H.O.T. Communication: Honest, Open, & Two-way:

Examining the Effectiveness of a Communication Suite in Online Education

by

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ABSTRACT

Distance education has grown over the past several years due to the integration of technology and its advancements. The flexibility, convenience to the learner, and cost-effectiveness of online learning contributes to this rise in popularity (Boling et al., 2012). Consequently, U.S. colleges and universities are quickly establishing a vast array of distance learning programs and initiatives (Ernest et al., 2013; Jones & Wolf, 2010; Northcote et al., 2015). Communication in these colleges and universities among professors and students is vital, but it is especially critical in an online learning environment where social relationships are formed from the information conveyed by computer-mediated communication (Tu, 2000). Communicating immediacy between the instructor and student, facilitating reflection, and furthering discourse can build rapport while allowing the student to engage with the course content (Tu, 2000; Swan et al., 2008). Further, communication between the professor and the student enhances a sense of belonging, individuality, and intimacy in online learning environments (Boling et al, 2012). Online professors operate in a unique digital space where they provide guidance, instruction, and support to their online students without being in the same place and time.

The purpose of this action research study was to explore the perceptions of undergraduate students regarding the strategies that can be used to improve the professor-student communication within the online educational setting. I explored this phenomenon using the theory of transactional distance and the social presence theory. This action research study involved the intervention of a Communication (COMM) Suite along with

the participation of undergraduate students who have experienced online learning using both synchronous and asynchronous platforms. I collected data using a Likert scale survey accompanied by individual semi-structured interviews.

DEDICATION

I dedicate this dissertation to my son Elijah Leonard, to show him that anything is possible if you commit yourself to it and keep God first. If I can do this, you can do ANYTHING. I also dedicate this dissertation to my wife Shawyntee, who has offered unwavering support and encouragement during the past three and a half years of my doctoral journey. You have been my biggest cheerleader when I was discouraged, my proofreader when I needed a second pair of eyes, my study partner when I needed help, and most importantly you were 100% confident in my ability to get this done. Thank you Shawyntee, for everything.

Last of all, I dedicate this dissertation to my parents, Leonard and Elizabeth, both retired educators who instilled in me the love and necessity of education at an early age. You both have been constant supporters through every academic and personal endeavor in my life. Thank you, mom and dad, for believing in me, encouraging me to strive for my dreams, and for teaching me to believe in myself. Your son is a doctor.

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Also, I express my thanks to my brother and my sister, our countless conversations are something I cherish. They allowed me to get away from writing, revisions, and statistical calculations. Thank you for always being there for me. My siblings have always been a source of inspiration and now they are immortalized in this dissertation.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

BACKGROUND TO THE STUDY

"...distance education is a subset of the universe of education, and
distance educators can draw on, and contribute to, the theory
and practice of conventional education" (Moore, 1993, p. 23).

Introduction

Many educators are adopting online learning to adapt to the ever-changing

educational landscape (Zakharov & Maybee, 2019). Despite the range of benefits that

students can acquire from online education such as convenience, accessibility, and

flexibility; online interaction can also produce challenges that could affect the learning

process (Blayone et al., 2018; Warr & Sampson, 2020). One specific challenge of online

education is the professor-student dialogue, which can present obstacles in terms of poor

satisfaction from undergraduate students (Kaufmann & Vallade, 2020).

Ball and Forzani (2007) state that education is the deliberate activity of helping

learners to develop understanding and skills. Even though education can transpire in

many settings and through a wide range of mediums, it is typically connected to

traditional schooling, where exchanges and interactions among teachers, students, and

content occur in person (Ball & Forzani, 2007). Figure 1 illustrates a constant exchange

of communication and content between teacher and students which is encompassed by

the environment. These exchanges are the essence of teaching, designating that teaching

is a collection of practices, including pedagogy, learning, instructional design, and

managing organization (Cohen et. al., 2003).

1
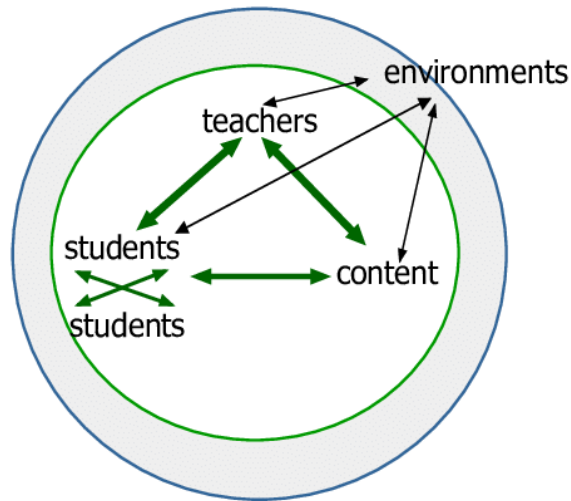
Figure 1: *The instructional triangle*. From Cohen et. al., 2003, p. 124.
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Through consistent exchanges and interactions, there is an active process of interpretation that constitute teaching and learning. Teachers interpret and present content (curricula) to students, who then interpret their teachers' meaning, the content, their peers, and finally they respond and act. Successively, teachers interpret their students, all in overlapping contexts and over time (Ball & Forzani, 2007).

One vital construct to reference in the instructional triangle is the environment wherein these exchanges and interactions occur. There is a continuous interplay among the environment, teachers, and students along with their communication and interpretation (Moore, 1993). Some researchers call this relationship interactivity, where the exchange can take place between students, students and instructors, as well as students and content (Karchmer-Klein et al., 2019; Moore, 2013). In a technological environment, teaching in ways that reflect this type of communication and interpretation

2

can be difficult to navigate, challenging to approach and can sometimes change

(Henriksen et al., 2019). Moreover, COVID-19 shifted most of the United States'

learning environments to a virtual or online setting. While some educators and learners

might find the online environment to be a source of consternation, it can also be one to

embrace, take pleasure in, and benefit from.

In this action research study, I explored the perceptions of undergraduate students

along with strategies that can be used to improve the professor-student communication in

synchronous and asynchronous platforms in the online educational setting. Synchronous

(i.e., real time) and asynchronous (i.e., delayed time) online platforms offer different

modes of communication that have implications on how professors and students interact

with each other (Aloni & Harrington, 2018; Martin et al., 2018; Terras et al., 2018).

In this chapter, I begin with a brief introduction of the two communication

platforms in online learning, then I present the context in which this action research study

took place. I then establish my leadership role as well as the purpose of this action

research study. Chapter one concludes with an examination of my problem of practice.

Communication in Synchronous and Asynchronous Online Learning

Communication, no matter the form (i.e., email, video conferencing), is essential

in online learning. Two categories of computer-mediated communication (CMC) exist in

an online learning environment—synchronous communication and asynchronous

communication. Synchronous communication, or real-time communication, refers to

face-to-face discussions between people or immediate interactions such as telephone

calls, or a computer-facilitated dialogue using cameras and microphones (Humphry &

Hampden-Thompson, 2019). Synchronous communication allows learners an opportunity

to provide instant feedback to each other, experience belongingness, and develop an

emotional bond with each their peers (Peterson et al., 2018). Equally, synchronous

communication requires a commitment to a specific time, removing the flexibility that

has made online learning and distance education common (Wolverton, 2018).

  Asynchronous communication, or delayed communication, suggests a time delay

between and sending receiving messages (Wolverton, 2018). Because of the flexibility of

asynchronous communication, this type of communication is found to be more beneficial

to the online learner in terms of completing assignments and engaging in more reflective

time to understand their lessons (Madden et al., 2017). Asynchronous communication

affords students ample time to articulate their thoughts, enabling learners to engage the

content, and their peers at a substantively higher cognitive level (Wolverton, 2018).

Online courses are primarily conducted in an asynchronous format with no set time for

interaction; therefore, feedback from an instructor is often through written

announcements, emails, chats, or typed information on discussion boards (Seckman,

2018). Asynchronous communication helps students decide where and when to learn,

allowing them more time to analyze and synthesize information, and to research and

investigate new ideas and concepts. Madden et al. (2017) noted that the downside to

asynchronous communication is waiting for a response from an instructor, which limits

the immediacy of communication.

Rationale for Improving Online Professor-Student Communication

Communication in an online learning environment is particularly important given the nature of the platform where traditional methods of interacting with others are absent (Vallade & Kaufmann, 2018). Given that previous researchers such as Kaufmann and Vallade (2020) and Aloni and Harrington (2018) have identified problems with professor-student dialogue in online learning because of the perceptions of such communications being difficult and challenging, there is a practical need to address this current problem. The results of this action research study could be instrumental in the identification of different strategies that could lead to more effective and productive communication between professors and undergraduate students during their online education interactions.

The theoretical rationale for this action research study was based on the social presence theory and the theory of transactional distance, which supports the framing of my research questions around possible strategies to improve professor-student communication in online education. From a theoretical perspective, the results of this action research study provided support for the viability of social presence theory as a framework expounding upon the quality of communication between professors and undergraduate students in online education. Additionally, this action research study was meant to shrink the transactional distance between professor and student in an online learning environment, with a goal of improving students' learning experience through more meaningful communication patterns in learning.

5

<center>**Context of the Study**</center>

The University of North Florida

The University of North Florida (UNF) is a public higher education institution whose brick-and-mortar campus is located in Jacksonville, Florida. In the Fall semester of 2019, 17,311 students enrolled, of which 14,917 were undergraduate students and 2,394 were graduate students. While the majority enroll in face-to-face classes, students are increasingly enrolling in online courses. In the 2018-19 academic year, 7.5% of students enrolled in all online courses, compared to 3.4% in 2014-15, an increase of approximately 4.1% annually in a just a four-year period. What's more, 62% of the UNF students enroll in at least one distance learning course.

UNF offers eleven degrees, five certificates, and one endorsement as part of their distance learning initiative. Specifically, UNF's online degree programs are in Nursing and Health, Nutrition, Education, American Sign Language (ASL) and Interpreting, and Criminal Justice. In the Nursing and Health program UNF offers a Registered Nurse (RN) to Bachelor of Science in Nursing (BSN) Track program, a Post-Master of Science in Nursing (MSN) Doctor of Nursing Practice, a Doctor of Nursing Practice in Psych-Mental Health, an Executive Masters in Health Administration, and a Graduate Certificate in Healthcare Informatics. In the Nutrition program, a Master of Science in Nutrition and Dietetics and a Doctor of Clinical Nutrition is offered. The Education Department offers a Master of Science in Educational Technology, Training and Development, a Master of Education in Educational Leadership: Early Childhood

<center>6</center>

Educational Leadership, a Bachelor of Science in Sport Management with a concentration in marketing, a Graduate Certificate in Early Childhood, and Graduate Certificate in Teachers of English to Speakers of Other Languages (TESOL), a Post-Baccalaureate Certificate in Deaf Education, and The Whole Child Graduate Certificate. The ASL and Interpreting program offers an undergraduate American Sign Language Endorsement. It is designed to provide teachers of American Sign Language in the K-12 setting the opportunity to complete the additional courses required by the Florida Department of Education (FLDOE) for ASL Endorsement. Also, the ASL and Interpreting program offers a Master of Science in American Sign Language/English Interpreting. Lastly, the Criminal Justice program offers an online Master of Science in Criminal Justice. According to UNF standards, a distance learning course is one in which the faculty delivers at least 80 percent of the direct instruction using some form of technology when the student and instructor are separated by time or space, or both. In 2018-19, UNF offered 1,232 distance learning courses to its students.

Center for Instructional Research and Technology (CIRT)

At UNF, The Center for Instructional Research and Technology (CIRT) is responsible for all distance learning initiatives. CIRT provides everything faculty and staff need for distance learning. They provide training for faculty and staff, instructional design, learning management software assistance, online proctoring, media tools, video and podcasting capabilities, and many other resources. CIRT began as a software testing facility within the Computing Services department in the early 1990s. By 1995, UNF

rebranded CIRT as a more differentiated faculty support resource. In April of 2000, CIRT hired full-time employees and charged them with becoming an educational technology center where faculty could go to explore software, check out equipment, and work on course development. CIRT became an independent unit in 2007, reporting to Academic Affairs.

In 2011, through CIRT, UNF started its distance learning initiative, where they began incorporating distance learning into the course catalog. They also established and delivered new forms of support to faculty and departments engaged in developing online courses and degree programs. At the forefront of CIRT's mission are pedagogy and student learning. With that, each online instructor goes through university mandated training courses that help online instructors with their pedagogy, course design and facilitation emphasizing active online learning environments. UNF's shift to distance learning was attributed to the flexibility it gives the learner.

In 2016, UNF adopted a learning management system (LMS), called CANVAS. The CANVAS system makes it possible for learning-related human interactions through computer networks. It is important to mention this because some iterations of the theory of social presence not only include human-to-human interaction, but also interaction between pedagogical agents generated by a computer (Sung & Mayer, 2012). I will set the context of this action research study within the online platform of CANVAS.

Leadership Role in the Context

It was my understanding that most educators have a background in teaching and in pedagogy. Most educators were students who went to a college or university for four years and learned about curriculum development and theories that best complement student learning (Endedijk et al., 2012). Traditional educators student-taught in college or in university programs and, ultimately, taught in an educational area where they could apply their knowledge. Student-teachers integrate their education and experience gained from teaching practices and college courses to self-evaluate their competencies, clarify the learning needs of their students, formulate personal development plans, reflect on their learning, and document their learning progress in a portfolio (Endedijk et al., 2012). These steps in the teaching process have been the necessary stages in the progression of most educators.

I did not follow that development even though I grew up in a household of educators. My father is a retired principal, head of school, education consultant, and district administrator whose expertise was in K-12 administration. My mother is a retired scientist, anatomy and physiology teacher, and a teacher of the year nominee. It is a long-standing theory that you have the likelihood to become what you are exposed to (Kwan et al., 2015). The mere exposure (ME) effect refers to a phenomenon where individuals tend to prefer stimuli with which they have more experience (Van Dessel, 2018). The ME effect increases assumed familiarity of the exposed stimulus to others or things frequently seen (Kwan et al., 2015). My exposure and my sibling's exposure were seeing my parents

educate students for over twenty-five years. Now, my brother is an athletic director at a university, meanwhile my sister is a grant writing manager an educational non-profit organization. My siblings and I, I believe, subconsciously have careers in education because of my parents.

I took the long route to academia and eventually settled at the University of North Florida teaching online in the College of Education and Human Services and specifically in the Sport Management Department. Many of us who teach and instruct online in higher education do not come from a teaching milieu, nor do we have familiarity with curriculum development (Datray et al., 2014). We thoroughly know our particular areas and are experts in our fields. We draw upon our experiences to provide a genuine contextual course. We, as online instructors, provide an applied perspective, critical expertise, and real-world experience (Mandernach et al., 2015). However, providing real-world experiences for an online course is difficult. An online instructor is not in a face-to-face setting where they can interact with students and speak about their encounters, experiences, and practices. Most of the time online learning and online communication occurs asynchronously (Seckman, 2018).

Early on as an online professor, I discovered that some of my online students did not perform well on assignments I presented. I did not provide the proper scaffolds or tools that students needed to progress successfully through my online course. Online students often require explicit guidance of when and how interactions are to occur. Expectations for online students' work must be specific and detailed to maximize

satisfaction with the learning experience (Shannon, 2002). The rationalization for structure, guidance, and explanation is because not all students are prepared for an asynchronous online learning environment (Bickle, 2018). Furthermore, online students experience a great deal of frustration with assignments that require them to be detailed oriented. Frustration and not performing well on assignments could be contributed to the communication (or lack thereof) from instructor to student (Santhiveeran, 2005). Online students normally do not know what to expect, nor are they able to physically view the instructor and classmates for comparative purposes and consequently they are left to navigate the online learning world themselves (Bickle, 2018). Luckily, I was able to become a certified online instructor through UNF's CIRT department and now know the scaffolds to put in place for online students.

As a certified online instructor, I take active participation throughout the length of the course, facilitating, overseeing, and directing students in achieving the learning objectives I designed for the course. Also, as an online instructor, I operate as a human pedagogical agent that designs courses while promoting learning and communication through questions, answers, and feedback on assignments. As a part of my agency in this position, I play a vital role in the success or failure of online students. I have taught online at UNF since the fall semester of 2018. Currently, I teach two undergraduate classes a semester— LEI 3004 (Introduction to Recreation, Tourism, and Events) and LEI 3438 (Intramural and League Management).

Mentioned earlier, CIRT trains faculty at UNF to teach online. More specifically, CIRT offers Teaching Online (TOL) Track A and Track B. I have benefitted greatly from completing both TOL Track A and Track B. Whether consciously or intuitively, CIRT provided professional development to faculty aimed at having a creatively focused and technology fluent (CFTF) mindset. The CFTF mindset improves teachers' beliefs about their own efficacy with technology (Henriksen et al., 2019). Henriksen et al. (2019) explains that through a CFTF mindset teachers become more prepared for conscious adaptation, experimentation and learning in situ, when faced with new tools or changing contexts and cultures of learning. CIRT aimed to accomplish this through their mission of offering expertise, resources, and training to assist faculty in ways that enabled them to develop greater capacities for using technology for teaching and research.

TOL Track A included a face-to-face commencement day, eight online modules, a face-to-face roundtable discussion, and a culminating online final presentation. Overall, TOL Track A offered faculty a hearty training curriculum focused on blended, adaptive, and personalized learning schemes in online courses. In this track, UNF faculty also studied pedagogy, theory, course design, instructional strategies, communication strategies, online assessment, and instructional media in the development and delivery of high-quality blended and/or fully online courses. By the end of the course UNF faculty were expected to be able to pen learning objectives that define measurable outcomes; summarize major components of an online or blended learning course; develop assessments that measure student learning; explore instructional media that support

course objectives and learning outcomes; discuss best practices for universal design for learning; use different methods for communicating with students; demonstrate knowledge of copyright and fair use laws; and reflect on best practices in development and delivery of online and hybrid courses.

TOL Track B included five online modules and a culminating online final presentation. Overall, this track offered UNF faculty curriculum that focused on important pedagogical, logistical, and technological issues involved in delivering online courses. Topics covered in this track include student engagement, assessments, course facilitation, distance learning, and library resources. By the end of the course, UNF faculty were be able to identify operative approaches for engaging students in online classes, develop scaffolds and evaluations that measure student learning, and utilize different methods for communicating with students.

Problem of Practice

The general problem was that many students and instructors have not yet developed the competencies to be comfortable and effective in communicating through online learning platforms (Blayone et al., 2018). Blayone et al. found that both instructors and students had relatively low to moderate digital competencies, affecting their abilities to fully benefit from an online learning setting. Undergraduate students have particularly reported lower engagement and learning in online settings compared to doctoral and post-doctoral students (Martin et al., 2018).

The specific problem was that the professor-student dialogue in online learning has been described by students as challenging and unsatisfactory (Kaufmann & Vallade, 2020). I personally found that professor-student dialogue in online learning is challenging. In previous cycles of research, both online students and instructors voiced their frustration and angst in communicating online. From the same previous cycles of research, online professors have tried various methods of communicating, while online students deem it only necessary to communicate if an assignment is missed or they desire to raise their grade. I wanted communication to happen often in my online course as to provide a stimulating course for my students, however I found engaging the online student is difficult. I considered engagement to be any effort or point of contact that is meant to elicit a response from an online student.

Communication and engagement in an online learning setting is particularly important given the nature of the platform wherein traditional methods of interacting with others are not present (Vallade & Kaufmann, 2018). Because synchronous and asynchronous online platforms offer different modes of communication, the challenges are also different (Aloni & Harrington, 2018; Martin et al., 2018; Terras et al., 2018). For instance, Martin et al. found that communication in synchronous online learning can be challenging because of perceived lack of instructor presence and connection. In asynchronous online learning, Terras et al. found that developing and maintaining connectivity with instructors and other students can be challenging.

14

The gap in the literature involved how the professor-student communication in synchronous and asynchronous online educational settings can be improved based on the perceptions of undergraduate students. This gap was based on previous researchers who identified the need for more studies to address the limitations of the current literature. For instance, Bolliger and Martin (2018) and Bolliger and Martin (2020) recommended that future researchers explore how students can be engaged in the online educational setting, given the lack understanding of the experiences of students in this platform. Buelow et al. (2018) also suggested that future researchers should continue exploring how education in the online environment can be further improved. Karchmer-Klein et al. (2019) recommended a systematic study of an entire course to evaluate the full gamut of activities, which this action research accomplished. Karchmer-Klein et al.'s (2019) research focused on learning opportunities and not learning outcomes insisting that future studies should focus on student perspectives in online learning environments, again what this study accomplished.

Problems in communication in online learning can be viewed from the lens of deficiencies in social presence (Anumudu et al., 2020). Enhancing social presence is a general strategy for improving communication in online learning settings (Weidlich & Bastiaens, 2019). I used the social presence theory and the theory of transactional distance to frame the strategies for improving the communication between professors and students in online learning. More specifically, I used the intimacy and immediacy components of the social presence theory to explore this phenomenon.

Purpose of the Study

The purpose of this action research study was to explore the perceptions of undergraduate students regarding the strategies that can be used to improve the professor-student communication within the online educational setting. I explored this phenomenon using the theory of transactional distance and social presence theory. This action research study involved the intervention of the COMM Suite, a series of modules that emphasize asynchronous and synchronous communication between instructor and students. I collected and analyzed survey data, individual semi-structured interviews with students, and a reflexivity journal of the process of implementing the COMM Suite. The implications of this study can be used to develop future online courses and support the preparation of online instructors.

Research Questions

Based on the research problem, purpose, the theory of transactional and the social presence theory, I examined the following research questions:

1. How and to what extent does the implementation of the COMM Suite affect students' (a) intentions and attitude toward engaging in communication with their instructors, (b) actual interaction with instructors, and (c) satisfaction with their instructor's interaction?

2. What are the perceptions of students where misunderstandings in synchronous and asynchronous online learning can be lessened to enhance the quality of professor-student communication?

16

3. What are the perceptions of students on how the intimacy and immediacy of synchronous and asynchronous online learning can be improved to enhance the quality of professor-student communication?

CHAPTER 2

THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

...social presence has direct academic implications contended that students with
social presence are likely to instigate, sustain, and support content-related
communication because it becomes more engaging and rewarding
(Borup, West, & Graham, 2012, p. 195.)

Introduction

This chapter contains a discussion of the theories used as frameworks for guiding

this action research study, as well as previous research related to communication in

online learning. Online learning and distance learning comprise education wherein the

instructor is separated from the learners by distance, and in some cases, by time.

Conditions of online learning are then highly divergent from face-to-face (FTF) learning.

The theories of social presence (Short et al., 1976) and transactional distance (Moore,

1993) represent vital frameworks that may help in understanding the conditions of online

learning. These theories, which will be elaborated on later in the chapter, describe the

challenges regarding interaction and connection between participants of distance learning

(Moore, 1993; Short et al., 1976). While online or distance learning may provide

convenient ways to educate students, certain barriers and challenges exist within these

settings that require new skills, strategies, and approaches that are different from FTF

settings (Racheva, 2018). Furthermore, these approaches may differ between

synchronous and asynchronous types of online learning. The literature reviewed within

this chapter emphasizes existing evidence on these approaches, as well as the barriers and

recommendations for enhanced communication in online learning provided by previous researchers.

This literature review begins with a thorough discussion of the theories of transactional distance (Moore, 1993) and social presence (Short et al., 1976). An overview of online education, including its history and existing evidence will follow. The review then proceeds with evidence regarding communication within asynchronous and synchronous settings. Finally, the chapter concludes with a summary of important elements described in the chapter.

Theoretical Framework

A considerable amount of research on online education recognizes the importance of social presence and the issue of transactional distance in the online classroom setting (Holbeck & Hartman, 2018; Karaoglan Yilmaz, 2017; Quong et al., 2018). These two theories appeared to accurately encapsulate the conditions of online learning. For this action research study, I utilized the theory of transactional distance to depict the challenge of online learning that may lead to misunderstandings that are detrimental to education (Aloni & Harrington, 2018; Sato et al., 2017). I also utilized the social presence theory to display the requisites of strategies and approaches that instructors use to improve the intimacy and immediacy of online learning (Weidlich & Bastiaens, 2017). As these theories guided the whole study, it is important to obtain a thorough understanding of their principles and the existing evidence surrounding them.

