

VIDEO COMMUNICATION: EXPLORATIONS OF COMMUNITY AND  
CONNECTEDNESS, AND CLOSENESS IN ONLINE COURSES

by

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## DEDICATION

*“I was curious to see just what the course was like and curious as to just what I might do if I had to sit down and write something, rather than just think about it.”*

- Bernard McLeod Belt

To my grandfather, Bernard Belt, who I never met in life but whose personal writings inspired my interest in scholarship. To my father, Scott Belt, whose fairness and work ethic inspired my pursuit of knowledge. To my mother, Kathi Belt, whose passion and benevolence inspired my mindfulness of others. To my sister, Alison Belt, whose dedication to overcoming challenges inspired my resiliency. To my wife, Michelle Belt, whose grace and unwavering support inspired my commitment. To my sons, Cole and Drew, may you forever be curious and have the courage, moral or otherwise, to act on that curiosity deliberately. To these family, whose examples continually reverberate through the music of my life, I dedicate this body of work.

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## ABSTRACT

Educators and students are using synchronous and asynchronous video communication technologies in unprecedented ways given the ongoing global pandemic. Despite continued educational research on video communication technology, less is known about the social implications of these forms of communication. Online learning has faced challenges (e.g., learner isolation, technological competency, and time management) since its inception; these challenges have been exacerbated in the rapid transition to emergency remote teaching. Given problems like these, additional research is needed to better understand how video communication technology can be used to improve communication and interaction in online learning. The following dissertation presents a series of qualitative studies aimed at exploring the communicative aspects of community and connectedness with video communication technology in the context of online teaching and learning. Chapter one presents an introduction to this research space and a statement of the problem that exists in text-based communication and how video communication may address some shortcomings of text-based communication online. Chapter two presents a synthesis of the literature on more recent (i.e., 2010-2020) uses of video as a teaching tool in online and blended courses; the themes that emerged from this study help identify common interdisciplinary uses of video communication technology and help identify gaps in the literature. The gaps identified led to two different studies. Chapter three presents an exploratory study of faculty perceptions of synchronous video-based communication technology in online courses relative to classroom community

building and development; the themes that emerged from this study help highlight the potential of visual communication in community building and identify a need for pedagogical tact in synchronous sessions. Still, this study suggests that synchronous sessions in traditionally asynchronous online courses are not the only ways in which community may develop. Chapter four presents a phenomenological study of doctoral students' lived experiences of the teacher-student relationship with online teachers; the thematization of aspects in this analysis suggests that prolonged communication and interaction between teacher and student are not the only ways that students may experience a sense of connectedness to online instructors. The two studies that comprise chapters three and four, respectively, inform an understanding of the communicative aspects of community and connectedness in different ways and from different perspectives that illuminate the qualitative consequences of video communication in online teaching and learning. In chapter five, a summary and synthesis of these three studies is presented along with implications for practice and areas in need of further research.

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## CHAPTER ONE: INTRODUCTION

Online learning continues to grow. Higher education institutions in the United States, in particular, continue to experience steady growth in enrollments in online courses and programs year-to-year (Allen & Seaman, 2017). Moreover, the 2020 global pandemic forced many faculty and students to shift to some type of remote or online learning format; Hodges et al. (2020) argue, though, that it would be more accurate to refer to much of this as “emergency remote teaching.” While emergency remote teaching was born out of necessity, the experience illuminated many of the benefits and challenges of/associated with online teaching and learning. Among other things, the transition highlighted the need for further research into the affordances and constraints of video communication technologies for teaching and learning (Lowenthal et al., 2020; Lowenthal et al., 2021).

Advances in video communication technology have created opportunities for greater interaction among faculty and students in online courses (see Themelis & Sime, 2020). Yet, in practice, I contend that the interaction between faculty and students is often limited when using asynchronous or synchronous video in online courses. Difficulties with technology aside, the interaction is limited in the sense that the communicative exchanges taking place between teacher and student is frequently transmissive or transactional and less frequently self-actualizing or holistic (Miller, 2019). Less is known about the affordances of video communication technology and

whether its potential is being realized in educational settings (Borup et al., 2015; Lowenthal et al., 2021).

Research suggests that video communication technology has the potential to provide rich interaction (Borup et al., 2012; Lowenthal et al., 2021; West & Borup, 2021). Visual aids, screensharing, whiteboards, screencasts, quizzing, polling, and a myriad of other affordances of synchronous and asynchronous video communication are available for use in educational settings. However, more research is needed to better understand the full complexity of such richness. Previous research has established many of the advantages of and barriers to video communication technology. Some advantages have been found to include: student control (Beale et al., 2014), teaching presence (Borup et al., 2015; Szeto, 2014), and interactivity (Martin & Parker, 2014). Some barriers have been found to include: resources and support (Dinmore, 2019), development time (Green et al., 2018), and technical difficulties (Dahlstrom-Hakki et al., 2020; Martin et al., 2012; Wang & Huang, 2018; Olson & McCracken, 2015). However, few studies have focused on the communicative aspects of using video communication technology, such as its ability to help develop a sense of connectedness and community, for example, in online courses.

### **Statement of the Problem**

Computer-mediated communication in asynchronous online courses is predominantly text-based (Garrison et al., 2000; Hrastinski & Keller, 2007; Luppicini, 2007; Romiszowski & Mason, 1996). While research has shown that social presence and community can develop in text-based environments (e.g., Garrison et al., 2000), many criticisms of online learning focus on the limitations of asynchronous text-based

communication (Ice et al., 2007; Oomen-Early et al., 2008). For instance, text-based communication can create ambiguity (Park et al., 2012; Zhou et al., 2004), it can place increased demands on learners (Hron & Friedrich, 2003), and it can be difficult to communicate emotion (see Walther, 1996). Video communication though could address many of the shortcomings of text-based communication. For instance, video communication technologies may reduce feelings of isolation common among online learners as well as reduce the transactional distance among faculty and students (Lowenthal et al., 2020). While researchers have explored student perceptions of social presence, connectedness, and community in many different ways in online learning (see Andel et al., 2020; Biocca et al., 2003; Cornwell et al., 2008; Grieve et al., 2013; Hagenauer & Volet, 2014; Hutcherson et al., 2008; Lowenthal, 2010; Rice, 1993; Townsend & McWhirter, 2005; Tu & McIsaac, 2002; Whitlock, 2007), few studies have explored the communicative aspects of community and connectedness with video communication technology uses in the context of online teaching and learning. Thus, the social aspects of video communication technology in asynchronous and synchronous settings remains a nascent field of inquiry (West et al., 2017). Given this, further research is needed to explore the emotive potential of video communication technology and how asynchronous or synchronous video use might influence perceptions of community and connectedness in online learning settings.

### **Purpose of the Dissertation**

In response to a need for further research in a nascent field of inquiry, the purpose of this dissertation was to explore the communicative aspects of community and connectedness with asynchronous and synchronous video communication in online

settings through a structured sequence of investigations, also known as an article dissertation. Each of these investigations are described in more detail in the following section.

### **Structure of the Dissertation**

This article-based dissertation conforms to the five-chapter structure of a traditional monograph dissertation. Table 1.1 provides an overview of the three studies including the purpose, type, and sample; additional details on each study are provided later in this chapter.

**Table 1.1 Overview of Three Studies**

	<b>Study 1</b>	<b>Study 2</b>	<b>Study 3</b>
Purpose of study	To synthesize what is currently known about the use of video as a teaching tool in online and blended courses.	To explore faculty perceptions of community while using synchronous video communication technology in online courses.	To describe doctoral students' lived experiences of the teacher-student relationship with online teachers or professors.
Type of study	Literature Review	Qualitative Exploratory	Phenomenological Study
Sample	N/A. 64 studies selected that met inclusion criteria were coded, themed, and synthesized.	18 faculty completed structured interviews.	11 graduate students in the BSU EdTech EdD program.

#### Chapter One: Introduction

This first chapter describes the statement of the problem, purpose, and structure of the dissertation. The studies in this body of work were designed to investigate different aspects of video communication technology including a review of the literature, faculty



perspectives of synchronous communication technology in building community online, and doctoral students' lived experiences of the teacher-student relationship in their online courses. The findings address some gaps in the literature and add to a nascent field of inquiry.

### Chapter Two: Study 1 - Literature Review

The second chapter of this dissertation is a literature review. The purpose of this literature review was to synthesize research on the use of video as a teaching tool in online and blended courses. A systematic approach was used to identify 64 peer-reviewed studies published from 2010 to 2020. A qualitative synthesis of the studies resulted in four themes: delivering video lectures, fostering discussions with video, using video assessments and feedback, and creating video check-ins. Each theme and related research are discussed in the chapter as well as gaps in the literature and recommendations for future research. The manuscript was accepted and published in *Distance Education*. The study presented in chapter two is identical to the published version except for some formatting changes.

### Chapter Three: Study 2 - Qualitative Exploratory Study

The third chapter of this dissertation reports on a qualitative investigation of faculty perceptions of synchronous video communication technology in online courses. The purpose of this study was to explore instructor perceptions of synchronous communication technology. Thematic analysis of semi-structured interviews with 18 online instructors resulted in five themes: instructors use synchronous communication technology in multiple and various ways, benefits of real time visual communication outweigh drawbacks, benefits of nonverbal communication depend on situational factors

and how synchronous features are used, productive and meaningful interaction require intentional (i.e., predetermined instructional use such as lecture, discussion, or assessment) yet flexible facilitation during synchronous sessions, and synchronous sessions can provide a place for community to build and grow but they are not required for community development. Findings suggest that real time visual communication may aid in community building in online courses but that its effectiveness depends on a number of situational factors. The results of the study and future research directions are all discussed in this chapter. The manuscript included in this chapter is currently under review at *Education and Information Technologies*.

#### Chapter Four: Study 3 - Phenomenological Analysis

The fourth chapter of this dissertation includes a phenomenological analysis of doctoral students' lived experiences of the teacher-student relationship with online instructors. Student experiences of closeness in the teacher-student relation can be of profound influence. Better understanding the personal and emotional contexts of such a phenomenon are of critical importance, especially in online and blended learning environments where students and teachers are physically or geographically separated. Such physical distance between teachers and students may diminish or heighten experiences of closeness in this relation. However, less is known about student experiences of the relational quality of closeness with teachers in distance learning environments. The purpose of this study was to explore and report on such experiences of closeness. Semi-structured interviews with doctoral students, doctoral candidates, and recent graduates from a fully online graduate program were conducted. A phenomenological analysis was used to shed light on closeness in the postsecondary

teacher-student relations that unfold online. The analysis led to the thematization of four aspects or sets of aspects of closeness in the teacher-student relation: direct teacher-student communication, indirect teacher-student communication, student self-relation, and style or the communication of personality (teacher persona). Through descriptions and researcher commentary on selected accounts of students' lived experiences, this study suggests that the interplay of these four aspects are inseparable from the relational quality of closeness in the teacher-student relation. Further, prolonged exposure to these aspects may provide greater opportunities for closeness to emerge in this relation, but such exposure is not required to experience closeness. Findings and avenues of future research are discussed in this chapter. This manuscript has not been submitted for publication yet; I plan to submit it a journal after completing my oral defense.

#### Chapter Five: Conclusion

The fifth chapter of this dissertation discusses the key findings across the three studies. This dissertation adds to a growing body of research in video communication technology in a structured sequence of investigations. The first study provides a recent review of the literature on asynchronous and synchronous video communication technology uses in online and blended courses. This study highlighted how the social implications of video communication technology are under-researched. The second study provides a qualitative investigation of faculty perceptions of synchronous video-based communication technology in online courses. This study highlighted how faculty uses of synchronous communication technology can provide a place for community to build and grow but they are not required for community development in online courses. The third study provides a phenomenological analysis of the teacher-student relation in an online

graduate program. This study highlighted how prolonged exposure to the communicative aspects of the teacher-student relation provide greater opportunities for a student's sense of closeness to emerge, but such exposure is not required to experience closeness. This study also suggests that the terms *connectedness* and *closeness* may be indicative of separate lines of research on teacher-student relationships. Studies two and three explored different communicative aspects of community and connectedness from multiple perspectives. Findings from all three studies inform a collective and timely understanding of what is currently known about the uses of video communication technologies in online courses and how faculty and students perceive connectedness and community while engaging with these educational technologies. This chapter concludes with a discussion of areas of future research.

### **Chapter Summary**

This chapter outlined a series of qualitative investigations centered around video communication technology in online courses. Findings from each study enhance our collective understanding of the communicative aspects (e.g., connectedness and community) of synchronous and asynchronous video use in online courses. Faculty, students, and instructional designers will gain a deeper understanding of the influence and affordances of such educational technologies. Findings from these studies led to some implications for practice and recommendations for future research. Findings from these studies can also provide immediate benefits to practitioners using video communication technologies for the first time during “emergency remote teaching” or those new to online teaching and learning in general. Further, scholars dedicated to

educational technology, communication, and the social implications of online learning may find value in the results.

