes B and C respectively. In the analysis of this data 75 total codes were identified. These codes were further analyzed for frequencies and trends then grouped into themes. The themes were: (a) defining presence; (b) defining engagement; (c) defining feedback; (d) cohort experience; (e) instructor needs; (f) prior training; (g) instructor presence tools/strategies; and (h) course observations. Table 11 provides a breakdown of those themes emerging from the open-ended survey responses, including the components of each theme that emerged and the assertions that are associated with each one. Table 12 provides a breakdown of those themes, components, and assertions emerging from the interviews and observations.

Table 11

Themes, Components and Assertions of Instructor and Student Perceptions

Themes	Instructor Theme Components	Student Theme Components	Assertions
Presence	Instructor is available Instructor actively participates Instructor maintains a human presence	Students actively participate Instructors communicate Students participate in discussions Instructors maintain a human presence	Instructors believe their presence should represent a human element and students largely expect that level of presence.
Engagement	Students actively engage with the instructor, students, and content	Students engage with each other Students are active learners Students communicate with instructors Students completing their work	Instructors and students have similar perceptions with respect to engagement, but students define engagement more narrowly.
Feedback	Feedback guides learning Feedback is evaluative Feedback is personalized	Feedback guides learning Feedback comes from instructor Feedback is quick and evaluative Feedback comes from peers	Instructors and students have similar perceptions about feedback except that students also expect and value feedback from their peers.

Table 12

Themes, Components and Assertions Related to the PD Model

Themes	Components	Assertions
Cohort experience	1. Instructors found opportunity for course reflection to be valuable. 2. Instructors highlighted that they were provided with new strategies, technologies, and resources. 3. Instructors appreciated the collaborative nature of the cohort under the guided direction of the facilitators.	The opportunity for course reflection and sharing with colleagues increased the implementation of effective new strategies and educational technology tools.
Instructor needs	1. Instructors desire an increased access to resources for online instruction. 2. Instructors demonstrated desire to add more interactive content to their online courses.	The cohort experience caused an increase in instructors' desire to have access to the latest resources and integrate interactive and engaging content in their courses.
Prior training	1. Instructors had access to little or no formalized training in online teaching in the past. 2. Instructors had some access to group workshop style training in teaching online in the past.	The formalized training opportunity that instructors experienced through the cohort provided opportunities to learn and implement new strategies that they previously had limited access to.
Instructor Presence Tools/Strategies	1. Messaging Tools 2. Video 3. Interactive Video 4. Virtual Meetings 5. Intelligent Agents 6. Podcasts	Instructors integrated a wide and diverse set of tools and strategies to integrate instructor presence, including; messaging, video instruction and feedback, interactive video instruction, virtual meetings, intelligent agents, and podcasting.
Course Observations	1. Students engaged with new strategies. 2. Instructors observed student performance on coursework improve.	Instructors observed increased engagement from their students, which have led to an increase in performance in some aspects of the course.

	3. Instructors observed engagement strategies to be effective.	

The presentation of the qualitative data is divided into three sections. The first section discusses the definitions of presence, engagement, and feedback that emerged from the student and instructor survey responses. Specifically, three assertions will be explored:

- Instructors believe their presence should represent a human element and students largely expect that level of presence.
- Instructors and students have similar perceptions with respect to engagement, but students define engagement more narrowly.
- Instructors and students have similar perceptions about feedback except that students also expect and value feedback from their peers.

The second section will introduce assertions associated with the instructors' experience participating in the intervention, which include:

- The opportunity for course reflection and sharing with colleagues increased the implementation of effective new strategies and educational technology tools.
- The cohort experience caused an increase in instructors' desire to have access to the latest resources and integrate interactive and engaging content in their courses.
- The formalized training opportunity that instructors experienced through the cohort provided opportunities to learn and implement new strategies that they previously had limited access to.

The final section will discuss assertions related to the implementation of the intervention's tools and strategies and the facilitation of the revised course. Those assertions include:

- Instructors integrated a wide and diverse set of tools and strategies to integrate instructor presence, including; messaging, video instruction and feedback, interactive video instruction, virtual meetings, intelligent agents, and podcasting.
- Instructors observed increased engagement from their students, which have led to an increase in performance in some aspects of the course.

Open-ended survey responses

Presence. Assertion 1 - *Instructors believe their presence should represent a human element and students largely expect that level of presence.* Instructors perceived presence in online learning as actively participating, being available, and maintaining a human presence. Instructor #1 emphasized that "having that human element is pretty important, students want to know that it's not a robot running the course" (Instructor #1 interview, October 10, 2019). Instructor #4 added a similar sentiment:

> I think instructor presence is letting students know that they're being supported. There is a real person on the other side of that computer actually looking at their work and caring about what they're turning in. I think it's important for me to let students know I am actually there to support them and they can reach out to me whenever they have questions and to do so as early as possible, because students succeed better when they have that kind of support. (Instructor #4 interview, October 4, 2019)

In describing what instructor presence should look like, all but one instructor used similar terms like “be real”, “alive”, or “not a robot”. Student perceptions of presence for the most part was in alignment with the instructors. When asked to characterize instructor presence the most frequent response was that they felt instructors should communicate and maintain a human presence. One student response that captured this characterization was, “Communication among the instructor and the student’s is key. If the only time I receive correspondence from an instructor is a welcome email and then putting my grades in at the end, then I feel like a computer program could have done the same thing.” (Student survey response). One notable difference is that students provided insights into not only what their perceptions of instructor presence are, but what their perceptions of their own presence are. Overwhelmingly students indicated that being present in online courses was actively participating and engaging in discussions. This notion of engaging in discussions is a recurring theme that might speak to what the typical experience is for an online student. It does not appear from the data that students are looking for a correspondence course, but a guided interactive experience. Which will lead to the next section of data on how instructors and students define and perceive engagement in online courses.

Engagement. Assertion 2 - *Instructors and students have similar perceptions with respect to engagement, but students define engagement more narrowly.* Instructors largely perceived that student engagement in online learning is indicated by their active interactions with either the instructor, the student, or the content. This notion is best captured by instructor #2. “Students demonstrated engagement when they interact with the course activities appropriately and communicate with the instructor” (Instructor #2

survey response). Another example comes from Instructor #1, "Engagement is when students actively interact with the learning environment/content, other students, and the instructor" (Instructor #1 survey response). These responses are consistent with the other instructor responses. Students produced a similar perception in their survey responses, but they give specific examples of what engagement in these broad categories looks like. The trends that emerged out of the student survey showed that students defined being engaged as being active, interacting with each other in discussions, consistently communicating with the instructor, and turning in their work. (student survey responses) Much like the perceptions on presence, students and instructors are generally in agreement.

Feedback. Assertion 3 - *Instructors and students have similar perceptions about feedback except that students also expect and value feedback from their peers.* When asked to define feedback in online learning three concepts emerged from instructors. First, that feedback should guide learning. This is less about evaluating work to produce a grade and more about guiding learners through the learning process. Instructors noted that communication via announcements and check-in videos were important to focusing students' learning so that quality work could be produced. Instructor #4 shared the following example:

> Weekly video announcements are important, because I will address commonly missed questions, make sure everyone is on the right track and clarify concerns and challenges the students faced with the content. Also, virtual video check-ins let me talk to students directly and I've had more interaction with students than in

> the past and I think that has helped them. (Instructor #4 interview, November 25, 2019)

Instructor #1 further built on this notion stating that the feedback goes both ways. They shared, “It’s not just my feedback to them, but theirs to me that is important. Their feedback allows me to be flexible and change my instruction on the fly to best support their learning” (Instructor interview #1, October 10, 2019). The second concept was an acknowledgement that feedback is important in the traditional evaluative sense and that it should be given quickly so students know where they stand. “Students like to have a sense of where they stand so I try to get feedback with comments back as quickly as I am able to” (Instructor #5 survey response). The third concept was that personalized feedback is very important. Instructor #4 discussed personalized feedback at length in their survey response:

> At the end of my first year, I made it a point to leave personalized feedback for each student, regardless of how large or small my class was. I don’t have any quantitative metrics to back this up, but I noticed a huge difference in terms of the content of their online discussion posts and their engagement with their peers via their peer feedback that they had to leave for each discussion post. It’s as if knowing that the instructor is “actually’ reading what they wrote motivated them to make their instructor proud. (Instructor #4 survey response)

While the instructor may not have quantitative proof, this paper has already presented quantitative evidence that there was an increase in student interactions when the instructor engaged in the discussions. In addition to driving engagement, personalized

feedback may help to strengthen the human element of the course, an important component of the definition of presence that has already been established.