19

Theory of Transactional Distance

The theory of transactional distance describes the psychological barrier that occurs in an online learning environment. More plainly, Warr & Sampson (2020) clarify that transactional distance reflects the relationship between student-instructor dialogue (interactions and responses), course structure (rigidity and standardization), and required learner autonomy (students' ability to obtain course objectives). These components of transactional distance are important to note because the lack of FTF interactions in the online learning environment can contribute to students' feelings of loneliness or disengagement (Bolliger & Martin, 2020; Holbeck & Hartman, 2018; Schreiber & Jansz, 2020). Students from Best and Conceição's (2017) study stated that interactions of any kind comprise significant foundations of any educational program. Moore (1993), the major proponent of transactional distance education, described it as the connection between instructors and learners as they are separated by spatial and temporal distance. Moore further asserted that these two forms of distance may not necessarily be the fundamental aspect of online education, and that transactional distance, or the psychological aspect of it, is the more essential form of distance that influences students' learning in online settings (Weidlich & Bastiaens, 2018). Proponents of the theory of transactional distance then posit that although spatial and temporal distance may indeed pose challenges for learners and instructors (Bolliger & Martin, 2020; Schreiber & Jansz, 2020), the instructor may overcome these challenges with the right techniques and tools (Holbeck & Hartman, 2018; Sato & Haegele, 2019). The theory of transactional distance

20

thus places obligations on online instructors to lessen the transactional distance and keep students engaged in their online education.

The idea of distance learning did not actually begin with the use of online setups or the internet. Moore (2018) described how early forms of distance education encompassed interactions through sending posts or broadcasting on radios and televisions; however, these forms of education were controversial and did not receive much academic attention during their prime in the 1970s. Moore was a pioneer of distance education research and proposed, during those times, that a theory for distance education that was separate from FTF education be developed. Building on John Dewey's concept of transaction as the connectedness of the environment, people involved, and their behaviors in a given situation, Moore (2018) defined the transactional distance of education as the connectedness of instructors and learners in a separated environment. As technological advancements have begun to normalize the use of internet media as educational tools, the theory of transactional distance has become more relevant in distance education research.

The construct of transactional distance is more complex than simply being a unidimensional concept of connectedness. Moore (1993) proposed three major elements or dimensions of transactional distance: structure, dialogue, and learner autonomy. Structure describes the overall organization of the course including its flexibility, content, goals, methods, and timeline (Moore, 1993; Quong et al., 2018). Dialogue refers to the interaction between learners and instructors. Learner autonomy is how much the learner,

rather than the instructor, is in control of their own learning in the program (Moore, 1993). These elements determine the level of transactional distance within an online learning program (Weidlich & Bastiaens, 2018). The elements of structure and dialogue, in particular, are highly and inversely related to each other (Bolliger & Halupa, 2018; Quong et al., 2018; Warr & Sampson, 2020). Researchers purported that higher levels of structure meant lower levels of dialogue, and in turn, wider transactional distance. Higher levels of learner autonomy also increase transactional distance (Best & Conceição, 2017). Bolliger and Halupa (2018) noted, however, that it is possible to design a course wherein both structure and dialogue are elevated and provide optimal student outcomes.

Advocates of the theory of transactional distance have further delineated the element of dialogue, highlighting the importance of the interactions that occur in the online learning environment. Moore (1993) identified three basic types, describing the interactions between: learner-learner, learner-instructor, and learner-content. Other theorists have expanded this list with more nuanced types of interactions such as learner-interface interaction (Rabinovich et al., 2017). Kara (2020) signified that the different types of interactions were all significant in improving student outcomes. However, other researchers presented more nuanced findings. Several researchers have noted that the learner-instructor interaction was one of, if not the most, influential types of interaction to determine student outcomes (Alqurashi, 2018; Terras et al., 2018; Weidlich & Bastiaens, 2018). For instance, university students from Terras et al.'s (2018) study reported a higher need for learner-instructor and learner-content connectivity than learner-learner

connectivity. Terras et al. further noted that learner-instructor interaction may be related to student dropout. Similarly, participants in Weidlich and Bastiaens's (2018) study indicated that learner-instructor and learner-content engagements allowed for a more satisfying distance learning experience, while learner-learner interactions did not. In addition to learner-instructor and learner-content interactions, Alqurashi (2018) indicated the value of self-efficacy in determining student learning in distance education. While the importance of learning content is obvious and paramount in education, the findings pointing to the higher importance of learner-instructor interaction than learner-learner interaction highlighted the need for instructors to find ways to really engage with the students and enhance distance learning.

Interactions initiated by the instructor to the learner can take many forms, from relaying information, providing inspiration and motivation, to offering constructive feedback on students' works (Abuhassna & Yahaya, 2018). Concomitantly, learners can also initiate interaction to the instructor in the form of inquiries involving the lessons. These interactions represent valuable exchanges that may determine the amount and quality of lessons that students learn. Kaufmann and Vallade (2020) agreed that, when considering student outcomes such as learning, focusing on learner-instructor interaction is crucial. In addition, instructors, as facilitators of the online classroom have the power and responsibility to foster a sense of community and belonging so as not to exclude any student (Bolliger & Martin, 2018). Fostering this sense of community and enhancing the

social aspect of online learning is part of the interaction that may be initiated by the instructor.

The importance of the learner-instructor interaction has been highlighted as a way to improve not only student outcomes but also their satisfaction with their online education (Gavrilisr et al., 2020). This is especially true for the online setting wherein transactional distance is made wider by the spatial and temporal distance (Best & Conceição, 2017). Best and Conceição, who examined a multi-institutional blended learning environment, were able to obtain student perceptions regarding the transactional distance impact on their satisfaction. The blended learning environment involved one to two weeks of FTF seminars per semester, and the rest of the semester online via Moodle. Moodle is a free web-based learning platform that incorporates multiple tools such as forums and chats. Participants were graduate level students from various countries. Survey results revealed that students were mostly dissatisfied with the learner-instructor interactions within the online elements, but not with the FTF elements of the blended learning setup (Best & Conceição, 2017). Rabinovich et al. (2017) also investigated transactional distance in the graduate level; however, their study involved group comparisons and synchronous online learning. They aimed to find which type of interaction was the most significant for each group of students in influencing transactional distance. For the FTF group, learner-instructor interaction was the least significant out of the three main types of interaction; however, in both blended and purely online learning groups, learner-instructor interaction was a significant factor in increasing

24

transactional distance (Rabinovich et al., 2017). These findings emphasized the importance of learner-instructor interaction in online learning.

Other researchers have expressed contrasting statements, reducing the importance of learner-instructor interaction. Since the emergence of new educational theories and technological advancements, the educational paradigm has shifted from instructor-centered to student-centered (Aliabadi & Zare, 2017), which increases the level of learner autonomy. Students are given more opportunities and responsibilities to take charge of their own education (Abuhassna & Yahaya, 2018; Aliabadi & Zare, 2017). Bolliger and Martin (2020), who investigated engagement factors to validate a new instrument, found that, while all types of interaction were deemed meaningful for online learning, learner-learner interaction appeared to be the strongest factor. They concluded that peer engagement or learner-learner interaction may indeed be considered more meaningful as it is more relevant in enhancing the sense of community, which then reduces the psychological aspect of distance in online learning (Bolliger & Martin, 2020). Regardless of which type of interaction is the most significant for online learning, instructors must still do their best to provide the most engaging online learning environment as possible to decrease transactional distance and improve student learning.

Reducing transactional distance in online education may be more challenging than it appears. Previous researchers have defined certain barriers to interaction that increase transactional distance. Communication barriers, for instance, are commonly experienced in online learning (Abuhassna & Yahaya, 2018; Aloni & Harrington, 2018). Social cues

25

such as facial expressions are often absent in online learning and may lead to misunderstandings between learners and instructors (Aloni & Harrington, 2018). Furthermore, delayed responses in asynchronous online learning may also cause misunderstandings that further increase transactional distance (Aloni & Harrington, 2018; Sato et al., 2017). Després-Bedward et al. (2018) and Naidu (2017) further indicated that these misunderstandings and lack of engagement were risk factors of student attrition. Contrastingly, instructors engaging with their students made the students feel like they are achieving their learning outcomes and thus inspires them to engage even more with the course (Bolliger & Halupa, 2018). Interestingly enough, Gavrilisr et al. (2020) found that gender may play a vital factor in determining transactional distance. Women, who were claimed to require more personal interaction, appeared to have higher perceptions of transactional distance, particularly in terms of learner-content and learner-instructor interactions (Gavrilisr et al., 2020). Considering these barriers, possible outcomes, and factors, reducing transactional distance may be a complicated and difficult task but may also be rewarding in terms of student outcomes.

Some researchers have indicated possible ways to reduce transactional distance. For instance, Yilmaz and Karaoglan Yilmaz (2019) suggested that assigning roles to students may allow them to engage in online learning more, and in turn, reduce their perception of transactional distance. Roles such as starter, moderator, arguer, source searcher, and summarizer were recommended to allow smooth and consistent flow of discussions, particularly for asynchronous online learning (Yilmaz & Karaoglan Yilmaz,

26

2019). Aside from assigning roles, researchers also noted that utilizing video presentations or images were more effective in reducing transactional distance than text-based discussions as they provided more visual stimulations (Karaoglan Yilmaz & Yilmaz, 2020). Levrik et al. (2018), however, noted that recorded video presentations were still highly structured and does not allow for more dialogue. They suggested that synchronous video conferences were the best medium to reduce transactional distance (Levrik et al., 2018). The strategies to reduce transactional distance presented in existing literature were numerous; however, more empirical research is necessary to further refine these strategies and determine how exactly instructors can reduce transactional distance in their respective online courses.

The literature on the theory of transactional distance contained valuable information regarding the elements and principles behind the theory. For this action research study, I utilize these elements and principles as a framework to determine students' perceptions of how misunderstandings, a common occurrence in online learning due to transactional distance, can be lessened to enhance the quality of professor-student communication. The elements of structure, dialogue, and learner autonomy, along with their interrelatedness, are vital points to consider in understanding students' perceptions of their interactions in online learning, and the subsequent misunderstanding that may occur with these interactions. Aside from these elements, another important factor to consider in online learning is social presence. The social presence theory, which serves as the second part of the present study's framework, is discussed in the following section.

Social Presence Theory

Social presence is a construct that describes the perceived realness of an individual within a mediated form of communication (Humphry & Hampden-Thompson, 2019; Short et al., 1976). This sense of realness allows instructors and students to establish trust in each other, which is valuable in any relationship, including teaching relationships (Short et al., 1976). Unfortunately, this sense of realness is not always present, especially in CMC separated by distance. Several factors can affect social presence, including the medium of interaction, participants' behaviors, and other verbal and non-verbal cues (Humphry & Hampden-Thompson, 2019; Kendall & Kendall, 2017; Short et al., 1976). Social presence in online learning can thus be as complex and varied as FTF presence (Humphry & Hampden-Thompson, 2019). As learners and instructors are separated by spatial, temporal, and transactional distances, establishing social presence could help to alleviate the negative effects of these distances and improve learning outcomes and student satisfaction.

Social presence theory gets its roots from telecommunications research (Aliabadi & Zare, 2017). Originally conceptualized in 1976 by Short et al., social presence theory began with the idea that media and technological advancements influenced the processes and qualities of communication (Lowenthal & Dennen, 2017). Short et al. believed that certain media were better equipped at improving participants' perception of realness. Based on this original theory, proponents believed that the effective use of certain technologies was the key to achieving a better social presence (Blayone et al., 2017). This

theory was highly relevant in the 1990s as text-based communication attained a

predominant role in education (Richardson & Lowenthal, 2017). The social presence

theory presented a valuable framework in understanding how the then-novel

technological developments influenced communication and learning.

As theorists expanded and improved upon the theory over time, researchers began

to shift the focus away from the technology or media and more toward the social cues

utilized by the participants (Cherney et al., 2017; Lowenthal & Dennen, 2017). These

newer proponents believed that higher degrees of social cues were necessary to achieve

more enhanced social presence (Aliabadi & Zare, 2017). Expansions of the social

presence theory also led to its inclusion in the Community of Inquiry (COI) framework,

which is often used for online learning research, together with teaching presence and

cognitive presence (Lowenthal, 2012; Richardson & Lowenthal, 2017). Researchers have

further expanded this framework to include instructor social presence, which describes

the overlap of both teaching and social presence (Collins et al., 2019). The continuous

developments of the social presence theory have led to numerous definitions that focus

on divergent aspects instead of a holistic concept of social presence (Cherney et al.,

2017). Nonetheless, many researchers agreed that the instructor plays a major role, as

facilitator, in establishing and enhancing social presence, both theirs and the students',

within online learning environments (Collins et al., 2019; Khalili, 2020; Richardson &

Lowenthal, 2017). While various theorists hold divergent focal points regarding the

definition of social presence, the idea that an individual's realness may be influenced by social cues and the media used is generally accepted.

Researchers also agreed on two concepts that are strongly associated with social presence—intimacy and immediacy (Weidlich & Bastiaens, 2017). Intimacy involves the quality of affiliations within the participants of an interaction (Dahlstrom-Hakki et al., 2020). Social aspects such as humor and personal stories influenced the concept of intimacy. Short et al. (1976) asserted that maintaining an optimal level of intimacy called equilibrium was vital in an interaction. Behaviors such as eye contact and smiling, and other body language cues are used to communicate intimacy and maintain equilibrium (Short et al., 1976). Conversely, immediacy involves the latency between the exchanges in the interaction (Dahlstrom-Hakki et al., 2020). Taking longer times to respond in an interaction translates into a low level of immediacy and may reduce social presence. Additionally, approachability and having similar personalities also influence immediacy in interactions (Anumudu et al., 2020). Aside from the above factors, further evidence on how to improve intimacy and immediacy in interactions, particularly in online learning, would be highly beneficial for social presence research.

Following the original perception of social presence theory, researchers continue to follow technological advancements to find the best media for improving social presence. Humphry and Hampden-Thompson (2019) contended that synchronous technologies, rather than asynchronous ones, generally allowed for better social presence. They further noted that video conferencing was the best medium for social presence as it

provided real time visual interaction (Humphry & Hampden-Thompson, 2019). The

ability to see and hear each other at the same time meant that participants could more

easily pick up social cues between each other, hence the increased social presence

(Cherney et al., 2017; Peterson et al., 2018). The immediacy of synchronous media and

the intimacy of visual and audio technologies may indeed be the key to achieving the

most enhanced social presence for online learning.

Previous researchers have tested their theories on certain technologies for

improving social presence. In a quasi-experimental study, Seckman (2018) compared

interactive video communications (IVC) and text-based feedback used in an online

course for undergraduate and graduate nursing students. Using the Community of Inquiry

Questionnaire (COIQ), they found that IVC was more strongly correlated with all three

types of presence in the COI framework, including social presence. The IVC allowed

students and instructors to have bidirectional interaction with visual, auditory, and

interactive components, allowing them to observe social cues that were unavailable in the

text-based setup. Furthermore, their participants indicated that web conferencing was the

most effective medium for improving social presence (Seckman, 2018). Humphry and

Hampden-Thompson (2019) examined the effects of a primarily audio-based one-on-one

tuition on primary school children. The program they examined did not allow the student

and the tutor to see each other's faces. Interestingly, they found that even audio-led

synchronous media allowed for a strong sense of social presence as students picked up on

their tutors' tone and range of voice, along with other verbal cues; however, there were

31

negative connotations attached to the strong social presence as it also conveyed the tutors' negative emotions such as aggressiveness (Humphry & Hampden-Thompson, 2019). While these findings revealed that synchronous technology may indeed improve social presence, the negative connotation found in social presence indicated that social presence, in itself, is not always beneficial. This supports the argument of later theorists that social cues may be more valuable as factors of positive social presence.

Furthermore, synchronous learning setups may not always be possible. Under certain conditions, some instructors are forced to utilize asynchronous media for online learning. Since asynchronous media represent unidirectional communication that is often received at a later time, its immediacy factor may be reduced, especially when the participants of the interaction do not regularly check the media (Anumudu et al., 2020). Instructors using asynchronous formats often rely on written communication, which can also affect the intimacy factor of social presence (Seckman, 2018). Collins et al. (2019) conducted a quasi-experimental study comparing a video-based and a text-based format for class announcements. Their results surprisingly revealed no difference in social presence between the two formats. Moreover, students receiving the text-based announcements appeared to have significantly higher levels of engagement. The authors argued that other factors such as demographics and student expectations may be at play (Collins et al., 2019). These findings once again point to the possibility that the improvement of social presence rests on more than just the technology utilized. Even

advanced technologies that allowed visual and audio communication, when not utilized

properly, may not be effective tools for online learning.

Aside from the factors for social presence cited earlier, researchers have explored

other factors and strategies that may help enhance social presence in an online classroom.

Lowenthal and Dunlap (2018), for instance, gathered graduate students' perceptions

regarding which techniques they believed were effective in establishing social presence.

Several techniques and strategies were utilized over the course of the study so that

students could determine which ones were effective. The student participants reported

peer discussions and instructor feedback to be vital factors that improved social presence

and allowed them to feel connected. Early in the study, participants stated that the use of

social media and creative activities such as music activities increased social presence and

allowed them to bond together as a class; however, during the later phases of the study,

students rated social media use as the least effective strategy when compared to other

strategies. Specifically, for instructor social presence, students mostly reported one-on-

one interaction techniques, such as detailed feedback or phone calls, as the most effective

strategies. Overall, Lowenthal and Dunlap (2018) noted that students had different

individual needs when it came to social presence and that instructors must utilize a

myriad of techniques and strategies to meet these various needs of social presence.

Kendall and Kendall (2017) presented a unique method that may help to improve social

presence in online learning. They averred that storytelling, done either synchronously or

asynchronously, incorporates realism into lessons, hence strengthening social presence.

Telling stories in a vivid, personal, elaborate, and episodic way would allow students to feel that the story is real and better retain the lessons incorporated within them. The use of flashbacks in stories to highlight certain key points or elements veers away from the linear descriptions of traditional methods such as case narratives. The use of characters within a story may also encourage students to engage with them more as these characters "come to life" (Kendall & Kendall, 2017, p. 74). Exploring unique ways to enhance social presence, such as the use of storytelling, may help instructors establish a level of social presence that is optimal for all their students.

Although social presence theory is well-explored in research, it is not free from criticism. Weidlich and Bastiaens (2017) stated that social presence contributed only minimally to student outcomes and satisfaction. Weidlich and Bastiaens claimed that this non-significant finding may be due to the convoluted definitions of social presence, which was also emphasized by Cherney et al. (2017). Lowenthal and Snelson (2017) collated several definitions of social presence used by previous researchers, the top three most common focal points of definitions in research included projecting oneself (44%), followed by being real (38%), and then salience (36%), similar to the original concept by Short et al. (1976). More nuanced perceptions of social presence involved a sense of connection, belonging, and community, aspects that are often confused with social space. Lowenthal and Snelson (2017) further contended that social presence may not actually be needed in online learning, especially since most students are already naturally social beings. The various definitions of social presence may indeed lead to the inconsistent

findings and ideas stated in this section. Nonetheless, existing evidence regarding social presence and the role of the instructor in establishing it point to its possible value in online education (Humphry & Hampden-Thompson, 2019; Peterson et al., 2018; Seckman, 2018). As the field of education moves toward mostly virtual classrooms, it is important to determine the factors that would keep such setups as real as possible.

The previous theory discussed, transactional distance theory, emphasized the issues of transactional distance in online learning. The social presence theory may serve as a valuable framework for potentially reducing the transactional distance and its detrimental effects on student outcomes and satisfaction. For this action research study, I utilize the social presence elements of intimacy and immediacy to frame how students perceive professor-student communication to be improved in online learning. Both the theory of transactional distance and social presence theory present relevant elements and principles for online learning, which is starting to predominate over FTF learning as online learning continues to rise based on the U.S. Department of Education's National Center for Education Statistics. With the knowledge and evidence surrounding these two theories presented above, the following section moves to a discussion of online learning in general.

Online or Distance Learning

This action research study focuses on a form of education that has become more and more popular over the past few decades, online learning. Online learning is generally defined as instruction mediated by digital technology to promote learning (Mayer, 2018).

Statistical evidence from the year 2016 showed that 6,359,121 students, which comprised 31.6% of all students, in the United States were taking at least one online course, increasing by 5.6% from the previous year (Seaman et al., 2018). Although this form of education has been around for years, the research surrounding it has been variable in terms of the level, audience, and approach utilized (Kendall & Kendall, 2017). Generally, the prominent belief is still that FTF learning is superior to online learning.

While it is true that online learning has several disadvantages, it is still undergoing development, and researchers are continuously seeking ways to overcome these disadvantages. The concept of learning itself is also evolving from early behaviorist approaches in the 20th century to more recent constructivist perspectives (Mayer, 2018). Continuous technological advancements also provide more media options for learning. The advent of the internet in the 1980s and 1990s sparked much attention to the educational researchers and practitioners as a potential pedagogical tool (Muljo et al., 2017). The early 2000s saw to the introduction of online degrees and courses, and by the mid-2000s, researchers recognized the prominence of the new media and began tracking the number of online students at 3.5 million in the United States alone (Vivolo, 2019). With the accessibility of Wi-Fi in the late 2000s, this number grew to five million. In the 2010s, developers introduced massive open online courses (MOOC), which allowed for inexpensive online courses, and HTML5, which allowed mobile-accessible learning (Vivolo, 2019). Further developments to online learning include the introduction of virtual reality, intelligent instructional systems, and geographic location mapping (Mayer,

2018). This brief history of online learning revealed how fast technological innovations can be made, and in turn, how much online learning can evolve.

Evidence on Online Learning

As the number of online students continue to increase, the question remains as to whether it is an effective form of education. Abuhassna and Yahaya (2018) aimed to determine the association between online learning and students' achievement, autonomy, and satisfaction. Their experimental study was conducted in Palestine, with 100 students, 50 of which used the Moodle software in addition to FTF meetings for their course and 50 of which served as the control group and had FTF courses. Based on their findings, Abuhassna and Yahaya indicated that online learning was equally effective as FTF learning in terms of student outcomes. They also noted that the technology utilized in their study allowed for enhanced learner-instructor and learner-learner interactions. Additionally, Abuhassna and Yahaya (2018) indicated that the sense of anonymity brought by online learning was advantageous for shy and anxious students. In Sato and Haegele's (2019) explanatory multiple case study, the aspect of anonymity was also put forward as an advantage of online learning. A participant emphasized how the online setup reduced the risks of racial and gender stereotyping. In their experience, students were more careful and sensitive with communication in the online setup, enabling a greater sense of equality (Sato & Haegele, 2019). Aside from the convenience offered in online learning, it appears that students highly valued its anonymous nature, which may be an advantageous factor for communication.

37

Findings from other studies in existing literature suggest that online learning may not necessarily relieve students of anxiety or negative emotions. A participant from Phirangee and Malec's (2017) study expressed a feeling of otherness due to language barriers in online learning. Even though students were all bilingual, they spoke different languages, which fostered a sense of disconnection from each other. The participant reported an experience of incongruence and a lack of community that negatively affected their online learning (Phirangee & Malec, 2017). Hartwell (2017) likewise stated that the distance in online learning may influence student engagement, reducing their willingness to participate in the class. This lack of engagement may further isolate students from each other and from the instructor, which also creates a sense of otherness. Aside from the feeling of otherness, students who are not used to the online setup may also experience feelings of anxiety as they transition from FTF classes to online classes (Sato & Haegele, 2019; Sato et al., 2019). Chen et al. (2020), who investigated the transition of dental medicine students from FTF to synchronous virtual learning formats, also reported an increase of burnout level in students who underwent online learning. The above findings revealed that certain aspects of online learning may be disadvantageous for some students as it is advantageous for others.

The inconsistencies regarding the benefits and disadvantages of online learning have led researchers to explore factors that may influence students' perceptions and experiences of online learning. Naidu (2017) noted that, just as FTF classes can be varied and require different provisions, online learning formats may also have varied contextual

factors that would require different provisions. In other words, online learning is just as, or maybe even more, complex as FTF learning. Seckman (2018) alleged that age and generation were vital contextual factors that influenced student preferences for online learning. While younger students may appreciate more innovative ways of communication, such as social media, older students may seek more traditional modes such as email and more detailed discussions (Seckman, 2018). Student characteristics may be vital contextual factors not just for preference of online learning, but also for the mode of communication used in such setups.