## CHAPTER TWO: STUDY 1 - LITERATURE REVIEW

### **Video Use in Online and Blended Courses: A Qualitative Synthesis**

Video and earlier forms of motion picture have a rich history in education dating back to the turn of the 20th century (Ferster, 2016). From educational films and television programs to augmented and virtual reality, over the years educators have experimented with several different ways to use video for educational purposes (Snelson & Perkins, 2009). In fact, even before COVID-19, educators have increasingly used video as a communication and teaching tool in online and blended courses (Dinmore, 2019). As the use of video for educational purposes has increased, so has research focused on better understanding its affordances and constraints. For instance, researchers have investigated the use of video to hold video-based discussions (Clark et al., 2015); to deliver video lectures (Chen & Wu, 2015) and video announcements (G. Miller et al., 2019); to use and/or share educational videos on videostreaming websites like YouTube (Burke et al., 2009); to provide video feedback on assignments (Crook et al., 2012); and to hold synchronous video-based group discussions (Rockinson-Szapkiw & Wendt, 2015), virtual office hours (L. Li & Pitts, 2009), or lectures online (Olson, & McCracken, 2015; Skylar, 2009). Researchers have also investigated student satisfaction and acceptance of video (Donkor, 2011; Mirriahi & Alonzo, 2015; Valenti et al., 2019) as well as analytics of student videoviewing habits (Giannakos et al., 2015). And yet still other research has focused on things such as the distinctions between and affordances of asynchronous and synchronous video use (Clark et al., 2015; Skylar, 2009), asynchronous video feedback

(West et al., 2017), and the ability of video to improve social presence and affective communication (Borup et al., 2012; Borup et al., 2014).

Thus, research of video use in education in general, and even its use in online and blended learning, is rather widespread. As such, researchers have conducted literature reviews on the educational uses of video over the years. For example, previous reviews have focused on singular uses of video (see O'Callaghan et al., 2015), on YouTube (see Snelson, 2011), on the use of video in different settings and content areas (e.g., music education, Anderson & Northcote, 2018; teacher education, Arya et al., 2016; health education, Coyne et al., 2018, distance education, Kilinc et al., 2017; nursing education, Wolf, 2018) as well as on different aspects of video (e.g., video production types, Winslett, 2014; educational benefits, Yousef et al., 2014), and the overall growth of video-based learning research (Giannakos, 2013). However, none of the reviews focused on the use of video in online and blended courses across disciplines. Thus, researchers and practitioners alike are in need of a systematic literature review to inform and guide future research and practice with this ubiquitous educational technology.

The purpose of this literature review was to synthesize research about the educational uses of video in online and blended courses. The review was guided by the following question: How is video being used as a teaching tool in online and blended courses? In the following sections, we present the results of our inquiry as well as areas for future research and implications for practice.

## Method

To complete the review, we searched ERIC, Education Research Complete, Academic Search Premier, LearnTechLib, Web of Science, and Google Scholar for literature using the keywords “video,” “online,” and “blended.” We focused our search on peer-reviewed journal articles from 2010 to 2020. Theoretical studies, reviews, editorials, non-peer reviewed literature, conference proceedings, and grey literature were excluded from the review. In addition, studies that presented a technology (e.g., media annotation tools, lecture capture systems, virtual simulations, video analytics tools, and authoring systems) conducted outside of higher education settings or that occurred outside of an online or blended course were excluded from the review. To promote replicability and document the search, we used the preferred reporting items for systematic reviews and meta-analyses method to guide our search (PRISMA; Tricco et al., 2018), which occurred on May 13, 2020. Table 1 lists details on our search and selection.

The inclusion criteria used to qualify blended courses warrants explanation. Blended learning has been defined by Graham (2006) as learning systems that “combine face-to-face instruction with computer-mediated instruction” (p. 5). Unfortunately, a lot of research described as blended learning does not make this same distinction, which in turn creates a challenge when synthesizing research on the topic. Blended learning, as a result, is often used as an umbrella term to capture an assortment of blends or is placed on a spectrum ranging from more face-to-face instruction to more computer-mediated instruction (Graham & Robinson, 2007; Graham et al., 2013). Alammary et al. (2014) classified blended learning in terms of low-impact blends (i.e., adding extra activities to



an existing course), medium-impact blends (i.e., replacing activities in an existing course), or high-impact blends (i.e., building the blended course from scratch) (p. 443). Thus, for the purposes of this review, studies conducted in blended learning environments that simply supplemented face-to-face instruction with computer-mediated instruction were excluded (i.e., low-impact blends) and studies that reduced face-to-face instruction or replaced face-to-face instructional activities with computer-mediated instruction (i.e., video) were included (i.e., medium-impact blends).

After screening and excluding articles (which we briefly describe in the following paragraphs), we ended up with 64 studies that were entered into the NVivo 12 Pro software for qualitative data analysis. NVivo and Excel were used to code and analyze the data. First, each article was imported into NVivo. During the first round of coding, a combination of attribute coding (i.e., publication year, research method, content area) and open coding were conducted in NVivo to code key ideas (e.g., interesting terms or labels, technologies referenced, theoretical frameworks and instruments, video creation process, blended learning descriptions, video presentation styles). During the second round of coding, codes were compared and grouped, which helped us begin to identify repeating ideas and themes. The analysis was then moved to Excel, where each article was added to a row and then columns were created (e.g., online/blended, video “use”, purpose, participants, focused finding) to simplify comparisons across articles and to further help synthesize recurring themes in the literature.

**Table 2.1 PRISMA Flowchart Items for Study Identification and Selection**

<b>Flowchart Items</b>	<b>Study Identification and Selection</b>
Search	Articles returned by database: Academic Search Premier, ERIC, Education Research Complete <sup>a</sup> (n=670), LearnTechLib <sup>b</sup> (n=1,821), Web of Science (n=191), Google Scholar <sup>c</sup> (n=72,100).
Identification	Academic Search Premier, ERIC, Education Research Complete (n=136). LearnTechLib (n=109). Web of Science (n=55). Google Scholar (n=30). Articles after duplicates removed (n=242)
Screening	Articles screened (n=242). Articles excluded (n=95)
Eligibility	Full-text articles assessed for eligibility (n=147) Full-text articles excluded (n=83) Low-impact blend: 44 Non-higher education setting or participants: 22 Presented a technology: 13 Unable to retrieve article: 4
Included	Articles include in review (n=64)

a. EBSCO automatically removed 55 exact duplicate articles of the results returned.

b. The researchers scanned 1,000 articles based on relevance by conducting a keyword search of “video” on the first 20 pages (50 articles/page) of the results returned.

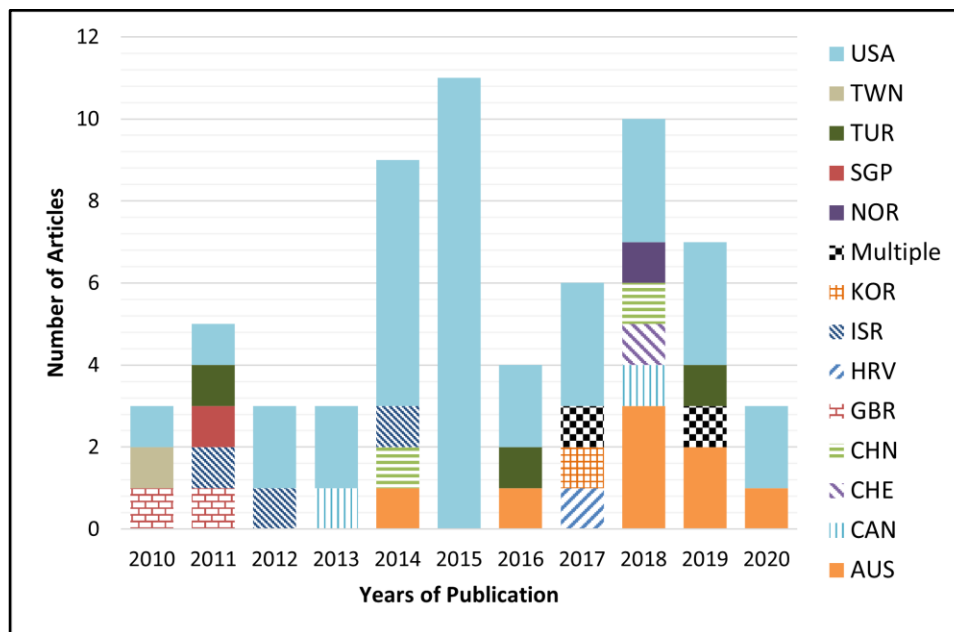
c. The researchers scanned 300 articles from the first 30 pages (10 articles/page) of the results returned.

### **Summary Data**

We will briefly discuss the summary data from the literature we reviewed to provide some background of when and where the research was conducted.

#### Research Origins

More than half of the studies reviewed were conducted in the United States; however, other studies originated from Australia and other countries (see Figure 1). Studies were published more frequently in 2015 than any other year, though data from 2020 is not fully represented as the review occurred mid-year in 2020. Figure 1 displays the number of studies by publication year and the country of origin.

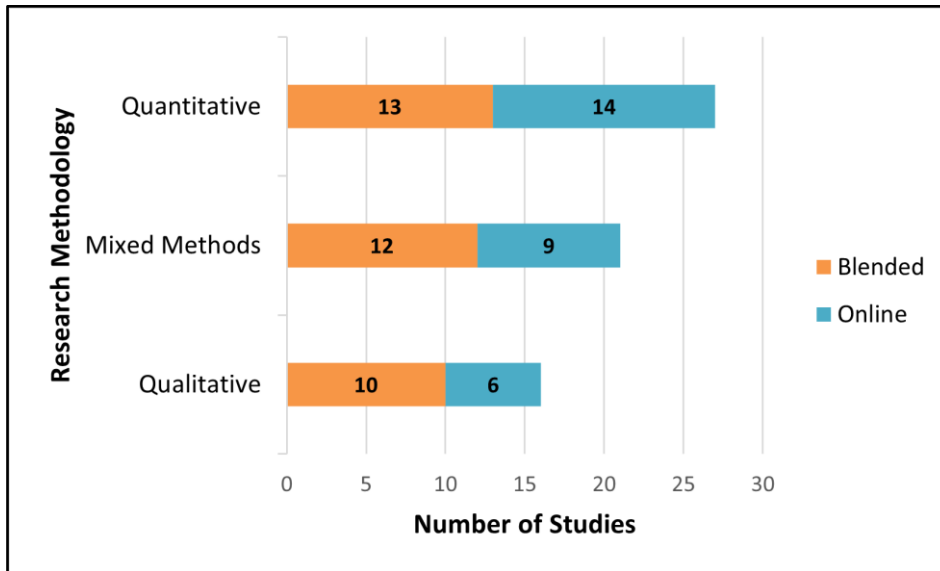


**Figure 2.1 Publication Timespan and Countries of Origin**

*Note.* Country name abbreviations are the ISO 3166-1 alpha-3 codes published by the International Organization for Standardization with one exception: “multiple” signifies more than one country of origin.

### Research Methodologies

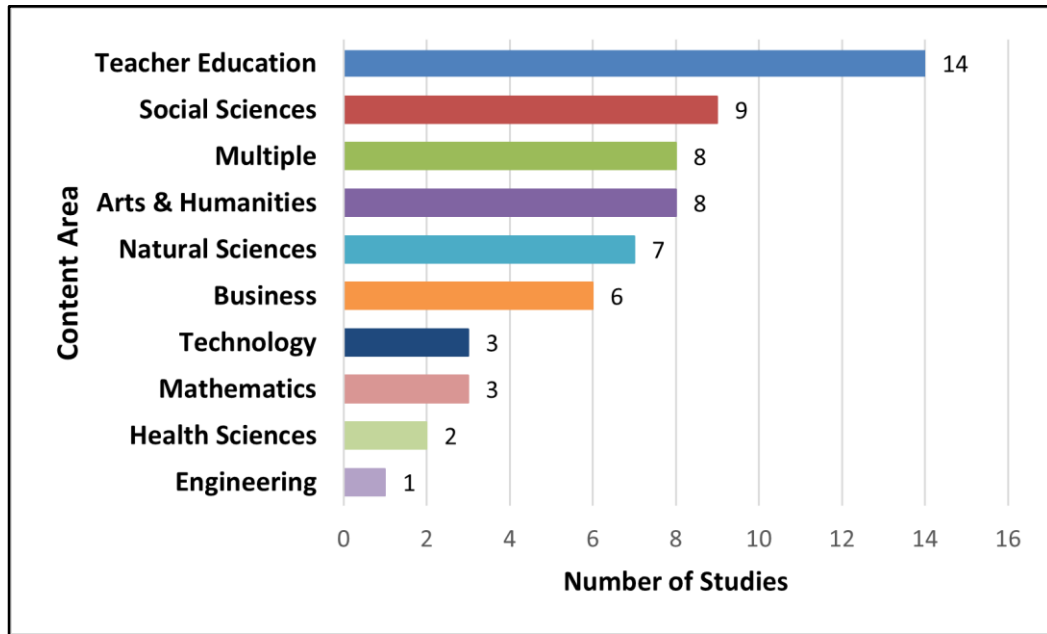
Researchers primarily used quantitative and mixed methods research methodologies. More than half of the studies reviewed occurred in blended courses. Qualitative studies were less common, especially in online courses. Figure 2 displays the number of articles by research methodology.