Students largely had the same expectations for their instructors. They expected quick evaluative feedback. They also felt that feedback should guide their learning. One student survey response indicated, “I personally like video responses on the discussions. I get the instructor’s perspective and it feels like a classroom environment” (student survey response). This established another connection to the human element of the online learning experience that evidence has shown to be important to both instructors and students. One significant deviation from the instructor perception regarding feedback was the importance that students placed on feedback from their peers. Student survey responses indicated that they valued feedback from their peers on their ideas and that it was a component for how they defined feedback in learning online. Students further defined peer feedback as being comments on their discussion posts and written assignments. (student survey response). This aligns with student responses to engagement and presence in that the instructor needs to provide engagement with opportunities with their peers to receive feedback from them.

Intervention

Cohort experience. Assertion 1 - *The opportunity for course reflection and sharing with colleagues increase the implementation of effective new strategies and educational technology tools.* The following components were used to support the theme that led to this assertion: (a) instructors found opportunity for course reflection to be valuable; (b) instructors highlighted that they were provided with new strategies,

technologies, and resources; and (c) instructors appreciated the collaborative nature of the cohort under the guided direction of the facilitators.

Instructors showed appreciation for the opportunity to have time to reflect on their course and make purposeful and meaningful changes to the experience for students. Instructor #1, who has taught more than 30 courses online, articulated this when they said that the most valuable thing to them about participating in the cohort was, "the opportunity to take my course, critically review it, receive feedback from peers and implement new strategies while having the time built into my schedule" (Instructor #1 interview, September 23, 2019). Not only did participating in the cohort block time to reflect, but the cohort format required the reflection to complete the cohort activities. One participant emphasized this component stating, "it was so nice to have the cohort setup where by the end of it you had completely redesigned your course" (Instructor #3 interview, October 4, 2019). Leveraging the courses to complete the activities provided the instructors with a completed product at the conclusion. Instructor #2, who has been teaching for over 20 years, but is relatively new to online learning, indicated that the opportunity to reflect on objectives and align activities and assessments with those objectives was an "opportunity that was pretty cool" (Instructor #2 interview, August 15, 2019). Instructors consistently indicated that improvements they had wanted to consider were now options, because they had the time and guidance to make changes. Instructor #3 had this observation about the format of the cohort:

> I feel like it was really helpful for having me focus on revisions. I tweak and make little revisions to classes every time I teach, but it was an opportunity for me to focus more intensively on the class and probably undertake bigger revisions

than I would have otherwise if there hadn't been that dedicated time and opportunity. (Instructor #3 interview, September 16, 2019)

This model further freed up time restrictions by being offered asynchronously in the fully online format. Instructors, therefore, had the opportunity to engage around their schedule removing time as an obstacle to reflecting and improving on their course. This assertion aligns with the research question as instructors made changes in their course as a result of participating in the intervention.

Each instructor consistently indicated that they had learned about a new strategy, technology, or resource that they planned to apply to not only the course that they were reviewing for the cohort, but for other courses they teach. Something to note, as the cohort is specifically designed to improve the interactions and feedback of fully online courses, is that some instructors applied their new practices to face to face courses in addition to their fully online offerings. Instructor #4, an instructor that has largely only taught online, pointed out that implementing intelligent agents improved their interactions with students, because it prompted a conversation that was contingent on a pre-selected criterion such as inactivity (Instructor #4 interview, October 4, 2019). They said, "I can ping the student on their engagement and not worry about forgetting to check-in on them, because the LMS initiates that process" (Instructor #4 interview, October 4, 2019). Instructor #4 also introduced Flipgrid, a video chat tool that they credit with improved interactions between students. The instructor noted that the students appeared more engaged throughout the semester and it may have been because they got to know each other better than it seemed like previous classes had using a traditional discussion tool (Instructor #4 interview, December 4, 2019). Each instructor had similar

stories to present that highlighted how they had implemented a tool or strategy and how that had improved their interactions with their students as a result of their experience in the cohort. Instructor #3 implemented the use of Calendly to better organize synchronous meetings with their students. The instructor believed that led to an increase in interactions with their students, which might have contributed to success, because the instructor was able to clarify content and provide informal feedback more frequently (Instructor #3 interview, November 25, 2019). Participation in the cohort appears to have led to an increase in use of these tools and strategies, because they simply made instructors aware of their existence. Instructor #2 pointed out that "we don't know what we don't know" and the cohort allowed for them to learn what they don't know and effectively implement new practices (Instructor #2 interview, August 15, 2019).

The final component that emerged from the cohort experience theme, was instructor appreciation for the opportunity to collaborate with colleagues. Instructor #2 reflected on participating in PD opportunities where "you are isolated and that it is not the best experience" (Instructor #2 interview, August 15, 2019). The cohort-based PD model offered instructors an opportunity to reflect on their course, learn new practices, and collaborate with online campus colleagues. Instructors engaged with each other and the facilitators asynchronously via discussions, experimented with the tools together and shared their experiences teaching online. Instructor #4 reflected on learning from other instructors saying:

> I struggle engaging students in a research methods course and there was another instructor that teaches research methods. That instructor had a lot of great feedback and now I am using that in my course, I would not have had that

> opportunity without our connection in the cohort. (Instructor #4 interview, October 4, 2019)

Like in the previous assertion the instructors have provided evidence that they changed or improved their courses as a result of participation in the PD model. In this instance it was the component of the model that facilitated collaboration that was the catalyst for change.

Instructor wants. Assertion 2 - *The cohort experience caused an increase in instructors' desire to have access to the latest resources and integrate interactive and engaging content in their courses.* The following components were used to support the theme that led to this assertion: (a) instructors desire an increased access to resources for online instructions; and (b) instructors demonstrated desire to add more interactive content to their online courses.

In the instructor interviews it emerged that instructors had a desire to have the resources and strategies they were learning be more universally accessible to them. Instructor #3 shared, "It would be great to have access to these resources with examples of how they have been used. And what they can do working with an instructional designer, because then they can visualize what is possible for themselves" (Instructor #3 interview, September 16, 2019). This feeling was supported by Instructor #4 who wished that "there were ways to send out reminders about the resources available to instructors" (Instructor #4 interview, October 4, 2010). The consensus among participants was that it was beneficial being exposed to these tools, but that they desired a more effective process to communicate these resources for the instructors not in the intervention or to themselves after its conclusion. This assertion aligns with the research question in that it demonstrates that instructors that participated in it may be more likely to have been

exposed to available resources and tools and how to use them, therefore more likely to integrate them into their courses.

Instructors also expressed a desire to add more interactive, especially video, content to their courses as a means of engaging students. Three out of the four instructors recorded new videos to be used in conjunction with the education technology tool, PlayPosit, to engage students with their video content. Instructor #3 received feedback that "students overwhelmingly wanted more of these videos" (Instructor #3 interview, November 25, 2019). Instructor #4 added activities that allowed for students to collaborate and engage with one another outside traditional discussion boards using an online annotation tool (Instructor #4 interview, October 4, 2019). More discussion will be given to the engagement improvements instructors made later in the chapter, but it should be noted that even where the number of engagement opportunities may not have increased, the existing opportunities were revised across all four courses to be more engaging. Instructors indicated that they intended to continue to improve upon their current activities beyond the first round of updates in an effort to stay current.

Prior training. Assertion 3 - *The formalized training opportunity that instructors experienced through the cohort provided opportunities to learn and implement new strategies that they previously had limited access to.* The following components were used to support the theme that led to this assertion: (a) instructors had some access to group workshop style training in teaching online in the past; (b) instructors had access to little or no formalized training in online teaching in the past.

Prior to participation in the cohort most of the instructors had not participated in some form of formalized PD that focused specifically on teaching in the online modality.

Only one had participated in PD opportunities extensively and in part that was due to their position at a previous institution. It should be noted that there is an asynchronous introductory mini-course to teaching online available at the institution, and one of the instructors had taken this course. Instructor #3 shared:

> That course was valuable as an introductory course for setting up some basics, but it was not very intensive, and I had already known about most of what was presented. It's great for "first time, I don't know anything and I need some help" situations. (Instructor interview #3, September 16, 2019)

All instructors indicated that most of their exposure to training in the online learning environment came from their one on one experience working with IDs from ODL. Instructors #2 and #3 supported this stating that prior to their connection to Digital Learning's instructional designer they had no prior PD in teaching online (Instructor interviews, August 15, and October 4, 2019). Instructor #2 gave insights as to why other training opportunities may fall by the wayside:

> I see these other opportunities, I'm aware of them. I'm very impressed with what our institution has to offer, I just never seem to be able to fit anything into my schedule. It's very ad-hoc. Having this cohort built into my schedule as part of the course life-cycle made it accessible to me. (Instructor #2 interview, August 14, 2019)

Instructors seemed to be aware that PD was available to them but were just not taking advantage of them and that largely appeared to a result of their schedule.