Aside from student-related factors, researchers have highlighted the vital role of the instructor in online learning. The significance of the instructor in online learning was observed in Goode et al.'s (2018) study comparing blended learning and FTF learning on undergraduate psychology students in Georgia. Four different instructors were included in their study to teach in both blended and FTF formats. Their results revealed a small but significant difference in quantitative skills between students in blended learning and those in FTF formats. The key finding from their study, however, was that a larger variability was found between instructors, such that students under one instructor in both blended and FTF learning scored significantly lower than students under other instructors. Certain choices made by the instructors, such as the form of assessment (homework or in-class test), may have also influenced the significant results. Goode et al. (2018) thus contended that the instructor and their assessment method choices may be more important contextual factors than the actual format of the course. Alternatively,

Vallade and Kaufmann (2018) reported that the role of the instructor and its influence on student outcomes may be linked to the instructional format. They noted that instructor cues were more noticeable in online learning than in FTF learning, as students compensated for the distance by paying closer attention to these cues. They elaborated by providing the example of using inappropriate language, which may be overlooked in a highly stimulating FTF classroom, but not in an online video or text-based message with limited cues. The strength of such cues may then be vital contextual factors influencing communication in online learning.

Other researchers have explored the instructors' roles in the online learning setup. Martin et al. (2018) indicated two major roles that instructors had to fulfill in online learning. First, the instructor must act as designer, designing and organizing the course, including the media and tools utilized. Their second role involves being a facilitator, actively engaging students in the process of online learning (Martin et al., 2018). The second role, in particular, was cited as a difficult task, as instructors had to keep students interested and motivated to learn from a distance, in a relatively novel environment with access to social cues (Sato et al., 2017). Dockter's (2016) formative work on distance education highlighted challenges experienced by instructors in online learning. They noted that both students and teachers both had clear expectations of their roles in FTF learning as traditionally established over decades; however, with the more novel online learning format, especially with the more student-centered approaches, roles become more ambiguous. This ambiguity translates into instructors' behaviors in the online

courses and may act as barriers to their communication with students (Dockter, 2016).

Within this relatively new form of learning, establishing the ideal role of instructors may

allow for smoother communication and more optimal interactions between instructors

and learners.

In this section, several works in the literature presented evidence regarding online

learning and how students and instructors perceived it. The inconsistencies in the findings

regarding its effect on student outcomes have led to explorations of possible contextual

factors that may influence these effects. Student factors, such as their age and digital

fluency, are some of the possible contextual factors. These factors, however, may be

difficult or impossible to control. Notably, researchers recognized the significant factor of

instructors and their roles in online education (Dockter, 2016; Goode et al., 2018; Martin

et al., 2018). How instructors communicated with students in online learning may be a

contextual factor that can be more easily controlled and utilized to improve online

learning. The two main types of communication utilized in online learning, synchronous

and asynchronous settings, are discussed further in the following section, along with

researchers' recommendations on how to improve communication within these settings.

Communication in Asynchronous Settings

The concept of communication requires an exchange between two or more

parties. Such an exchange can happen at the same time or asynchronously, with temporal

gaps between the message given and the message received. Online learning in

asynchronous settings meant that the instructor and the students could leave messages,

either written or in audio or video formats, for the other party to view or listen to at their own convenient time (Aloni & Harrington, 2018). This flexibility of asynchronous settings not only removes the barrier of scheduling conflicts, but also allows students more time to think more critically about their responses, and also allows the instructor more time to review lessons, student submissions, and other tasks, reducing the risk of oversights (Warr & Sampson, 2020; Wolverton, 2018). Asynchronous settings are also more student-centered as students can progress through their education at their own pace (Yilmaz & Karaoglan Yilmaz, 2019). Considering these benefits of asynchronous settings, it is not surprising why online learning is generally perceived as asynchronous rather than synchronous interactions (Peterson et al., 2018). Instructors who choose to utilize asynchronous communication in their online courses must be aware of these benefits and how to optimize them.

The principles of asynchronous modes of learning mostly follow Socratic teachings. The Greek philosopher, Socrates, believed that learning can be achieved through guided discussions wherein the learner forms their own conclusion from the discussions instead of the instructor directly providing all the information (Aloni & Harrington, 2018). This mode of learning is equivalent to the typical use of discussion boards in asynchronous settings. The asynchronous setting promotes a student-centered environment where rich communication between students and with their instructor can take place (Hajibayova, 2017). Although the Socratic features of asynchronous settings appear to be beneficial for online learning, Martin and Bolliger (2018) presented

contrasting evidence in their study on student perceptions of engagement strategies used within the online learning environment. They surveyed 155 students from the United States who were enrolled in online graduate programs. They explored which strategies were found to be the most and the least valuable in promoting student engagement. The responses revealed that asynchronous discussion forums were perceived as the least valuable strategy, especially when the discussions were unstructured. Students found that reading and responding to several of their classmates' posts were time-consuming and had minimal value in their learning (Martin & Bolliger, 2018). Discussion forums may not work for every student, but it does present an option for Socratic learning.

Researchers have enumerated other challenges associated with asynchronous settings. Generally, the lack of social cues and real-time interaction in asynchronous settings are considered challenges as they limited the communication between the instructor and the learner (Kaufmann & Vallade, 2020). In Aloni and Harrington's (2018) research, they noted that the asynchronous setting often led to low student engagement and participation. They stated that the structure and prompts provided by the instructor may influence this low level of student engagement. Initiating and maintaining a high level of conversation in discussion forums can be challenging for instructors. Furthermore, they noted that instructors may have difficulty facilitating forum discussions without being too dominant that it hinders student participation (Aloni & Harrington, 2018). Instructors who use asynchronous modes of communication in their courses are likely to encounter these challenges at some point.

43

In addition to lack of student engagement, the limited interaction available in asynchronous settings increases the chances of miscommunications or misunderstandings. Zakharov and Maybee (2018) reported that unclear expectations and lack of interactions in asynchronous settings were detrimental to students. Students may be confused by unclear instructions or lessons and may have difficulty contacting the instructor for in-depth explanations in asynchronous settings (Zakharov & Maybee, 2018). Similarly, Goode et al. (2018) found that a mismatch in students' and the instructor's expectations negatively influenced student outcomes. Vallade and Kaufmann (2018) agreed and noted that lack of clarity, inconsistency, and confusing course structures were detrimental to student learning. In Martin et al.'s (2018) study, instructors utilized a visual interactive syllabus that was initially suggested to be appealing; however, results from their survey data revealed that students found the interactive syllabus to be unhelpful. They noted that clear student-centered syllabi with hyperlinks would be more helpful for students to find class expectations and information (Martin et al., 2018). Based on the findings above, a major challenge for instructors in asynchronous settings would be making clear expectations, course structures, and syllabi that students could easily access and comprehend so as to avoid misunderstandings.

Strategies for Asynchronous Communication

To meet the challenges cited above researchers have presented recommendations based on studies that may help instructors enhance communication within their asynchronous courses. Among the most frequently cited strategy or recommendation

44

revolves around the issue of course expectations and structure. Several researchers recognized and highlighted the aforementioned challenge of unclear expectations (Aloni & Harrington, 2018; Dunlap & Lowenthal, 2018; Kaufmann & Vallade, 2020; Khalili, 2020; Weidlich & Bastiaens, 2019). Khalili (2020), who presented reports regarding the sudden transition to online education due to the COVID-19 pandemic, stated that it was the instructors' responsibility to structure their courses as methodically as possible to accommodate this sudden transition, and to provide clear guidelines and regulations to their students who may have trouble adjusting to online learning in such a short time. Kaufmann and Vallade (2020) emphasized the importance of planning the course structure and media ahead of time. Instructors should find the appropriate media and tools that would suit the planned course lessons, assignments, and assessments (Kaufmann & Vallade, 2020). Even before the actual course begins, instructors already have a responsibility to plan for what they think would be the most optimal forms of communication for the course.

At the onset of the course itself, students enter the course with minimal ideas about what to expect. Aloni and Harrington (2018) noted that many students lacked exposure to the asynchronous setting of online discussion forums and may not appreciate its utility. Aloni and Harrington recommended beginning the course by letting the students understand the purpose, reason, and benefits of online learning and discussion forums. A detailed grading rubric for the course assignments, including the course timeline and deadlines, would serve as a clear written form of communicating the course

expectations (Aloni & Harrington, 2018; Martin & Bolliger, 2018). Dunlap and

Lowenthal (2018) emphasized the value of accessibility in asynchronous settings,

suggesting that learning resources and materials be just a single click away so that

students could easily access them. In line with the value of student-centeredness in

modern education, Yilmaz and Keser (2018) highlighted the importance of metacognition

or students' own power over their learning. Allowing students to know their own

progress may help improve their learning outcomes. Instructors could provide

metacognitive support to students by allowing students to individually plan, monitor, and

evaluate their own learning. In the asynchronous setting, students should be able to

access records of these metacognitive supports to continuously re-evaluate their learning

processes (Yilmaz & Keser, 2018). Availability of information on course expectations

and student progress may not be effective if students were unaware of such functions

(Weidlich & Bastiaens, 2019). Weidlich and Bastiaens conducted a quasi-experimental

study on 143 distance education students from various courses and found that many

students (50%) did not access the information posted by the instructor when the course

started. Such findings highlighted the need for instructors to not only provide access to

course expectations and information, but also to emphasize their importance to students

early on in the course (Weidlich & Bastiaens, 2019). Instructors could draw from these

recommendations to inform their strategies on communicating course expectations in the

asynchronous setting.

In line with communicating expectations, several researchers also emphasized the need to communicate deadlines and set reminders for students (Bolliger & Martin, 2018; Buelow et al., 2018; Dunlap & Lowenthal, 2018; Evans et al., 2017). Many of Vallade and Kaufmann's (2018) student participants expressed frustration when instructors posted assignments without setting the due date until it was near. Some students even reported instructors frequently changing the due dates. Consistency in setting and announcing deadlines is important for students in asynchronous settings, especially those who lead busy lives (Vallade & Kaufmann, 2018). In Buelow et al.'s (2018) survey study of university students, they also found that students became overwhelmed and frustrated at the amount of workload, unclear instructions, and poor conditions of learning and independence. The authors noted that setting manageable expectations, as well as clear directions and deadlines, with the students may help alleviate the distress felt by the students (Buelow et al., 2018). Dunlap and Lowenthal (2018) also recommended planning course requirements ahead of time with the students. Including the students in planning for deadlines may help to establish more workable timelines and amount of workload, thereby reducing the risk of misunderstandings in asynchronous settings.

Even when students actively participated in course requirement planning, there is still a risk that they may forget deadlines and fail to meet them. Evans et al. (2017) encouraged instructors to provide reminders to students regarding learning activities and deadlines. This was especially important in asynchronous settings where students did not meet regularly. Instructors may underestimate the value of checklists, as was observed in

Bolliger and Martin's (2018) study, where students significantly rated checklists higher than instructors did as valuable strategies for online learning. Checklists provided quick overviews of tasks and their deadlines for students to stay on track in the course (Bolliger & Martin, 2018). These communication strategies for asynchronous settings may help in establishing the immediacy factor of social presence and enhancing learner-instructor communications.

Just as various FTF learning methods may not work for all students, researchers also highlighted the nuances of online students. For instance, Dockter (2016) indicated that students may differ in terms of reading and writing ability, which are vital skills for text-based asynchronous settings. Dockter consequently recommended switching between various forms of communication to avoid disadvantaging certain students. A participant in Sato and Haegele's (2019) study likewise indicated the need for various assessments that relied on more skills other than writing. Dunlap and Lowenthal (2018) concurred, stating that instructors should utilize different forms of learning to meet the different types of learning styles and preferences. Instructors could even allow students to choose their own types of activities for their assignments and assessments (Dunlap & Lowenthal, 2018). Racheva (2018) recommended interchanging individual work, small group works, and whole class activities as some students excelled at individual work while some preferred collaboration. Hajibayova (2017), however, stated that instructors need to be careful when including collaborative projects in their online courses. In their survey study, majority of the graduate students found no interest (32.43%) or only limited

interest (29.73%) in collaborative projects. Students expressed issues regarding group members' commitment and the risk of freeloading, especially in asynchronous online settings where students did not meet FTF (Hajibayova, 2017). Collaborative projects may be truly difficult particularly for busy students who also work full-time. In terms of communication satisfaction, Anumudu et al. (2020) noted that individuals who shared similar personalities represented the immediacy factor in social presence, thereby enhancing communication between them. While instructors may not have control over their students' personalities, they could try to adapt to their students' personalities as the course progresses. Knowing and meeting students' needs could possibly be beneficial for smoother communication between instructors and students.

Although a variety of assessments are recommended for asynchronous settings, some researchers have suggested that some forms of assessment may be better than others. Aloni and Harrington (2018) indicated that using higher-level questions that required critical thinking, including analysis, synthesis, and evaluation, as well as the possibility of multiple answers elicited better responses that reflected students' learnings. Such high-level questions were well-suited for the asynchronous setting, as students would have more time to formulate their answers (Aloni & Harrington, 2018). Similarly, Buelow et al. (2018) recommended formulating questions that required deep explanations, justifications, and rationales from students. Assessments represent vital tools that not only evaluated student learning but may also encourage students in asynchronous settings to read, participate, and learn more (Sato et al., 2019).

Furthermore, instructors may utilize creative means of assessment, such as role-playing, debates, or the use of games, to keep students' interests (Aloni & Harrington, 2018; Holbeck & Hartman, 2018). Instructors in asynchronous settings can draw from a myriad of methods and tools for assessment that can provide variety and promote higher order thinking in students.

The next set of recommendations from researchers involves engagement. Generally, researchers recommended finding the right balance of instructor involvement in discussions, not too much to overtake the discussion, and just enough to keep the conversation going and facilitate learning (Aloni & Harrington, 2018; Karaoglan Yilmaz, 2017; Yilmaz & Karaoglan Yilmaz, 2019). Aloni and Harrington suggested that instructors highlight discussion themes, emphasize important points, correct inaccuracies, and synthesize discussions. In Bolliger and Martin's (2018) study, instructor participants believed that regular posts and emails from instructors represent valuable strategies for improved student engagement. They further noted that using students' names in the discussion forums was also a valuable strategy (Bolliger & Martin, 2018). Regular and more informal communication from instructors may reduce the transactional distance between instructors and students (Dockter, 2016). Using prompts such as "looking forward to your thoughts" in discussion forums motivated students and encouraged them to participate more in the discussions (Evans et al., 2017, p. 776). Establishing a bit of personal touch and positive prompts when engaging students in discussion may help them feel more at ease in the asynchronous setting.

50

Consistency is a vital part of student engagement. Vallede and Kaufmann (2018), who investigated the perceived instructor misbehaviors in university online courses, found that lack of engagement by the instructor was considered a misbehavior. A participant shared how they had to repetitively remind their instructor to post their grades and update the class schedule. Participants emphasized the value of consistency in communicating in asynchronous settings, something that the instructor may overlook due to the lack of regular meetings. Additionally, while students appreciated more instructor engagement, some students emphasized the public nature of discussion forums, encouraging instructors to be more mindful and sensitive in posting criticisms and negative comments (Vallade & Kaufmann, 2018). Kara and Can (2019) and Robinson et al. (2017) found that students appreciated scaffolding or guiding students through the coursework. This strategy entailed providing much guidance at the start of the course and gradually reducing guidance while still consistently monitoring students' work as they become more independent (Kara & Can, 2019). Because of the independent nature of asynchronous settings, it is important to lay out a strong foundation of the lessons early on and consistently guide students as the course progresses. A participant from Robinson et al. (2017) likened this strategy to teaching students how to swim step by step rather than just throwing them into a pool. When it comes to asynchronous discussion boards, the research revealed that instructors needed to be consistent in communicating and guiding students.

Engagement may also be influenced by course structures and media use. Chen et al. (2020) introduced the concept of Zoom fatigue and stated that synchronous class discussions, such as Zoom meetings, were best conducted at the beginning of the day when students are not exhausted. Asynchronous activities may then be conducted at the latter part of the day. This type of setup was meant to bring out higher levels of student engagement in each activity (Chen et al., 2020). Another consideration made by instructors was the availability of media for both formal and informal interactions (Kaufmann and Vallade, 2020). They indicated that informal interactions were still important as the social aspect in online learning. The authors also recommended the use of discussion prompts that related the course content to students' personal experiences to further promote student engagement (Kaufmann & Vallade, 2020). Designing a course structure with such spaces and activities seemingly increase student engagement, and in turn, enhance communication in online classes.

Another frequently discussed issue in asynchronous online settings is the value of feedback. A large majority of researchers found evidence that students in asynchronous settings appreciated prompt or timely feedback from their instructors (Alqurashi, 2018; Anumudu et al., 2020; Buelow et al., 2018; Kara & Can, 2019; Martin et al., 2018; Sato & Haegele, 2019; Schreiber & Jansz, 2020; Terras et al., 2018). Després-Bedward et al. (2018) found in their qualitative study that students expressed high levels of satisfaction in timely feedback provided by instructors. Lim (2017) noted that as students waited for feedback, they can grow more anxious over the unclear terms. This was echoed by

52

participants in Vallade and Kaufmann's (2018) study, noting that delayed feedback caused them stress. The slow feedback may also be misinterpreted as the instructor's lack of concern over the students and their work, creating misunderstandings (Seckman, 2018). Feedback should also be more detailed and, if possible, personalized, rather than vague and scripted to increase the instructor's authenticity and improve their communication (Kaufmann & Buckner, 2018; Martin & Bolliger, 2018). Including future recommendations for the students within the feedback was also considered helpful for learning progress (Sato & Haegele, 2019). The immediacy factor of providing prompt or timely feedback is perhaps the most common recommendation given in the research surrounding asynchronous online settings.

Feedback can be given in different ways other than text-based responses. Participants in Martin and Bolliger's (2018) study appreciated video or audio recorded feedback more than text based. Sato et al. (2017) recommended feedback via phone conversations. Instructors should also consider more personal means of communication such as through instant messenger or video chats to show their interest in the student's work and enhance their interaction (Dockter, 2016). Hajibayova (2017) found that being able to contact the instructors regarding feedback or advice was particularly important to students. Even in asynchronous settings, instructors should provide opportunities for students to clarify or inquire about the feedback given (Dunlap & Lowenthal, 2018). Providing feedback appears to be an important aspect of communication in asynchronous online settings. As such, instructors should put more effort in ensuring that students

receive timely and constructive feedback, as well as opportunities to discuss the feedback.

Researchers also emphasized the importance of instructor approachability, especially in asynchronous settings where communication is temporally distant. Feelings of isolation and loneliness within the asynchronous setting may be alleviated with positive interactions with the instructor (Kaufmann & Vallade, 2020). Anumudu et al. (2020) found that approachability in email communications significantly and positively affected students' perception of satisfactory communication. Kaufmann and Buckner (2018) indicated that building referent power or students' perceptions of instructor charisma was just as important as building expert power or students' perceptions of instructor's expertise. Sharing personal stories was recommended as a strategy for increasing referent power as it humanizes the instructor in online learning (Kaufmann & Buckner, 2018). At the same time, getting to know students on a personal level was considered a helpful strategy for instructors to show that they cared about their students (Martin & Bolliger, 2018; Robinson et al., 2017; Sato et al., 2017; Terras et al., 2018). The use of social media may also enhance instructors' approachability (Quong et al., 2018); however, some students expressed how social media may be too personal and might create distractions that hindered learning (Hajibayova, 2017). Participants in Evans et al.'s (2017) study recommended injecting brief informal and social elements in discussions such as asking how the students' weekend went or wishing them luck in their other classes. These personal and social interactions were considered vital early in the

course to build rapport with the students and increase their comfort level in the class (Dunlap & Lowenthal, 2018). Unsurprisingly, researchers also found that positive and encouraging comments by the instructor were effective for improving approachability and learner-instructor interactions (Evans et al., 2017; Vallade & Kaufmann, 2018). Based on these findings, instructors should increase their level of approachability with some informal, personal, and social interactions that showed their interest and care for the students, as well as with encouragement.

Some class discussions may contain sensitive or controversial issues that may be difficult to tackle within an asynchronous setting. Social justice issues involving topics such as police reform, criminal justice reform, race, ethnicity, gender, inequality, and inequity among people of color were valuable in creating a culturally competent education (Sato et al., 2019). Buelow et al. (2018) indicated that such issues should not be ignored or avoided, but instead, discussed appropriately and respectfully. They stated that instructors should foster an environment where students could express their opinions and engage in courteous but authentic conversations (Buelow et al., 2018). Sato et al. (2017) likewise stated that instructors needed to facilitate discussions such that critical exchanges were presented within a socially amicable atmosphere. As facilitators in an asynchronous online course, instructors should make sure that students are able to express their thoughts and ideas freely and appropriately.

Overall, the literature on asynchronous settings of online education contained valuable evidence on its benefits and challenges. Within this setting, communication may

be more difficult due to the unavailability of social cues (Kaufmann & Vallade, 2020; Zakharov & Maybee, 2018). As such, researchers have recommended some evidence-based strategies to enhance communication in this setting such as: providing clear and accessible information on course expectations and deadlines (Bolliger & Martin, 2018; Evans et al., 2017; Goode et al., 2018; Kaufmann & Vallade, 2020; Khalili, 2020); being creative with lessons, assignments, and assessments (Aloni & Harrington, 2018; Holbeck & Hartman, 2018; Sato & Haegele, 2019; Sato et al., 2019); providing prompt, consistent, and constructive feedbacks (Alqurashi, 2018; Anumudu et al., 2020; Després-Bedward et al., 2018; Dockter, 2016); and increasing their approachability with informal, personal, and social interactions (Anumudu et al., 2020; Evans et al., 2017; Kaufmann & Buckner, 2018; Kaufmann & Vallade, 2020; Sato et al., 2017; Terras et al., 2018). These strategies were identified to reduce misunderstandings and improve immediacy and intimacy factors in asynchronous settings of online learning.

Communication in Synchronous Settings

Advances in technology have created more opportunities for synchronous settings in online education. Synchronous settings involve live and direct interactions in real-time between students and instructors (Racheva, 2018). This type of setting entails a common schedule and is less flexible than asynchronous settings (Wolverton, 2018). Wolverton noted that synchronous settings were more appropriate for students with flexible schedules and less commitments outside of their education. On the positive side, synchronous settings indicated richer communication and immediate feedback from the

56

instructor (Wolverton, 2018). Instructors of full-time students may consider synchronous settings as an option for their online courses.

Researchers have explored the value and benefits of synchronous settings. Martin et al.'s (2018) open-ended survey respondents indicated that synchronous meetings enabled stronger connections with their instructors. Participants in Yilmaz and Keser's (2017) mixed methods study described synchronous meetings as "interesting and enjoyable" (p. 17). Molnar and Kearney (2017) compared synchronous video conferences and asynchronous discussion boards in their study on undergraduate dental hygiene courses. A total of 15 students participated in both synchronous and asynchronous settings. Molnar and Kearney found that discussions in the synchronous setting contained more messages than the asynchronous setting. They revealed that the spontaneity and informal nature of synchronous settings were more encouraging for student participation (Molnar & Kearney, 2017). Huang (2018) indicated that synchronous settings were especially helpful for improving communicative competence, particularly fluency and pronunciation, in students learning languages. Francescucci and Rohani (2019) noted that synchronous settings may be more reflective of FTF classes and their subsequent student outcomes. The immediacy of synchronous settings allowed prompt responses from instructors and fellow students that reduced the chances of misunderstandings (Peterson et al., 2018). Based on the evidence in the literature, synchronous settings appeared to be a beneficial setting for improved online communication.