**Figure 2.2 Research Methodology and Course Modality**

### Content Areas

Studies in this review were conducted in various disciplines. Much of it was conducted in teacher education courses, followed next by other social science courses (e.g., politics, law, social work, psychology), and then multiple disciplines (i.e., multi-campus or campus-wide studies that included more than one discipline). See Figure 3 for more details.



**Figure 2.3** Number of Studies by Content Area

### Technologies Used

Video can be used in several different ways. One common distinction is between asynchronous and synchronous video. Table 2 provides an overview of the asynchronous and synchronous communication technologies (brands, products) researchers used to record and live-stream video in online and blended courses in the studies reviewed.

**Table 2.2 Asynchronous and Synchronous Video Communication Technologies Identified**

Asynchronous	Synchronous
Articulate Storyline Bespoke Camtasia EdPuzzle FlipGrid iMovie Jing Khan Academy Lectopia LectureScape LMS Media Recorders Lynda Videos Vimeo VoiceThread YouTube	Adobe Connect Big Blue Button Cisco WebEx Collaborate Elluminate Live! Google Hangouts Horizon Wimba SecondLife Skype Vidyo Zoom

## **Results of the Review**

Four general themes emerged from our review of the literature: delivering video lectures, fostering video discussions, offering video assessments and video feedback, and creating video check-ins.

### Theme 1: Delivering Video Lectures

A common focus of the research reviewed was delivering video lectures (e.g., Chen & Wu, 2015; Costley et al., 2017; Geri et al., 2014; Engstand & Hall, 2011; Kim & Thayne, 2015; Murphy & Stewart, 2015; Ozan & Ozarlan, 2016). Most of this research focused on studying video lectures as either an asynchronous video lecture (e.g., a recorded lecture shared on a video streaming site like YouTube) or as a synchronous video lecture (e.g., a lecture delivered live in a web conferencing application like Zoom). The advantages and disadvantages of each as well as the affordances of asynchronous and synchronous video lectures that recurred throughout the literature are discussed in the following paragraphs.

#### Asynchronous Video Lectures: Advantages and Disadvantages

Researchers have identified a number of advantages of asynchronous video lectures. For instance, researchers regularly cite student control as one major advantage (Beale et al., 2014; Chen & Wu, 2015; Hajahasemi et al., 2016; Valenti et al., 2019); students have the ability to control a video lecture through the use of a media player's default settings (i.e., pause, play, rewind, and fast-forward) which among other things can increase student agency. Other research has suggested that video lectures can benefit at-risk students by allowing these students to rewatch the material (Miller, 2014; Murphy & Stewart, 2015). Another advantage of asynchronous video lectures is they can help

students visualize their online instructors (Hegeman, 2015), which can influence not only student learning outcomes (see Chen & Wu, 2015) but also help students to connect to their instructors in personal, socially constructive ways (Dinmore, 2019).

Despite these advantages, research has also identified some disadvantages to using asynchronous video lectures. Many of the challenges discussed in the literature focus on recording the initial lectures. For instance, researchers have found that many faculty lack the time, resources, or technical expertise to develop quality asynchronous video lectures (Dinmore, 2019; Valenti et al., 2019). Other research has highlighted issues with ensuring that these asynchronous video lectures are accessible, both in terms of accessibility and broadband access, to all students (Dinmore, 2019). And a few studies pointed out issues with tracking student engagement with asynchronous video lectures (Beale et al., 2014) or with video lectures almost encouraging students to put off watching the lectures in the first place (Geri et al., 2014). Two other recurring themes in the literature about asynchronous video lectures focus on video length and interactivity.

Educators and researchers alike are interested in the optimal length of asynchronous video lectures. While research has shown that shorter video lectures influence student performance, the ideal length is unclear. In one study, Green et al. (2018) found short video clips that replace face-to-face lectures had an impact on student learning outcomes. Similarly, in another study, Ozan and Ozarslan (2016) found performance improvements among students who viewed short video lectures from beginning to end. The video lectures described in the studies reviewed ranged from 1 minute in length (see Hund & Getrich, 2015) to an average of 50 minutes in length (see Murphy & Stewart, 2015). Some researchers suggested students have limited time or



attention spans for viewing video lectures online (see Geri, 2011; Geri et al., 2012). However, research also suggests that a relationship between the length of a video lecture and student achievement may not exist (see Beale et al., 2014; Murphy & Stewart, 2015). Researchers tended to consider shorter video lectures as videos under 10 minutes (see Ozan & Ozarlsan, 2016). Research has also shown that students preferred shorter videos (Harrison, 2015; Hund & Getrich, 2015; Miller, 2014). Pechenkina et al. (2018) described the influence of short videos as providing cognitive triggers (e.g., mnemonic devices) that help students retain and recall information (p. 416). However, academic debate ensues about the ideal length of educational videos. Dinmore (2019) explains that describing an ideal length in practice "...is a contentious area of advice to give lecturers producing content for their courses" (p. 3).

Traditionally, asynchronous video lectures are simply passive presentations of information. Although this is in part due to limitations of most media players, it is also likely due to traditional conceptions of a lecture. However, increasingly researchers are investigating the benefits of adding different types of interactivity to video lectures (e.g., quizzing, polling, drag-and-drop, annotation; see Cundell & Sheepy, 2018; Donkin et al., 2019; Fish et al., 2016; Fleischmann, 2020; Goldingay & Land, 2014; Taylor, 2015). Research suggests that some advantages of adding interactivity to asynchronous video lectures include increased student retention and engagement (Fleischmann, 2020) as well as the ability to provide learners instantaneous feedback (Donkin et al., 2019). However, some research has also found that adding too many on-screen interactions may actually deter learning (Fish et al., 2016).

Overall, though, students report wanting more interactivity in asynchronous video lectures (Hajhashemi et al., 2016; Valenti et al., 2019). Unfortunately, most instructors often do not possess the resources, skills, or time needed to add interactivity to their video lectures (Donkin et al., 2019; Fish et al., 2016). Recognizing this, publishers are increasingly including interactive lectures with their textbooks. And as useful as these publisher materials can be in terms of saving instructors time, research has found that students perform better in classes after watching video lectures created by their own instructors (Hegeman, 2015).

A benefit of asynchronous video lectures (e.g., in comparison to synchronous video lectures) is that students are not bound to a specific time and place to view the video (Dinmore, 2019; Fleischmann, 2020; Geri, 2012; Geri et al., 2014; Hajahasemi et al., 2016; Lervik et al., 2018). In addition, asynchronous video lectures can technically be downloaded for offline access which can help online learners or students with broadband or access issues.

#### Synchronous Video Lectures: Advantages and Disadvantages

The combination of synchronous video lectures with blended or fully online courses can change or significantly supplement the dynamic of these courses (Hoffman, 2019; Hogan & Devi, 2019; Szeto, 2014). In these instances, both instructors and students find that the teaching strategies more closely align to face-to-face in person instruction (Rockinson-Szapkiw & Wendt, 2015; Macharaschwili & Skidmore, 2013). In one study, instructors have reported that synchronous video lectures promote interactivity, help develop community, and provide ways to reach students at different locations (Martin & Parker, 2014). In another study, researchers have found an

instructors' teaching style, knowledge and use of video conferencing application features (e.g., polling, chat, screen sharing, and presenter rights), and visual presence supported student engagement (Martin et al., 2012). Students, on the other hand, have identified how flexible and convenient synchronous video lectures can be (Wang & Huang, 2018), how they can provide similar experiences to face-to-face lectures (Francescucci & Foster, 2013; Wang & Huang, 2018), and provide a means for enhancing interaction in blended and online courses (Martin et al., 2012).

Despite advantages like these, other research has pointed out some disadvantages with using synchronous video lectures in blended and online courses. For instance, Karal et al. (2011) found students struggled with seeing their instructors as authority figures. Olson and McCracken (2015) found that the associated costs of adding synchronous video lectures to asynchronous online courses to be an unnecessary investment relative to student achievement and community building. Research also suggests that technical problems with videoconferencing applications are common (e.g., unstable internet connection, delayed video, unclear audio) (Dahlstrom-Hakki et al., 2020; Martin et al., 2012; Wang & Huang, 2018; Olson & McCracken, 2015). Synchronous video lectures require that an instructor and students meet virtually online (e.g., in WebEx or Zoom) at the same time which can prove problematic for fully asynchronous online courses where students might live in different time zones or have different work schedules. Two other recurring themes in the literature about synchronous video lectures focus on text-based chatting and participation signals.

Most platforms used for synchronous video lectures have some type of text-based chat tool. These chat tools are often used as a type of back channel or as a way to ask

questions during synchronous video lectures. Perceptions of text-based chatting during video lectures are mixed. Although some instructors see text-based chatting as a nice addition (Harrison, 2019) or even helpful during a lecture (Martin & Parker, 2014), others find it distracting (Karal et al., 2011) or even overwhelming in certain situations (Cooner, 2010). Some, though, suggest that having a teaching assistant, colleague, or even a specific student manage the chats during a lecture can make it more manageable (Cooner, 2010; Karal et al., 2011). Research also suggests that students like having the ability to chat during a lecture. For instance, in one study, Martin et al. (2012) reported how students found text-based chatting improved student-instructor and student-student communication during a lecture and provided a nice mechanism for immediate feedback (Martin et al., 2012). Despite the mixed perceptions, researchers seem to agree that a clear benefit of text-based chatting is the ability to provide immediate feedback (Macharaschwili & Skidmore, 2013; Martin et al., 2012; Martin & Parker, 2014).

Research suggests that various features of synchronous communication technology (e.g., the ability to mute oneself, to turn on or off a webcams) can influence how instructors and students participate during synchronous video lectures. For example, Martin et al. (2012) found that hand-raising and polling features organized interaction and encouraged participation. Hoffman (2019) noted how the action of unmuting oneself or turning a webcam on signaled an intention to participate. Olson and McCracken (2015) found that muting students' microphones upon entry can reduce common technical difficulties in videoconferencing (e.g., background noise and competing voices) but may also reduce impromptu conversation.

## Theme 2: Fostering Video Discussions

The majority of communication in online courses (and the distant component of blended courses) is done with text-based communication such as email or asynchronous discussion forums. Despite benefits of text-based asynchronous communication (e.g., time for reflection, inherent transcription, and potential clarity of message), instructors and students often struggle with some inherent constraints of this type of communication. For instance, text-based asynchronous communication can create ambiguity (Rockinson-Szapkiw & Wendt, 2015), lack visual cues, and conversations can take time to develop (Fadde & Vu, 2014; Huang & Hsiao, 2012). These constraints have motivated instructors to experiment with different ways to use video to either prompt asynchronous discussion with videos or to facilitate or host synchronous video-based discussions.

#### Prompting Asynchronous Discussion with Videos

Based on the literature review, there are three distinct video ways instructors use video to prompt asynchronous discussion: informal instructor-created videos, formal instructor-created videos, and third-party videos.

Some instructors informally record themselves (e.g., via a webcam) or their computer screens (i.e., screencasts) to prompt asynchronous discussion with video. Advantages of this approach have been shown to increase student engagement of struggling students (Borup et al., 2013), increase the frequency of student discussion posts (Draus et al., 2014), and to increase instructor social and teaching presence (Clark et al., 2015). Conversely, informal instructor-created videos do not guarantee students will find value in the discussion (Borup et al., 2013), the videos may not lead to longer, more robust discussion postings by students (Draus et al., 2014), and students may not be comfortable recording their own videos during discussions, if asked (Clark et al., 2015).

Despite possible drawbacks like these and others, research suggests that informal instructor-created videos can create a casual and welcoming atmosphere for conversation. The relaxed, possibly impromptu, nature of these recordings may engender similarly styled responses from students in either text or video forms. Further, videos like these can set the tone of a discussion by modeling intended behaviors in their videos (see Clark et al., 2015). Borup et al. (2013) illustrated the prospective variations of student characteristics (e.g., personality, motivation, language, and culture) that can emerge when both students and instructors engage in asynchronous video communication in online discussions. Researchers can use these variations to investigate instructor-created video in greater depth as creating video recordings (i.e., acclimating to the technology) may not be the only hurdle students face when engaged in asynchronous video communication.

A different approach to prompting asynchronous discussion is through highly-produced instructor-created video. Formal videos are often planned and rehearsed in greater-detail with more purposeful intentions and may be less personal or casual compared to informal instructor-created videos. In these instances, instructors may use production aids (e.g., scripts and teleprompters), staff-supported production studios, or elicit help from peers to assist in the recording process (see Beale et al., 2014; Green et al., 2018; Müller et al., 2018). Green et al. (2018) used a peer-review process to develop formal instructor-created videos; they found increased views of the video and increased posts on the discussion forum had a positive influence on student learning outcomes. Some instructors recognize the inherent limitations of creating formal videos to prompt discussions (e.g., development time, shelf-life, technological competency, or lack of resources). While other instructors are apprehensive about being recorded or find little

value in appearing on-screen. Though the familiarity effect and confirmation bias may be leading instructors astray relative to creating video content in these instances. As a result, many instructors habitually locate third-party videos to prompt asynchronous discussions.