A common concern among the participants was finding the time in their schedules to improve their course. The PD model provided a formalized training opportunity to

participants with the flexibility to complete on their own time. It seems as though this flexibility was of value to the participants. Instructor #2 shares that "largely I have only had access to workshops and I can only attend those if I'm free" (Instructor #2 interview, August 15, 2019). This sentiment was echoed by the other participants in that they felt they weren't always able to participate in PD opportunities, because their schedules constrained them. Instructor #1, an experienced online instructor shared:

> I haven't had any formal training. I know that opportunities exist, but I teach remotely from my institution, so I have not taken those opportunities up. I prefer to connect with others who are doing the same thing as me, especially in my discipline. (Instructor #1 interview, September 23, 2019)

Being part of an asynchronous online experience could help instructors get the best of multiple worlds. First, their participation is not constrained by the hours of the normal workday. While workshops often take place within working hours, the intervention's asynchronous online modality allows instructors to access and participate in the course when it is convenient for them. Second, they get to interact with their peers without having to find a way to synchronize their schedules. Finally, they are receiving the opportunity to participate in a formalized PD opportunity, which they have indicated is part of their desires.

Facilitation

Instructor presence tools/strategies. Assertions 1 - *Instructors integrated a wide and diverse set of tools and strategies to integrate instructor presence, including; messaging, video instruction and feedback, interactive video instruction, virtual meetings, intelligent agents, and podcasting.* Earlier in the reporting of this section's

results Table 6 illustrated the change in instructor presence that was seen from the pre-cohort course to the post-intervention course. Additionally, it was mentioned that Table 7 provides a table with more details on the breakdown of that data. It was found that most reportable instances of instructor presence fell into the category of direct instruction in the pre-intervention courses. In the post-intervention courses there were increases in evidence of instructor presence in the form of communication and feedback. Since it was not possible to observe all the instances of instructor presence the instructors were interviewed to learn more about how their presence and changed. The analysis of those interviews showed that instructors had increased their usage of direct messaging through tools such as announcements or email. Additionally, two instructors employed intelligent agents through the course LMS to ping students who had been inactive for a number of days or had not submitted assignments. Instructor #4 mentioned that they were excited about the intelligent agents. The instructor said:

> Intelligent agents opened up lines of communication that might not have occurred and I truly think that kept those students from falling behind. The message automatically pinged them if they hadn't logged in or hadn't submitted an assignment and they usually were responsive to that. The best part about it was that I could set it and not worry about it. (Instructor #4 interview, December 4, 2019)

It is interesting to note that one of the common defining elements of presence for both students and instructors was that there was a human element and yet the artificial intelligence component of the LMS helped to facilitate the start of conversations.

In addition to messaging tools instructors implemented more video and podcasts to provide feedback as opposed to leaning on them as only direct instruction tools. The interviews provided evidence of instructors inserting video feedback to help guide instruction on assignments or to provide clarity or reinforcement on the content. Examples of this have already been given. Another update to the video included the move from static to interactive video. In course #1 and #2 the technology tool PlayPosit was used to add interactions to the existing direct instruction lecture style videos. Course #4 was already using the tool and expanded its use for the post-cohort offering. Examples of interaction included reflective pauses, assessments for understanding, and sharing of supplemental resources. Instructor #3 observed that the tool was useful from an instructor's perspective in breaking up videos and gathering feedback from students to assess their understanding of the material. Instructor #3 further noted that "the PlayPosit videos were very popular, I received a lot of feedback at the end of the semester that my students wanted more of these and I had already added three for that offering." (Instructor #3 interview, November 25, 2019). Instructor #1 employed PlayPosit as an opportunity for students to reflect upon their own work and provide feedback on the course. The instructor provided more details about this experience:

> I primarily used as a way to check-in and get feedback about how the classes were going. I could propose questions and get a sense of what the students were finding difficult in the class then make changes or provide more support. I think it made the students feel much more empowered in the class and that this instructor cares. It seems to make the more willing to talk about what is going on with you. (Instructor #1 interview, October 10, 2019)

Those instructors that utilized interactive video tools suggested that their interactions improved with students and that there was a dialogue about how the class experience was progressing.

One other area where instructor presence was used extensively was with virtual meetings. These took place in the form of one on one appointments, open office hours, or collaborative study sessions. Instructors utilized these meetings to field questions from students, provide feedback, or let students engage with one another to prepare for upcoming assignments and assessments. Instructor #3 discussed how the addition of virtual drop ins was the biggest positive change to their class. The instructor enjoyed how it allowed them to provide feedback, but also provide supplemental resources or adjust instruction to accommodate feedback from students on what they are struggling with. (Instructor #3 interview, November 25, 2019). For instructor #1 having the ability to virtually communicate was very important. It once again is "an opportunity for me to show them, I'm real, I'm here, how can I support you?" (Instructor #1 interview, October 10, 2019) These interactions were previously touched on in additional detail when presence, engagement, and feedback were discussed.

Course observations. Assertion 2 - *Instructors observed increased engagement from their students, which have led to an increase in performance in some aspects of the course.* In the second interview instructors were asked if they perceived the students to be engaging with their new strategies. When reflecting on the new videos that instructor #4 created to guide instruction the instructor indicated that the videos had a high degree of impact on student learning. Describing the instructor said:

> After our first writing assignment I created a video that provided tips and feedback on how to complete the assignment. I can't say for certain it was the video, but there was noticeable improvement across the class after that video was viewed. As a result I began making them more frequently. (Instructor #4 interview, December 4, 2019)

In course #1 and #2 instructors indicated that there seemed to be more interaction with the course videos since PlayPosit was integrated (Instructor #1 interview, October 10, 2019 & Instructor #5 interview, August 22, 2019). This assumption was confirmed by video stats from both courses, which showed that an increased number of students were watching the videos to completion. The instructor from course #3 noted that while their pre-cohort course had already implemented PlayPosit that they had experienced the same benefits of increase viewership when they made that switch (Instructor #3 interview, November 25, 2019). Instructor #4 noted that their students were significantly more engaged with the instructor than in previous semesters and while that might be due to just the group in the class that it appeared tied to the increase in their own engagement in the course through video tools and implementing intelligent agents. (Instructor #4 interview, December 4, 2019). Based on these observations it appears that the instructors' participation in the intervention may have led to an increase of student engagement in their courses.

Reliability of the Data Sources

The survey distributed to instructors focused on their perceptions of their preparedness to build instructor presence and their impact on student success. The survey distributed to students assessed their perceptions of the instructors' presence and the

students' interactions with the instructor, other students, and content. For each survey, Cronbach's alpha was computed using SPSS v. 26 to determine their reliability. The score generated for the instructor survey was .92, while the score generated for the student survey was .93. These reliability coefficients are generally considered acceptable as they meet the general minimum threshold of .65 to .8 and provide support as to the reliability of both surveys (Goforth, 2015).

It should be mentioned again here that there is some variance around the data from course #2. Due to the last minute change in instructors the experience of those students and the facilitation may vary from the experience of the students whose instructors participated in the intervention. There is evidence of increased presence and engagement in this course, but it is unclear if that is as a result of revisions made to the course or the facilitation by the replacement instructor. A final variance to note in relation to the data has to do with course #1. In this instance there were no student replies to the student survey. The instructor was prompted to remind the students after there had been no replies over the course of a week, but that prompt did not result in any participants.

Summary of Findings

Analytical data from the LMS and third-party technology tools showed an increase in instructor presence and student engagement. Coding of that evidence showed a movement towards more communication and feedback as well as interactivity in the post-intervention courses. Instructor interviews further confirmed an increase of presence in the forms of communication and feedback. Instructors indicated that they believed they were able to provide more effective feedback to guide student learning and students were able to provide feedback to them allowing them to adjust their instruction.

Students indicated through their survey results that their instructors were timely and helpful with their feedback and that they felt as though an environment had been established where they felt they could freely engage with their peers and the instructors. Finally, instructors noticed evidence of students engaging with themselves, the students, and the course and in some cases believe that the engagement resulted in better performance by the students.