57

Despite its numerous benefits, synchronous settings are not free from communication barriers and challenges. Contrary to the findings that synchronous settings elicited more student participation, Hartwell (2017) stated that instructors may still have difficulty encouraging participation beyond passive listening and note-taking in synchronous meetings. Additionally, moderating discussions in synchronous settings may be difficult due to transmission delays or participants speaking at the same time. These issues may further discourage students from verbally participating in the synchronous setting (Hartwell, 2017). For students who are new to online learning, they may experience some form of anxiety in speaking over an unfamiliar medium (Wolverton, 2018). Synchronous audio settings without video were found to induce more anxiety because it limits students' perceptions of their instructors (Humphry & Hampden-Thompson, 2019). Students also reported having difficulty following the discussion flow in synchronous settings as opposed to asynchronous settings where they could easily access the discussion records (Yilmaz & Keser, 2017). These communication barriers represent important considerations that instructors need to make before deciding to utilize synchronous media.

Student preferences play a huge part in the effectiveness of synchronous settings. Bailie (2017), who consulted a panel of online undergraduate students regarding their communication preferences, found that students still preferred email or other text-based communications instead of synchronous web-based media when communicating with their instructors. Students may find the social aspect of synchronous settings to be

unnecessary (Hajibayova, 2017; Martin & Bolliger, 2018). A participant from Martin and Bolliger's (2018) study stated that the synchronous sessions contributed little to their learning and knowledge content acquisition. These findings showed that synchronous settings may not be suitable for all types of students, as some might prefer simply learning course content with minimal social aspects.

Perhaps the most obvious barrier to synchronous settings is its inflexibility. In Bolliger and Martin's (2018) study, an instructor expressed how they had difficulty getting student participation in scheduled synchronous chats since most of their students were employed. Students from the same study actually rated synchronous sessions as the least valuable strategy for online learning (Bolliger & Martin, 2018). Similarly, Kara (2020) noted that the most commonly identified challenge by students in online learning was attending synchronous sessions, as they often encountered scheduling conflicts with their work. Kara also noted that instructors handling large classes had difficulty individualizing interactions and reaching all students.

Another common barrier in synchronous online settings is technical problems. Uncontrollable factors such as connectivity or lack of equipment are common problems that can be frustrating for both students and instructors (Seckman, 2018). As it occurs in real-time, synchronous media require all participants to have stable functions including their software, hardware, and cloud (Olt, 2018). Olt conducted a phenomenological study on the experiences of freshmen undergraduates regarding synchronous settings. Students reported several issues pertaining to their internet connection, power outages, and

59

software or hardware failure, causing them to miss parts of or the whole class (Olt, 2018).

Additionally, synchronous media, such as video conferences, are newer and possibly

more complicated than asynchronous media, which increases the risk of students having

difficulty navigating them (Weidlich & Bastiaens, 2018). While the technical issues may

be beyond the control of the instructor, it is important for the instructor to be aware of

their students' limitations when it comes to technology and be knowledgeable about the

technologies they choose to utilize.

Strategies for Synchronous Communication

Similar to asynchronous settings, it is also important to establish communication

strategies for the synchronous settings to alleviate the barriers associated with these

media. Also like asynchronous settings, instructors using synchronous media should set

up clear and established guidelines at the onset of the course to allow for smooth-flowing

communications during the synchronous sessions (Wolverton, 2018). Instructors should

also set the meeting structure so that all students get a chance to participate. Setting rules

such as muting students' microphones and pressing "raise hand" before participating is

important for having an organized flow of discussion in synchronous settings (Wolverton,

2018). Racheva (2018) recommended providing opportunities for student participation

every three to five minutes. Activities such as brainstorming, small groups discussions,

and other individual tasks can be used to elicit student participation (Racheva, 2018).

Contrary to Wolverton's (2018) recommendation, some students in Olt's (2018) class

were against the rule of muting their microphones. They argued that the raise hand option

in most synchronous software did not always catch the instructor's attention, and that some students felt intimated to participate because of this rule. Some students even argued that the mute option was not reflective of FTF classes, thus reducing the sense of reality in their online classes. Another student stated that muting allowed them more liberty to become distracted by their physical environment rather than focusing solely on their classes (Olt, 2018). It appears that students had their own personal preferences in terms of the rules of synchronous settings. Instructors should thus include students in establishing the rules early in the course to avoid potential misunderstandings.

Aside from setting rules and guidelines, instructors should also carefully set out course goals and expectations at the onset of the course. Yilmaz and Keser's (2017) recommendation for metacognitive support could also be applied to the synchronous settings. With synchronous settings, instructors could get a larger grasp of students' learning processes and strategies, and therefore, may be able to provide even more metacognitive support (Yilmaz & Keser, 2017). Instructors could also include students in planning the lessons by asking them to share inquiries before each live session, so that the instructor could adjust the discussion accordingly (Lowenthal et al., 2017). To help students adjust to the synchronous online setting, instructors could also gradually introduce the media, beginning with simpler text-based communication to help students get used to the class before proceeding with video-based communications (Humphry & Hampden-Thompson, 2019). Setting these goals and expectations prior to synchronous sessions may help instructors communicate better with the students during the sessions.

61

Synchronous settings are more time-limited than asynchronous settings. As such, some researchers have discussed class size limitations that would be optimal for synchronous settings. Although many synchronous media can accommodate larger numbers of participants, Wolverton (2018) recommended having 10 to 20 students in each synchronous session. Lervik et al. (2018) noted that larger class sizes may inhibit the interactions within the class and may result in a one-way lecture by the instructor. In relation to this, requiring student collaboration in synchronous online classes may be more difficult with the time limitation. Racheva (2018) noted that collaboration involves both task-related and group-related interactions, and that students needed ample time to coordinate and prepare for them. Instructors should thus provide adequate time and a space for collaboration if they choose to include these types of activities (Racheva, 2018). Kara and Can (2019) further recommended making collaborative projects optional for synchronous settings, to give allowances to students who have difficulty coordinating from a distance. Instructors need to pay attention to these nuances that are affected by the time limitations of synchronous settings to avoid pressuring students and hampering their communication.

The availability of more social cues in synchronous settings compared to asynchronous settings meant that instructors needed to be more careful with the cues they transmit. Humphry and Hampden-Thompson (2019) emphasized the importance of positive feedback, patience, and empathy in instructors, as some students had reported feeling negative emotions toward instructors who interrupted them or showed impatience

when interacting with them. Robinson et al. (2017) recommended the use of humor, along with being versatile and supportive, to reduce student anxieties. Lowenthal et al. (2017) recommended the use short icebreakers at the onset of each live session to get students warmed up and to establish rapport. They further noted that instructors should allocate some time for informal interactions within their structured lessons (Lowenthal et al., 2017). These recommendations represent strategies that instructors may use during synchronous class sessions to enhance communication.

Some students may need to reach their instructors individually or outside of the synchronous classes. Several researchers recommended that instructors set out virtual office hours when students can contact them for questions or feedback (Kara & Can, 2019; Lowenthal et al., 2017; Martin et al., 2018). Lowenthal et al. (2017) even suggested making this online office less formal and more approachable, such as the case of their participant who named the office hours as "happy hour" to foster a more social environment for students. Kara and Can (2019) agreed that students may be hesitant to directly contact their instructors. Setting a specific range of time for students to freely approach the instructor opens up more opportunities for better communication in synchronous settings.

In terms of assignments and assessments, instructors should be mindful of the real-time aspect of synchronous settings. Hartwell (2017) suggested that simpler questions such as multiple choice or true or false questions be utilized at the start of the synchronous sessions in relation to leaning materials, or at the end of the session to test

the students' understanding of the discussions. Hartwell further noted that open-ended and complex questions were more suitable for asynchronous settings, where students may be more comfortable in expressing their thoughts and ideas. They added that asking redundant or an excessive number of questions could frustrate students and discourage them from participating further (Hartwell, 2017). Somewhat contrastingly, Wolverton (2018) suggested that analytic assignments such as case studies were more effective in evaluating students' learning rather than rote memorization. It may be best for instructors to acclimatize themselves with their classes to find out which types of assignments and assessments would be more suitable for their students.

Overall, the literature surrounding synchronous settings showed how this setting could provide richer communication with the students (Molnar & Kearney, 2017; Wolverton, 2018). Researchers also indicated certain barriers such as inflexibility (Bolliger & Martin, 2018; Kara, 2020; Wolverton, 2018) and greater technical problems (Hartwell, 2017; Olt, 2018; Seckman, 2018) that hindered communication in synchronous settings. Researchers provided recommendations such as: setting clear rules, guidelines, and expectations (Lowenthal et al., 2017; Wolverton, 2018; Yilmaz & Keser, 2017); limiting the class size and collaborative projects (Kara & Can, 2019; Lervick et al., 2018; Racheva, 2018; Wolverton, 2018); and setting virtual office hours for consultations (Kara & Can, 2019; Lowenthal et al., 2017; Martin et al., 2018). Instructors who choose to utilize synchronous media in their courses may apply some of these strategies to reduce misunderstandings and promote better communication with their students.

Summary and Conclusions

This chapter contained a review of the literature surrounding the two theoretical frameworks of transactional distance and social presence, online learning, and communication within asynchronous and synchronous settings. The literature on the theory transactional distance suggested that online platforms of learning may increase the psychological distance between professors and their students, resulting in a higher risk of misunderstandings (Moore, 1993). Evidence on social presence theory suggested that professors should develop the sense of realness in their courses through immediacy and intimacy factors (Short et al., 1976). These two theories guided this action research study in understanding the issues of transactional distance and the values of immediacy and intimacy in online forms of communication. The literature surrounding online education highlighted the role of the professor in ensuring that students transitioned well in this relatively new form of learning (Dockter, 2016; Martin et al., 2018). Studies on both asynchronous and synchronous settings of online education revealed several recommendations that may help overcome the barriers of online education. There were, however, some inconsistencies regarding these recommendations and a dearth of details or specifics regarding some recommendations. Based on this literature review, more evidence is needed to determine specific strategies that may help professors to improve communication within their online courses. The following chapter elaborates on the methodology that I used to obtain this evidence to meet this action research study's purpose.

CHAPTER 3

METHODOLOGY

Practitioner research is undertaken by practitioners who seek to improve our own practice, and perhaps that of our colleagues, through the purposeful and critical examination of and reflection on aspects of our work, of the experiences of our colleagues and constituencies, and of institutional cultures, policies, and practices that shape these realities (Ravitch, 2014, p. 7)

Introduction

Professor-student communication in online learning has been described by students as challenging and unsatisfactory (Kaufmann & Vallade, 2020). The purpose of this action research study was to explore the perceptions of undergraduate students regarding the strategies that can be used to improve the professor-student communication within the online educational setting. I explored this phenomenon using the theory of transactional distance and social presence theory. This action research study involved the intervention of the COMM Suite along with participation of undergraduate students who have experienced online learning using both synchronous and asynchronous platforms. I collected data using a Likert scale survey accompanied by individual semi-structured interviews through Zoom, which is a video conferencing platform that has gained widespread usage since the COVID-19 pandemic.

Based on the research problem, purpose, and the transactional distance and social presence theories, I examined the following research questions:

1. How and to what extent does the implementation of the COMM Suite affect students' (a) intentions and attitude toward engaging in communication with their

instructors, (b) actual interaction with instructors, and (c) satisfaction with their instructor's interaction.

2. What are the perceptions of students where misunderstandings in synchronous and asynchronous online learning can be lessened to enhance the quality of professor-student communication?

3. What are the perceptions of students on how the intimacy and immediacy of synchronous and asynchronous online learning can be improved to enhance the quality of professor-student communication?

This chapter has in-depth descriptions of this action research study's proposed methodology and procedure. The sections included in this chapter are the following: (a) previous cycles of action research, (b) setting, (c) intervention, (d) participants, (e) role of the researcher, (f) research methodology, (g) data sources and collection, (h) data analysis, (i) potential limitations of the study, (j) ethical standards, and (k) timeline for data collection. The chapter concludes with a summary of the methods and the anticipated research findings.

Previous Cycles of Action Research

In action research, cycles (or rounds) of research are essential in improving a research-practitioners' relatable practice. Stinger (2007; as cited by Mertler, 2017) explains that one can look at action research as an interacting spiral consisting of a "look, think, and act" routine (p. 14). During each stage, researchers should observe, reflect, and

then take action (Mertler, 2017). Ivankova (2015) goes further and asserts that action research cycles are needed to collect additional data and to create a deeper and wider picture of the issue. By completing cycles of research, a holistic view of a problem of practice will start to emerge, allowing researchers to complete an exhaustive evaluation of their problem.

In previous cycles of my action research, I interviewed two online course professors to better understand their experiences of teaching online and as a way to frame and form my own pedagogy. I interviewed "Professor 1" because she taught online undergraduate courses at UNF, albeit in a different department. I wanted to discover if she experienced similar challenges that I experienced in my context. Next, I interviewed "Professor 2" because she teaches online at Arizona State University to offer a different university context. Each interviewee was asked a total of eight semi-structured questions and our dialogue lasted between 30–45 minutes. The questions asked during each interview are provided in Table 3.1:

Table 3.1. *Online Professor Questions*.

Questions
Q1 What have you learned about communication with your online students?
Q2 Were the lines of communication consistent or on par with a traditional setting?
Q3 How did you make communication a priority into your lesson plan?
Q4 How successful do you consider it to have been?

Q5 What made or did not make your communication successful? What would make it more successful?

Q6 How important is it for online instructors to communicate with their students? Explain.

Q7 Describe how you worked to make communication a priority in your online environment?

Q8 Other comments?

After analyzing the data, I formulated the following beliefs about the role of an online instructor: 1) intentional communication in teaching online is paramount, 2) using videos is a way to have a high-quality interaction with students, 3) convey an openness and willingness to connect with students, and 4) display an attitude of attentiveness by actively participating in the course and by responding to questions and concerns in a timely manner. I also identified alignment between these ideas and existing research related to online instruction (Humphry & Hampden-Thompson, 2019; Karaoglan Yilmaz & Yilmaz, 2020; Levrik et al., 2018; Moore, 1993; Short et al., 1976; Weidlich & Bastiaens, 2018).

Setting

This action research study took place at the University of North Florida (UNF) located in Jacksonville, Florida. The setting for this action research study is an online course in the College of Education and Human Services and specifically in the Sport Management Department at UNF. In the fall of 2019, there were 289 students seeking a Sport Management degree from UNF. Of those 289 students 223 were male and 66 were

female. Of the students that reported their race, 198 were white, 39 students were Black or African American, 29 students identified as Hispanic, and 13 students were biracial. There were 4 Non-Resident Aliens, and 1 American Indian or Alaskan Native, as well as 1 unknown race. Also, there were 239 students who enrolled in the Sport Management degree program as full-time students, while 50 students enrolled in part-time status.

In the fall of 2020 and because of the pandemic COVID-19, the Sport Management Department offered twelve distance learning classes: four FTF classes and eleven remote instruction classes. Remote Instruction (RI) is the term that UNF adopted to classify instruction that was developed as FTF instruction but was taught online due to COVID-19. RI courses are delivered completely online with weekly required synchronous meetings via Zoom; however, these courses may also have abandoned the scheduled meeting times and operate asynchronously. RI courses had no on-campus or in-person meetings.

The Sport Management Department had eight faculty members, two of whom did not teach the fall 2020 semester. Two faculty members taught both FTF and RI, while one faculty member taught both distance learning and RI. Two faculty members taught distance learning only, and one person taught RI only. There were five tenured professors in the department; two professors were tenure track not tenured, and one person was not tenured track. There were seven adjunct professors that taught in the Sport Management Department. Three adjunct professors taught distance learning only, three taught RI only, and one taught FTF only.

This action research study took place in the 15-week online course entitled LEI 3004: Introduction to Recreation, Tourism and Events, which ran in Fall of 2020. This course is a part of a newly designed minor degree program within the Sports Management Department. Students who enrolled in online courses in this program in the past have expressed a variety of reasons for being attracted to it. Based on my own informal research, these reasons include their desire in obtaining a minor degree in Sport Management, their appreciation for athletics, sports, and recreation as well as the flexibility that students experience in these online courses. The flexibility that students desired and needed are the result of circumstances that include students who are in the military and stationed at the nearby Mayport Naval Station and those required to complete internships and externships as a part of the degree requirements for Sport Management in locations that are geographically distant from the UNF campus.

Intervention: Communication (COMM) Suite

The intervention for this action research study was called the Communication (COMM) Suite. The COMM Suite is a set of two preliminary modules coupled with a production of videos, and individualized feedback throughout a 15-week semester. The purpose of this intervention was to reduce transactional distance as well as promote social presence in an online educative setting (Karaoglan Yilmaz & Yilmaz, 2020; Martin & Bolliger, 2018; Moore, 1993; Karaoglan Yilmaz & Yilmaz, 2020; Short et al., 1976). The COMM Suite was a culmination of previous cycles of research and relevant literature aimed at promoting communication while combatting misunderstandings that occur in

71

online settings (Moore, 1993). Specifically, I used videos to communicate

announcements and feedback along with personalized written feedback on all submitted

work to online students. The COMM Suite included 15 points of contact between the

instructor and the student. The instructor prepared six videos along with nine written

announcements.

The points of contact may not seem novel in its approach; however, this is unique

to my context. UNF's Sport Management Department was only four semesters into its

distance learning initiative. Further, as I mentioned before, the existing research offers

little guidance in terms of specific methods to improve professor-student communication

in synchronous and asynchronous online settings (Bolliger & Martin; 2018; Bolliger &

Martin, 2020). I addressed the gap in literature with the COMM Suite. I realized that no

educational setting is perfect, however through additional cycles of research the COMM

Suite could be a viable resource for online educators to model. The following subsection

details the steps taken to create the COMM Suite.

Course Context

Each module corresponds to a week in the semester. There were a total of 15

weeks and 15 modules. The first module in the COMM Suite was the *Class Introduction*.

In this module, students must complete steps that focus on building rapport with their

online professor. Dunlap and Lowenthal (2018) specified that personal and social

interactions were vital early in the course to connect with students and increase their

comfort level in the class. Thus, in the *Class Introduction* module, students answered a

series of personal questions relating to their identity, previous experiences in taking online courses, reservations with online courses, their career aspirations, and their course interest. Finally, the students asked me questions about the course content and professional career.

The next preliminary module, *Introduce Yourself to the Class*, students produced a video to create a collective experience with their peers. As an online professor, I am responsible for fostering a sense of community and belonging in my online course (Bolliger & Martin, 2018). The *Introduce Yourself to the Class* module is student centered. Instead of students directing their answers to me, they had a chance to share their answers that were related to their major, interests, and career aspirations in recorded videos to their peers. Bolliger and Martin (2020) recognized that learner-learner interaction is meaningful and relevant in enhancing an online community. I also produced a video to present myself to the students, so they would know more about who they are learning from and interacting with. This video also served as a confirmation to students that they will not interact with an artificial pedagogical agent (Sung & Mayer, 2012). These two modules were the first steps in the COMM Suite.

Next, I produced a series of videos and offered personalized feedback for each student. Each module after the two introductory modules included student tasks that needed to be accomplished for the completion of the course. Throughout these modules, I positioned instructor videos strategically that provided guidance and feedback on curriculum.

In each course-related module, I provided students with a *Content Overview* section that included the module purpose, objectives, and agenda. The purpose introduced the course content and illustrated what they examined in the module. Module objectives focused on understanding issues in public and private recreation, the nonprofit and for-profit sector, and tourism. The agenda for a module was to read the assigned chapter or other assigned materials. I also provided PowerPoint Presentations for the first three weeks of the course to give students enough time to acquire the required textbook. The second part of the module was the tasks section. Tasks were the assignments that students needed to complete for a grade, such as an assignment, discussion, essay, or quiz. These tasks were like traditionally assigned tasks in other online learning courses (Hartwell, 2017; Kaufmann & Vallade, 2020; Seckman, 2018). However, to build on these traditional tasks, I implemented the COMM Suite aimed at improving professor-student communication.

In module one titled *Setting a Foundation for Recreation and Leisure*, I slowly introduced course content which gave students time to become acclimated to the course. I asked open-ended questions in module one, allowing for a deeper connection to the material while allowing students to express themselves through their answers (Hartwell, 2017). Module two which was titled *History of Recreation*, also included tasks focused on open-ended questions which allowed students to explore the foundational subject matter of the course topic. It is important to note that I structured videos strategically, with one scheduled every two to three modules. In previous cycles of research, I found

that students do not want to be bombarded with videos and surprisingly in some instances students did not even view the videos.

Three weeks into the semester I produced a four-to-five-minute video explaining the upcoming module, I introduced a change in tasks, and I offered feedback about the previous modules. Module three, titled *Philosophy and Leisure*, was the first discussion post that they received feedback from their peers and instructor. I also let students know what to expect in the upcoming module and in the coming weeks. I ended the video by explaining how students can contact me for tutoring or office hours. In this module, students also posted a discussion response, that allowed them to easily track the class discussion and engage with their classmates at a higher cognitive level (Wolverton, 2018; Yilmaz & Keser, 2017). Module four, which was named *Leisure and Recreation for Individuals*, included open-ended questions about theory and history related to the course content. Also, I included two close-ended questions about trends in the area students are studying. Module five, called *Leisure Service and Delivery Systems*, required students to post a video in response to the instructor's prompt. This allowed students more engagement with their peers.

After module five, I created and posted another four-to-five-minute video. I gave feedback to the entire class concerning their submitted work. I also let students know what to expect in the upcoming modules, including announcements and reminders. For example, I reminded them their only task for module six, titled *Parks and Protected Areas in Canada and the United States*, was a quiz. I also briefly spoke on module seven

and eight to describe the different type of assignment they received. I ended the video by letting students know the days and times of my office hours. In module seven, called *Public Recreation,* students were required to complete more open-ended questions via a discussion post. Attached to module seven was a mid-point survey, which is approximately the middle of the 15 modules/weeks in the semester. This midpoint survey included two questions: 1) In general, do you find the instructor videos useful? and 2) How have these instructor videos been useful? There was an incentive given to the whole class so that they would complete the survey. An extra two points was given on the upcoming assignment when the class reached a 90% response rate to the survey. The purpose of the survey was to offer me direction for my pedagogy.

I also documented my thoughts and experiences in a reflective journal. I used the reflective journal as a reference of being able to process the survey feedback and how it impacted my pedagogical approach moving forward in the course. The reflective journal was used for my praxis to reflect on my reactions to students' input. As Coghlan, & Brydon-Miller (2014) explained:

> "Due to the centrality of reflection to action research, journal keeping is regarded as particularly important. The journal, which is a record of observations, experiences and reflections on events, behaviors, relationships, attitudes, emotions, systems, processes, and assumptions, is an additional data set that can be analyzed. For example, a retrospective comparison of journal entries is useful

in identifying patterns and trends and may assist the researcher in anticipating responses, events, and experiences" (p. 240).

Coghlan and Brydon-Miller explain in the above quote the importance of journaling. I utilized my reflective journal to record my observations and experiences throughout the 15-week semester. The reflective journal allowed me to view my thought process, my actions, as well as student response to the intervention at the time of documentation. The reflective journal also allowed me to accurately document other events such as rapport, student attitudes, and relationships in the course. I also documented the amount of time it took me to complete videos and personalized feedback for others that may want to replicate this action research study.

After module seven, I completed another video explaining what I expected for module eight, *Nonprofit Sector,* highlighting the guidelines for this module. I then explained that their peers must positively critique and respond to that video. I ended the video by letting the students know the days and times of my office hours. For module nine, called *For-Profit Sector: Recreation, Event, and Tourism Enterprises*, I assigned students a short quiz on the content assigned for this module.

For module ten, *Unique Groups*, I completed another video to explain the guidelines. Students then discussed the vital parts of the industry they were studying. I explained that students needed to complete a video for the module ten assignment. In module 11, titled *Program Delivery Systems*, students were assigned a short quiz. For module 12, called *Recreational Sport Management*, students completed open-ended

questions related to the material. I assigned more open-ended essay-style questions for students to address for module 13, *The Nature of Recreation and Leisure as a Profession*.

Between module 13 and 14, named *Outdoor and Adventure Recreation*, I prepared the last video of the semester. This video explained the final two modules, offered my reflection on the semester. I explained that module 14 included a quiz, and module 15, titled *Current Event Paper* included their final task, an essay assignment. I explained the final paper's guidelines with instructions on how to efficiently complete the assignment. In my semester reflection, I recapped the semester, highlighting what we learned, and thanked them for their hard work. Finally, I asked students to contact me if they would like to talk about their grades in the course.