Instructors less prone to record videos of themselves often rely on third-party videos to prompt discussion. Third-party videos are any recordings that do not include the instructor-of-record (e.g., movies, YouTube clips, Khan Academy). Although the instructional practice has evolved over the years, third-party videos are common in higher education. However, this review did not identify any research studies that examined instructor use of third-party videos to prompt discussions in fully asynchronous online courses. A few studies, though, examined using third-party videos to prompt either online or face-to-face discussions in blended courses. The advantages to using third-party videos in these studies were shown to include the potential for higher-order thinking among students (Cooner, 2010) and socially constructed knowledge gains (Batarelo & Rukavina, 2017), though Batarelo and Rukavina (2017) attributed these knowledge gains to the difficulty of the associated discussion questions as opposed to the video content. In addition, students reported positive experiences (Fleck et al., 2014) and improved learning (Akbaba & Baskan, 2017) after viewing third-party videos. However, positive perceptions of third-party videos is not surprising (Valenti et al., 2019). Third-party videos may have an entertainment value that sustains student interest and attention longer than instructor-created videos leading to more positive perceptions.

Incorporating informal, formal, and third-party videos to prompt discussion in online and blended courses has advantages and drawbacks. Instructors interested in using these approaches might experience increased viewership, interaction, attention, and

positive perceptions among students. Conversely, instructors might also experience disconnect, distraction, and technical difficulties. While instructors may have challenges creating informal or formal videos on their own, the personal nature of these recordings may enhance the student experience by creating a welcoming and safe space for students to engage in academic discourse. Further, curated third-party videos may provide relevance to student learning beyond an individual instructor's capacity to develop video content. Using recorded videos to prompt discussions is primarily an asynchronous activity in online and blended courses whereas videoconferencing provides opportunities to host discussions in real-time.

#### Facilitating or Hosting Synchronous Video-based Discussions

Blended and online instructors continue to explore ways to engage students using video communication technology (Valenti et al., 2019). Hosting synchronous video-based discussions is one way to create efficiencies with students learning at a distance in online and blended courses. However, researchers describe synchronous video-based discussions in different ways. For example, blending face-to-face instruction with asynchronous online discussions outside of in person meeting times or blending online instruction with synchronous videoconferencing discussions. The myriad of blends presents a challenge for synthesis. Moreover, distinguishing the instructional activities taking place while videoconferencing is difficult to discern (cf. Abdous & Yoshimura, 2010; Bourdeau et al., 2018).

Researchers often describe using lecture and discussion as the same instructional activity when videoconferencing. Naturally, delivering lectures and facilitating discussions often complement one another (e.g., instructors might ask students questions



to invite student participation during lecture). However, lectures and discussions can be considered separate instructional activities. The distinction is rather nuanced though an important one when it comes to designing and facilitating instruction in synchronous settings. Hoffman (2019) was one researcher that made this distinction; according to Hoffman, interactive lectures occur when instructors take the lead with minimal input from students that is primarily directed toward the instructor in short audio or text snippets. Interactive discussions, on the other hand, occur when contributions among students and instructors are shared equally with significant input from students that are either directed toward peers or the instructor in longer audio or text (p. 115). Interactive or synchronous online discussions appeared in both blended and online courses in this review.

Researchers experimented with incorporating synchronous online discussions in face-to-face classrooms in different ways. Synchronous online discussions in blended courses were shown to provide students with experiences similar to face-to-face discussions though technical issues were common (see Francescucci & Foster, 2013; Izmirlı & Izmirlı, 2019; Wang & Huang, 2018). This review identified three different blends of synchronous online discussions with face-to-face instruction as: replacement of face-to-face discussions, classroom-to-classroom discussions, and classroom-to-student discussions.

Replacing face-to-face discussions with synchronous online discussions in face-to-face classrooms affords students the opportunity to interact in both face-to-face and online settings. However, students had mixed perceptions as to whether or not this was a benefit or drawback to each respective interaction (Izmirlı & Izmirlı, 2019). Students'

preferred communication style can differ in online and face-to-face settings. Mixing online interactions with face-to-face interactions may help some students transition between the two settings more seamlessly whereas other students might find the mix disruptive. Szeto (2014) described this scenario as a “dual communicative situation” that potentially limits student participation in online settings (p. 70). Multiple modes of communication create challenges for students and preferences for one communication mode over another may not always align with increased performance. Dahlstrom-Hakki et al. (2020) found students with disabilities preferred synchronous discussions but performed slightly better after using asynchronous discussions; Dahlstrom-Hakki et al. acknowledged their findings were not generalizable given the student population though the drawbacks of synchronous online discussions identified as fast-paced, socially demanding, and attention-consuming are arguably universal to all student populations.

Connecting students from two classrooms in separate geographic locations with synchronous online discussions allows students to interact in ways that would not otherwise be physically possible. However, students had mixed perceptions regarding their experiences in these discussions. Students reported synchronous online discussions as providing a valuable, engaging learning experience (Akbaba & Baskan, 2017). Conversely, students also reported feelings of emotional disconnect with their distant counterparts (Pardasani et al., 2012). While technical difficulties were reported in these studies, the researchers affirmed these challenges did not detract from the classes productivity (Akbaba & Baskan, 2017) or from learning the course material (Pardasani et al., 2012).

Bringing online learners into face-to-face discussions occurring between instructors and on-campus students (i.e., classroom-to-student discussions) may benefit online learners more than on-campus students. The advantages of bringing online learners into live classroom discussions via videoconference were shown to include increased classroom access to off-campus students (Marcharshwili & Skidmore, 2013) and varied perspectives (Stewart et al., 2011). Wang and Huang (2018) concluded that this approach “is a feasible and practical method for online students to participate in class activities in real time, and they can have equivalent learning experiences to their classmates” (p. 460). Conversely, the disadvantages were shown to include technical difficulties (Marcharshwili & Skidmore, 2013; Wang & Huang, 2018), less familiar interactions between students (Marcharshwili & Skidmore, 2013), and technological distractions (Marcharshwili & Skidmore, 2013; Stewart et al., 2011). Technological distractions occurred when the videoconference technology diverted student and instructor attention away from the discussion. Instructors simultaneously engaged in videoconferencing and face-to-face discussion often had to adjust their approaches to include all students in the conversation (Akbaba & Baskan, 2017; Stewart et al., 2011; Wang & Huang, 2018). Further, on-campus students exerted additional effort to accommodate the videoconference technology and support online learners. Some students volunteered to support the technological needs of a virtual counterpart (see Marcharshwili & Skidmore, 2013; Stewart et al., 2011). However, the extra effort put forth by these on-campus volunteers was inequitable and seemed to only benefit the online learner.

Researchers examined synchronous online discussions in fully synchronous online courses and fully asynchronous online courses. Synchronous discussions in online

courses provide students the opportunity to connect in real-time (Abdous & Yoshimura, 2010; Dahlstrom-Hakki et al., 2020; Hoffman, 2019; Martin & Parker, 2014). However, there are underlying concerns surrounding the appropriateness of using synchronous discussions in fully asynchronous online courses (e.g., student agency, bandwidth, or access) (Olson & McCracken, 2015). Synchronous discussions reduce student choice by requiring a set time and place to connect for conversation. This review identified two distinct uses of synchronous online discussions based on the following types of online courses: fully synchronous online courses and traditionally asynchronous online courses.

Fully synchronous online courses maintain traditional classroom meeting times but replace classroom meetings entirely with synchronous communication technology. Hoffman (2019) identified two different types of student engagement during synchronous discussions as unified engagement or separate engagement. Unified engagement occurred when all students and the instructor conversed on a singular discussion topic as a group. Separate engagement occurred when more than one conversation took place simultaneously within the different features of the synchronous communication technology (e.g., audio-based conversation occurring simultaneously with a different text-based, chat conversation). Hoffman (2019) found that instructor teaching presence was of the utmost importance in synchronous discussions as the instances of unified and separate engagement often overlapped requiring sustained attention in multiple modes of communication.

Synchronous discussions in traditionally asynchronous online courses are a unique blend. Hogan and Devi (2019) defined this blend as *fusion learning* where synchronous sessions are interspersed throughout fully asynchronous online courses. The

advantages were shown to include expanding upon content in greater-depth (Martin & Parker, 2014), building teaching and social presence (Clark et al., 2015; Martin et al., 2012), and reducing feelings of isolation common among online learners (Clark et al., 2015; Hogan & Devi, 2019). However, the inclusion of synchronous discussions alone does not guarantee learning communities will emerge or learning outcomes will improve (Olson & McCracken, 2015). Researchers outlined design recommendations and best practices for instructors interested in using synchronous sessions in traditionally asynchronous online courses (see Lowenthal et al., 2017; Martin et al., 2012).

Findings on video use in asynchronous and synchronous discussions revealed that instructor social presence and teaching presence, whether recorded or streamed, is essential to academic discourse. However, research on asynchronous and synchronous video communication in online and blended courses is limited. The studies in this review provide substantive precedents for future research on prompting discussion with video and hosting discussions via videoconference.

### Theme 3: Offering Video Assessments and Video Feedback

Researchers explored using asynchronous video communication technology to assess students and provide feedback. Assessments and feedback in higher education primarily rely on text-based communication (e.g., writing essays and taking tests) more than other forms of communication. Asynchronous video communication technology affords students and instructors opportunities to demonstrate and guide understanding in different ways.

### Video Assessments

A fundamental approach to evaluate student learning is through assessments. Video assessments provide visual support to language learners (see Pardo-Ballester, 2016), support kinesthetic learning and learning from experience (see Donkin et al., 2019; Stanley & Zhang, 2018) though students may struggle with acclimating to the technology (He & Huang, 2020; Shih, 2010; Stanley & Zhang, 2018). This review identified three types of video assessments: video self-modeling, video blogs, and student-created video.

Video feedback interventions involve a student recording themselves and watching their recording (i.e., video self-modeling). The recording is then assessed by the student, their peers, their instructor, or a combination thereof. Video feedback interventions are markedly different from video feedback (i.e., recordings of instructors giving feedback). Researchers have reported mixed results on the impact of video feedback interventions on student learning in online and blended courses. Donkin et al. (2019) found a significant improvement in student grades and engagement for those who used the intervention. Conversely, Stanley and Zhang (2018) found no significant differences in learning outcomes though students exposed to the video feedback intervention performed better overall compared to the control group (i.e., significant value-added). Video feedback interventions are an effective learning tool for students in kinesthetic disciplines (e.g., natural sciences, communication, art, music, and drama). Online courses inherently struggle to incorporate kinesthetic learning, and video feedback interventions may reduce feelings of isolation among online students (Goldingay & Land,

2014). Although self-assessment and peer assessments are possible, students thought that instructor assessment of their recordings was required (Donkin et al., 2019).

Video blogs have similar advantages to video self-modeling (i.e., learning from experience) though the intended purpose is different. Desjarlais and Smith (2011) posited the difference between self-reflection and self-assessment lies in the existence of predetermined criteria that differentiates the focus of self-assessment as proactive and self-reflection as reactive. Many educators contend that self-reflection is an important step in the learning process and often require students to periodically assess their own learning via journaling on a blog placed within a students' personal website or e-portfolio (see Borup et al., 2015; Borup et al., 2014; Rockinson-Szapkiw & Wendt, 2015; Tan et al., 2011; Thomas et al., 2017). Journaling on a blog is traditionally a text-based writing activity. However, researchers have explored expanding the activity to include student-created video entries (i.e., video blogs). Students perceived recording video entries positively (O'Connor, 2018; Shih, 2010) and reported improved public speaking skills (e.g., enunciation, articulation, facial expressions, posture, and gestures) after viewing their videos (Shih, 2010). The process of students recording video reflections "...can encourage more personal ownership and responsibility, thereby supporting deeper learning and more honest communication" (O'Connor, 2018, p. 359). However, acclimating to the technologies used to record video entries took time and detracted from the intended activity (Shih, 2010). Video blogs are typically low-stakes assessments though instructors may assess student-created videos in other ways.

Student-created videos are occasionally substituted for traditional learning artifacts (e.g., submitting a video in lieu of an essay). Video artifacts differ comparatively

to written and oral artifacts as the production quality is sometimes assessed in addition to the content on-screen. In the studies reviewed, *video production* recurred as one of many criteria within grading rubrics (see He & Huang, 2020; Stanley & Zhang, 2018).

Producing quality videos requires a different, arguably more advanced, set of technological competencies that students may or may not possess. Notwithstanding the objective aim of the video production criterion to encourage quality work in general, educators less familiar with video production quality should exhibit caution when evaluating student work as inexperience may lead to more subjective assessment.

Generally speaking, we contend clear communication in video recordings supersedes the additional time needed to create highly polished videos, and students may need to be made aware of standard recording practices to that end (e.g., audio quality or lighting). In the studies reviewed, student-created videos were shown to lead to increased engagement, collaboration, and skill-development (i.e., technological competencies) among students (He & Huang, 2020; Stanley & Zhang, 2018). However, students also reported challenges in creating video recordings on their own and in groups (He & Huang, 2020; Stanley & Zhang, 2018). The findings of these studies illustrate the duality of technological competency in video production as both a barrier and benefit to student learning. Developing technical skills during video production in this context appears to be of ancillary benefit to student learning though not always assessed by instructors nor explicitly examined in the literature.