CHAPTER 5

DISCUSSION

The purpose of this study was to examine to what extent participating in a professional development model focusing on "instructor presence" improves instructors' feedback and online interactions with students. An asynchronous fully online cohort model was developed and facilitated with a focus on instructors learning new techniques and strategies in an environment that modeled the online classroom experience. In this section information about the complementarity of the quantitative and qualitative data, results in relation to the extant literature, personal lessons learned, lessons learned about implementation of the action, limitations, implications for practice, implications for research, and conclusion are presented.

Complementarity of the Quantitative and Qualitative Data

Qualitative data collected from instructor interviews and open-ended survey responses built a narrative that demonstrated an increase and perceived improvement in instructor presence, student engagement and feedback. Quantitative data in the form of surveys provided additional support that increases had been observed in the post-cohort courses. Analytics from LMS and third-party technology tools provided measurable numbers which showed the changes from pre- to post-intervention courses and allowing the extent of these changes to be assessed. The quantitative and qualitative data were complementary to each other, because the quantitative data was able to be used to confirm the assertions developed from the qualitative data. Additionally, qualitative data from observations were able to be coded to support assertions that presence and engagement had improved. The complimentary nature of the data sources makes it

possible to assess the research question in understanding the extent that feedback and interactions improved.

Survey data related to the instructors' experience participating in the intervention were supported with details from the interviews contextualizing what and how they planned to apply their learning. Where the quantitative data measured that instructors found the cohort to be valuable, the qualitative data showed what specifically was valuable as well as what pieces may not have been useful. Using both sets of data it was determined what changes were made as a result of participation in the cohort. This is necessary in answering the research question as it reveals what changes were result of participation in the intervention.

When looked at independent of each other the quantitative and qualitative data presents evidence that the intervention was effective, but it is not substantial on their own. The qualitative data allows for a narrative to be built around the statistics coming from the course and the survey data allows for confirmation of assertions that emerged from the qualitative analysis.

Supporting Qualitative and Quantitative sources

My initial selection of data sources was guided by the requirement of having qualitative and quantitative sources. I needed both types of data, so I independently developed instruments and measures to meet that need. I saw quantitative data as a necessary requirement to conducting the study but put more emphasis on the qualitative data. Despite being encouraged to revise and add to my quantitative data instruments I remained focused on the qualitative data, because I felt I could build a narrative around it. As I conducted my data analysis my view began to shift. I understood that to find an

answer to my research question, specifically the "to what extent" portion, that having qualitative and quantitative data that supported each other was necessary. Statistical data from my study showed an increase in presence and engagement. On its face that told me nothing. Using additional interview and survey data I could determine what changes had been made in the post-intervention courses as a result of the instructors' participation in the cohort. That understanding made it possible to determine if the change in the engagement statistics was a result of participation in the intervention or some other factor. This analysis also helped to determine which strategies presented in the intervention was most effective in impacting student interactions and feedback. From this study I developed a stronger understanding for how qualitative and quantitative data sources support each other. In future studies I will be able to use this knowledge to better craft instruments that support other data sources, which will help in developing a more complete understanding of the impact of participating in the intervention.

Understanding of Action Research

Conducting this study has given me an opportunity to formulate a deeper understanding for how action research can be used to systematically investigate and understand the practices and effectiveness of my office and my own design process. The evolution of the intervention employed in this study changed with each cycle of action research as was discussed in chapter two. With each cycle the framework, methods, and intervention evolved and as will be presented later this chapter continues to evolve for future cycles of research. Each cycle requires a reflective look back that informs the research going forward to the next cycle (Mertler, 2014). While action research can have an impact beyond the study setting, I came to understand that it was most importantly

about understanding a problem or attempting to answer a question to my specific practice and needs. As I designed the study, I was concerned about finding solutions that could be applied broadly. I wanted to find solutions that could apply to all situations. I worried about my solution not being able to transfer to another institution because they had a different organizational model, budget situation, relationship with faculty or any other variety of reasons. What I learned was that I could use the action research method to develop a potential solution to my problem of practice that then may or may not be adaptable to another context. The resulting intervention does just that. It produced evidence that it was effective in my context. It is not necessarily universal, but it is adaptable.

Results in Relation to the Extant Literature

When considering previous research and the COI framework there are connections from this study to the related literature. Garrison and Arbaugh (2007) established that instructor presence is a foundational component for student satisfaction, sense of community, and perceived learning. A review of the literature established that instructors understood the importance of these indicators but desired more support on how to best apply them to the course design process (Richardson, Besser, Koehler, Lim, & Strait, 2016; Richardson et al., 2015). One of the results of study was that both instructors and students recognize these indicators and are in general alignment on how to define presence, engagement, and feedback in online learning environments. The review of the literature established a link between these factors and student success. This study found that when instructor presence increased then student engagement increased. It also found that the level of student engagement increased as the interactions moved to higher

levels within the cognitive presence domain of the COI framework. Instructors expressed that they noticed an improvement in student performance after providing intervening feedback and clarification. In chapter 4 it was discussed how instructor #4 noticed an improvement in student performance on assignments once they began creating videos with tips and feedback for students. The increase in performance was substantial enough to cause the instructor to make the videos for all assignments going forward. More study needs to be done to establish a direct link between that performance and increased presence, but if the link exists it would be in alignment with the literature.

Nolan-Grant (2019) found that incorporating video interaction and discussion opportunities resulted in an increase in student engagement. Courses #1 and #4, which added interactivity to their video and moved discussions to a visual discussion tool such as VoiceThread or FlipGrid experienced the largest increase in student-student engagement. When instructors directly participated in the discussions the levels of engagement were elevated.. Instructor presence in this capacity is important for providing a sense of community where students feel comfortable to exchange ideas (Richardson et al., 2016). When instructors participated in discussions not only did engagement increase, but the cognitive level of engagement increased. While this study's focus was on translating knowledge from the intervention to action in the course, in doing so it aligned with what other studies have found to be quality examples of instructor presence and student engagement.

Lessons Learned

Lessons learned about implementation of the intervention. Data revealed the importance of instructors using their own courses as the content for the intervention activities. First, it increased the likelihood that changes would be made to the course, because they had already been completed. There was no teaching a strategy and then wondering if the instructor implemented it on their own time as may be the case in workshop. Instructor #1 shared the importance of being given time to critically review and revise their cohort and that message was consistent across the participants (Instructor #1 interview, September 23, 2019). Participation in the intervention, therefore, resulted in revisions to the course and in turn a measurable change in presence, engagement, and feedback in the participant's courses. This is supported by the engagement statistics and cataloging of change in instructor presence and student engagement discussed in chapter four. This data, along with instructor confirmation in the interviews, shows that the additions to the course were learned and added as a result of participation in the intervention. Requiring instructors to use their course as content and then providing them with time to review it resulted in an increase in presence and engagement.

The Community of inquiry theory establishes a relationship between teaching presence, social presence and cognitive presence (Garrison, Anderson, & Archer, 2000). This study found that interactive video was an effective means of increasing instructor presence and social presence. Integration of interactive video led to an increase in videos watched to completion in courses one and two. Interactive video served as a means of providing and receiving feedback from students in courses one, three, and four. Interactive video in the form of discussions was used in course one and three. Cataloging

of presence and engagement as discussed in chapter four not only increased presence and engagement, it increased the cognitive presence of the student interactions. These findings support the findings of Nolan-Grant (2019) that integrating video interaction and discussion opportunities resulted in an increase in student engagement. Instructor #4 further supported these findings saying the interactive, "videos were very popular. I received a lot of feedback at the end of the semester that my students wanted more of these and I had already added three for that offering. They wanted one for every chapter." (Instructor #4 interview, November 25, 2019)

Ongoing feedback and interaction may have increased cognitive presence which may have a positive impact on student performance. Instructor #3 noted that when videos clarifying assignment concerns were added to the course that they noticed an improvement in submissions (Instructor #3 interview, December 4, 2019). Instructor #4 also added that the weekly video check-ins seemed to help with clarifying content and improve performance (Instructor #4 interview, November 25, 2019). It was further demonstrated in course #1 that consistent engagement in the discussions by the instructor increased the cognitive level of the student interactions. Instructor #1 was able to guide discussions and provide in-time feedback that called on students to engage with the content at a deeper level (Instructor #1 interview, October 10, 2019). In the literature the need for students to have immediate feedback was established, but it was unclear as to what the most effective means of feedback deployment was (Lee, Srinivasan, Trail, Lewis, & Lopez, 2011). The video check-ins and discussion participation observed in this study may contribute to answering that question.