At the end of the semester, students were asked to complete a student perception survey about communication in the class. The survey instrument included ten five-point Likert-type scale questions ranging from strongly disagree to strongly agree. I measured social presence using affective factors such as expression and cohesion plus teacher engagement, such as facilitation, design, and organization.

In addition to the videos, I supplemented new modules with weekly announcements. Every week that a video was not produced, I provided a written announcement as a guide for students. In the videos, I offered important information, such as assignment recommendations, course directives, and possible due date changes Based on previous cycles of research, students rarely view the videos resulting in

incorrectly submitted coursework, unnecessary additional coursework, and late submissions.

Together with the videos, I provided personalized, relevant, and timely written feedback to each student, contributing to and cultivating intimacy and immediacy within the phenomenon of social presence (Dahlstrom-Hakki et al., 2020; Madden et al., 2017; Sato & Haegele, 2019; Sung & Mayer, 2012; Weidlich & Bastiaens, 2017). The feedback I provided to students were on tasks that they submitted weekly. The written feedback was aimed at creating an emotional bond with students as well as correct any mistakes or issues before they moved onto the next module (Peterson et al., 2018). Table 3.2 illustrates the video contact between professor and student within the intervention COMM Suite as well as the type of communication that was had.

Table 3.2. *Video contact between professor and student.*

Module # / Topic	Video Activity	Relationship to Innovation/Theory/Research	Type of Communication / Anticipated Outcome
Preliminary Module ***Introduce Yourself to the Class***	Created short video to present to the class	<u>Social Presence</u> Fosters a sense of community and belonging learning (Bolliger & Martin, 2018)	Student-Student Interaction
Module #3 ***Philosophy & Leisure***	Provided feedback and direction to students	<u>Transactional Distance</u> Promotes a student-centered environment (Hajibayova, 2017; Yilmaz & Karaoglan Yilmaz, 2019)	Instructor-Student Interaction

79

Module #6 *Parks and Protected Areas in Canada and the United States*	Offered announcements and guidance on future course work to class	<u>Social Presence</u> Operates as a human pedagogical agent (Sung & Mayer, 2012)	Instructor-Student Interaction
Module #8 *Nonprofit Sector*	Explained how to complete future course work. Offered synchronous video conferencing to students to discuss grades, work, course, etc.	<u>Transactional Distance</u> Synchronous video conferences were the best medium to reduce transactional distance and promote social presence (Hampden-Thompson, 2019; Levrik et al., 2018; Humphry & Seckman, 2018).	Instructor-Student Interaction
Module #10 *Unique Groups*	Explained procedures for vital coursework to students.	<u>Transactional Distance</u> This flexibility of asynchronous video allows students more time to think more critically about their work, reducing the risk of oversights (Warr & Sampson, 2020; Wolverton, 2018).	Instructor-Student Interaction
Module #14 *Outdoor and Adventure Recreation*	Explained final paper's guidelines. Recapped the semester, highlighted what we learned and thanked them for their hard work.	<u>Social Presence</u> Interactions initiated by the instructor can be relaying information, providing inspiration and motivation, to offering constructive feedback on students' work (Abuhassna & Yahaya, 2018).	Instructor-Student Interaction

Participants

The targeted participants for this action research study were 12 college students at UNF who are enrolled in LEI 3004 for the spring 2021 semester. Since the participants self-enrolled in LEI 3004, the sample was purposefully selected based on availability and willingness to participate. Qualitative researchers often use purposeful sampling because of the importance of choosing participants who not only possess the adequate experience to talk about a phenomenon but also the likelihood that they can speak in great detail and depth about their experiences (Suri, 2011; Teddlie and Yu, 2007). The sample size of 12-15 college students was consistent with the anticipated threshold for reaching data saturation, signaling that repetitious answers are likely to occur if more participants are unnecessarily added to the sample (Guest et al., 2006).

The online section of LEI 3004 for this action research study was primarily asynchronous online course. More specifically, the LEI 3004 section allowed students to participate in a non-contemporaneous format with no set time for interaction enabling learners to engage the content and their peers at a substantively higher cognitive level (Seckman, 2018; Swan et al., 2008). However, given that the study also included views regarding synchronous learning, part of the eligibility criteria was that participants should also have prior experience with synchronous online education.

Role of the Researcher

I have taught at UNF since the fall semester of 2018. Prior to teaching, I worked in the recreation, college athletics, and education field for over fourteen years. Coupled

with my experience, I obtained a Master of Science degree in Recreation Administration, making my knowledge of the area expertly keen. With the academic knowledge and experience I have gained, my objective as a teacher was to deliver a class that is grounded in real-world contexts. I aimed to mold and develop future recreation professionals with the highest academic expectations while providing an active learning and rigorous course.

My role in this action research study was to design the course plus act as the course instructor and researcher. As the course designer, I created all assignments and shaped various aspects of the course, such as choosing the aesthetics of the course and its layout. I used the Learning Management System called Canvas to facilitate the course. I designed the course using a template from CIRT that is available to all UNF faculty who teach online. The template enhanced the student experience because of its content arrangement, functional property, and graphic design. The university administrators gave me creative and academic liberties to explore the material since this was a new class that was offered by UNF.

For the LEI 3004 online course, my role was to create and instruct a unique online learning environment that was systematic, educative, and intentionally engaging. I aimed to provide instruction, communication, and online assessments to develop and deliver a high-quality, fully online course. As the instructor of LEI 3004, I participated as a teacher and research-practitioner by assessing students, providing instruction, and facilitating communication throughout my intervention. I worked as an insider to the inner workings

of the course to confirm that social presence is a feature in LEI 3004. As the researcher, I was responsible for conducting the semi-structured interviews to explore the perceptions of undergraduate students regarding the strategies that can be used to improve the professor-student communication within the online educational setting. Further, I completed the analysis of the data from the individuals' semi-structured interviews.

Research Methodology

Action Research

Action research is any form of systematic inquiry conducted by those with a direct, vested interest in the teaching and learning process or environment for the purpose of gathering information about how their schools operate, how they teach, and how their students learn (Mertler, 2017). Action research is educational in nature; it is research that is conducted within education for educators (Mertler & Hartley, 2017). Educators can focus their professional growth and development activities on specific aspects of the job they deem necessary for improvement (Mertler, 2019). Action research is concerned with developing critical reflection about one's own pedagogy. It is a process of planning, acting, developing, and reflecting and lastly it justifies one's teaching practice. The four main points of planning, acting, developing, and reflecting are vital to educational research because it identifies that all children do not learn one way and it ensures that each practitioner does not get complacent in his or her role as an educator (Mertler, 2017).
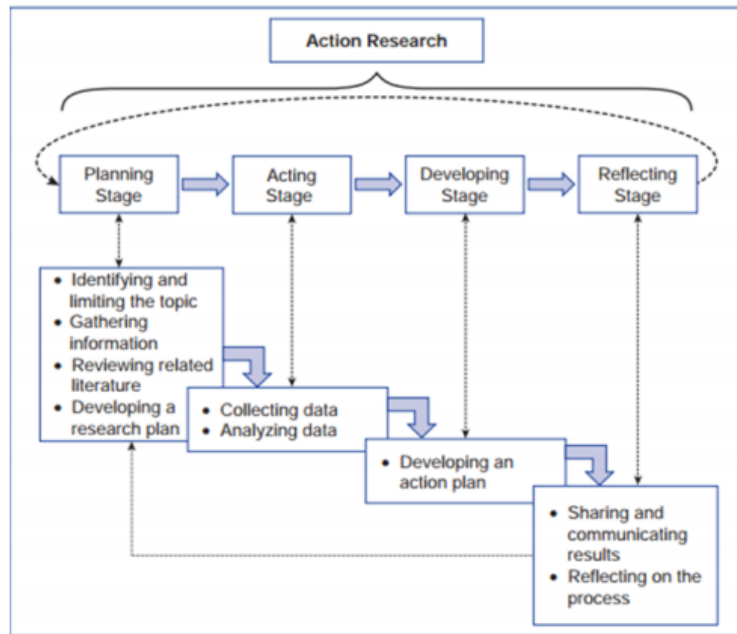
Figure 3.1: *The Step-by-Step Process of Action Research*. From Mertler (2017), p. 37.

Phenomenology

I used qualitative phenomenological research to explore the perceptions of
undergraduate students regarding the strategies that can be used to improve the professor-
student communication within the online educational setting. I chose phenomenology as a
way to acknowledge Lowenthal's (2012) innovatory research in which he described
social presence as a phenomenon. In his research he investigated how social presence
manifests during online discourse in asynchronous online graduate education courses
(Lowenthal, 2012). Although Lowenthal's (2012) research involved asynchronous online
graduate education courses and the current research involved asynchronous online
undergraduate education courses, there is still much to discover. Given that there is still a

great deal to uncover about social presence and online learning, I believe phenomenology is the best method to reveal these new findings in this action research study.

Phenomenological designs are based on the interpretation of an individual about the meaning of a phenomenon, recognizing that the unique experiences of individuals are influenced by their phenomenological field or environment (Giorgi, 2009). Thus, phenomenological research is highly dependent on uncovering the conscious interpretation of an individual's own experiences, which are regarded in phenomenology as the foundation of truth and knowledge (Christensen et al., 2017).

I used the Husserlian descriptive phenomenological design as the specific variant of phenomenology for this action research study. Descriptive phenomenology involves the in-depth exploration of the description of a phenomenon based on the experiences of a small group of individuals (Christensen et al., 2017). The philosophical underpinning of descriptive phenomenology is that a phenomenon can be understood by delving into the natural attitude of individuals within their own unique life experiences. Because the purpose of the action research study was reliant on the lived experiences of undergraduate college students to understand the appropriate strategies that can be adopted to improve professor-student communication, a descriptive phenomenological design was warranted for this action research study.

I also considered various qualitative research designs such as case study, ethnography, and grounded theory, but I concluded that these research designs are not appropriate for the current study's purpose. I chose not to use a case study because case

studies are more appropriate in research topics that involve multiple perspectives, data collection tools, and strategies in order to examine a highly dependent phenomenon on its natural environment (Yin, 2018). I decided not to use ethnography because this action research study was more appropriate for research phenomena, and not characterized by cultural factors such as their language custom, their lived lives, identities, and/or group-based behaviors (Boylorn, 2013; Boylorn, & Orbe, 2016; Fetterman, 2019). I did not use grounded theory because the current study is not framed within the specific context of exploring the processes or mechanisms involved in the existence of a particular phenomenon (Tarozzi, 2020).

Data Sources and Collection

Data for this action research study came from a Likert scale survey and semi-structured interviews. Qualitative researchers consider semi-structured interviews an optimal strategy for acquiring in-depth and highly relevant information from the participants. Interview data are particularly crucial in phenomenological research because of the opportunities that researchers are afforded to go in-depth into the experiences of individuals (Englander, 2012). According to Giorgi (2009), even though there is no prescription on the best interview, the main goal in a phenomenological interview is to generate a complete description of the experiences of participants. Likewise, the quantitative data was utilized to assess the course effectiveness. Through the numerical data, the intention was to measure the central tendency and variation of the data in order

86

to understand the influence of the COMM Suite on undergraduate students to communicate with their online instructor.

Semi-Structured Interviews

The targeted participants for this action research study were approximately 12 undergraduate college students at UNF who enrolled in LEI 3004 for the spring 2021 semester. Since the participants were self-enrolled in LEI 3004, the sample was purposefully selected based on availability and willingness to participate. The Student Perception Survey was created via Qualtrics which is a web-based data gathering tool. The undergraduate students in my online course were emailed the Student Perception Survey after their final grades were recorded as to not cause any undue pressure on them to complete the survey. I scheduled the interviews to take place after the course has concluded so that students can give honest answers without the fear of their grades being impacted. I also offered an incentive in the form of Amazon gift cards to increase participation.

I used semi-structured interviews as the specific format of the interview. Semi-structured interviews are characterized by a method of questioning wherein researchers give participants enough freedom to expound and talk about their experiences within some form of structure, often using an outline containing a set of initial questions (Longhurst, 2003). The interviews were conducted via Zoom and lasted approximately 15-20 minutes.

I used semi-structured interviews to explore the perceptions of undergraduate students regarding the strategies that can be used to improve the professor-student communication within the online educational setting. I created the interview guide based on previous cycles of research and the careful examination of the research questions along with the corresponding theories from the theoretical framework—the theory of transactional distance and the social presence theory. The specific interview questions were the following:

1. How would you describe your experience with professor-student communication in synchronous and asynchronous online learning in this course? What are some of the differences between the two platforms, if any?

2. How did the Student Orientation Module develop your communication with your instructor in this course?

3. What did you think of regular videos from your instructor in this course?

4. Did these videos heighten your chances to communicate with your professor? If so how? If not how?

5. What are some of the misunderstandings that occur during synchronous and asynchronous online learning that have affected your experience with professor-student communication in this course?

6. How might these misunderstandings be minimized to improve communication?

7. How would you describe the personal nature of synchronous and asynchronous online learning in this course?

8. How can the personalized part of online learning be improved in order to enhance the quality of professor-student communication?

9. How would you describe the timeliness (as it relates to response time) for synchronous and asynchronous online learning and its impact on the quality of professor-student communication in this course?

10. How can the timeliness (as it relates to response time) of online learning be improved to enhance the quality of professor-student communication in future courses?

11. What other strategies do you think can help in improving the professor-student communication in online learning in future courses?

Survey

For this action research, I explored the behavior and intervention related to (1) the perception and willingness of undergraduate students to communicate with their professor, (2) undergraduate students' impressions of their instructor and their attitudes toward communication with their instructor, (3) their opinion of the instructor and (4) the intervention as the perceived behavioral control. I used the survey to collect quantitative data for understanding how the COMM Suite may influence undergraduate students' intention to communicate with their professor in an online setting.

The targeted participants for this action research study were 12 undergraduate college students at UNF who enrolled in LEI 3004 for the spring 2021 semester. There were nine Likert scale questions on the survey with one of those questions being partially open-ended and one other question being open-ended for a total of ten questions. Some sample questions of the survey are (1) The instructor provided clear instructions on how to participate in course learning activities and (2) The instructor provided feedback that helped me understand my strengths and weaknesses. A complete copy of the survey instrument is included in the appendix (Appendix C). The constructed questionnaire was based on the social presence theory and was a derivative of the social presence portion of the Community of Inquiry Survey Instrument. "The Community of Inquiry framework, widely used in online learning research, reflects students' educational experience using three types of presence (social, cognitive, and teaching) as well as describes the dynamics of online learning" (Garrison et al. 2010a, b as cited by Warr & Sampson, 2020, p. 2). I notified the students that the survey answers are based on their experience in my course and did not impact their grades.

Data Analysis

I transcribed the interviews after all the Zoom interviews are completed. To transcribe the individual Zoom interviews, I listened to the audio recordings of the interviews and used Otter transcription software to help transcribe the content. I placed the transcribed interviews into individual Microsoft Word documents for every participant, properly labeled with an assigned number.

I transferred all transcripts into NVivo software which is made available to all students by Arizona State University. NVivo manages, organizes, and analyzes qualitative data for the purpose of coding it. For example, the interview transcript for the first participant was labeled as "Participant 1." The order of the numbering of the transcripts were based on the order in which the interview was conducted. I attached pseudonyms to the participants to protect their identity and privacy to ensure that all data are anonymous.

Qualitative Analysis

I used thematic analysis to dissect the interview transcripts and generate the themes necessary to answer the research questions (Vaismoradi et al., 2013). Thematic analysis is a systematic analytical strategy popularly utilized in qualitative studies, requiring researchers to reduce large quantities of textual data into smaller units (Clarke et al., 2015). The specific steps that I used to implement the thematic analysis technique are described in the following paragraphs.

The first step was called the process of data familiarization (Clarke et al., 2015; Terry et al., 2017). I accomplished this process by reading all the transcripts one by one from start to finish. The first round of reading was more cursory to gain a general idea of the entire data set. The second round of reading was more intentional and in-depth in preparation for the coding process.

The second step was the coding of data (Clarke et al., 2015; Terry et al., 2017). Coding refers to the assignment of labels or names to a specific portion of text to

91

facilitate the organization of data so that patterns can be made more apparent (Belotto, 2018). I completed the coding process by reading the transcripts line by line and assigning names. For example, if the test said: "I believe online communication can be improved by having an orientation at the beginning of the class," I assigned this text with a code of "orientation." I completed the coding process for the entire transcript for each participant. At the end of this stage, I had a list of codes.

The third step was the identification of themes or theme development through the process of grouping certain codes together and removing unrelated codes that do not provide answers to the research questions (Clarke et al., 2015; Terry et al., 2017). I completed this phase by using the three research questions as the basis for the initial grouping. I put codes that specifically answer a specific research question, resulting in two separate groups. I further reduced the data by determining the most codes for every grouping to select themes.

The fourth step was the reviewing or confirmatory stage of the themes (Clarke et al., 2015; Terry et al., 2017). I used several verification steps to facilitate this phase of the analysis. Specifically, I removed duplicates and non-related codes from every theme. I also combined several themes into a single theme because repetition was apparent. Conversely, I expanded a single theme into two themes the confirmatory process suggested being that two different ideas were being exemplified from the said theme. This process of confirmation also entailed ensuring that each theme is directly supported by the theoretical framework of the study to verify alignment.

The fifth step involved the process of defining the themes (Clarke et al., 2015; Terry et al., 2017). For example, if the theme was "the importance of introductory class orientation," I carried out this process until all themes were properly defined using a short phrase or sentence, capturing the unique essence of the meaning of each theme.

The final step was the production of the report and the culmination of thematic analysis, wherein the goal was to collate the themes in such a way that they made meaningful connections to the research questions of the study (Clarke et al., 2015; Terry et al., 2017). I used the themes to answer the research questions to describe perceptions of undergraduate students regarding strategies that can be used to improve the professor-student communication within the online educational setting. In addition to the themes, I used direct quotes from the participants to integrate the description into the research findings.

Quantitative Analysis

Quantitative data collected through the survey were analyzed through descriptive statistical procedures. IBM SPSS Statistics Version 27 was the software used for reliability analysis (Cronbach's Alpha) and descriptive analysis (mean and standard deviation). The quantitative data obtained from the survey was used to triangulate the data; a way to measure the reliability of all data. I used the survey as evidence of triangulation only because there was not be enough students to meet statistical power to utilize in other statistical measures. Triangulation refers to a technique with which the researcher utilizes to ensure the reliability of their results by not relying solely upon just

93

one source of data (Flick, 2018). Ivankova (2015) explains that in action research, the triangulation of multiple data sources is particularly important because it helps minimize ambiguity. Further, triangulation helps increase confidence in the research findings (Ivankova, 2015). The survey was used to provide richness and another data source to strengthen the confidence of the results. A somewhat larger sample size was required to distinguish a meaningful effect from one that is nonexistent (Davey & Salva, 2010).

Potential Limitations of the Study

Given the nature of this action research study, some of the results may be skewed because of the instructor/student relationship. For instance, some students may have felt obligated to participate because I am the instructor of the course. Students may have also provided inaccurate information in an effort to give a positive perception of their identities as students. To address these potential issues, I emphasized that participation was voluntary and that no negative consequences would occur if they declined to participate. Their responses to the interviews would also not be taken against them in terms of grades or any other academic consequences that could affect their performance.

Another potential limitation of this action research study was the lack of face-to-face interaction with the participants. I conducted all interactions with participants online via Zoom. Safety measures were heavily considered because of possible health complications of doing face-to-face interviews during the COVID-19 pandemic. Further, the COVID-19 pandemic created a digital fatigue in some students which may hinder them from participating in this action research study (Shahrvini et al, 2021). The digital

fatigue is mainly related to the loss human contact with heightened feelings of anxiety and isolation due to online learning (Shahrvini et al, 2021). However, given that the current action research study's topic is professor-student communication in online learning platforms, conducting the interviews via Zoom may have further enriched the data collection process.

Ethical Standards

I secured all the necessary authorization and documentation before proceeding with the data collection. These authorization documents included permissions from the Internal Review Board (IRB) and an informed consent form. I submitted the IRB application to UNF and Arizona State University and all the required information to secure their approval. I also completed the Collaborative Institutional Training Initiative (CITI Program). The CITI Program serves as an educative platform for colleges and universities, healthcare institutions, technological and research organizations, and governmental agencies. Their purpose is to educate about, inform, and promote integrity and professional advancement of their learners.

Before starting the interview, I provided an informed consent form. Because the interview was conducted via Zoom, I read the informed consent and their acknowledgement of understanding and agreement was secured before conducting the interviews.

I did not compel anyone to be part of the study. As the professor of the online class wherein the pool of participants were recruited, I emphasized the voluntary nature

of this action research study. Declining to participate in the interviews did not lead to any negative consequences that could affect their grade and/or status in my class.

Another ethical procedure that I utilized was the protection of the data. The audio recordings of the Zoom interviews will not be accessible to any individual other than the researcher. I utilized password and fingerprint encryption protection to ensure that no one can access the audio recordings. I did not use the real names of the participants in the interview transcripts or audio recordings. As stated earlier, the interview transcript for the first participant was labeled as "Participant 1." The order of the numbering of the transcripts was based on the order in which the interview was conducted. I did not include the names of the participants to protect their identity and privacy to ensure that all data are anonymous. However, I did attach pseudonyms to the participants. I will destroy all data five years after the date of the approval of the dissertation.

Timeline for Data Collection

I submitted IRB documents for review upon the completion of the research proposal defense in the fall of 2020 and started collecting data during the spring semester of 2021. I performed all data collection online through Zoom interviews. To finalize the data collection process after all Zoom interviews are completed, I organized all data in preparation for the analysis during the spring of 2021. Data preparation entailed transcribing the interview audio recordings for each of the study participants. Table 3.3 contains a summary of the timeline for the data collection.

Table 3.3. *Timeline of Data Collection*

Task	Target Date
IRB submission	January of 2021.
Semi-structured interviews	1 week after the Spring 2021 semester ends.
Administer Surveys	1 week after the Spring 2021 semester ends.
Data Preparation	Summer 2021

Summary and Anticipated Findings

The purpose of this action research study was to explore the intervention of the COMM Suite along with the perceptions of undergraduate students regarding the strategies that can be used to improve the professor-student communication within the online educational setting. I used Husserlian descriptive phenomenological design as the specific variant of phenomenology for this action research study, focusing on uncovering the descriptive experiences of the participants about the phenomenon of social presence in my online course (Christensen et al., 2017). I also used a survey to quantify the online students' intentions to communicate with their online instructor. The targeted participants for this action research study were 12 undergraduate students at UNF who were enrolled in LEI 3004 for the spring 2021 semester. For the gathering of data, I conducted individual semi-structured interviews which were conducted via Zoom. I used Otter transcription software to transcribe all interviews. Next, I used NVivo software to manage and organize the data once all interviews are transcribed. Thematic analysis

process was used to analyze interview transcripts and generate the themes necessary to answer the research questions (Vaismoradi et al., 2013).

The anticipated research findings were several themes that directly answer the study's research questions. I expected that the results would be consistent with the theoretical framework of this action research study, which is the theory of transactional distance and the social presence theory. I expected the findings would lead to an in-depth description of the different strategies that would be used to improve the professor-student communication within the online educational setting. The next chapter contains the research findings based on the results of the data analysis of all the data.

CHAPTER 4

DATA ANALYSES AND RESULTS

Knowledge emerges only through invention and re-invention,
through the restless, impatient, continuing, hopeful inquiry human beings
pursue in the world, with the world, and with each other (Freire, 1970, p. 72).

Introduction

This chapter presents the results and analysis of quantitative and qualitative data. To recap, this action research study centers upon the perceptions of undergraduate students and how those perceptions can be used to inform strategies to improve asynchronous and synchronous communication between instructors and students in an online educational context. Research in online education is still evolving and emerging regarding best practices and strategies. Additionally, many students have yet to fully develop the skills needed for success in an online learning environment. Moreover, research suggests that undergraduates are less engaged in online classes than graduate students (Blayone et al., 2018; Martin et al., 2018). While research has uncovered that students describe poor communication has the major problem as described (Kaufmann & Vallade, 2020), this action research study aims to combat poor communications with strategies gleaned from the COMM Suite intervention.