Video assessments are different ways for students to demonstrate their understanding; visualizing their understanding through video benefits students and instructors, especially in disciplines where kinesthetic learning is required. Although



students learn from their own experiences in video assessments, students may similarly benefit from recordings of their instructors providing feedback on their work.

### Video Feedback

There is a growing body of research on video feedback in online and blended courses. Findings have shown video feedback can be welcoming and affective (Atwater et al., 2017; Borup et al., 2015), help establish social presence (Borup et al., 2014; Izmirli & Izmirli, 2019; Thomas et al., 2017), and has potential to be delivered immediately in synchronous settings (Martin et al., 2012). Previous research has explored the affordances of text feedback vs. video feedback in blended courses. Table 3 summarizes key findings of these studies.

**Table 2.3 Summary of Studies Comparing Text and Video Feedback**

<b>Study</b>	<b>Video Feedback</b>	<b>Text Feedback</b>	<b>Participant Preferences</b>
Borup et al. (2014)	Emotive, conversational, and more effective in establishing social presence	Less effective in establishing social presence	No significant differences
Borup et al. (2015)	Supportive and conversational	Efficient, organized, and specific	Text feedback
Atwater et al. (2017)	Elaborate and friendly	Convenient, efficient, and concise	Video feedback
Thomas et al. (2017)	Social presence indicators present	Social presence indicators present	No significant differences

Thomas et al. (2017) noted, when discussing their findings, that the frequency of social presence indicators were measured as opposed to the quality of the indicator, suggesting differences in social presence exist despite their findings; a key element in the differentiation is media richness (i.e., visual and audio cues). When coding the video recordings, Thomas et al. (2017) added a new social presence indicator, *visual self-disclosure*, defined as “Visual and auditory stimuli present details of the instructor's life outside of class. Includes background visuals & background noise” (p. 66). The indicator merits further investigation as the use of synchronous and asynchronous video communication increases at home and outside of traditional face-to-face classrooms. In addition, Borup et al. (2014) noted “...the need for video feedback to establish social presence was less in blended courses where students and instructors interact face-to-face” (p. 249). Thus, further research is needed to examine visual self-disclosure and the quality of video feedback in online courses relative to social presence.

In this review, studies focused on fully asynchronous online courses examining video feedback were sparse and findings were limited to self-reported survey data with mixed results. Valenti et al. (2019) examined faculty and student perceptions of video in online courses and found greater preferences for instructional videos compared to video feedback. However, open interviews revealed student perceptions were polarized with some wanting more video feedback and others wanting less video feedback. Varied student perceptions may be common relative to video feedback as Martin et al. (2012) found students enjoyed the immediacy of video feedback received during synchronous videoconferencing in an online course.

There are limitations to only using self-reported survey data (e.g., the novelty effect). However, overall, these findings do suggest that video feedback, whether asynchronous or synchronous, has the potential to engage learners in a media-rich communication tool. Further, this research suggests that video feedback has the potential to help establish instructor social presence and form affective relationships between students and instructors that are key considerations of a social constructivist pedagogy.

#### Theme 4: Creating Video Check-ins

The instructional practice of checking-in on students as they progress through a course is common in higher education though actualized in very specific ways in online and blended courses where casual hallway conversations or after-class meetings are not possible. In online settings, instructors can create informal check-ins with students using asynchronous or synchronous video communication technology. This review identified four types of video check-ins as: orientation videos, video announcements, virtual office hours and impromptu meetings, and check-ins on group work.

### Orientation Videos

Orientation videos generally have two aims in online and blended courses as either orienting students to the technology of the classroom (i.e., technology-focused) or orienting students to the instructor (i.e., relationship-focused) though combinations of the two are possible. Technology-focused orientation videos might demonstrate where to locate the syllabus, how to submit assignments, or how to use the learning management system (see Miller, 2014). Whereas relationship-focused orientation videos might welcome students into the course by providing an instructor's bio or teaching style. In the studies reviewed, students reported orientation videos as informative and helpful (Izmirli & Izmirli, 2019; Taylor et al., 2015). More specifically, technology-focused orientation videos were shown to decrease withdrawal rates and improve learning outcomes in a pilot study targeted at students taking an online course for the first-time (see Taylor et al., 2015). In another study, relationship-focused orientation videos were shown to help establish social presence and improve student satisfaction (Izmirli & Izmirli, 2019).

### Video Announcements

Most learning management systems include an announcement feature that allows instructors to send course-related updates to students. A few researchers discussed their uses of video announcements in the context of their studies though video announcements were not examined as isolated interventions. For example, Draus et al. (2014) described providing orientation videos, lecture videos, video discussion posts, and video announcements as well as video instructions on instructor expectations for written assignments (i.e., prompting an assignment with video). Draus et al. posited "It is possible that by using instructor-generated video content in all aspects of the course,

lectures, announcements, and discussions, greater influence of the content manifested itself” (p. 250). Weekly video announcements were common in several studies (see Clark et al., 2015; Draus et al., 2014; Goldingay & Land, 2014). Video announcements were shown to help establish instructor social presence, teaching presence, and emotional connections (Clark et al., 2015; Draus et al., 2014; Goldingay & Land, 2014).

Announcements are a common check-in between students and instructors in all course modalities. However, video announcements have the potential to create a visual cadence to asynchronous online learning in socially constructive ways. Goldingay and Land (2014) contended the passivity of students’ viewing videos “is not in keeping with a constructivist view of learning” (p. 61). Despite this inherent limitation, researchers noted that weekly instructor-generated videos were of especial benefit to online students (Goldingay & Land, 2014), provided relevance to the course content and instructor expectations (Clark et al., 2015), and, when recorded informally at home, these videos showed “a more personal side to the instructor” (Draus et al., 2014, p. 243). The descriptions from these researchers suggests that when a video announcement is recorded by instructors for online students the personal relevance of the video to the online student becomes constructive, both in the content of the message and in the richness of the medium. However, further research is needed to substantiate such a claim and explore the influence of video announcements in online and blended courses.

#### Virtual Office Hours and Impromptu Meetings

Synchronous videoconferencing technology affords instructors opportunities to hold virtual office hours and impromptu meetings with students from a distance. In this review, several studies indicated using videoconferencing for virtual office hours in

online courses (see Clark et al., 2015; Martin & Parker, 2014; Martin et al., 2012) though few studies examined virtual office hours empirically. Lowenthal et al. (2017) found different strategies (e.g., reminders and incentives) helped increase student attendance at virtual office hours. Virtual office hours provide a space for students and instructors to converse without the pressures of classroom interactions. Similarly, impromptu meetings are informal ways for students and instructors to connect via videoconference. Atwater et al. (2017) found individual videoconference meetings helped students build confidence by forming a relationship with their instructor. Both virtual office hours and impromptu meetings allow casual conversations to emerge though synchronous communication in general may create a more relaxed environment compared to asynchronous video recordings. Dahlstrom-Hakki et al. (2020) found students recording videos were more nervous and critical of their performance whereas student communications during synchronous sessions were “more casual and spontaneous” (p. 8). Virtual office hours and impromptu meetings have the potential to help instructors and students build relationships in casual and beneficial ways in online courses, yet students are less likely to attend when such meetings are optional (Lowenthal et al., 2017).

#### Check-ins on Group Work

Instructors often task students to work in groups using asynchronous or synchronous communication in online and blended courses (see Cooner, 2010; Goldingay & Land, 2014; He & Huang, 2020; Wang & Huang, 2018). The instructional practice of checking in on groups to offer guidance, provide clarity, and offer help to stay on task is common in higher education. Some studies discussed the advantages of using synchronous communication technology for this specific purpose (Goldingay & Land,

2014; Izmirli & Izmirli, 2019; Martin et al., 2012; Rockinson-Szapkiw & Wendt, 2015; Lervik et al, 2018). Synchronous check-ins may help reduce feelings of isolation among online learners (Goldingay & Land, 2014) though student preferences appear to be mixed. Rockinson-Szapkiw and Wendt found students preferred synchronous communication among groups as the conversations were more personal and natural for building community. Conversely, Martin et al. found students disliked the “breakout” groups feature while using synchronous communication technology. This finding suggests that instructors may benefit from individual meetings with groups as opposed to checking in on multiple groups in real-time despite the availability of this feature in synchronous communication technology though further research is needed to better understand the benefits and student perceptions of using meetings in these ways.

Video check-ins help learners acclimate to their environment and their instructor in mutually beneficial ways by creating social and teaching presence. Further research is needed to investigate the influence and effects of video check-ins on student learning and to better understand how and when to use video in these ways, though there appears to be minimal downside to their inclusion in online and blended courses.

### **Gaps in the Literature**

Research on asynchronous and synchronous video communication technology is growing. Asynchronous video use appears to have an established history in the literature compared to more recent advancements in synchronous video use. Three areas in need of further investigation are: virtual backgrounds, features of synchronous communication technology, and synchronous assessments and feedback.

### Virtual Backgrounds

Visualizing an instructor on-screen while using asynchronous or synchronous video communication technology has been shown to influence student performance and perceptions in positive ways, yet few studies have empirically examined the influence of different backgrounds and settings appearing behind an instructor. Researchers describe the location of where videos are recorded or streamed as taking place at their home or office, in the classroom, or in a recording studio. Each of these locations may have different effects on student perceptions and subsequent performance, specifically how students connect or develop a relationship with their instructor. Thomas et al. (2017) categorized this social presence indicator as “visual self-disclosure.” Research suggests that streaming or recording video from home humanizes the experience as students see instructors in their personal surroundings (Borup et al., 2014; Draus et al., 2014) whereas in-classroom recordings simulate a physical classroom experience (i.e., a familiar and natural setting for teaching and learning) (see Murphy & Stewart, 2015). Formal studio recordings usually involve a greenscreen or virtual background that is not physically behind an instructor (see Dinmore, 2019; Müller et al., 2018). Moreover, synchronous communication technology affords opportunities to use virtual backgrounds in novel ways in need of further investigation. Virtual backgrounds could either create disconnect as the setting is unnatural or create connection by exhibiting personality. Thus, further research is needed to explore the emotive potential of physical and virtual backgrounds on students and instructors using asynchronous and synchronous video communication technology.



### Features and Uses of Synchronous Communication Technology

The features of synchronous video communication technology (e.g., sharing screens, interactive whiteboarding, polling, breakout groups), and specifically how instructors use video technology, were largely unexamined in the studies reviewed. Researchers discussed the availability of features, yet fewer studies examined these features empirically. Signaling participation is one aspect of synchronous communication technology that aligns with media naturalness theory (see Kock, 2005). For example, hand-raising can occur in face-to-face and synchronous communication though the experience is processed and received differently. Further, few studies investigated student behavior during synchronous video communication. Verbal and nonverbal communication may come across differently in video and the effects may have qualitative differences on student and instructor experiences.

### Synchronous Assessments and Feedback

Very few studies in this review examined synchronous video assessments or synchronous video feedback. Synchronous video assessments could allow students to demonstrate a skill and receive feedback in real-time from a distance. The approach could build the instructor-student relationship further (i.e., instructor social presence and teaching presence) in online courses. Investigations of cultural differences would provide greater insight into the intervention as synchronous communication may create inequities among students with differing first languages or cultural backgrounds (see Gerbic, 2010; Hall & Harrington, 2010). Similarly, gender differences may reveal important findings relative to using synchronous communication technology to assess students or provide feedback.

### **Future Research**

The preponderance of instructor social presence and teaching presence in the studies reviewed (see Borup et al., 2012; Borup et al., 2014; Clark et al., 2015; Draus et al., 2014; Goldingay & Land, 2014; Hoffman, 2019; Izmirlı & Izmirlı, 2019; J. Li et al., 2016; Martin et al., 2012; Thomas et al., 2019) suggests there may be a relationship between instructor uses of video communication technology and building community in online and blended courses. Video communication technology, and specifically the ability to see and hear others, can help establish and improve social presence in both asynchronous and synchronous uses of video though synchronous uses of video in online and blended courses is comparatively under researched. The combination of instructor teaching presence and social presence afforded by video communication technology, whether asynchronous or synchronous, exhibits the potential for cognitive presence. Video self-modeling in particular builds cognitive presence as students can reflect critically on their learning in self-directed ways (see Donkin et al., 2019; Shih, 2010; Stanley & Zhang, 2018).

Several theories guided the research reviewed, including the community of inquiry framework (Garrison et al., 2000), the cognitive theory of multimedia learning (Mayer, 2005), and the theory of transactional distance (Moore, 1983). Researchers should exhibit caution when ascribing student age as a potential limitation to either proficiency in course modality (see Bourdeau et al., 2018) or time management skills and attention spans (see Costley et al., 2017). Future research in asynchronous and synchronous video communication technology should expand upon established theories

and develop new theories. The theories used to research and interpret data should evolve with advancements of video communication technology.