Personal lessons learned. Measuring actual engagement was a greater challenge than I was prepared for. Understanding the extend of the impact of engagement was also difficult to quantify. As I observed the courses, I realized that there were many instances of engagement that were unknowable or unrecordable within the confines of the study. I could not account for emails and other messages between the students and the instructor, length and depth of virtual conversations, student-student engagement outside the LMS, or accurately measure the breadth of impact from some of the third-party tools outside the LMS that I did not have access to. It led me to understand that presence and engagement is likely higher than I was able to quantify. Qualitative data from the interviews and surveys helped provide a sense of what presence and engagement outside of the analytics was, but it is still not a complete picture. This experience underscored just how important data collection methods are and the need to be flexible in my data collection.

Another lesson I learned was in the development of my research question. As I started to collect my data, I began to develop a greater appreciation for the development process of the research question. While I was able to establish that all of the instructors saw increases in presence and student engagement, I found that the same lesson I learned about being flexible in data collection applied to being able to answer my research question. I was able to answer that presence and engagement increased and I presented several tables to illustrate this in chapter four. I provided further evidence through the qualitative analysis process to illustrate those improvements that were not quantifiable. Even with that supporting information, however, I cannot know the true extent, because of the presence and engagement data that I was not able to collect. It is something that I will address in my recommendations for future study.

Limitations

The most notable limitation is the length of the this cycle of action research. The timeline for this cycle spanned the summer and fall semester of 2019. Earlier cycles of research provided some insights into instructor perceptions prior to the implementation of the intervention but lacked a student component. Ideally, if the study lasted a full academic year then the courses before and after the intervention could be compared and include survey data from both sets of students. That would produce a better understanding of if student perspectives were impacted by the instructors' participation in the intervention. A second limitation is something that was addressed in the lessons learned section and that is having a true accounting of all instances and levels of presence and student engagement in the courses. This limitation makes it difficult to measure the true extent to which participating in the intervention impacted presence and engagement and improved feedback in the course.

I did have concerns about experimenter effect in this study. To mitigate this effect, I was not a part of the facilitation of the intervention. My interviews focused on participant experiences in the intervention and with online instruction. The interviews were conducted over Zoom, which helped to minimize body language that might be interpreted as a reaction to a response. I reviewed the videos and transcripts several times to check for any possible bias in the tone of my voice when asking questions. The participants' answers were wide ranging and went into detail on both positive and negative experiences. Given the detail and range of their responses it did not appear as though participants felt obliged to answer in a specific way.

Implications for Practice

Several characteristics make this intervention unique including; the online asynchronous format, an emphasis on peer collaboration, a modeling of best practices for building online courses, its focus on leveraging design principles and tech tools to increase instructor presence, and the use of the instructor's course as the content. As a result, several implications for the field of instructional design, specifically for my institution's designers, emerged in conducting this study. First, the importance of removing the barrier of time from instructors. Second, the intervention provides an opportunity for IDs to scale their support to a larger group of instructors. Third, utilization of the LMS and third-party analytics to improve the student experience. Finally, the need for student feedback in the design process.

Instructor interviews reflected a demand that instructors have for this type of resource. In chapter four the following assertion was presented. *The opportunity for course reflection and sharing with colleagues increase the implementation of effective new strategies and educational technology tools.* Instructors may have a deep commitment to learning effective practices for teaching online, but at the end of the day, time remains a barrier. Revisiting instructor #3's interview response contextualizes this.

> I feel like it was really helpful for having me focus on revisions. I tweak and make little revisions to classes every time I teach, but it was an opportunity for me to focus more intensively on the class and probably undertake bigger revisions than I would have otherwise if there hadn't been that dedicated time and opportunity. (Instructor #3 interview, September 16, 2019)

Instructional designers need to work with instructors to remove this barrier to improving their course. One way the intervention aims to do this is to include PD as a part of a course redesign process. This may also include something as simple as working with instructors to establish a development calendar. This could even be as simple as curating appropriate tools and strategies as was done for these instructors.

Our initial onboarding for new online programs is conducted through a personalized one on one build process, which is not scalable as we expand to provide support to the broader campus and not just the fully online campus. This intervention was developed to support courses needing redesign after its initial three-year life cycle. Developing additional versions of the intervention or distribution of its resources so that instructors that are motivated to apply the strategies and practices learned to their courses can assist instructional designers with scaling their support. Another impact on my practice stemming from the idea of developing multiple flavors of the cohort experience is to consider how to better connect the instructors with one another. Collaboration was a popular component of the intervention and developing some format for online instructors to share and collaborate throughout the year might be of interest. This helps with scalability by allowing instructors to go to each other to share best practices providing one more avenue to get support.

Another implication for the practice of instructional design in my office is the use of the various analytics to help guide the design process. While, using data to guide decision making is by no means a new implication the results of this study provide some guidance to IDs in my office of how those analytics can best guide design choices. For example a review of the video viewing analytics and LMS engagement analytics showed

that courses that increased interactive video also saw increases in engagement. Students were more likely to view videos to completion with interactive video and the overall time students engaged with the LMS increased. While many IDs may believe these strategies to be true there is now evidence available that they can use to support their design recommendations when working with their instructors.

A final implication for practice that emerged from the study is the need to have a better understanding of the student perception. As an instructional designer most of my information and feedback with respect to students is second and sometimes even third hand. Course evaluations administered by the university typically focus on facilitation and content and aspects that would be beneficial to the instructional design process are not included. From this study I learned that students are more aware of their presence and what is happening in their online courses than I assumed that they would be. They are generally in alignment with instructors and might even have higher standards of what they expect than what instructors perceive they expect. They also are providing feedback to help instructors tailor their instruction to the students' current needs. This feedback is helpful for instructors to get a sense of what is going on in the online classroom where the connections are not as transparent as they might be in an onground face to face setting. For my office's purpose input on design elements would be useful. Conducting surveys would be helpful, but perhaps even the formation of an advisory board that regularly informs the design process would be useful practices to create a richer student experience.

Implications for Future Research

A future cycle of action research should focus on a smaller sample size and extend the length of the cycle to include in-time observation of the pre-intervention course. Additional data that should be collected from that cycle include; student survey and interview data from the pre- and post- intervention versions of the course, presence and engagement data outside of the LMS analytics, a pre-intervention instructor survey. Reducing the number of courses to 1 or 2 would allow for the increased amount of data collection and give the researcher the opportunity to be more active in the observation process of the course facilitation. Live observations of both versions of the course would provide a more complete comparison. Collecting student data from both versions of the course would provide context to the student perspective. It could be seen if there is any difference between student perceptions in the pre- and post-intervention versions and could be compared to the results of this study. One of the findings of this study was that students and instructors were closely aligned in their definitions of presence, engagement, and feedback in online learning. A comparison might reveal if that alignment is a result of the instructor's participation in the cohort. It would also be helpful to interview a selection of these students to have them expand upon their responses to the survey. Of particular interest would be their insights on their peers as a source of feedback.

A follow-up research question that I would like to explore is to what extent does an increase in engagement and improvement of feedback impact student performance. Careful consideration would need to be taken to develop the instruments to answer this question, but it would provide a compelling piece of support for instructional designers to use when they meet with faculty developers. A secondary focus to this study could be a

deeper assessment as to which tools and strategies have the most impact. This would be useful in not only building learning experiences but determining what types of tools should be pursued. Financial restraints are always a concern and having information that supports which are worthwhile investments would ensure that resources are utilized efficiently.

A final topic for further exploration would be to expand the research around the COI framework. This study primarily focused on the teaching and social presence components of the framework. There was some discussion around cognitive presence, but it was not central to the research question investigating the increase in interactions and improvement of feedback as a result of increased instructor presence. As the social interactions were reviewed there was some analysis of the cognitive presence in the interactions, but there was not enough time within the scope of the study to read or view each interaction from all eight courses, four pre- and four post-cohort, that were reviewed. One scenario could be to analyze one course's pieces of engagement from pre- and post-cohort versions and code the interactions for cognitive presence. That new data in conjunction with what this study has found about the teaching and social presence data points might show how each of the components within the COI framework are impacted by participation in the intervention.