The theories used for this action research study were the theory of transactional distance and the social presence theory, both of which ideally support an investigation into online transactions between professors and students in online educative setting. Based on the research problem and purpose, the theory of transactional distance and the

social presence theory act as a theoretical framework even as this action research study

focused on the following research questions:

1. How and to what extent does the implementation of the COMM Suite affect

   students' (a) intentions and attitude toward engaging in communication with their

   instructors, (b) actual interaction with instructors, and (c) satisfaction with their

   instructor's interaction?

2. What are the perceptions of students where misunderstandings in synchronous

   and asynchronous online learning can be lessened to enhance the quality of

   professor-student communication?

3. What are the perceptions of students on how the intimacy and immediacy of

   synchronous and asynchronous online learning can be improved to enhance the

   quality of professor-student communication?

The Research

Semi-structured interviews with six undergraduate students were conducted at the

end of the spring 2021 and summer 2021 semesters while data collected from twelve

undergraduate students via Likert scale survey was distributed at the end of each

semester. Qualitatively, the Husserlian descriptive phenomenological design represents

the specific variant of phenomenology. The phenomenological analysis included several

rounds of coding. To address the intervention and research questions two and three, a

thematic analysis was performed. NVivo Version 1.5.1 coding software helped to identify

themes and their significance to the intervention. Quantitatively, the analysis included

tests for reliability (Cronbach's Alpha) along with descriptive statistics which was used to ensure data triangulation. Triangulation occurs when multiple forms of data are used to corroborate research findings (Creswell, 2015). SPSS Version 27 software was used to analyze all data gathered from the survey instrument.

In this chapter, I will provide a brief description of the participants' demographics, a concise introduction of the participants and a complete data analysis. The most critical part of the chapter are the findings. I present these findings in the form of themes from the interviews, a reflective researcher journal, statistics from the survey, tables, and verbatim responses shared by the participants themselves. The chapter then concludes with a summary of the research results.

Reflective Journal Analysis

The reflective journal analysis was completed for both spring and summer 2021 semesters, each of which were 15-weeks long. The data in this journal was used to answer the three research questions included in this study. The journal entries were included in the qualitative data set as a means to record observations, experiences and reflections on events, behaviors, relationships, attitudes, systems, and processes (Coghlan, & Brydon-Miller, 2014). The reflective journal helped my pedagogy as I continued to refine my teaching practices which is essential in action research (Mertler, 2017). The journal is used for my praxis so that I can reflect on my reactions to students' comments, questions, and input. The reflective journals also served as a professional

development document that I can refer to for teaching artifacts, such as lesson plans, assessments, and verbatim instructions.

Demographics

The participants for this action research study were undergraduate college students at the University of North Florida (UNF) who were enrolled in LEI 3004, Introduction to Recreation, Tourism, and Events for the spring 2021 semester and the summer 2021 semester. A total of twelve participants volunteered to take part in the survey portion of the action research study across both semesters. There were six participants that were interview across both the spring 2021 semester and the summer 2021 semester. It was vital to conduct interviews with the participants as they had unique and firsthand perceptions and experiences with the intervention being explored.

Student Interview Participants

As an introduction to the participants, included are brief biographies of the students. All names have been changed to pseudonyms selected by the researcher for the reader to connect more with the participant.

Zion. Zion was a senior at UNF in the College of Education and Human Services, majoring in Sport Management. He is from Jacksonville, FL. He is a former college athlete.

Moses. Moses was a junior at UNF in the College of Art and Sciences, majoring in criminal justice and minoring in marketing. He aspires to be a federal agent one day.

Raya. Raya is a senior in the College of Art and Sciences majoring in public relations. She has an associate degree in Theatre and Entertainment Technology.

Naomi. Naomi is a senior in the College of Education and Human Services, majoring in Sport Management. She will also obtain a minor in Community Sport and Tourism.

Lily. Lily is a sophomore in the College of Art and Sciences majoring in philosophy and minoring in community sport and tourism. She is from Boca Raton, FL.

Connor. Connor was a junior at UNF in the College of Art and Sciences, majoring in criminal justice. He is a transfer student and former college athlete from Ft. Lauderdale, FL.

Data Analysis

The data analysis process was divided into two phases: the quantitative and qualitative analyses of the gathered data. For the quantitative portion, the survey results were analyzed through SPSS Version 27 for reliability and descriptive analyses which specifically addresses the first research question of the study. The qualitative component consisted of analyzing a reflective journal, a thematic analysis, which included several rounds of coding of the interviews with the six participants thereby addressing the second and third research questions of the study.

<div align="center">

Research Question #1 Findings

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This section presents data that address the first research question: *How and to what extent does the implementation of the COMM Suite affect students' (a) intentions*

and attitude toward engaging in communication with their instructors, (b) actual

interaction with instructors, and (c) satisfaction with their instructor's interaction?

Figure 4.1 contains the quantitative variables from the first research question and the

corresponding statements that best described and embodied the three variables.

Figure 4.1. Display of Data Analysis Information

Intentions and attitude toward engaging in communication with their instructors	Actual interaction with instructors	Satisfaction with their instructor's interaction
I feel comfortable conversing through the online medium and participating in the course discussions.	The introductory modules help me build a relationship with my professor.	The instructor provided clear instructions on how to participate in course learning activities.
The online discussions help me to develop a sense of collaboration.	Did your professor clearly communicate learning objectives for this course?	The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
The online instructional videos help me this semester	Did your instructor help to keep you engaged and participating in productive dialogue during this course?	The instructor provided feedback that helped me understand my strengths and weaknesses.

From the analysis of the online survey data, I found that many of the participants

answered positively and "strongly agree" with the statements that investigated the

students' perceptions and experiences of the implementation of COMM Suite specifically

how the intervention influenced their attitudes toward engaging and interacting with their

instructors and their satisfaction with their instructor's interaction.

104

I administered the students' perception of instructor satisfaction survey to 12

undergraduate students in the spring and summer semesters of 2021. I adapted a portion

of the Community of Inquiry Survey instrument to fit my unique context in which I

taught online undergraduate college students. The survey instrument is designed to

capture undergraduate students' perceptions regarding intentions and attitudes toward

engaging in communication with their instructors, actual interaction with instructors, and

satisfaction with their instructor's interaction to answer research question one.

Descriptive Statistical Analysis

The undergraduate student participants were asked to indicate their level of

agreement with statements within each of the constructs on a five-point Likert scale

ranging from strongly agree to strongly disagree. Table 4.1 contains the results of the

online survey.

Table 4.1. *Summary of the Online Survey Data and Results*

Statement	Corresponding Variable	Results	Percentage of Sample
The instructor provided clear instructions on how to participate in course learning activities.	Satisfaction with their instructor's interaction	Strongly Agree	83%
		Somewhat Agree	17%
The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.	Satisfaction with their instructor's interaction	Strongly Agree	58%

		Somewhat Agree	25%
		Neutral	17%
The instructor provided feedback that helped me understand my strengths and weaknesses.	Satisfaction with their instructor's interaction	Strongly Agree	67%
		Somewhat Agree	25%
		Somewhat Disagree	8%
I feel comfortable conversing through the online medium and participating in the course discussions.	Intentions and attitude toward engaging in communication with their instructors	Strongly Agree	67%
		Somewhat Agree	25%
		Somewhat Disagree	8%
The online discussions help me to develop a sense of collaboration.	Intentions and attitude toward engaging in communication with their instructors	Strongly Agree	42%
		Somewhat Agree	34%
		Neutral	8%
		Somewhat Disagree	8%
		Strongly Disagree	8%
The online instructional videos help me this semester.	Satisfaction with their instructor's interaction	Strongly Agree	67%
		Somewhat Agree	8%
		Neutral	8%
		Somewhat Disagree	17%

The introductory modules help me build a relationship with my professor.	Actual interaction with instructors	Strongly Agree	75%
		Somewhat Agree	8%
		Neutral	17%
Did your professor clearly communicate learning objectives for this course?	Actual interaction with instructors	Strongly Agree	75%
		Somewhat Agree	25%
Did your instructor help to keep you engaged and participating in productive dialogue during this course?	Actual interaction with instructors	Strongly Agree	58%
		Somewhat Agree	17%
		Neutral	17%
		Somewhat Disagree	8%

Table 4.2 contains a descriptive statistical analysis about the undergraduate students' responses to the survey within the professor-student communication construct. I converted each student's response to each item into numerical form to calculate the mean and standard deviation for comparison of each statement. Responses of "Strongly Agree" were coded as a one, "Somewhat Agree" was coded as a two, "Neutral" was coded as three, "Somewhat Disagree" was coded as a four, and "Strongly Disagree was coded as a five. I calculated the mean response for each statement, indicating respondents' average level of agreement. I then calculated the standard deviation of the responses to each

107

statement, indicating the variability of responses, or how consistent respondents were in their answers.

Table 4.2. *Survey Response Frequencies (Online Survey Interactions Construct)*

n=12 Question	Mean	Std. Deviation
Q1. The instructor provided clear instructions on how to participate in course learning activities.	1.17	.389
Q2. The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.	1.58	.793
Q3. The instructor provided feedback that helped me understand my strengths and weaknesses.	1.50	.905
Q4. I feel comfortable conversing through the online medium and participating in the course discussions.	1.50	.905
Q5. The online discussions help me to develop a sense of collaboration.	2.08	1.311
Q6. The online instructional videos help me this semester.	1.75	1.215
Q7. The introductory modules help me build a relationship with my professor.	1.42	.793
Q8. Did your professor clearly communicate learning objectives for this course?	1.25	.452
Q9. Did your instructor help to keep you engaged and participating in productive dialogue during this course?	1.75	1.055

The results displayed in Table 4.2 demonstrate the average response of the participating students' reaction to the academic intervention and the level of variation from that average. The mean for all nine items were two or lower, suggesting that students generally agree with the statements about how their online professor communicates and engages with them. However, the standard deviations that are relatively higher, indicate that the range of responses were not closely clustered together around the means.

Question one, "The instructor provided clear instructions on how to participate in course learning activities," and Question eight, "Did your professor clearly communicate learning objectives for this course," received the lowest mean scores of 1.17 and 1.25 respectively. The low mean scores indicate that students agreed with the perception of their professor providing clear instructions and clear communication.

Question five, "The online discussions help me to develop a sense of collaboration," received the highest mean score of 2.08, indicating that respondents only slightly agreed with the statement. Additionally, question five had the highest standard deviation of 1.311, indicating that responses in the dataset were the most widely distributed on both sides of the mean signaling that question five more varied responses.

Content and Reliability Analysis

The students' perception of instructor satisfaction survey was administered to 12 students who were enrolled in LEI 3004, Introduction to Recreation, Tourism, and Events course for the spring and summer semesters of 2021. Participants were emailed a link to

the web-based survey; I used the web-based survey software Qualtrics for the purpose of creating and administering the survey. Survey questions were categorized into three distinct constructs:

- Intentions and attitude toward engaging in communication with their instructors
- Actual interaction with instructors
- Satisfaction with their instructor's interaction

Plano Clark and Creswell (2015) emphasize that results from a data collection instrument, in this case a survey, need to be reliable (results are consistent), and valid (results are meaningful). One way to test internal consistency, or the relatedness of multiple questions in a group, is to measure Cronbach's alpha (Plano Clark & Creswell, 2015). Plano Clark and Creswell (2015) state that "the scores for all questions should relate to each other at a positive, high level", where Cronbach's alpha (α) is equal to 0.7 – 1.0. Using SPSS Version 27 software, I measured Cronbach's alpha on each construct, or set of questions in the survey, and on the survey as a whole. Results are presented in Table 4.3 and discussed further below.

Table 4.3. *Student Perception Survey Estimates of Internal-Consistency Reliability*

Construct	Construct Items	Alpha Estimate of Reliability
1. Intentions and attitude toward engaging in communication with their instructor	Items 1-3	.682
2. Actual interaction with instructors	Items 4-6	.867

3. Satisfaction with their instructor's interaction	Items 7-9	.785
Overall Alpha		.934

Two constructs measured alpha's as highly correlated: Actual interaction with instructors (α = .867), and Satisfaction with their instructor's interaction (α = .785). The construct, Intentions and attitude toward engaging in communication with their instructor, measured the lowest scoring alpha (α = .682). The overall Cronbach alpha for the survey was very high (α = .934) indicating that the survey has a high internal consistency, or the results are reliable. Analyzing the students' perception of instructor satisfaction survey using Cronbach's alpha demonstrated that the internal consistency of groups of questions in the survey instrument are moderately high to highly related. Data collected was used by the researcher to understand areas of student engagement opportunities as well as to confirm triangulation being that the reliability results had a high internal consistency thereby validating the findings.

Reflective Journal RQ #1. Throughout the course I noticed the importance of communication to reduce misunderstandings between the instructors and students. By practicing an open and active communication misunderstandings have a higher likelihood of being lessened. The COMM Suite and the online videos were highly beneficial as they encouraged students to reach out to both their peers and instructors and gather valuable information that they could use in their studies. The content in the videos were announcements, feedback on assignments, reminders.

The reminders were beneficial to the class as I did receive direct responses. In Module 6, I made an announcement to the class asking them to post their assignment for the week along with announcements and guidance on future course work. One student responded, "I am so sorry that I did not post last night. I will do better in the future." Another student commented, "Great video! Thanks for the help." I found that disseminating information in a passive manner where students could view the content instead of actively reading it, made the videos more enticing. Reflecting on my practice and working with the COMM Suite intervention the intentions and attitude toward engaging in communication me were positive. There was no communication that was negative. Most students wanted to show their effort in the course. The satisfaction with me as their instructor was positive as noted in the survey and in the midterm surveys. The responses for the midterm survey were favorable. Students recorded they do like the videos because the can view the videos for help with future assignments as well as feedback on past assignments. The reflective journal demonstrates triangulation as a part of confirming all data sources.

Summary

This section illustrated how the survey quantified students' perceptions of their instructor. The survey addressed first research question. Specifically, the first three questions addressed, intentions and attitude toward engaging in communication with their instructors. Questions four through six addressed actual interaction with instructors and lastly, questions six through nine addressed satisfaction with their instructor's interaction.

The survey was deemed reliable when it was tested for reliability using the Cronbach's alpha method. Also, the means for all nine items were two or lower, suggesting that students agree with how the COMM Suite intervention was beneficial in their perceptions toward engaging and interacting with their instructors and their satisfaction with their instructor's interaction. The low standard deviations indicate that the range of responses were closely clustered together around the means.

Qualitative Findings

The qualitative portion of this action research study was accomplished by analyzing a reflective journal and a thematic analysis of the six interview transcripts. A qualitative method allows for data to be unpacked from perceptions and observations of participants that quantitative data collected may fail to capture. I used a reflective journal to record my observations and experiences throughout the 15-week semester. I recorded my thought process, my actions, as well as student responses to the intervention at the time of documentation. I also documented other events such as rapport, student attitudes, and relationships in the course. Finally, I documented the time it took to complete videos and personalized feedback for others that may want to replicate this action research study.

Thematic Analysis

The thematic analysis was aimed at examining data and determining frequent and salient themes throughout the six interviews. There was a total of four themes and one subtheme that emerged from the analysis in this action research study. The themes with the greatest number of references were identified as the major themes and most

significant to the study. Additionally, other themes were discovered, and other important findings were considered minor themes of the research. Finally, subthemes were incorporated to better explain and provide examples of root themes.

With the completion of the thematic analysis process, I successfully answered the two qualitative research questions of this action research study. As reported by all the participants, misunderstandings in synchronous and asynchronous online learning can be mitigated to enhance the quality of professor-student communication primarily by using videos to better assist students in their online learning. For the participants, informative videos can reduce misunderstandings as they: (1) allow students to identify with their instructors and reach out to them as needed, (2) demonstrate instructor's effort in helping students learn, and (3) allow students to build rapport with their instructor. When asked about how the intimacy and immediacy of synchronous and asynchronous online learning can be improved to enhance the quality of professor-student communication, all participants highlighted the need to ensure that there is an honest, active (two-way), and open line of communication between professors and students. One critical practice is ensuring that responses to students are timely, usually within 24 hours. There were also other themes that emerged under the last two research questions. These themes received fewer references and are mentioned below. To show which themes corresponded to which research questions, Table 4.4 contains the categorization of the participants' shared responses.

Table 4.4 *Summary of the Qualitative Study Themes*

Research Questions	Themes
RQ2. What are the perceptions of students where misunderstandings in synchronous and asynchronous online learning can be lessened to enhance the quality of professor-student communication?	**Student Perceptions: Instructor Videos Aid in Online Learning and Connections** **Perceived Sense of Belonging to the Course and Peers**
RQ3. What are the perceptions of students on how the intimacy and immediacy of synchronous and asynchronous online learning can be improved to enhance the quality of professor-student communication?	**Honest, Active, and Open Communication Line Between Professors and Students** **Timeliness is Appreciated and Beneficial* **Strategies for Constant Collaboration**

* Denotes subtheme

Research Question #2 Findings

This next section presents data that addressed second research question: *What are the perceptions of students where misunderstandings in synchronous and asynchronous online learning can be lessened to enhance the quality of professor-student communication?* The data presented in this section was collected via semi-structured interviews with six student participants. From the analysis, I found that all participants identified that the use of videos is effective both in their learning processes and in their ability to connect to their peers, the professor, and the course. All six participants indicated the effectiveness of offering student orientation modules to ensure that students

115

are aware of the course structure, requirements, and association with the course. Moreover, all six participants reported that from their perception there is a need for students to learn and familiarize themselves with the configuration and format of online learning. Two minor themes received limited references during the analysis and further research is needed to solidify their overall trustworthiness. These themes are presented but are not be discussed in detail given the inadequate number of references by the participants. The recommendations were to limit the number of students per online classroom and avoid long and confusing discussions.

Student Perceptions: Instructor Videos Aid in Online Learning and Connections

The first theme of the study results illustrates how instructor videos supported students as they navigate the online learning milieu. All interviewed participants expressed their satisfaction concerning the production of videos not only for learning, feedback, and announcements, but also to build connections with both classmates and their instructor.

According to Zion, the videos were helpful to students who were trying to adjust to new learning platforms. As Zion mentioned, "I like the videos a lot. Actually, they [the videos] kept me updated." Zion additionally noted how the videos allowed him gain to better sense of what was expected. As for Lily, she expressed that the videos were wonderful and effective tools that explain the lessons as well as encourage students to enjoy their time in online learning. Lily expressed how she appreciated the effort of her professor and even shared this experience to her peers by stating:

They [the videos] were great. I personally loved them. I love how you shouted me out. Me personally, I did great on one of the quizzes. I told like everyone about how you shouted me out. And you explained things, you gave some answers in there, which was great. So, it was good. I'm happy I listened to them [the videos].

Connor's comments aligned with Lily's statements noting that during the interview the videos "helped out a lot." Connor found that videos are more helpful as compared to written directives. He indicated that video explanations were more understandable and presented better than written directives. Connor also added that the completeness and content of the videos feel like a normal lecture being provided inside the classroom, saying "it [the videos] really helped out a lot. Sometimes when you're describing work, especially if there's a heavy module…Almost felt like the beginning of like, a lecture so to speak."

Raya concurred. She explained that videos are as effective as they are informative in terms of answering questions and clarifying issues. For her, students must watch and finish the videos because they are not only helpful but also represent the dedication of the professor. She explained the following:

I mean, I think that the expectation of commenting on the video, just to say that we watched it, it also gave us an opportunity [to ask questions]. Because if you didn't watch the video, your questions wouldn't get answered. Like, there were questions I had, and they would get answered in the video. And I was like, oh, hey, cool.

117

Overall, the participants communicated during the semi-structured interviews that feedback, and announcements videos from the instructor supported students in learning. Also, the participants expressed that the videos offered a non-traditional approach to a familiar concept in the form of a lecture.

Another positive aspect of incorporating videos into an online course was that they promote connection and interaction between students and the instructor. According to the participants, the videos allowed them to get to know their instructor and make them feel at ease despite the inability to personally see and speak with them. As for Zion, the videos allowed him and the other students to feel that their professor is approachable and accessible. Zion also shared how he appreciated that the professor is within their reach, making him feel secured as he learns online, saying:

> You know, you asked us if we needed anything like any questions, or if we had
> any problems. And you gave us the ability to comment or reach out to you. I felt
> secure, good to know that that option was always available. I like that. I
> commented many times. And you answered immediately. So, I appreciate that.

Lily had the same experience as Zion. She shared how the videos from the instructor promoted overall communication in the course. She described the videos as informational and even permitted the students to ask questions as needed. Lily added how videos also opened the communication lines between the professors and students by stating:

> I feel like since you answered a lot of the questions on the videos. If I had
> anything else I wanted or I was thinking about since you answered most of it, I

118

could easily ask you. And, like we [the class] didn't feel confused, since you

already answered most of it.

Furthermore, Moses echoed the same sentiments as the other participants, stating that the

videos signify a willingness of the professor to be approached by their students. Moses

also noted that videos are much quicker in relaying feedback and receiving questions by

commenting on the videos as compared to emails. Moses stated:

I just, I feel like it was like making us…it was easier for us to reply and kind of

reach out knowing that you were going to answer quick, they [the videos] were

always there instead of me sending an email, and you might not get a reply for

maybe a week like in other classes.

There was a function built into the videos where students could reply to videos with

questions they had. Moses felt that responding to the videos were more beneficial than

sending an email.

As shown above, all participants believed that the implementation of the COMM

Suite was beneficial and they liked the video platform used to implement the study's

intervention. The participants consistently expressed their preference for the videos

because it provided additional opportunities to connect with their instructor within the

learning community.

Perceived Sense of Belonging to the Course and Peers

The student orientation modules were used as a means to reduce

misunderstandings by building rapport, offering information, and setting standards of

119

communication for the course. According to Zion, the presentation of orientation

modules helps students familiarize themselves with expectations of the course. This was

also a key factor for Naomi as she could prepare for course modules accordingly,

affirming:

>With the student orientation module, I felt like everything was laid out; the
>
>expectations for the whole semester and what was going to happen. So, with that,
>
>being there, I was able to always go and say, okay, what are we doing this week?
>
>And it helped me understand like what you are expecting from me.

Not only were the orientation modules helpful in establishing the standards for the

course, but participants also shared that confusion and issues were reduced and even

eliminated by practicing an honest, open, and active communication with the instructor.

As Zion shared during the interview, the online platform tools and videos were highly

beneficial as these instruments encourage students to reach out to both their peers and

instructors and gather valuable information that they could use in their studies. Zion

narrated the following:

>…I enjoyed stuff like that [completing the orientation modules], because
>
>especially being online, I like to get to know, you know, the people in the course
>
>or the teacher, like, get people to know me. I've actually used that to my benefit.
>
>In classes, I've reached out to students in my class, after reading, I connect with
>
>them [peers in class] and, you know, maybe discuss things that go on in the class.

So, I think that is beneficial for sure to, especially if you can't, like, meet them in

person. To at least know something about the people taking class was nice.

Connor also shared how he was able to adjust to online learning over time. Connor felt as

Zion did, that once students can see and learn more about each other that builds

meaningful connections. Connor also noted a personal experience where he witnessed

and felt the interest of the professor as they were communicating with one another.

Connor noted:

> It's kind of just put like a, like a face to a name, so to speak. It is online learning.
>
> So, we don't have any, essentially visual contact, so to speak. But it [the
>
> introductory modules videos] kind of gives everybody an opportunity to introduce
>
> themselves, their history with recreation, there were a few questions about
>
> recreation, your hometown on there. And kind of just like set the standard of like,
>
> where they're at. I personally like doing those with like other courses as well.

A sense of belonging aligned with the survey results, which support the assertation that

all students "agreed" that the videos and the instructor's presence and communication

contributed to the course. This may further signify the success of COMM Suite and its

intention to further meaningful communication in online learning.

Reflective Journal RQ #2. Enhancing the quality of instructor-student

communication has the been the main goal of this action research study. Developing

conversations over the internet is not easy, however intentional, and sustained

communication is key. For example, in the journal, I documented one conversation was

had with a student after the first video I produced. A student sent me an email thanking me for mentioning their good work. I felt good that students were watching the videos. Also, I posed questions in the videos that elicited responses from students. Those questions made their assignments better by answering them and following the directions I laid out. The perceptions of students where misunderstandings in synchronous and asynchronous online learning are lessened to enhance the quality of professor-student communication comes from open communication from both the online instructor and the student. Online students must be a willing participant in their academics in online learning environments; to that matter, those who engaged and participated in the COMM Suite intervention felt more of a connection to the course and the instructor as noted in the survey results, thus confirming the effects of the COMM Suite.