In this review, researchers defined video recordings in various ways (e.g., talking head, picture-in-picture, voice-over, screencasts, lecture capture, stylus writing.). Some definitions describe the content that appears on-screen (e.g., talking head), whereas other definitions describe the action taking place (e.g., lecture capture). Ambiguous definitions create a challenge for synthesizing research. In attempts to reduce this ambiguity, some researchers have recently put forward broad categorizations of video recordings as board-centric or speaker-centric (Santos-Espino et al., 2016) and two-dimensional taxonomies as “human embodiment” and “instructional media” (Chorianopoulos, 2018, p. 297). Using categories and taxonomies to define video recordings is a step in the right direction though there are limitations to these approaches. Researchers should review the literature prior to defining new terms.

In addition, researchers should strive to provide rich descriptions of the visuals, images, people, and settings appearing on-screen as well as the overall nature of the video in the dissemination of empirical findings. The absence of such detail hinders a collective ability to advance knowledge of this medium (Lowenthal & Cavey, 2021). Screenshots of video interventions are recommended to help other researchers visualize the technologies used to provide contextual relevance.

Future research should move away from media comparison studies and move toward examining the characteristics of asynchronous and synchronous video communication technology and the affordances that influence learning. For example, exploring visual self-disclosure in video communication technology in terms of student

agency, equity, or access relative to student motivation, gender, or cultural background could advance our understanding of this educational technology in new, undiscovered ways.

### **Implications for Practice**

Educators will likely continue to engage with synchronous and asynchronous video communication technologies in online and blended courses for years to come. Based on this review, we discuss three implications for consideration in practice: developing concise videos, appearing on-screen, and tempering multiple modes of communication.

#### Developing Concise Videos

The studies reviewed affirmed the need to chunk or segment video recordings into shorter clips, yet many instructors are familiar, and some even resistant, with this practice. Dinmore (2019) provided recommendations for instructors to consider prior to developing videos (e.g., writing scripts to create efficiencies). Instructional designers can assist faculty with acclimating to technologies (see Belt & Lowenthal, 2020) as well as deconstructing video content into specific learning activities. Similarly, Beale et al. (2014) and Green et al. (2018) described engaging in peer review prior to developing videos as one way to help faculty develop concision in this medium. Some researchers concluded that videos were not capable of being stand-alone learning activities (see Hajhashemi et al., 2016; Valenti et al., 2019) and therefore require additional efforts to find effective ways to use videos as part of a larger instructional strategy. However, emphasis and attention to instructional design prior to recording videos may create stand-

alone learning activities as instructor-created videos are primary sources of information for students in online and blended courses (see Lowenthal & Cavey, 2021).

### Appearing On-screen

There is a substantive amount of research outside the scope of this review that focuses specifically on the presentation style of video lectures and what appears on-screen (e.g., voice-over, talking head) (Colliot & Jamet, 2018; Fiorella & Mayer, 2018; Kizilcec et al., 2015; Thomson et al., 2014; Wilson et al., 2018). The literature generally indicates video lectures that include an instructor appearing on-screen, either talking to the camera (i.e., talking head) or writing on a whiteboard (i.e., stylus writing), are as equally effective as face-to-face lectures and more effective and engaging than other video presentation types that do not include images of an instructor's face or hands (e.g., voice-over) (see Chen & Wu, 2015; Colliot & Jamet, 2018; Guo et al., 2014). Research suggests that students engaging in video communication technologies to view lectures may benefit from instructors appearing on-screen (e.g., the dynamic drawing or gaze guidance principles) (Mayer et al., 2020). Similarly, the literature suggests appearing on-screen in other asynchronous and synchronous uses of video communication technology (e.g., video feedback and video discussions) has a positive influence on student learning and helps build social and teaching presence in online and blended courses (Borup et al., 2012; Borup et al., 2014; Clark et al., 2015; Draus et al., 2014; Goldingay & Land, 2014; Hoffman, 2019; Izmirlı & Izmirlı, 2019; J. Li et al., 2016; Martin et al., 2012; Thomas et al., 2017).

### Tempering Multiple Modes of Communication

Synchronous video communication technology was shown to build social and teaching presence in traditionally asynchronous online courses (Clark et al., 2015; J. Li et al., 2016; Martin et al., 2012). However, interspersing synchronous video communication in traditionally asynchronous online courses is a unique blend in need of further investigation. This finding and other findings about students' perceptions of video feedback (e.g., Borup, et al., 2015) may be influenced by the nature of the blend, especially in studies of blended courses that include elements of face-to-face instruction (see Lowenthal, 2020). The inclusion of multiple modes of communication is often considered a benefit to student learning though mixing face-to-face, online, text, and video communication might actually be disruptive to student learning, especially in terms of social presence. For example, Suler (2004) posited people behave differently online than in face-to-face settings due to the online disinhibition effect. Still, Smith and Smith (2014) provided a contrasting account of silent behaviors among online learners. Students communicating online may be in a constant state of flux relative to status assessment, norm development, and role differentiation (see Slagter van Tryon & Bishop, 2009), and students' preferred communication styles may differ online (Szeto, 2014). In other words, multiple modes of communication may create challenges for students to develop their identities and establish behaviors consistent with their preferences (Szeto, 2014) or their perceived sense of self (i.e., student social presence) in online or blended courses. Online students might be communicative or uncommunicative while engaging with video communication technologies, which could subsequently influence their learning experience. Among others, Cundell and Sheepy (2018) noted that technology is not

inherently effective or engaging; rather the design is a more appropriate measure to examine. Researchers and practitioners should consider the design of video interventions in online and blended courses relative to the intended interaction, curriculum, and blend.

### **Limitations of the Study**

This study was limited by the search parameters and inclusion criteria used to select studies for this review. Specifically, studies selected from blended courses are subject to the bias and interpretation of the researcher conducting the review. Studies that were excluded from this review may provide additional support by confirming or disputing implications from the resulting analysis. A scoping review that includes all relevant and related work on video use in online and blended courses may inform future studies more explicitly by eliminating overlap in research efforts. Further, although this study selected empirical research studies in very specific settings, a large majority of the research reports ungeneralizable findings relying heavily on self-reported survey data which could perpetuate bias.

### **Conclusion**

Researchers have explored video communication technology in several different ways in online and blended courses. A qualitative synthesis of the studies reviewed resulted in four themes: delivering video lectures, fostering video discussions, offering video assessments and video feedback, and creating video check-ins. In all the uses examined, instructor social presence and teaching presence were identified as essential components to the success of any video intervention. Both asynchronous and synchronous video communication technology afford social presence, especially instructor social presence (Richardson & Lowenthal, 2017). Students learning in online

and blended courses benefit from visually seeing their instructors on-screen. However, the instructional efficacy of synchronous video communication technology needs further investigation. Video feedback interventions (i.e., video self-modeling) are worthy of further empirical investigation in online courses as the potential to encourage self-directed learning align with the autonomy required when learning online, especially in disciplines where kinesthetic learning is essential and often difficult to achieve in online settings. Synchronous use cases of video self-modeling may also provide students with feedback in real-time from instructors or peers and, if recorded, students could engage in a critical reflection of their performance after live sessions.

Questions remain as to how “produced” a video recording needs to be to sustain student interest and attention. However, educators should exhibit caution when attempting to entertain versus educate in this medium (Mayer et al., 2020). There are significant technological hurdles to overcome to produce high quality videos that may be an unnecessary investment. Similarly, video conferencing lectures should be organized to serve an educational purpose beyond “meeting” (Finkelstein, 2006). Educators may benefit from reducing synchronous videoconference meetings by engaging in asynchronous learning activities in advance of synchronous sessions. Although synchronous video lectures are possible, there may be ways to outline talking points for exploration outside of live meetings.

Students new to online learning may find the reliance on self-directed study a difficult transition. Instructors can support students with periodic videoconference discussions or video check-ins as these have been shown to build social and teaching presence. Similarly, since students are gaining more exposure to asynchronous and



synchronous video communication technology in online and blended courses, video assessments might help provide a media rich activity that supports learning course content as well as learning technology which could have added benefits to students' professional lives. In all uses of video in online and blended courses, the student's ability to perceive their instructors on-screen as real people (i.e., instructor teaching presence) is paramount to the overall success of the intervention (i.e., positive perceptions, viewership, engagement, attitudes, and performance). Video use will continue to grow in the educational landscape for years to come. Reflecting on what has previously been studied and using this as a foundation for future research will help guide researchers and practitioners forward with this pervasive educational technology.

### CHAPTER THREE: STUDY 2 - QUALITATIVE EXPLORATORY STUDY

#### **Synchronous Video-based Communication Technologies and Online Learning:**

##### **An Exploration of Instructors Perceptions, Experiences, and Expectations**

During the 1990s, educators became increasingly interested in the role community plays in teaching and learning (see Bransford et al., 2000; Brown & Campione, 1994; Rogoff, 1994). Thus, as colleges and universities began offering online courses and programs during the late 1990s, educators were particularly interested in how, if at all, a sense of community can be developed in online learning environments. Rovai (see Rovai 2001, 2002a, 2002b; 2002c; 2003; Rovai et al., 2004; Rovai & Wighting, 2005) and Garrison and his colleagues (see Garrison et al., 2000; Garrison, 2007; Garrison & Arbaugh, 2007; Garrison et al., 2010) were two central figures researching this problem in the early 2000s. Working from previous literature, Rovai (2002a) explained how classroom community involves spirit, trust, interaction, and common learning expectations. Rovai (2001, 2002a, 2002b, 2002c, 2003) illustrated over a series of studies that a sense of classroom community can be developed in online courses.

Research like Rovai's, though, suggests that a sense of classroom community rarely emerges on its own. Rather, there are things instructors do to help it develop. For instance, Rovai (2002a) argued that instructors need to attend to social presence, social equality, and their own teaching style, among others to help develop it. Other researchers emphasized attending to instructional design and directed facilitation (Shea, 2006), using specific instructional strategies (e.g., problem-based learning) (Baturay & Bay, 2010),

and leveraging the social side of teaching, such as collaboration, communication, and teamwork (Ritter et al., 2010). Techniques like these focus on aspects of “teaching presence” and “social presence” or the overlap of these aspects described as “setting the climate” in the Community of Inquiry (CoI) framework (Garrison et al., 2000). Some of the little research conducted on this suggests that it is the instructors’ responsibility to set the climate (see de la Varre et al., 2011; Olson & McCracken, 2015; Parker & Herrington, 2015). However, how instructors set the climate for classroom community development will undoubtedly vary and depend on a host of factors, including their personal teaching philosophy, their experience teaching online, situational factors (e.g., class size), as well as their selection of and effective use of communication technologies.

Interaction and communication are key to classroom community development in online settings (Vlachopoulos & Makri, 2019). From its inception, online learning has relied predominately upon and often solely on asynchronous text-based communication (Lowenthal et al., 2017; Shea & Bidjerano, 2009). However, with technological advances in synchronous video-based communication technology coupled with sociocultural factors influencing increased utilization of such technologies, even before COVID-19, researchers were examining the use of synchronous communication technology in traditionally asynchronous online courses (see Huang & Hsiao, 2012; Olson & McCracken, 2015). Synchronous communication technology affords real-time interaction and synchronous video-based communication technology (e.g., Zoom, WebEx) specifically provides real-time interaction where people can see and hear one another (Clark et al., 2015; Themelis & Sime, 2020). Research suggests that affordances like these can help improve the development of and perceptions of classroom community in

online courses (Hrastinski, 2008; Olson & McCracken, 2015). Yet, questions remain as to how and why instructors use synchronous communication technology in their online courses, and specifically how they use it, if at all, to help develop a sense of classroom community. Given the evolving changes of the postsecondary classroom and the lack of literature on instructor perceptions of developing classroom community in online spaces, this qualitative study explored instructor perceptions of using synchronous communication technology in online courses and specifically the influences of this type of communication technology on community climate and development. In the following paper, we present the results of our inquiry and conclude with some implications for research and practice.

### **Background**

Synchronous communication technology affords real-time interaction between students and instructors in online courses. Instructor perceptions of these technologies are critical to understanding how and why instructors use synchronous communication technology in traditionally asynchronous online learning environments. Yet, instructor perceptions of using synchronous communication technology in online courses have been shown to vary over a fourteen-year period between 2002 and 2016 (Perry & Steck, 2019). Demographic factors that may influence changes in perception include gender, age, years teaching online, institution type, and tenure status (Martin et al., 2019; Perry & Steck, 2019). For instance, Perry and Steck (2019) suggested exposure, familiarity, and comfortability with communication technologies may mediate previously held anxieties regarding instructor use of communication technologies for instructor-student interaction in online courses.

Research suggests some instructors perceive synchronous communication technology as reducing the transactional distance between instructors and students (Huang & Hsiao, 2012) and promoting social presence and a sense of community among students (Martin et al., 2013). Even early on, Moteram (2001) argued that synchronous communication technology can support the social aspects of online courses, which later research supported (see Oztok et al., 2013; Rockinson-Szapkiw, 2009; Stein et al., 2007). For example, Rockinson-Szapkiw found that synchronous communication technology enhanced community and social presence in an asynchronous online learning environment. Stein et al. found that student interactions during synchronous chats formed a distinct pattern that began with social presence “in a more casual, immediate environment than asynchronous discussion boards” (p. 113). Similarly, Oztok et al. suggested that “...synchronous communication may indeed serve to fill a social gap that may exist under asynchronous communication alone” (p. 92). However, few studies have examined instructor perceptions of using synchronous communication technology in terms of community development.