Conclusion

The redesign cohort professional development model implemented in this study attempts to provide a meaningful professional development opportunity that ultimately contributes to an engaging experience for learners. The model's purpose supports creating a solution to a current need, improving student success, and is grounded in

literature and previous studies (Gardern, 2016; Gatyan, 2015; Holmes, Singer, & MacLeod, 2010; Richardson et al., 2015; Shea Sau Li, Swan, & Pickett, 2005). The redesign cohort's format is collaborative, provides flexibility in its asynchronous fully online nature, and models best practices to give participants a student perspective of the strategies and tools they will be using (Shea, Sau Li, Swan, Pickett, 2005; Richardson, Koehler, Besser, Caskurlu, Lim, & Mueller, 2015; Richardson, Besser, Koehler, Lim, & Strait, 2016; Oyarzun, Barrreto, & Conklin, 2018; Nolan-Grant, 2019). The model is not constricted by the needs of physical space or dedicated time. Finally, the model features dedicated facilitators who work with participants to revise their course throughout the process. Instructors who participate in a one-time workshop or an asynchronous self-paced style course may not have access to a support person should they have questions or need feedback. The redesign cohort facilitators guide instruction and provide feedback through the entire process and are available to answer questions beyond completion of the cohort. Participants leave the cohort with their work done, not with strategies to begin their work. This is what helps to ensure that participation is likely to cause instructors to see an improvement in engagement and feedback.

Findings from the study showed that courses saw an increase in presence and engagement and an improvement in feedback, because the intervention provided instructors the opportunity to implement new strategies and practices to increase presence and as a result improve engagement and feedback. Table 9 shows the increase in the amount of time students engaged with the course. Table 10 shows the increase in discussion engagement in each course. Tables 6 and 7 provide evidence of the increase in quantity and quality of presence and engagement from the pre-intervention courses to the

post-intervention courses. The evidence that shows that improvement is represented in components of the course that were added or revised as a result of new strategies learned in the intervention. Instructors indicated an improvement in their interactions and feedback and students indicated that they were happy with their instructors' feedback. A larger study that follows the course life cycle from pre- to post-cohort would provide a clearer understanding of the full extent of the impact of cohort participation.

As with any action research study this is only the latest step in an iterative process. Findings from this study provided as many questions for future research as they did answers to the research question. What, if any, is the impact of increased presence and engagement on student performance? If this model was implemented across a whole program would there be an impact on retention rate and if so, what would it be? Which strategies of integrating instructor presence have the greatest impact on student engagement and performance? Or is it a combination of strategies that is most effective? There are improvements that can be made to the model itself, including concerns about scalability. There is also a growing need to look at the course experience more closely and to hear from the student voices in an expanded capacity. Currently, the end of semester course evaluation is focused the student experience with the instructor. Instructional designers would benefit from student feedback on course design. Knowing this feedback would empower instructional designers to address barriers students may encounter to being successful online learners. The more of these barriers that are identified and removed the more students and instructors can concentrate their attention on mastering content. This information would also inform revisions and improvements to the professional development model as we develop a stronger understanding of student

needs. While the results of this study showed the professional development model to be effective, more research is needed to strengthen the design process employed to onboard and provide continuous support to online instructors.

REFERENCES

Allen, I. E., & Seaman, J. (2015). *Grade Level: Tracking Online Education in the United States*. Babson Survey Research Group. Babson College, 231 Forest Street, Babson Park, MA 02457. Tel: 909-278-7389; Web site: http://www.babson.edu/Academics/centers/blank-center/global-research/Pages/babson-survey-research-group.aspx.

Andrew, M. (2014). Community and individuality: Teaching and learning insights from a postgraduate online writing program. *SAGE Open*, *4*(3),. doi:10.1177/2158244014544292

Budash, D., & Shaw, M. (2017). Persistence in an online master's degree program: Perceptions of students and faculty. *Online Journal of Distance Learning Administration, 20*(3). Retrieved from http://www.westga.edu/~distance/ojdla/fall203/budash_shaw203.html

Bawa, P. (2016). Retention in Online Courses: Exploring Issues and Solutions—A Literature Review. *SAGE Open*, *6*(1), 2158244015621777.

Deming, D. J., Goldin, C., Katz, L. F., & Yuchtman, N. (2015). Can Online Learning Bend the Higher Education Cost Curve? *The American Economic Review, 105*(5), 496–501.

Digital Learning Compass. (2017). *Distance Education Enrollment Report 2017.* Retrieved from https://onlinelearningsurvey.com/reports/digtiallearningcompassenrollment2017.pdf

Gardner, M. L. (2016). A Professional Development Certification Program for Instructors Teaching in the Online Environment and Student Completion and Success Rates at a Midwestern Community College: An Ex Post Facto Study. Retrieved from https://digitalcommons.unl.edu/cehsedaddiss/276/

Garrison, Anderson, & Archer. (2000). Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education. *The Internet and Higher Education, 2*(2), 87-105.

Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education, 10*(3), 157–172.

Gaytan, J. (2015). Comparing Faculty and Student Perceptions Regarding Factors That Affect Student Retention in Online Education. *The American Journal of Distance Education, 29*(1), 56–66.

Gillett-Swan, J. (2017). The challenges of online learning: Supporting and engaging the isolated learner. *Journal of Learning Design, 10*(1), 20–30.

Gibbs, J. (1995). *Tribes.* Sausalito, CA: Center Source Systems.

Glynn, S. M., Aultman, L. P., & Owens, A. M. (2005). Motivation to learn in general education programs. *Journal of General Education, 54*(2), 150-170. Retrieved from http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com.ezproxy1.lib.asu.edu/docview/62149523?accountid=4485

Goforth, Chelsea. (2015, November 16). *Using and Interpreting Cronbach's Alpha.* University of Virginia Library Research Data Services + Sciences. https:// data.library.virginia.edu/using-and-interpreting-cronbachs-alpha/

Hegeman, J. (2015). Using Instructor-Generated Video Lectures in Online Mathematics Courses Improves Student Learning. *Online Learning*, *19*(3). https://doi.org/10.24059/olj.v19i3.669

Herbert, M. (2006). Staying the Course: A Study in Online Student Satisfaction and Retention. *Online Journal of Distance Learning Administration, 9*(4). Retrieved from https://search-ebscohost-com.ezproxy2.library.arizona.edu/login.aspx?direct=true&db=eric&AN=EJ1108805&site=ehost-live

Holmes, A., Signer, B., & MacLeod, A. (2010). Professional development at a distance: A mixed-method study exploring inservice teachers' views on presence online. *Journal of Digital Learning in Teacher Education*, *27*(2), 76–85.

Ice, P., Curtis, R., Phillips, P., & Wells, J. (2007). Using Asynchronous Audio Feedback to Enhance Teaching Presence and Students' Sense of Community. *Journal of Asynchronous Learning Networks*, *11*(2), 3–25.

Ice, P., Gibson, A. M., Boston, W., & Becher, D. (2011). An Exploration of Differences between Community of Inquiry Indicators in Low and High Disenrollment Online Courses. *Journal of Asynchronous Learning Networks*, *15*(2), 44–69.

James, S., Swan, K., & Daston, C. (2015). Retention, Progression and the Taking of Online Courses. *Online Learning, 20*(2). https://doi.org/10.24059/olj.v20i2.780

Jessup-Anger, J. (2011). What's the point?: An exploration of students' motivation to learn in a first-year seminar. *Journal of General Education*, *60*(2), 101-116. Retrieved from http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com.ezproxy1.lib.asu.edu/docview/968116038?accountid=4485

Lee, S. J., Srinivasan, S., Trail, T., Lewis, D., & Lopez, S. (2011). Examining the relationship among student perception of support, course satisfaction, and learning outcomes in online learning. *The Internet and Higher Education*, *14*(3), 158–163.

McLean, J. E. (1995). Improving education through action research: A guide for administrators and teachers. Thousand Oaks, CA: Corwin Press.

McMillan, D. W. (1996). Sense of community. *Journal of Community Psychology*, *24*(4), 315-325.

McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology, 14*, 6-23.

Mertler, C. (2014). Action research: Improving schools and empowering educators (4th ed.). Thousand Oaks, CA: Sage.

National Center for Education Statistics. (2015). Demographic and Enrollment Characteristics of Nontraditional Undergraduates: 2011-2012. Washington, DC. Retrieved from https://nces.ed.gov/pubs2015/2015025.pdf

Nguyen, T. (2015). The effectiveness of online learning: Beyond no significant difference and future horizons. *Journal of Online Learning and Teaching / MERLOT*, *11*(2), 309–319.