Summary

This section presented data about the use of instructor videos aiding in online learning and the connections between the student, the instructor, the course, and their peers. The importance of communication to diminish misunderstandings between the professors and students cannot be overstated. Just as Short et al. (1976) asserted that social aspects such as humor and personal stories influenced the quality of affiliations within the participants. Connor appreciated the level of intimacy through the online course by stating "So early in the course, was crucial, because I knew when I said my response, you actually sent back a paragraph or two responding to my response, it showed that, okay, I can send an email and get an answer." Instructor videos also

contributed the participants' perceived connections. They shared that the explanations in the video were more understandable and were presented better than written directives. The participants also added that the completeness and content of the videos feel like a normal lecture provided inside a physical classroom, thereby reducing transactional distance in an online learning environment.

Research Question #3 Findings

This section presents data that addressed the third research question: *What are the perceptions of students on how the intimacy and immediacy of synchronous and asynchronous online learning can be improved to enhance the quality of professor-student communication?* The thematic analysis of the interviews showed that all participants believed that familiarity with synchronous and asynchronous online learning could be developed to increase the quality of professor-student communication by ensuring that there is honest, active, and open (two-way) communication between professors and students. In turn, there is a need for the students to show a willingness to communicate with their professors.

Honest, Active, and Open Communication Line Between Professors and Students

This theme of the action research study discusses the recommendation that all participants have an honest, active, and open communication line between professors and students. All the interviewed participants stated that clear and active communication is the key to successful online learning. Naomi shared a personal experience where she was able to experience the close guidance and support of her professor, articulating:

123

I believe, like, you sent out a zoom meeting last Friday. I was not doing too well

in the class. So, you set that meeting up. We were able to communicate with you,

whoever needed that. So that was very helpful for those students who needed that.

Naomi explained how the effort of her professor to take the time to communicate and

speak to her made her online learning experience better. As for Zion, he believed that the

intervention had been effective for him. He mentioned that the instructor's flexibility and

students' responsiveness improved communication. Zion noted:

You know…the flexibility of being able to message the professor, or ask

questions at any point, and getting a quick response to feedback is always very

beneficial, as long as that is constant, consistent, that people [the professor and the

student] are responding quickly when the communication is upheld.

Zion shared that communication would be effective if both parties were willing to

constantly participate and cooperate with one another. Essentially, he stated there should

be two-way communication between the instructor and the student in online learning.

To end, Connor suggested that online instructors should allow participants to

voice their preferences through polls or surveys. Connor explained:

Another thing too, and maybe be like, maybe taking like polls, like allowing, like

a vote, like I've had a teacher one time say, hey, do you guys want a paper or a

final? Okay, then it's like, final assignment, and students wherever live vote

through Canvas. Submit just little stuff like that, that just removes the…or helps

remove the, like, the robotic side of online learning, you know.

Connor believed that feedback from students allows them to take ownership which in turn enhances students' education.

Timeliness is Appreciated and Beneficial. One subtheme that was frequently mentioned by the participants was the value of timeliness in email responses and its relation the participants' academic motivation. According to the participants, from experience, there are negative implications when professors fail to quickly respond to students. Based on Naomi's experience, professors have different response practices and habits. Naomi recounted:

> You were within like 24 hours, I would email you, and within 24 hours you would email me back with a certain answer that I needed. Okay… So, every professor is different. I had mentioned to you before, like you would answer back within like, 10 to 15 minutes. But you would always answer within 24 hours. I have had some asynchronous professors in the past who have messaged like 72 hours later, and it was like an immediate thing that I like, I needed him to be on. And I understand, like, professors have lives and they might be on vacation, they might not be able to get to you. And that's absolutely valid. But I never got like an automatic response, like "I will not be in the office." Look, that's professionalism. Like, "I will not be able to communicate with you for this amount of time."

Naomi believed that it is always best to receive a quick response from professors as it shows their professionalism and willingness to help students. As for Zion, the availability of the instructor is a key factor in communication. Zion explained the following:

I think it's just, I guess, teacher availability. As long as the teachers, you know, I

guess constantly checking my emails and you know, Canvas messages, and

answering them as quickly as they are able to, then, you know, I think, I guess it's

up to them and their schedule. If they're [professors] dedicated to the course and

able to answer things right away, then it is very much appreciated and beneficial.

Zion believed the instructor's timely response makes a difference and demonstrates their

dedication to their students.

To conclude the subtheme, Raya also indicated that the 24-hour email response

time is acceptable and helpful for students. Raya conveyed:

Like it's going to be up to the professor and the student to have that…to both be

doing their part and not have breakdown communication. I don't think that there's

an improvement to response time other than, you know, everybody puts in their

syllabus, I think, you know, please allow 24 business hours or school hours or

whatever, for me to answer an email. And if you go beyond that, you [the student]

can send another email.

Raya felt that the instructor should clearly state their availability before the start of the

course so that expectations are established, and students are knowledgeable of the

communication time and schedule.

Strategies for Constant Collaboration

The final theme that followed was the need for other platforms where professors

and students could collaborate and update one another. Participants mentioned how it

would be helpful to have a common space or platform for the professors and students to communicate actively. According to Zion, an effective strategy would be to create group messaging where students and professors could interact with one another and ask questions then receive answers as needed. Zion stated "a strategy I would suggest would be group messaging for the teacher and the students to collaborate constantly. He went further by explaining:

> There are options out there, you know, kind of like, apps [applications], but you know, similar maybe, to Canvas, and there's a way to have a group message and send direct messages to everyone. So, everyone can view it and respond to it. And I think that would be great collaboration. We can create discussions that can be had that way.

Equally, Lily suggested that an open forum with group discussions would indeed be a great feature coupled with their current learning management system. Lily noted that the platform could be helpful in the exchange of information between all members of the course including the professor. Lily shared:

> Maybe having like, an open forum, like for some of my classes, they do that where you could just ask them, it's kind of like a group discussion. And there's a bunch of people just asking questions, and the professor answers them to each individually.

Lily was asked to explain her answer so that I could better understand her thoughts. She continued to elaborate by stating "I know a lot of people have questions, but they don't

ask them. And they're really confused. But other people like actually want to ask, and so it'd be great if there's an open forum so everyone can see." As shown in this quote, Lily wanted to have better conversations by having an open forum for students to ask questions. She also highlighted that some of her peers are less inclined to ask questions. These additional strategies could be the resources needed that could bridge the transactional gap in online learning.

Reflective Journal RQ #3. Intimacy and immediacy play a significant role in online learning (Weidlich & Bastiaens, 2017). Humor and personal stories (intimacy), along with the latency between exchanges (immediacy), and approachability are found to be highly beneficial in online learning so that a connection between two parties can be established (Anumudu et al., 2020; Dahlstrom-Hakki et al., 2020; Short et al., 1976). As noted, I documented in my reflective journal, I personally engaged students on their hobbies and interests outside of schooling as a part of the COMM Suite intervention. For instance, a former collegiate athlete took the course. I asked him his thoughts on the NFL draft, and he responded right away and we had a healthy conversation about our local team's [Jacksonville Jaguars] draft selections. Another conversation I had with a student was one about her interest in the arts as a possible career choice. I asked her what type of art she was interested in. She responded and she thanked me for asking and being interested in her passion. Having these exchanges with students only enhance the quality of instructor-student communication. Increasing instructor approachability with informal, personal, and social interactions is paramount in online learning environments thereby

confirming the results of this research study (Anumudu et al., 2020; Evans et al., 2017; Kaufmann & Buckner, 2018; Kaufmann & Vallade, 2020; Sato et al., 2017; Terras et al., 2018).

Summary

The purpose of this action research study was to explore the perceptions of undergraduate students regarding the strategies that can be used to improve the professor-student communication within the online educational setting. This final section included data from the perspectives of students who utilized the COMM Suite intervention and their views of online learning. The first component of the study contained the results of the students' perception of instructor satisfaction survey with 12 respondents. The results from the survey were analyzed using SPSS Version 27. It was then revealed that most of the participants indeed do "strongly agree" that the implementation of the COMM Suite intervention which positively influenced their intentions and attitudes toward engaging in communication with their instructors, actual interaction with instructors, and satisfaction with their instructor's interaction, thereby, confirming triangulation from all data sources in this study. Further, Cronbach's alpha demonstrated that the internal consistency of the groups of questions in the survey instrument are moderately high to highly related indicating that the survey has a high internal consistency.

Then, a thematic analysis was completed using NVivo which led to the discovery of themes from the interviews. The second research question yielded two themes: The Use of Instructor Videos Aid in Online Learning and Connections and a Perceived Sense

of Belonging to the Instructor, Course, and Peers. These themes were found to be significant to the interview participants. Specifically, all interviewed participants expressed their satisfaction concerning the production of videos not only for learning, feedback, and announcements, but also to build connections with both classmates and their instructor. The participants also shared that the videos from the instructor promoted overall communication in the course. Also, the COMM Suites and its modules were used as a method to reduce misunderstandings as it brought an awareness to the students regarding the information and requirements of the course, thereby, reducing transactional distance.

After examining the third research question, a thematic analysis of the interviews led to the discovery that all participants believed that the development of communication increases the quality of instructor-student communication by ensuring that there is honest, active, and open (two-way) communication between instructors and students. A subtheme that was mentioned by the participants was the emphasis put on the timeliness in responses and its relation the participants' academic motivation. According to the participants, there were negative implications when professors fail to quickly respond to students thus contributing to a lack of immediacy in the course. The final theme that followed were recommended strategies for other platforms where professors and students could collaborate and update one another. Participants mentioned how it would be helpful to have a common space or platform for the professors and students to communicate actively as a result contributing to intimacy in the course by communicating regularly

130

with students. The researcher's reflective journal documented positive interactions

between the instructor and students thereby confirming the findings of the action research

study. In the next chapter, I discuss the themes in relation to the literature. I also present

final recommendations, implications, limitations, along with research conclusions.

CHAPTER 5

DISCUSSION

"It always seems impossible until it's done."
~Nelson Mandela

Introduction

The purpose of this mixed-methods action research study was to explore

undergraduate students' perceptions regarding the strategies that can be used to improve

instructor-student communication within the online educational setting. This

phenomenon was explored using the theory of transactional distance and the social

presence theory. Involved in this action research study were, the COMM Suite

intervention and undergraduate students who have experienced online learning using both

synchronous and asynchronous platforms. The theoretical rationale for this action

research study was based on the social presence theory and the theory of transactional

distance, which supports the framing of my research questions around possible strategies

to improve instructor-student communication in online education. From a theoretical

perspective, the results of this action research study provide support for the viability of

the social presence theory as a framework by expounding upon the level and quality of

communication between instructors and undergraduate students in online education.

Additionally, this action research study aimed to shrink the transactional distance

between instructor and student in an online learning environment to improve students'

learning experience through more meaningful communication patterns in an online

educative setting. As such, this study addressed the following research questions:

1. How and to what extent does the implementation of the COMM Suite affect

   students' (a) intentions and attitude toward engaging in communication with their

   instructors, (b) actual interaction with instructors, and (c) satisfaction with their

   instructor's interaction?

2. What are the perceptions of students where misunderstandings in synchronous

   and asynchronous online learning can be lessened to enhance the quality of

   instructor-student communication?

3. What are the perceptions of students on how the intimacy and immediacy of

   synchronous and asynchronous online learning can be improved to enhance the

   quality of instructor-student communication?

Summary of the Findings

The goal of this action research study was to investigate the implementation of the

COMM Suite intervention, collect the perceptions and experiences related to the

intervention via semi-structured interviews, and consider strategies related to the

improvement of instructor-student communication in an online learning environment.

Due to the COVID-19 pandemic, nearly every educational system in the United States

pivoted to remote learning therefore it cannot be overstated the value of communication

in online learning. The findings deepen the consortium of knowledge related to

instructor-student communication and how to incorporate intentional communication into an instructor's pedagogical repertoire.

Survey Results

The quantitative component of the study consisted of the analysis of the student perception survey with 12 undergraduate student participants. The survey was analyzed for reliability and descriptive statistics, addressing the first research question of the study: *How and to what extent does the implementation of the COMM Suite affect students' (a) intentions and attitude toward engaging in communication with their instructors, (b) actual interaction with instructors, and (c) satisfaction with their instructor's interaction?*

Most of the responses were positive, affirming that students "strongly agree" with the statements that investigate their perceptions and experiences concerning the implementation of the COMM Suite and how the intervention influenced their attitudes toward engaging and interacting with their instructors and their satisfaction with their instructor's interaction. The majority (67%) of the participants "strongly agree" that they felt comfortable conversing through the online medium and participating in the course discussions. At the same time, 42% of the students "strongly agree" and 34 % "somewhat agree" that the online discussions helped them develop a sense of collaboration. There was a high agreement regarding the intervention's impact on daily online experiences and productivity as well.

The student's response to each item was converted to numerical form to calculate the mean and standard deviation for comparison of each statement. Responses of "Strongly Agree" were coded as a one, "Somewhat Agree" was coded as a two, "Neutral" was coded as three, "Somewhat Disagree" was coded as a four, and "Strongly Disagree was coded as a five. I calculated the mean response for each statement, indicating respondents' average level of agreement. The range of the means for the Likert-scale items were between 1.17 and 2.08 indicating that the students' perceptions were highly favorable toward the COMM Suite intervention and the instructor's efforts to cultivate communication in the online course.

The standard deviation was calculated based on the responses to each statement which indicated the variability of responses, or how consistent respondents were in their answers. The results illustrated the average response of the participating students' reaction to the academic intervention and the level of variation from that average. The mean for all nine Likert scale items were two or lower, signifying students either "strongly agree" or "somewhat agree" with the statements about how their online instructor communicates and engages with them. The standard deviations ranged from .389 to 1.311. The high standard deviation indicated the range of responses were not as closely grouped together around the means as the other items. The survey was tested for reliability using Cronbach's alpha. Cronbach's alpha (α) is equal to 0.7 – 1.0 calling to mind that the closer to 1.0 the more reliable the instrument is. The results from the survey

135

were deemed reliable with an overall Cronbach alpha score .934 indicating that the survey has a high internal consistency.

Reflective Journal

A small qualitative component of this action research study examined a reflective journal that I kept throughout the implementation of the COMM Suite intervention. The reflective journal served as an archive of additional data to create a deeper and wider picture of the study context, particularly the intervention implementation (Ivankova, 2015). The reflective journal gave me a chance to document the events of my online course, reflect on practices I learned, and then shift my pedagogy for the benefit of the students. Mertler (2017) called journaling a practice of "reflection," where the researcher critically explores what they do, and why they do it. The reflective journal serves as a valuable resource for future cycles of research.

Semi-Structured Interviews

The other qualitative component of the study had a total of five themes and one subtheme that emerged from the thematic analysis. Themes with the greatest number of references were identified understanding that these themes were the most significant findings. Subthemes were also incorporated to better explain and provide examples of the parent themes. The thematic analysis revealed that all participants reported that misunderstandings in synchronous and asynchronous online learning can be lessened to enhance the quality of instructor-student communication, primarily by using videos to

136

better assist students in their online learning. Also, a thematic analysis of the data discovered that all participants identified the use of videos as effective both in their learning processes and in their ability to connect to their peers, their instructor, and the course itself.

The second research question "*What are the perceptions of students where misunderstandings in synchronous and asynchronous online learning can be lessened to enhance the quality of professor-student communication?"* produced two themes. The first theme of the study discussed how the use of videos supported students as they navigate the online learning environment while the second theme discussed the use of student orientation modules and how those modules shrink misunderstandings while conveying an awareness to the students about the overall information and requirements of the course all while illustrating the importance of communication and connection between students.

The third research question *"What are the perceptions of students on how the intimacy and immediacy of synchronous and asynchronous online learning can be improved to enhance the quality of professor-student communication?"* produced two themes and one subtheme to better explain the first theme. The themes situated within research question three discussed the importance of feedback. The theme highlights that feedback is valuable, keeping in mind that constant and consistent communication is vital for online learning. To expound upon the first theme, the importance of immediacy arose. A subtheme was then generated explaining that timeliness as it relates to response time is

had direct implications of students' academic motivation. Essentially, the longer it took for an instructor to respond to a student, the more likely the student would become less motivated in the online course which directly correlated with their online instructor's attentiveness and responsiveness. Based on previous experiences, some of the participants expressed their desires for their instructor to be more supportive. The second theme was the need for other platforms where instructors and students could collaborate and update one another in the form of forums where questions would be asked, and the instructor could answer in a discussion board online setting.

Interpretation of the Findings

This section includes a discussion of the significance of the findings and their alignment with the literature presented in Chapter Two. The problem presented in this action research study is that the instructor-student dialogue in online learning has been described by students as challenging and unsatisfactory (Kaufmann & Vallade, 2020). Moreover, students and instructors have not yet developed the competencies to be comfortable and effective in communicating through online learning platforms (Blayone et al., 2018; Kaufmann & Vallade, 2020). By implementing the COMM Suite intervention, online instructors and students can create an online environment that is satisfactory to both parties. Below is the interpretation of findings from all data sources.

Reflective Journal. Reflective teaching is described as a process of developing lessons or assessing student learning with thoughtful consideration of educational theory, existing research, and practical experience, along with the analysis of the lesson's effect

138

on student learning (Mertler, 2017). The reflective journal was revelatory as it provided an opportunity maintain a narrative account of professional reflections throughout the semester. I used the reflective journal as an ongoing document to record my thoughts, occurrences, experiences, and observations (Ivankova, 2015). This was especially necessary in action research study. Mertler (2017) noted that when reflecting on your own teaching, the researcher must factor in three aspects: "(1) the actual event or lesson, (2) the recollection of the event or lesson, and (3) reviewing and responding to what actually occurred during the event or lesson" (p. 139). He also asserts that the third step is vital because it is where any follow-up *action* takes place, hence action research.

In my journal, I incorporated the three aspects of reflective teaching. First, every week I documented the COMM Suite and its features. By journaling this, I was able to recall the occurrences in the course, specifically those related to the COMM Suite. For example, I documented that I was not getting the viewership I expected at first. I consulted different educators for their expertise in engaging online students. They mentioned placing the videos not only in the Announcements section of Canvas, but to also send the students the video directly to their Inbox, as well as inside the weekly module. Because of their feedback, I adjusted minor teaching techniques and achieved a consistent viewership of 85%. This leads into the third and final aspect of reflective teaching as a part of reflective journaling. I was able to review what was not working with the COMM Suite and respond accordingly. As a result, the adjustments that were made were able to spark more communication. In turn, I was able to provide feedback to

students to improve social presence, allowing them to feel connected to me and the course (Lowenthal & Dunlap, 2018). The reflective journal was a valuable source of cogitation as I was able to refine the administration of the COMM Suite intervention. This set of data signified how vital reflection is to a research-practitioner. I was able to diagnose an area of improvement, pivot, and improve upon my practice.

   Survey Results. The first research question examined, *"How and to what extent does the implementation of the COMM Suite affect students' (a) intentions and attitude toward engaging in communication with their instructors, (b) actual interaction with instructors, and (c) satisfaction with their instructor's interaction?"* I answered the first research question using the data gathered from the student survey. It was found that most participants agreed with the three constructs of the research question. Specifically, most participants "agreed" that they felt comfortable conversing through the online medium, the instructor provided valuable feedback, and that the introductory modules helped build a relation with the instructor. The results of this study on instructor-student communication in online learning environments has provided an in-depth view into the perceptions and experiences of online students and how their perceptions and experiences were influenced by the study's COMM Suite intervention.

   The study's results were evident that instructor communication is vital in online learning environments. In order to achieve sustained meaningful communication, instructors must take advantage of opportunities for intentional communication. As Moore (2018) defined the transactional distance of education as the connectedness of

instructors and learners in a separated environment, I tried to shrink that distance in the online learning environment by incorporating structure and dialogue into the course. The findings are directly supported by Short et al.'s (1976) concept of perceived sense of realness called social presence. This sense of realness allows online instructors and students to establish trust in each other, which is valuable teaching relationships (Short et al., 1976). Several factors can affect social presence, including the medium of interaction and participants' behaviors, (Humphry & Hampden-Thompson, 2019; Kendall & Kendall, 2017; Short et al., 1976). The medium and behavior are the factors that the COMM Suite targeted.

The results of the Cronbach's alpha for the survey were very high ($\alpha = .934$), indicating that the survey has a high internal consistency. The mean for all nine items were two or lower, suggesting that students generally agree with the statements about how their online professor communicates and engages with them. The quantitative analysis of the survey revealed the agreement of the participants with the statements indicating their satisfaction with the implementation of the COMM Suite and its effect on students' (a) intentions and attitude toward engaging in communication with their instructors, (b) actual interaction with instructors, and (c) satisfaction with their instructor's interaction. It was reported that students generally agreed with how their online instructor communicated well, engaged with them, and provided constructive feedback on course work. The literature aligns with this finding, explaining that students expressed high levels of satisfaction in feedback provided by instructors (Després-

Bedward et al., 2018; Kaufmann & Buckner, 2018; Martin & Bolliger, 2018; Sato & Haegele, 2019). Furthermore, this component of the study also established that students agreed with the perception of their professor, providing clear instructions and clear communication. Providing clear and accessible information on course expectations and deadlines is essential in establishing a successful online learning setting (Bolliger & Martin, 2018; Evans et al., 2017; Goode et al., 2018; Kaufmann & Vallade, 2020; Khalili, 2020). Lastly, respondents only slightly agreed that online discussions develop a sense of collaboration and had an impact on interactions. However low the agreement is, the finding is still promising as discussions lead to organic conclusions that help develop or construct knowledge (Aloni & Harrington, 2018). The COMM Suite intervention incorporates many elements discussed in the literature, therefore the use of this intervention serves as a practical option for online learning environments. The next section discusses other qualitative findings in this action research study.

Supports in Online Learning. A total of five themes emerged from the analysis. Themes with the greatest number of references were identified as the study's most significant findings. Finally, one subtheme was also incorporated to better explain and provide examples of a parent theme.

The second research question investigated was, *"What are the perceptions of students where misunderstandings in synchronous and asynchronous online learning can be lessened to enhance the quality of professor-student communication?"* The first theme of the study discussed the suggestion of the use of videos to better support the students as

they navigate the connections in an online learning setting. Multiple studies presented in chapter two suggested that the use of video could enhance online learning (Karaoglan et al., 2020; Levrik et al., 2018; Yilmaz et al., 2019). Researchers also noted that utilizing video presentations or images was more effective in reducing transactional distance than text-based discussions as they provided more visual stimulations (Karaoglan Yilmaz & Yilmaz, 2020). Levrik et al. (2018), however, noted that recorded video presentations while still highly structured in nature, reduced an opportunity for feedback in real time. Yet, other literature and this study suggests that students placed value on the use of video in online learning. Participants noted that "[the videos] were great" and the made the instructor more approachable. Videos provide another sensory stimulus as students are learning, and the use of this medium was highly beneficial in capturing the learning styles and needs of many online students. Participants indicated that the videos felt like the beginning of a lecture where they were ready to engage in another method of learning. Additionally, online learning environments that do not contain video may lead to lower levels of engagement. Little to no engagement may result in negative impacts on learning as is may increase the transactional distance between the instructor and the student.

   Sense of Belonging. The second theme that followed was the perceived sense of belonging to the instructor, course, and peers. One way the COMM Suite targeted intentional belonging was to incorporate student orientation modules into the course. The use of student orientation modules to create instructor-student and student-to-student

143

connections brought an awareness to the students regarding the overall information and requirements of the course.

There was no literature presented in chapter two that pertained to student orientation modules in the context of online learning. However, student orientations are a form of instructor-student learning, and this theme supports literature pertaining to the role of communication in enhancing the online learning experience (Badia et al., 2017; Bolliger et al., 2018; Giesbers et al., 2014). The findings indicate that the inclusion of student orientations (ideally through video and connection strategies as displayed in the COMM Suite) is another way to enhance the level of social presence and reduce the transactional distance. Student orientations may also help overcome communication barriers which are commonly experienced in online learning (Abuhassna & Yahaya, 2018; Aloni & Harrington, 2018). Planning, organizing, student orientations, and the use of several mediums are all necessary components of a successful online learning experience.