Belt and Lowenthal (2021) found that the use of synchronous video communication technology is under-researched. While some research has explored synchronous video use in blended courses (e.g., connecting classrooms to classrooms or individuals to classrooms) (see Akbaba & Baskan, 2017, Francescucci & Foster, 2013; Izmirlı & Izmirlı, 2019; Pardasani et al., 2012; Wang & Huang, 2018), comparatively fewer studies have investigated using synchronous communication technology in fully online courses (viz., Hogan & Devi, 2019; Olson & McCracken, 2015). Moreover, researchers have rarely examined the affordances of synchronous communication

technology. Given this, we set out to explore instructor perceptions of synchronous video-based communication technology, with a specific focus on using it for community building. More specifically, we set out in this exploratory qualitative study to answer the following research questions:

- RQ1: How are online instructors using synchronous communication technology in fully online courses?
- RQ2: What do online instructors think are the benefits and drawbacks of using synchronous communication technology in fully online courses?
- RQ3: How do online instructors facilitate synchronous sessions?
- RQ4: What do online instructors think is the relationship between synchronous sessions and community development in fully online courses?

### **Methodology**

A qualitative research design, centered around semi-structured interviews, was used to answer the research questions. Thematic analysis is helpful when exploring qualitative data sets and “a qualitative research method that can be widely used across a range of epistemologies and research questions” (Nowell et al., 2017, p. 2). During the summer of 2020, we sent out an invitation to participate in our study to a number of different social media accounts and online groups and organizations affiliated with professional higher education, education, and educational technology (e.g., American Educational Research Association, Association for Educational Communications and Technology) to find online educators who use synchronous communication technology in their online courses. We ended up interviewing 18 online educators. 15 participants taught online courses in higher education settings both prior to and during the COVID-19

pandemic and considered themselves proficient in the use of synchronous video communication technology; 3 participants indicated that they had never used synchronous video communication technology prior to the pandemic for teaching. Study participants were assigned pseudonyms to ensure participant anonymity and confidentiality. The interview questions were aligned with the larger research questions guiding this study and included questions such as: (a) In what ways have you used synchronous technology when teaching online?; (b) What features do you use and why?; (c) How have you used video to create a sense of social presence, connectedness, community in the courses you teach? The interviews were conducted via video conference, recorded, and transcribed for analysis.

The interview data was analyzed using NVivo software to code, query and visualize the data. Data analysis progressed from initial coding to pattern coding (Saldaña, 2015). The initial coding procedure combined descriptive and simultaneous coding techniques as well as highlighting quotes or passages that were striking (see pre-coding, Saldaña, 2015). Simultaneous coding was helpful when participants' descriptions of synchronous teaching provided insights to both their uses of the technology (i.e., the how) as well as inferences into their intentions with such uses (i.e., the why). Pattern coding was used to categorize first cycle codes in an effort to derive themes from the data. The researchers then reviewed and discussed the naming and definitions of each theme to enhance the rigor of this study. The major themes were then shared with study participants as a form of member checking to enhance the studies credibility as suggested by Lincoln and Guba (1985).

## Results

We set out to better understand how and why online instructors use synchronous communication technology in online courses and in what ways they use it to set the climate and build community. We found that 5 major themes emerged from the data (see Table 1). In the following section, we will elaborate on these themes and provide specific quotes to further illustrate the participants' perspectives where appropriate.

**Table 3.1 Major Themes of Online Instructors Perceptions of Using Synchronous Communication Technology in Online Courses**

Major Themes
<p><b>Theme 1: Instructors use synchronous communication technology in multiple and various ways in online courses</b></p> <p>Despite popular opinion, instructors do more than simply use synchronous communication technology to lecture. Participants reported how they used synchronous communication technology to hold class discussions, to assess learners and provide feedback, as a general check-in (e.g., as a course kick-off or office hours), as well as to lecture.</p>
<p><b>Theme 2: Benefits of real-time visual communication outweigh drawbacks</b></p> <p>Participants identified multiple benefits--such as, seeing each other or shared screens in real-time, helping to establish a sense of presence (e.g., getting to know one another), providing feedback, and real-time text-based chatting--as well as some drawbacks--such as technical difficulties (e.g., poor internet or broadband access leading to delays in audio and video feeds), time-consuming to both students and instructors, and overwhelming and burdensome on instructors (e.g., producing a synchronous session</p>



using various features)--of using synchronous communication technology. However, participants overwhelmingly suggested that the benefits of real-time visual communication outweigh the drawbacks.

**Theme 3: Benefits of nonverbal communication depend on situational factors and how synchronous features are used**

Synchronous communication technology can bring nonverbal communication into the online classroom. However, participants described how simply holding synchronous sessions does not guarantee that student webcams will be on, that they will be actively engaged, that there will be a stable internet connection for video, or that the videos will be large enough to make visual cues and nonverbal communication visible and helpful.

**Theme 4: Productive and meaningful interaction require intentional (i.e., predetermined instructional use such as lecture, discussion, or assessment) yet flexible facilitation during synchronous sessions**

Safe, interactive, and meaningful synchronous sessions do not happen on their own. Rather, participants described how they found different facilitation strategies such as creating a welcoming environment, reducing lecture time, inviting student participation and engagement, and responding to student needs as helpful mechanisms toward productive and meaningful interactions. Oftentimes, imploring these strategies required instructor improvisation and adaptability throughout synchronous sessions as each session was in and of itself unique.

**Theme 5: Synchronous sessions can provide a place for community to build and grow but they are not required for community development**

Synchronous sessions, and specifically the ability for real time visual communication that shows among other things nonverbal communication can create a place for community to develop. However, participants reported that there are no guarantees that it will develop and that a sense of community can develop using asynchronous communication exclusively.

Theme 1: Instructors Use Synchronous Communication Technology in Multiple and Various Ways

We were interested in how instructors use synchronous community technology in their online courses. For instance, were most instructors simply holding synchronous sessions to lecture to their students or to hold office hours? And more specifically, what were they actually doing in these sessions? The major theme that emerged was that there was no one way that participants used synchronous sessions. Instead, participants reported how they used synchronous sessions to lecture, hold class discussions, to assess learners and provide feedback, and as a general check-in (e.g., as a course kick-off or office hours). For instance, Terry explained:

*I've used it for one-on-one tutoring. I've used it for regular class sessions. I've used it to administer ... well to proctor exams.... [and] to give myself a whiteboard.*

Riley described:

*One is to facilitate classroom discussions. Another one is individual counseling, tutoring sessions with students, either individually or in small group instruction. Another way that's related to that is virtual office hours. The differences between that and virtual office hours is that I'll have a time that's dedicated to a particular*

*student or a small group of students, whereas with virtual office hours it's more like okay every Wednesday from seven to eight p.m. I'm going to be there so you can drop in as you want. So, some of it is for guided instruction, guided individual tutoring, some is just open, that come to visit me in my virtual office.*

Additional, though less common, uses included playing games with students, providing real-time annotation and feedback (e.g., giving audio/video feedback, audio-only, or text-based feedback in a shared document), and facilitating oral assessments of students in real-time.

### Theme 2: Benefits of Real-Time Visual Communication Outweigh Drawbacks

We were also interested in better understanding what instructors think the advantages and disadvantages are of using synchronous communication technology when teaching online courses that have traditionally relied predominantly on asynchronous communication. The major theme that emerged was that the benefits of real-time visual communication outweigh the drawbacks that can arise when adding this form of communication to online courses.

Participants consistently identified the advantages of synchronous communication technology, and specifically holding synchronous sessions, as the ability to communicate with students in real-time while seeing each other or seeing the same thing on their devices through screen sharing. For instance, Calvin described how “it's really efficient at bringing lots of different people together and you can go into presenter mode and have everyone see exactly what you see at the same time.”

Some specifically highlighted how real-time video can help build a sense of presence in online courses in different ways than using text-based communication. Riley described how “video technology made all the difference as far as students go, as far as presence, as far as reducing transactional distance.”

Others though focused simply on the benefits of real-time communication even when there might not be video or at times when some students chose not to have their cameras on. For instance, Claudia noted, “it just made a huge difference just to be able to have that chat space.”

Despite these advantages, participants noted some disadvantages of using synchronous communication technology. For instance, some pointed out how meeting in real-time can be burdensome for online students as Lauren explained how “it’s one more thing they have to keep up within a semester of things.” Others talked about some of the technical difficulties, such as poor internet and broadband access which may lead to delays in audio or video, as well as how time-consuming and overwhelming it can be to host synchronous sessions using a variety of features (e.g., screen share, whiteboard, chat, polling, breakout rooms). Mary explained,

*So I try to mix and match a whole bunch of different mediums and a whole bunch of different techniques to sort of like edit together kind of a show. Well, yeah, it kind of turns out to be a bit of a show, doesn't it? It's extremely time-consuming.*

However, despite some of these disadvantages, participants still felt that a clear advantage of synchronous communication technology, like holding synchronous sessions, was that the technology afforded “a place to get to know one another,” “a place for students to provide feedback to one another,” and “a place to see and hear each other in real-time.” Real-time visual communication offers an additional element, lacking in traditionally asynchronous online courses, that mirrors elements of face-to-face courses. As Tina elucidated “I've used technologies like Zoom for teaching in order to recreate the feeling of my face-to-face class” which typifies a tendency toward viewing in-person instruction as a basis for instructional comparisons.

### Theme 3: Benefits of Nonverbal Communication Depends on Situational Factors and How Synchronous Features are Used

We were also interested in which synchronous applications were used, how instructors and students used different features of these applications, and how their use might influence community development. The most used synchronous applications by participants were Zoom, WebEx, Teams, and Blackboard Collaborate (i.e., web conferencing applications). Each of these applications has similar features, including the ability to communicate in text, audio, and/or video (Skylar, 2009). The availability of these features often results in instructors and students interacting and communicating in different ways during synchronous sessions (e.g., some with their camera on and mic on, some with their camera off and mic off), which in turn can lessen or even nullify some of the aforementioned affordances of being able to see and hear each other in real-time. Instructors can control certain features (e.g., disabling the ability for students to turn their microphone on), although there are some things they cannot control (e.g., forcing webcams to be on). Further, rather than disabling certain features, participants talked more about using certain participation norms or protocols. For instance, some would ask students to stay muted and then unmute when they wanted to say something, which Tina described as “almost like the new raise your hand.” While norms or protocols like these can be a helpful form of classroom management, some found that they can accentuate a power differential in the classroom. For instance, Bernard described how practices such as muting microphones when joining a synchronous session can hamper real-time communication. He explained, “now, you immediately mute without really thinking

about the innate message that's being sent, that your voice might not be valued, you have to sit and wait and wait your turn....”

Consistently, though, when talking about different features of these applications, participants talked about webcams. All of the participants talked about how they valued and appreciated when students chose to turn their webcams on during synchronous sessions. However, many noted that they did not require students to turn their webcams on. As previously mentioned, one of the key affordances of synchronous sessions is the ability to see each other, and specifically see things such as nonverbal communication (e.g., body language, eye movement) in real-time. This nonverbal communication, while not the same as in-person, can provide context cues, feedback, or signals that can be used to gauge student engagement, and subsequently inform classroom community. However, this nonverbal communication is essentially absent if students choose to have their webcams off. For instance, Mary explained:

*It's more what I don't see that that's the problem. It's exactly the lack of visual cues that are so important for me to know. If I'm dragging on, it's time for me to change. Or, do the students look confused, maybe I should reexplain this. Or, I can see some are talking to each other, maybe they have a question, and so I'm lacking all these cues.*

Participants explained how they felt like their students were disengaged and not paying attention when they had their webcams turned off. For instance, Calvin explained:

*You do feel very much like you're teaching to a blank wall a lot of days. 70 students and for the entire course nobody had their video on. We are sitting on our living room from eight to midnight, and we have no indication that anybody was even paying attention.*

Some even talked about how using synchronous sessions, when students all had their webcams off, presented new challenges. For instance, participants talked about how difficult it can be talking to a screen full of avatars. Bernard explained:

*Here's an avatar, or just even worse, here's a black screen that says [John] or something like that on it. Well, that in and of itself, is a brand-new form of nonverbal communication I've never had to deal with before.*

Another challenge brought up was how one should interpret when a student chooses to turn their camera off midway through a synchronous session. George inferred that this type of behavior could be a way students signal that they need a break or some privacy:

*When they turn off the camera or when they mute their microphones. It's like they need some space, right, some private space, or probably they are tired, they don't want to pay attention anymore.*

However, with so many people working and attending school from home during the pandemic, there could be a host of other reasons why students choose to turn their camera's off during a synchronous session.