Nolan-Grant, C. (2019). The Community of Inquiry framework as learning design model: a case study in postgraduate online education. *Research in Learning Technology*, *27*. https://doi.org/10.25304/rlt.v27.2240

Oyarzun, B., Barreto, D., & Conklin, S. (2018). Instructor Social Presence Effects on Learner Social Presence, Achievement, and Satisfaction. *TechTrends*, *62*(6), 625–634.

Phillips, A. S. (2015). *Retention: Course completion rates in online distance learning* (Order No. 10075960). Available from ProQuest Dissertations & Theses Global; Social Science Premium Collection. (1778874317). Retrieved from http://ezproxy.library.arizona.edu/login?url=https://search-proquest-com.ezproxy4.library.arizona.edu/docview/1778874317?accountid=8360

Pontes, M. F., Hasit, C., Pontes, N. H., Lewis, P. A., & Siefring, K. T. (2010). Variables related to undergraduate students' preference for distance education classes. *Online Journal Of Distance Learning Administration, 13*(2), Retrieved from http://www.westga.edu/~distance/ojdla/summer132/pontes_pontes132.html

Pregitzer, M., & Clements, S. N. (2013). Bored with the core: Stimulating student interest in online general education. *Educational Media International*, *50*(3), 162-176. Retrieved from http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com.ezproxy1.lib.asu.edu/docview/1651832717?accountid=4485

Rapp-McCall, L. A., & Anyikwa, V. (2016). Active Learning Strategies and Instructor Presence in An Online Research Methods Course: Can we Decrease Anxiety and Enhance Knowledge? *Advances in Social Work, 17*(1), 1–14.

Richardson, J. C., Besser, E., Koehler, A., Lim, J., & Strait, M. (2016). Instructors' Perceptions of Instructor Presence in Online Learning Environments. *The International Review of Research in Open and Distributed Learning, 17*(4). https://doi.org/10.19173/irrodl.v17i4.2330

Richardson, J. C., Koehler, A. A., Besser, E. D., Caskurlu, S., Lim, J., & Mueller, C. M. (2015). Conceptualizing and Investigating Instructor Presence in Online Learning Environments. *International Review of Research in Open and Distributed Learning*, *16*(3), 256–297.

Rovai, A. P. (2002a). Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. *The Internet and Higher Education*, *5*(4), 319-332. doi:10.1016/S1096-7516(02)00130-6

Rovai, A. P. (2002b). Building sense of community at a distance. *International Review of Research in Open and Distance Learning*, *3*(1), 74-85. doi:10.19173/irrodl.v3i1.79

Rovai, A. P., & Downey, J. R. (2010). Why Some Distance Education Programs Fail while Others Succeed in a Global Environment. *Internet and Higher Education*, *13*(3), 141–147.

Shea, P. (2006). A study of students‟ sense of learning community in online environments. In *The Journal of Asnychronous Learning Networks*. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.459.62

Shea, P., Li, C. S., Swan, K., & Pickett, A. (2005). Developing learning community in online asynchronous college courses: The role of teaching presence. In *Journal of*. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.96.343

Shaw, M., Burrus, S., & Ferguson, K. (2016). Factors that influence student attrition in online courses. *Online Journal of Distance Learning Administration, 19*(3), 211–231.

Thomas, R. A., West, R. E., & Borup, J. (2017). An analysis of instructor social presence in online text and asynchronous video feedback comments. *The Internet and Higher Education, 33*, 61–73.

Topal, A. (2016). Examination of university students' level of satisfaction and readiness for e-courses and the relationship between them. *European Journal of Contemporary Education*, *15*(1), 7-23.

Wighting, M. J., Liu, J., & Rovai, A. P. (2008). Distinguishing sense of community and motivation characteristics between online and traditional college students. *Quarterly Review of Distance Education*, *9*(3), 285-295.

APPENDIX A

COMMUNITY OF INQUIRY CODING TEMPLATE

Themes	Codes
Cognitive Presence	-Triggering event -Exploration -Integration -Resolution
Social Presence	-Emoticons -Risk-free expression -Encouraging collaboration
Teaching Presence	·Defining & initiating discussion topics -Sharing personal meaning -Focusing discussion -Direct instruction -General Communication -Feedback

(Garrison, Anderson, & Archer, 2000, p. 4)

APPENDIX B

INSTRUCTOR PERCEPTIONS SURVEY INSTRUMENT

Please select your level of agreement with the statements below.

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I feel confident in my ability to create a feeling of engagement in my online course.						
I feel confident in my ability to build a sense of community in my online course.						
I am provided resources to be an engaging instructor in my online course.						
Resources that were provided to me prepared me to be an engaging instructor in my online course.						
Resources that were provided to me helped prepare me to build a sense of community in my online course.						
I was provided with examples of how to be an engaging instructor in my online course.						
I was provided with examples of how to build a sense of community in my online course.						

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I provide opportunities in my online course for students to engage with me.						
I provide opportunities in my online course for students to engage with one another WITHIN the course learning environment.						
I provide opportunities in my online course for students to engage with one another OUTSIDE the course learning environment.						
I utilize multiple modes of communication (e.g. email, announcements, discussion boards, etc.) for students and instructors to interact with each other.						
My course provides opportunities for students to interact virtually using audio/visual mediums (e.g. VoiceThread, Zoom).						

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Students connected with each other through the activities in this course.						
Students actively engaged with the instructor(s) in this course.						
Students actively engaged in all aspects of this course (e.g. assignments, discussions, assessments).						
Students usually found value in the course activities.						
Students found value in engaging with classmates.						
Students were provided with the support needed to be successful in this course.						

Open-Ended:

What observations or comments do you have regarding student engagement in your online courses?

What aspects of your course did students engage most in?

In what areas would you like to increase student engagement in your course?

Demographic Questions

Please answer the following questions regarding your course and your teaching experience.

1. How many years teaching experience do you have?

2. How many fully online course have you taught?

   Note – If you have taught the same course multiple times, please count each time you have taught the course.

APPENDIX C

STUDENT PERCEPTIONS PRESENCE SURVEY INSTRUMENT

This survey adapted from the Community of Inquiry Survey Instrument (Arbaugh, Innes, Diaz, Garrison, Ice, Richardson, Shea, & Swan, 2011.) All answers recorded on a 6-point Likert scale with one free-response question to collect student reflections on the intervention. This scale will be set up as follows; 6 = *Strongly Agree*, 5 = *Agree*, 4 = *Slightly Agree*, 3 = *Slightly Disagree*, 2 = *Disagree*, and 1 = *Strongly Disagree*.

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 guiding the class towards understanding course topics in a way that helped

me clarify my thinking.

6. The instructor helped to keep course participants engaged and participating in productive dialogue.

7. The instructor encouraged course participants to explore new concepts in this course.

8. Instructor actions reinforced the development of a sense of community among course participants.

Direct Instruction

9. The instructor helped to focus discussion on relevant issues in a way that helped me to learn.

10. The instructor provided feedback that helped me understand my strengths and weaknesses.

11. The instructor provided feedback in a timely fashion.

Social Presence

Affective expression

12. Getting to know other course participants gave me a sense of belonging in the course.

13. Online or web-based communication is an excellent medium for social interaction.

Open communication

14. I felt comfortable participating in the course discussions.

15. I felt comfortable interacting with other course participants.

Group cohesion

16. I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.

17. Online discussions help me to develop a sense of collaboration.

Cognitive Presence

Triggering event

18. Problems posed increased my interest in course issues.

19. Course activities piqued my curiosity.

20. I felt motivated to explore content related questions.

Exploration

21. I utilized a variety of information sources to explore problems posed in this course.

22. Discussing course content with my classmates was valuable in helping me appreciate different perspectives.

Integration

23. Learning activities helped me construct explanations/solutions.

24. Reflection on course content and discussions helped me understand fundamental concepts in this class.

Resolution

25. I can describe ways to test and apply the knowledge created in this course.

26. I have developed solutions to course problems that can be applied in practice.

27. I can apply the knowledge created in this course to my work or other non-class related activities.

Open-ended

How do you define or describe “presence” in an online learning environment?

How do you define or describe “engagement” in an online learning environment?

How do you define or describe “feedback” in an online learning environment?

APPENDIX D

FIRST INSTRUCTOR INTERVIEW PROTOCOL

How important is it to you that you have an instructor presence in the online courses you teach?

How important do you think it is to students that you have a presence as a real person in your online courses?

What strategies do you use to project an instructor presence to your students?

Are there specific tools that you use to enhance your instructor presence?