Along with implementing the COMM Suite intervention came challenges in working and manipulating new forms of technology and tools within a learning management system. The literature indicated that students new to online learning might experience anxiety in speaking over an unfamiliar medium (Wolverton, 2018). I tried to combat the anxiety in students asking if they had reservations in online learning. This was done in the first student orientation module to address potential concerns. Barriers linked to social (e.g., limited contact with classmates and the instructor) and

144

communication (e.g., limitations and lack of transmitted communication between classmates and the instructor) aspects of online education were identified as potential barriers in learning (Simuth & Sarmany-Schuller, 2010). These barriers caused by anxiety represent important considerations that instructors need to contemplate before deciding when and how to utilize various types of media to communicate (Humphry & Hampden-Thompson, 2019, Simuth & Sarmany-Schuller, 2010). Even though online learning has existed for decades, instructors and online course designers continue to experience challenges in facilitating engagement (Wolverton, 2018). The challenges in engagement may be because, despite improvements in course design, any communication barrier that exists between the instructor and the student is likely to create a barrier to learning. As shown in this study, a communication barrier is likely to indicate a high level of transactional distance. Considerations among research practitioners are needed to apply these findings to future intervention research intended to reduce communication barriers based on this concept of transactional distance.

 HOT Communication. The third research question addressed in this study was, *"What are the perceptions of students on how the intimacy and immediacy of synchronous and asynchronous online learning can be improved to enhance the quality of professor-student communication?"* The theme that was gleaned from this research question discussed the recommendation of all participants that there must have honest, active (two-way), and open line of communication between instructors and students at all times. The literature highlighted the value of continuous feedback as a facilitator for

145

success (Humphry & Hamden-Thomson, 2019; Lowenthal et al., 2017; Robinson et al., 2017). Humphry and Hampden-Thompson (2019) emphasized the importance of positive feedback, patience, and empathy in instructors, as some students had reported feeling negative emotions toward instructors who interrupted them or showed impatience when interacting with them. For instance, Naomi noted that "I was not doing too well in the class. So, you set that meeting up. We were able to communicate with you…So that was very helpful for those students who needed that." These findings serve as an indication that active and open communication between instructors and students is a key component of online learning success in higher education. While this may seem intuitive, it is an often-neglected concept by instructors and course designers and is detrimental to students' learning (Richardson & Lowenthal, 2017). Interactions initiated by the instructor to the learner can take many forms, from relaying information, providing inspiration and motivation, to offering constructive feedback on students' work (Abuhassna & Yahaya, 2018). These types of interactions were central to the function of the COMM Suite.

Benefits of Timeliness. A subtheme that was noted to better explain the honest, active, and open communication theme was timeliness as it relates to responses. Participants in this action research study communicated their appreciation for timely responses from the instructor which was confirmed by the literature. Naomi disclosed, "You were within like 24 hours, I would email you, and within 24 hours you would email me back with a certain answer that I needed." Taking longer times to respond in an

146

interaction translates into a low level of immediacy and may reduce social presence (Anumudu et al., 2020). The inclusion of as many sensory and communication channels as possible and the provision of timely and constructive feedback are critical in facilitating successful experiences for students and instructors involved in online learning within higher education.

Strategies for Constant Collaboration. The second theme related to the third research question was the need for other platforms where instructors and students could collaborate and update one another. Numerous studies demonstrated how collaboration was critical in online environments (Dunlap & Lowenthal, 2018; Hajibayova, 2017; Racheva, 2018). Racheva (2018) recommended interchanging individual work, small group work, and whole-class activities as some students excelled at individual work while some preferred collaboration. Zion suggested that there be a group messaging platform so that the instructor and students can be in constant communication. Aligned with that suggestion, Dockter (2016) reported that regular and more informal communication from instructors may reduce the transactional distance between instructors and students. Similarly, Lily wanted an open forum to exchange information related to the course.

Recognizing that students read, write, and learn at different levels, Dockter (2016) recommended switching between various forms of communication to avoid hindering certain students. Additional forums, platforms, and mediums could be what is needed for sustaining students' interest in online learning. Researchers have provided

147

recommendations such as setting clear rules, guidelines, and expectations (Lowenthal et al., 2017; Wolverton, 2018; Yilmaz & Keser, 2017); limiting the class size and collaborative projects (Kara & Can, 2019; Lervick et al., 2018; Racheva, 2018; Wolverton, 2018); and setting virtual office hours for consultations (Kara & Can, 2019; Lowenthal et al., 2017; Martin et al., 2018). While collaboration is essential to learning in higher education, there remain gaps regarding how to overcome barriers that exist. Barriers such as difficulty adjusting to new learning styles, having additional responsibilities at home, and (what this action research study aimed to address) poor communication or lack of clear directions from educators were found to need more investigation and discussion (Baticulon et al., 2021). Findings from this study partially address some of these gaps and reflect how communication and clarity of feedback can play essential roles in addressing these barriers.

Summary

The findings from this study had significant implications for the theories presented in chapter two. As discussed in chapters one and two, the theoretical rationale for this action research study was based on the social presence theory and the theory of transactional distance, which supports the framing of my research questions around possible strategies to improve instructor-student communication in online education. A considerable amount of research presented in chapter two regarding online education recognizes the importance of social presence and transactional distance in the online classroom setting (Holbeck & Hartman, 2018; Karaoglan Yilmaz, 2017; Quong et al.,

2018). Proponents of the theory of transactional distance then posit that, although the spatial and temporal distance may indeed pose challenges for learners and instructors (Bolliger & Martin, 2020; Schreiber & Jansz, 2020), the instructor may overcome these challenges with the right techniques and tools (Holbeck & Hartman, 2018; Sato & Haegele, 2019). Results from this study confirm online instructors' obligation to reduce the transactional distance between students to maintain commitment to the course content, peers, and the instructor.

This action research study provides support for the viability of social presence theory as a framework expounding upon the quality of communication between instructors and undergraduate students in online education. The social presence theory presented a valuable framework in understanding how the then-novel technological developments influenced communication and learning (Aliabadi & Zare, 2017; Cherney et al., 2017; Lowenthal & Dennen, 2017). Students are likely to prefer the highest level of social presence as possible, as well as efforts (pedagogical practices) that reduce any type of transactional distance which may likely reduce the quality and quantity of communication and feedback. Additionally, this action research study aimed to shrink the transactional distance between instructor and student in an online learning environment.

There is an ongoing debate about best practices for teaching in online learning environments (Lassoued et al., 2020; Schreiber, & Jansz, 2020; Schuler et al., 2021). The findings in this study add to the literature on social presence and transactional distance in many ways. First, Kaufmann and Vallade (2020) noted that, when considering student

149

outcomes such as learning, focusing on learner-instructor interaction is crucial. Certainly, this is evident through what the COMM Suite accomplished and the findings in this study. Second, Gavrilisr et al. (2020) highlighted the importance of learner-instructor interaction as a way to build relationships and enhance satisfaction with their online education. My approach to communication and relationship building were seemingly novel with their own experiences with online students keeping in mind the social presence theory. This leads into the third contribution. While Dahlstrom-Hakki et al. (2020) drew upon Short et al.'s (1976) definition of intimacy and immediacy, the COMM Suite aimed at maintaining Short et al.'s true nature of equilibrium. Finally, as Warr and Sampson (2020) noted in their study of critical dialogue in online learning, the use of asynchronous video by students noting that asynchronous videos "felt more personal" (p. 5). Yet, their study did not include an exploration of the instructor's perspective via the use of asynchronous video. Thus, the findings in this research study added to a deeper exploration of the instructor's role, via the reflective journal, within the online learning setting. Illustrating the connection between the literature and the intervention verifies to research-practitioners this study is supported by sound research. The following section reflects how Canvas was utilized to communicate with students.

Canvas Learning Management System

The Canvas Learning Management System is an outstanding vehicle for opportunities of engagement among online instructors and students. There is a wealth of analytic data that can be useful and informative to online instructors. For instance, there

are two features within Canvas that instructors should utilize frequently—the "People" tab and the "Weekly Online Activity" tab. I used the "People" tab most often. Not only does it allow an instructor to view the students, but it also allows an instructor to view the total amount of time a student has worked in the course, including the last time and date a student was active and inside the course. Viewing the timestamp of a student's last visit to a course in Canvas allows for instructors to gauge whether a student needs assistance. A student's time inside the course can be a determining factor on whether a student is learning.

As I used The Canvas Learning Management System during this study, I was able to identify openings to communicate with students who are not as active and those students who are not performing well in the course. The more I can be a resource for them, the more likely they will engage with me, and in turn, have a higher chance of succeeding. Another component of Canvas that was useful, was a view of student's "Weekly Online Activity." This feature gives a total number of page views and a total number of the participations for a student in a week. An active online instructor can view a student's participation and compare past weeks participation. Based on this information, instructors can follow-up with a student accordingly. Using Canvas' analytics only benefits the online instructor and having these extra tools in an online instructor's arsenal only provide a better experience for the online student. The following section considers future research and practice in online education.

Future Research and Practice

Recommended for future research are various other platforms where online instructors and students can collaborate and update one another. Participants in my research study mentioned how it would be helpful to have a common space for the online instructor and students to communicate actively, and as a result, would contribute to the intimacy and immediacy in an online course. Adding a common space or platform could further amplify the scalability of the COMM Suite. Using platforms such as Yellowdig or creating and following a hashtag could further enhance the COMM Suite range, scope, and enjoyment.

The potential effect of communication interventions could also be extremely important to improving student learning. Thus, exploring these practices might illustrate direct correlations with communication and an online student's academic achievements. Future practice could change how online education is viewed, creating a broader shift to online education. Not only have many educational institutions made a hurried switch to online, but future iterations of this the practices implemented in this study could determine how online education can be refined.

The generality of the COMM Suite is one of its advantages. The COMM Suite is a highly adaptable intervention that can be transferred to any subject material. Even though I teach a specific subject matter, the COMM Suite is not named for that subject intentionally. In particular, COMM Suite is not about content, but it is a method and tool that can be used to inform, give feedback on assignments, communicate, and engage

online students. Even though the intervention that was implemented seemed to have a positive role in reducing transactional distance, there is still room for future action research studies that aim to reduce transactional distance through other factors not identified in this study. For instance, collecting data from students about other forms of communication and its impact on student learning with the sole purpose of increasing student achievement is an area for further research. Kara (2020) signified that the different types of interactions were all significant in improving student outcomes. The potential effect of communication interventions could be extremely important as future research can show direct correlations with communication and an online student achievement.

Being that this is an action research study, it is only logical to move this research beyond this project to new cycles. Action research is cyclical in nature and is continually evaluating and planning for a new cycle (Mertler, 2017). First, the next cycle, cycle two, I will broaden the scope of communication for my online students. This study considered the experience of online students within a Learning Management System using instructor produced videos and personalized written feedback. The next cycle will incorporate one other communication platform to connect and engage with online students. Specifically, Yellowdig will be the next communication platform that will be implemented due to its use in higher education settings, social media inspired design, and functionality, thus broadening the scope of the COMM Suite and contributing to social presence in the course. Refinements to the current intervention model will be based upon Zion and Lily's

153

input and the literature (Bolliger & Martin, 2018; Dockter, 2016). Zion and Lily suggested an open forum would be helpful communicating with students and for the exchange of information related to the course while the literature suggests that regular and informal communication from instructors may reduce the transactional distance between instructors and students (Bolliger & Martin, 2018; Dockter, 2016).

After cycle two I will add a correlational study to cycle three of my research. I will examine the direct correlations between communication and an online student's achievement. I look to expand Abuhassna and Yahaya's (2018) study which only analyzed online learning and students' achievement, autonomy, and satisfaction. I want to go further by adding communication as a caveat to student achievement. Research shows that instructors who engage with their students made the students feel like they achieve their learning outcomes and engage even more with the course (Bolliger & Halupa, 2018). Additionally, a correlational study would examine the relationship between student achievement and communication in the online learning environment. The following section includes a discussion of limitations that were present in this study.

Limitations

As with all mixed methods and action research studies, some limitations were present that warrant consideration (Goode et al., 2018). Given the nature of this action research study, some of the results may have been skewed because of the instructor-student relationship. Conceivably, some students may have felt obligated to participate because I was the instructor of the course. Students may also have provided inaccurate

154

information in an effort to give a positive perception of their identities as students. To address these potential limitations, (1) interviews were conducted after final grades were recorded, (2) I emphasized that participation was voluntary and that no negative consequences would occur if they declined to participate, and (3) Amazon gift cards were distributed to participating students.

Another potential limitation of this action research study was the lack of face-to-face interaction with the participants. I conducted all interactions with participants online via Zoom and the Canvas Learning Management System. Safety measures were heavily considered because of possible health complications of face-to-face interviews during the COVID-19 pandemic. Given that the current action research study's topic was instructor-student communication in online learning environments, conducting the interviews through Zoom may have further enhanced the data collection process by adding to the authenticity of the communication and interview conversations. However, conducting Zoom interviews could have contributed to a lethargy that is associated with remote learning which is discussed as the next limitation.

A third limitation which may have prevented some individuals from participating in the research study was digital fatigue and Zoom fatigue. Digital fatigue is a prolonged discomfort that may emerge from extensive time engaging with digital technology, such as desktop computers, laptops, or smartphones. Zoom fatigue results from how we process information over video (Fosslien & Duffy, 2020). On a Zoom or video call to show attention participants in a meeting must look at the camera. The "constant gaze"

155

into a camera makes the meeting participant uncomfortable and tired resulting in fatigue (Fosslien & Duffy, 2020). During the COVID-19 pandemic, students had to adapt to remote learning which comes with its challenges. These challenges include taking responsibility for their learning which comes with a shift from passive learning that transpires with lectures, to that of an active, learner-centered approach (Schuler et al., 2021). The Center for Disease Control and Prevention (CDC) (2020) reported that physical separation and social distancing, coupled with the expectations of remote learning, impact student psychological well-being and learning through heightened stress, fear, and anxiety. The results of these limitations and the large number of items presented in the intervention may have resulted in digital and Zoom fatigue which in turn could have contributed to attrition.

Implications

The results of this mixed-methods action research study could be instrumental in the identification of different strategies that could lead to more effective and productive communication between instructors and undergraduate students during their online educative interactions. Communication in an online learning environment is particularly important given the nature of the platform where traditional interacting methods are absent (Vallade & Kaufmann, 2018). Given that previous researchers such as Kaufmann and Vallade (2020) and Aloni and Harrington (2018) have identified problems with instructor-student dialogue in online learning because of the perceptions of such

156

communications being difficult and challenging, findings from this study help to address this current problem.

This action research study offers insight into the general problem which considers that students and instructors have not yet developed the competencies to be comfortable and effective in communicating through online learning platforms and the specific problem which is that the instructor-student dialogue in online learning has been described by students as challenging and unsatisfactory (Blayone et al., 2018; Kaufmann & Vallade, 2020). Additionally, this action research study's results help fill gaps in praxis and knowledge pertaining to the specific problem. Results help fill a gap in the literature by clarifying how instructor-student communication in synchronous and asynchronous online educational settings can be improved based on undergraduate students' perceptions. This gap was based on previous researchers who identified the need for more studies to address the limitations of the current literature. For instance, Bolliger and Martin (2018) and Bolliger and Martin (2020) recommended that future researchers explore how students can be engaged in the online educational setting, given the lack of understanding of the experiences of students in this platform. Furthermore, Karchmer-Klein et al.'s (2019) research focused on learning opportunities and not learning outcomes insisting that future studies should focus on student perspectives in online learning environments.

Based on the social presence theory and the theory of transactional distance, improving the communication between instructors and students in online learning were

an integral part of this action research study. More specifically, the intimacy and immediacy components of the social presence theory offered important insights into this phenomenon. The findings of this study can be used to develop teaching and learning strategies as well as develop future online courses and support online instructors' preparation. The following section concludes the chapter.

Concluding Thoughts

I began this research with a desire of improving communication with online students and improving my pedagogy as a certified online instructor. Several cycles of action research later, there is noticeable development. I commend my students who participated in this study as they let me be authentically me as I incorporated an intervention that was uncomfortable at times and laborious. Their approach and response to the COMM Suite was impressive. The students leaned into it, offering me unexpected conversations allowing a better insight into what they needed and who they were not just as students, but holistic individuals. The videos I produced and the conversations I had were for the students, targeted at them, personal to them, and conscious of them. It is uncertain at this time what long term outcomes the COMM Suite intervention will have as far as how they communicate in future online courses. What I can speak to is that those students that leaned into the intervention had a personal connection to the course, the instructor, and received favorable scores in the course.

Administering the intervention was not without its challenges. The COVID-19 pandemic created a paradigm shift with how the United States and the world taught and

viewed education. Educators everywhere had to reevaluate their craft and adjust their

pedagogy to meet students in a virtual setting that was unfamiliar to all parties. Educators

sacrificed plenty by teaching online. However, what educators could not and would not

sacrifice was their standard of instruction. The COMM Suite aimed at providing a

justified approach for insight, methods, and pedagogy that supports systematic

progression designed to encourage and engage online students. The COVID-19 pandemic

created opportunities to expand the role of online learning in higher education. The

COMM Suite was born out of those opportunities.

This action research study provides a practical insight into what online instructors

are needing and wanting so they can reevaluate, rethink, and redesign their curricula to

successfully meet the needs of their students. It is apparent that online higher education

will be even more prevalent in the future. My hope is that this study contributes to the

online learning process. The goal of this research study was to cultivate positive

relationships, create an inclusive atmosphere, and by doing that intentional and

meaningful conversations must be had. As each educational institution continues to adapt

to the everchanging landscape of online learning, continued program and pedagogical

development and refinement (in the form of cycles of research) are needed for online

educators to achieve sustained success in the virtual milieu.

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161

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APPENDIX A

CONSENT LETTER

H.O.T. Communication: Honest, Open, & Two-way:
Examining Communication in Online Education

I am a graduate student under the direction of Dr. Carrie Sampson in the Mary Lou Fulton Teachers College at Arizona State University. I am asking you to participate in this study because you are a student in LEI 3004, Introduction to Recreation, Tourism and Events. I am conducting a research study to facilitate and foster positive communication between online instructors and students.

I am inviting your participation, which will involve completing an interview. In the interview you will be asked questions regarding on how you perceive yourself connected to the course and instructor. It should take approximately twenty (20) minutes to complete the interview. You have the right not to answer any question, and to stop at any time. Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty whatsoever and it will not affect your standing at the university. You must be at least 18 years of age or older to participate in the study.

The benefit to participation is the opportunity to reflect on communication between online instructors and students. Results will also inform future iterations of the work on this issue.

There are no foreseeable risks or discomforts to your participation. Your responses will be confidential. The results of this study may be used in reports, presentations, or publications but your name will not be used. I would like to audio record the interview to explore your responses more closely. Please let me know if you do not want to be audio recorded. You can change your mind after we start.

If you have any questions concerning the research study, please contact Idris Mayo at i.mayo@unf.edu, Carrie Sampson at csampso4@asu.edu. 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 the Chair of the Human Subjects Institutional Review Board, through the Arizona State University Office of Research Integrity and Assurance, at (480) 965-6788.

Your verbal agreement indicates your consent to participate.

APPENDIX B

INTERVIEW QUESTIONS

1. How would you describe your experience with professor-student communication in synchronous and asynchronous online learning in this course? What are some of the differences between the two platforms, if any?

2. How did the Student Orientation Module develop your communication with your instructor in this course?

3. What did you think of regular videos from your instructor in this course?

4. Did these videos heighten your chances to communicate with your professor? If so how? If not how?

5. What are some of the misunderstandings that occur during synchronous and asynchronous online learning that have affected your experience with professor-student communication in this course?

6. How might these misunderstandings be minimized to improve communication?

7. How would you describe the personal nature of synchronous and asynchronous online learning in this course?

8. How can the personalized part of online learning be improved in order to enhance the quality of professor-student communication?

9. How would you describe the timeliness (as it relates to response time) for synchronous and asynchronous online learning and its impact on the quality of professor-student communication in this course?

10. How can the timeliness (as it relates to response time) of online learning be improved in order to enhance the quality of professor-student communication in future courses?

11. What other strategies do you think can help in improving the professor-student communication in online learning in future courses?

APPENDIX C

STUDENT PERCEPTION SURVEY

	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
1. The instructor provided clear instructions on how to participate in course learning activities.					
2. The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.					
3. The instructor provided feedback that helped me understand my strengths and weaknesses.					
4. I feel comfortable conversing through the online medium and participating in the course discussions.					
5. The online discussions help me to develop a sense of collaboration.					
6. The online instructional videos help me this semester.					
7. The introductory modules help me build a relationship with my professor.					

8. Did your professor clearly communicate learning objectives for this course?					
9. Did your instructor help keep you engaged and participating in productive dialogue?					

9. If so how?

_____

_____

10. What are your thoughts on your instructor's communication throughout the course that you were in this semester?

_____

_____

183

APPENDIX D

ARIZONA STATE UNIVERSITY IRB EXEMPTION

EXEMPTION GRANTED

Carrie Sampson
Division of Educational Leadership and Innovation - West Campus
-
csampso4@asu.edu
Dear Carrie Sampson:

Type of Review:	Initial Study
Title:	H.O.T. Communication: Honest, Open, & Two-way: Examining the Effectiveness of a Communication Suite in Online Education
Investigator:	Carrie Sampson
IRB ID:	STUDY00010800
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Interview Consent Form / Recruitment Letter, Category: Consent Form; • Interview Questions, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • IRB Protocol, Category: IRB Protocol; • Survey Consent Form / Recruitment Letter, Category: Consent Form; • Survey Instrument, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

On 1/4/2021 the ASU IRB reviewed the following protocol:

The IRB determined that the protocol is considered exempt pursuant to Federal

Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 12/18/2020.

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

185

If any changes are made to the study, the IRB must be notified at research.integrity@asu.edu to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

Sincerely,

IRB Administrator

cc: Idris Mayo

   Danah Henriksen

        Idris Mayo

APPENDIX E

UNIVERSITY OF NORTH FLORIDA IRB EXEMPTION

Office of
Research and
Sponsored
Programs 1
UNF Drive
Jacksonville, FL 32224-2665
904-620-2455   FAX 904-620-2457
Equal Opportunity/Equal Access/Affirmative Action Institution

MEMORANDUM

<table>
<tr><td></td><td></td><td>UNF IRB Number: <u>1703468-1</u>
Exemption Date: <u>03-09-2021</u>
Processed on behalf of UNF's IRB <i>CC-S</i>.</td></tr>
</table>

DATE: March 10, 2021

TO: Mr. Idris Mayo

                      DL Academic Coaches - COEHS

FROM: Dr. Jennifer Wesely, Chairperson

                      On behalf of the UNF Institutional Review Board

RE: Declaration of Exempt Status for IRB#1703468-1

                      "H.O.T. Communication: Honest, Open, & Two-way: Examining the
                      Effectiveness of a Communication Suite in Online Education"

Your above-referenced study was reviewed on behalf of the UNF Institutional Review Board and has been declared "Exempt" under category 2.

Dr. John Kantner, Associate Vice President for Research, has given permission for you to recruit your former students for participation in this research after final grades for the spring 2021 term have been submitted.

Please be advised that any subject complaints, unanticipated problems, or adverse events that occur are to be reported to the IRB as soon as practicable, but no later than 3 business days following the occurrence. Please use the Event Report Form to submit information about such events.

188

While the exempt status is effective for the life of the study, any substantive changes must be submitted to the IRB for prospective review. In some circumstances, changes to the protocol may result in alteration of the IRB review classification.

To submit an amendment to your exempt protocol, please complete an Amendment Request Document and upload it along with any updated materials affected by the changes via a new package in IRBNet. For additional guidance on submitting an amendment, please contact the IRB administrator.

Upon completion of this study, please submit a Closing Report Form as a new package in IRBNet. Please maintain copies of all research-related materials for a minimum of 3 years following study closure. These records include the IRB-approved protocol, approval memo, questionnaires, survey instruments, consent forms, and all IRB correspondence.

Should you have questions regarding this determination, please contact the Research Integrity unit of the Office of Research and Sponsored Programs by emailing IRB@unf.edu or calling (904) 620-2455.