Do you use any of the following? How so?

a. Discussions

b. Announcements

c. Email

d. VoiceThread

e. Video

f. Any other tools?

Describe your experience as a participant in the course design cohort.

What new strategies have you learned in the cohort?

Are you planning to implement any of the strategies you learned in the cohort?

If yes, which ones?

If no, why not?

Did any of your instructor presence strategies we discussed earlier stem from your participation in the cohort?

How can the Office of Digital Learning provide better support for preparing instructors to teach online?

What else would you like to add?

APPENDIX E

SECOND INSTRUCTOR INTERVIEW PROTOCOL

What strategies did you use to project an instructor presence to your students this semester?

Are there specific tools that you used to enhance your instructor presence that you did not use before you participated in the cohort?

Do you use any of the following? How so?

a. Discussions

b. Announcements

c. Email

d. VoiceThread

e. Video

f. Any other tools?

How did this offering of the course compare with prior offerings? Please elaborate on differences (either positive or negative).

How effective, did you perceive the strategies for interacting with students to be?

To what extent do you perceive that any of the modifications from the redesign cohort had an impact on student interactions and success?

What else would you like to add regarding any perceived differences in the course now

versus prior to the redesign cohort?

APPENDIX F

STUDENT SURVEY DESCRIPTIVE STATISTICS

Student Survey Per-Item Mean, Median, and Standard Deviation

Item (n=)	Mean	Median	Standard Deviation
The instructor clearly communicated course topics. (29)	5.07	6.00	1.412
The instructor clearly communicated course goals. (29)	5.07	6.00	1.387
The instructor provided clear instructions on how to participate in course learning activities. (29)	4.90	5.00	1.448
The instructor clearly communicated due dates/time frames for learning activities. (29)	5.03	5.00	1.426
The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking. (29)	4.86	5.00	1.575
The instructor helped to keep course participants engaged and participating in productive dialogue. (29)	4.90	5.00	1.372
The instructor encouraged course participants to explore new concepts in this course. (29)	4.93	5.00	1.252
Instructor actions reinforced the development of a sense of community among course participants. (29)	4.72	5.00	1.162
The instructor helped to focus discussion on relevant issues in a way that helped me to learn. (29)	4.76	5.00	1.380

The instructor provided feedback that helped me understand my strengths and weaknesses. (29)	4.72	5.00	1.509
The instructor provided feedback in a timely fashion. (29)	5.24	5.00	.912
Getting to know other course participants gave me a sense of belonging in the course. (29)	4.14	4.00	1.274
Online or web-based communication is an excellent medium for social interaction. (28)	4.29	4.00	1.301
It is important that instructors have a presence as a real person in online courses. (29)	5.28	5.00	.841
I felt that my instructor in this course maintained a sense of presence throughout the course. (29)	5.21	5.00	.861
I felt comfortable participating in the course discussions. (29)	5.38	5.00	.677
I felt comfortable interacting with other course participants. (29)	5.21	5.00	.902
I felt comfortable disagreeing with other course participants while still maintaining a sense of trust. (29)	4.86	5.00	1.125
Online discussions help me to develop a sense of collaboration. (29)	4.41	5.00	1.376
Questions posed in assignments and activities increased my interest in course issues. (29)	4.83	5.00	1.071
Course activities piqued my curiosity. (28)	4.71	5.00	1.049

I felt motivated by course activities to explore course topics more deeply. (29)	4.76	5.00	1.023
I utilized a variety of information sources to explore concepts in this course. (29)	4.86	5.00	1.156
Discussing course content with my classmates was valuable in helping me appreciate different perspectives. (29)	4.62	5.00	1.347
Learning activities helped me construct explanations/solutions aligned with course objectives. (29)	4.90	5.00	1.012
Reflection on course content and discussions helped me understand fundamental concepts in this class. (28)	4.82	5.00	1.090
I can describe ways to test and apply the knowledge created in this course. (28)	5.04	5.00	1.036
I have developed skills from course objectives that can be applied in practice. (28)	5.29	5.50	.937
I can apply the knowledge created in this course to my work or other non-class related activities. (28)	5.32	5.50	.819

Likert scale used for all questionnaire items: 1, Strongly disagree; 2, Disagree; 3, Slightly disagree; 4, Slightly agree; 5, Agree; 6, Strongly agree.

APPENDIX G

INSTRUCTOR CONSENT LETTER

Dear Colleague:

My name is Matthew Romanoski and I am a doctoral student in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University (ASU). I am working under the direction of Dr. Gustavo Fischman, a faculty member in MLFTC. We are conducting a research study on Arizona Online instructors and their participation in a course design cohort. The purpose of this study is to better understand the perceptions of instructors in participating in the cohort and implementing learned strategies in online learning environments.

We are asking for your help, which will involve your participation in a survey and two possible interviews concerning your experience participating in the cohort and applying the learned strategies to your course. We anticipate the survey will take about 20 minutes and each interview to take 20-30 minutes total. I would like to audio record the interviews. The interviews will not be recorded without your permission. Please let me know if you do not want the interviews to be recorded; you also can change your mind after the interviews start, just let me know. If you are interested in participating in the interview portion of the study you may indicate that by responding to the final question of the survey. This interviews will not be linked to your first survey responses.

Your participation in this study is voluntary. If you choose not to participate or withdraw from the study at any time, there will be no penalty whatsoever. You must be 18 years of age or older to participate.

The benefit to participation is the opportunity for you to reflect on your experiences participating in the cohort and utilizing the strategies you learned. Interview responses will also inform future iterations of the study and the design of Arizona Online courses. Thus, there is potential to enhance the experiences of our students/parents/instructors/clients. There are no foreseeable risks or discomforts to your participation.

Your responses will be anonymous. Results from this study may be used in reports, presentations, or publications but your name will not be used.

If you have any questions concerning the research study, please contact me at mpromano@asu.edu or Dr. Gustavo Fischman at fischman@asu.edu.

Please let me know if you wish to be part of the study and will let me audio record your responses by verbally indicating your consent.

Thank you,

Matt Romanoski, Doctoral Student

Gustavo Fischman, Professor

If you have any questions about your rights as a participant in this research, or if you feel you have been placed at rick, you can contact Gustavo Fischman at fischman@asu.edu or the Chair of Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.

APPENDIX H

STUDENT CONSENT LETTER

Dear Student:

My name is Matthew Romanoski and I am a doctoral student in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University (ASU). I am working under the direction of Dr. Gustavo Fischman, a faculty member in MLFTC. We are conducting a research study on Arizona Online courses. The purpose of this study is to better understand the perceptions of instructors and students with respect to engagement and feedback in online learning environments.

We are asking for your help, which will involve your participation a survey concerning your experience in taking online courses. We anticipate this survey will 15-20 minutes total. This survey is completely anonymous and no identifying information will be collected.

Your participation in this study is voluntary. If you agree to participate in the study click "next" to start the survey after clicking on the survey link. If you choose not to participate or withdraw from the study at any time, there will be no penalty whatsoever. You must be 18 years of age or older to participate.

The benefit to participation is the opportunity for you to reflect on your experiences in online learning. Survey responses will be used to inform future design and facilitation of Arizona Online courses. Thus, there is potential to enhance the experiences of our students. There are no foreseeable risks or discomforts to your participation.

Your responses will be anonymous. Results from this study may be used in reports, presentations, or publications but your name will not be used.

If you have any questions concerning the research study, please contact me at mpromano@asu.edu or Dr. Gustavo Fischman at fischman@asu.edu.

Thank you,

Matt Romanoski, Doctoral Student

Gustavo Fischman, Professor

If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact Gustavo Fischman at fischman@asu.edu or the Chair of Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.

APPENDIX I

IRB APPROVAL

EXEMPTION GRANTED

Gustavo Fischman
Division of Educational Leadership and Innovation - Tempe
480/965-5225
fischman@asu.edu

Dear Gustavo Fischman:

On 5/24/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Preparing Instructors to Build Presence and a Sense of Community in Online Courses Through an Asynchronous Online Course Design Cohort
Investigator:	Gustavo Fischman
IRB ID:	STUDY00010190
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• IRB Protocol, Category: IRB Protocol; • Student Survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Second Instructor Interview, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Student Consent Form, Category: Consent Form; • First Instructor Interview, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Instructor Consent Form, Category: Consent Form; • Instructor Survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Exempt Wizard Pilot Confirmation, Category: Other (to reflect anything not captured above);

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 5/24/2019.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Matthew Romanoski
Matthew Romanoski