Participants, though, also talked about how even when students do have their webcam on, there can still be additional factors or constraints limiting the benefits of this type of communication technology, such as students appearing in small thumbnail video displays (particularly when instructors use gallery or grid views), slow loading videos, multiple webcams turned on simultaneously, and convoluted eye-contact to name a few. For example, Mary talked about how the screen size and the number of students in a synchronous session can make it challenging to discern any visual cues and nonverbal communication. Mary explained that:

*I have a class that has 40 students, so they are literally like little squares about half an inch high and about three quarters of an inch wide. So, it's very, and I'm on a laptop, so I got to tell you, I'm not seeing, and I wear glasses, so I'm not seeing a lot of nonverbal here.*

Further, participants talked about how some of the visual cues could actually be unfavorable. For instance, several participants described how seeing students' body language (e.g., eye movement, sitting upright, slouching, hand raising, facial expressions,

mannerisms, head nods) could influence the climate of a synchronous session in not only positive but also negative ways. Many acknowledged that this also happens in traditional face-to-face classes, yet they found the experience was different when seeing it up close on a screen. The following quotes exemplify this point:

- *So when they're not looking at you or they're looking down or ... whatever you feel like you've lost them. But I had to remind myself that was happening in the classroom anyway and it doesn't mean they're not paying attention. It's just more in your face in this format.*
- *And it's so easy to zone out and you're not, you know, you're most of the people are at home. Right, so at home. You've got your cat, your kids, the laundry, you're hungry and get up to the fridge. So there's a billion distractions that if you're in a classroom, you don't have. I mean, you might have them, but they're not there. They're just in your brain.*
- *With the students. It's the exact same as the classroom if they're going to be sidetracked by their cell phone. It's going to happen whether they're on a Zoom or not.*

Finally, participants talked about other ways that webcams can inadvertently communicate things about a student. For instance, participants talked about how they would sometimes notice things about their students' surroundings and their attire that they saw on the screen. In most instances, they found these details as welcoming and positive additions to the class. For instance, Calvin recounted that, "I like seeing that a student's nice and cuddled up in their blanket. We know they are in their happy place and they're listening, they're engaging, and it's great." Along the same lines, Margaret described how other on-screen appearances helped shape opinions of others within the community:

*It's kind of cool to see someone's dog jump up on their lap and want to participate in the call, that breaks up the discussion a little, but I think it adds a little bit of personality to where people realize that we're all human and it sparks conversation, and it sparks additional knowledge of each other.*



However, participants also described seeing things that they might not have otherwise seen in a face-to-face classroom, such as relaxed student attire. Lizzy explained how “I’ve had some students come to the meetings in some pretty questionable outfits.”

Overall, it was clear that participants valued how features like webcams can help bring nonverbal communication into the online classroom and how this nonverbal communication can help improve communication and set the climate for a successful learning community. But they were quick to point out that webcams are not a panacea. They can present additional problems or challenges or even communicate negative nonverbal communication.

#### Theme 4: Productive and meaningful interaction require intentional yet flexible facilitation during synchronous sessions

We were also interested in how instructors facilitated synchronous sessions and if there were any patterns that emerged from start to end of any given session. Each participant described their facilitation strategies in different ways, though some commonalities were identified in many of the synchronous sessions described as creating a welcoming environment, reducing lecture time, inviting student participation and engagement, and responding to student needs. We elaborate on these sub-themes below.

##### Creating a Welcoming Environment

Research has suggested that one of the things that is lost in online courses is the informal discussions that often happen before, after, and at breaks with traditional face-to-face courses (Dunlap & Lowenthal, 2009). In this study, participants noted the importance of showing up early and, in particular, creating a welcoming environment. Several participants described starting a synchronous session with some form of music.

Riley described playing his guitar on screen while waiting for all students to connect to the synchronous session. Cynthia, Calvin, and Lauren all described playing pieces of music at the beginning of synchronous sessions to help create a relaxed and welcoming environment for students “to ease them into the day” and “to help them remember where they are.” Calvin noted even taking students’ music requests as a way to engage students. Lauren further described asking students for their preferred entrance music. She explained, “I create a YouTube playlist of all the songs they submit, and I share this in class... they love it, they love getting to know each other that way.” Although some instructors described “awkward silences” throughout synchronous sessions that created hesitations among session participants, others felt starting a session with external audio tracks helped create a welcoming environment.

#### Reducing Lecture Time

Despite the varied uses of synchronous sessions that the participants described (e.g., direct instruction, discussion, assessment, feedback, office hours), most of the participants were opposed to lecturing for an entire synchronous session. Ultimately, participants felt that lecturing for an entire session limited student engagement and restricted their uses of the technology. In fact, several participants described using various features during synchronous sessions in lieu of or to supplement lecturing (e.g., polling, text-based chatting, screen sharing, whiteboarding, breakout rooms). Participants overwhelmingly felt that lecturing for entire sessions negated the perceived benefits of real time interaction and that lecturing aligned better to asynchronous content delivery forms. As Mary opined, “if they’re just sitting there receiving content probably most people are going to go for the asynchronous because then they can receive that content at

their convenience,” and Gina noted, “If you're just going to lecture, you might as well just record your lecture and make it look pretty and let people watch it on their own time and be able to fast forward and go back and stuff.” Although, participants did not completely dismiss the notion of lecturing entirely. Rather, many described lecturing in short snippets of time between a few minutes and up to twenty minutes in length as potential ways to keep students engaged throughout synchronous sessions.

### Inviting Student Participation and Engagement

Research has suggested that student engagement in online settings can be difficult to monitor through measurable activities (Dymet et al., 2020). In this study, several participants described “call[ing] on people by name,” “put[ting] a little bit of humor in,” “making eye contact,” and attempting to be “more real” and “more informal” as strategies that they perceived as encouraging student participation and engagement throughout synchronous sessions. Additionally, several participants felt that turning on their own webcams during a session helped the students establish a rapport with their instructor and helped humanize their students’ experiences. The overarching sentiment from participants was that student participation and engagement reflected the climate of the synchronous session, often set by the instructor. As Calvin proffered, “We don't have to be too formal. We can create this comfortable environment where students can really express who they are and what they are doing and how things are going in their lives.” There is no guarantee that inviting students to participate throughout synchronous sessions will increase engagement, although it was evident that participants were making concerted efforts in trying to provide opportunities for students to engage.

### Responding to Student Needs

The COVID-19 pandemic brought about emotional challenges to teaching and learning in synchronous online settings. Several participants discussed how both they and their students were managing stressful situations and that synchronous sessions were at times overly burdensome. Many of the participants also described how, as educators, they felt it important to try to “provide a sense of empathy” and lessen students’ worries about various course related tasks (e.g., meeting due dates, attendance at synchronous sessions). Although synchronous sessions, given the benefits of real time communication, did provide a space for students to communicate individually and often more directly with their instructors about more than just course-related topics. As Lauren described:

*Sometimes students cry. If they're really stressed and that's actually pretty typical... a lot of them have kids, they are super stressed at work, they have elderly parents a lot of times that they're responsible for and they have all the same concerns that I have as you know a midlife human. That happens a lot for whatever reason, when it's just me and the student talking, and they will either cry because they're stressed, or they'll cry out of relief... I always try to get them to laugh and relax, [I] always try to complement something that I see in their home. If they have pets, I just beg to see the pets. I can tell when a student is relaxing in their face. I can tell when they start smiling more, they start laughing, their hands start moving more, and they will kind of start joking back and then they'll you know share something, and then they'll start crying. If I have meetings with students, I'd say maybe a good seven will have a nice little cryfest and that's okay... I just sit there and I'm just like let it out, we all got emotions... I need them to know that I care about them.*

When teaching, as evidenced by Lauren’s recount, there are moments when instructor and student interactions require special care and attention, moments that go beyond the transactional nature of content delivery and Q&A. Many participants described how despite their intentions, for any given synchronous session they often had to adjust their approach as facilitators either at the beginning, during, or at the end of a synchronous session based on student needs.

Theme 5: Synchronous sessions can provide a place for community to build and grow but they are not required for community development

Finally, we were interested in how instructors use synchronous communication technology (which in the case of the participants in this study was predominantly holding synchronous sessions) to build a sense of classroom community. Participants held mixed views on this topic. A number of participants talked about how they hoped holding synchronous sessions, and the benefits of real time visual communication, could create a space for community to emerge. However, many felt that a sense of classroom community cannot be forced and must form organically based on the interests and motivations of others. Mary described the challenges associated with intentionally trying to create online communities:

*I have tried in the past to create online communities with my students, and I've got to say, the jury's out on if people join communities because they want to join them or if they don't feel like joining them. I find that enforced community building does not arise out of its own. It's like in class, you'll always have the same ten students who talk, and I found that in online classroom communities the same thing happens. It's the same kids who are going to join. There is the intention [of community] that would be ideal, but I don't construct my classes according to that because I know that it's most likely not going to work.*

Similarly, Bernard described how true community does not form when attendance is required of participants and alluded to the influence of teacher-student power dynamics therein:

*But one of the negatives that comes out of [online community building] is that we might be unconsciously reproducing the interaction patterns based on societal power that we care online and we're going to have the people that tend to cluster together in ways that are unanticipated. I've used [synchronous communication technology] many times to build a sense of community, but oftentimes that community can end up as a stratified power structure rather than the idea that we really want to get along. If we put video online [it's not] all of a sudden going to be Kumbaya and I don't know how to get around that.*

Conversely, others talked about how simply showing up, in real time, was foundational for online communities to form. As Nancy explained “They are making the effort to participate in those meetings, and I feel that most of the time it has been beneficial to really create a community.”

Some participants thought that there were some obvious advantages to using synchronous sessions for community building, such as the ability to see each other, hear each other, and interact in real time. Gina explained, “they’re getting to see each other more in real-time, see each other’s faces. So having that helps but it’s not as necessary as I think a lot of people assume.” Gina and others pointed out that despite these advantages, it depends not only on things such as students having their webcams on but also on interacting and taking part in the synchronous sessions. Mary captures this overarching sentiment:

*The hardest thing I found though is to get the interaction from the other side. So, it's still pretty much a one-way street. And I'm trying to make it a two-way street. But that's going to take some time.*

A number of participants also pointed out that they do not necessarily think synchronous communication is needed to develop a sense of community in online courses. Some described how asynchronous communication might lead to better understanding of others. Gina continued:

*I feel like people actually get to know each other better than I would expect through discussion boards and VoiceThreads and things, because I think they have the time to sort of process and interact with each other asynchronously because they really can digest what the other person did and sort of respond properly.*

## Discussion

We set out to better understand how instructors are using synchronous communication technology in online courses, what they think the benefits and drawbacks are of using it, and how they see its use relate to classroom community development. Five major themes emerged from our analysis: instructors use synchronous communication technology in multiple and various ways in online courses, benefits of real-time visual communication outweigh drawbacks, benefits of nonverbal communication depend on situational factors and how synchronous features are used, productive and meaningful interaction requires intentional yet flexible facilitation during synchronous sessions, and synchronous sessions can provide a place for community to build and grow but they are not required for community development.

Instructors use synchronous communication technology in multiple and various ways in online courses. Lecture, discussion, feedback and annotation, assessments, and check-ins were all common uses reported by participants. However, several participants were vehemently opposed to lecturing for an entire synchronous session. Participants felt that lecturing should be used sparingly throughout synchronous sessions, despite the affordance of real-time communication and interaction. It became evident that instructors were attempting to optimize the affordances of the communication medium in other ways such as hosting discussions, whiteboarding, and screen sharing with students. Research on the design and facilitation of synchronous sessions in online learning settings is growing yet divergent (see Brown & Eaton, 2020; Clark et al., 2015; Henriksen et al., 2020; Jung & Brady, 2020; Kohnke & Moorhouse, 2020; Luke, 2021; Lowenthal et al., 2017; Martin et al., 2017; Olson & McCracken, 2015; Oyarzun et al., 2021).

Benefits of real time visual communication outweigh drawbacks. Participants overwhelmingly preferred webcams being on during synchronous sessions, although several did not require students to use webcams. Participants noted that webcam use introduced new challenges to synchronous sessions (e.g., equity and access issues) that influenced student participation. Participants reported students having technical difficulties related to poor internet connections that hindered webcam use. In addition, a few participants discussed behavioral differences among students of differing genders and home life contexts (e.g., shared or lack of space, childcare) that influenced webcam use. Research on equity and access in synchronous online learning environments suggests some but not all issues may be mitigated by instructor action and awareness (see Ezra et al., 2021; Manzoor & Bart, 2021; Reinholz et al., 2020). Despite these challenges, participants suggested that webcam use was a way to “humanize” the communication and interaction taking place. Synchronous communication technology affordances, such as webcam use, may help humanize online learning experiences by providing additional context cues absent in other forms of communication (see Bali, 2016; Bali & Meier, 2014; DeWaard, 2016; Parker et al., 2021). However, Bali and Meier (2014) and others have cautioned such convenient affordances as elitist and marginalizing.

Given the associated challenges with requiring students to turn their webcams on, instructor perceptions were mixed on how best to navigate the challenge. Some instructors were adamantly opposed to mandating student webcam use, others were less rigid and saw encouraging student webcam use as a mechanism for promoting community engagement that was helpful to informing the social climate of the classroom.



Generally speaking, most online courses rely solely on asynchronous text-based communication. Despite some clear advantages to asynchronous text-based communication (e.g., convenience, efficiency, time independent), there are also clear limitations (e.g., lacking nonverbal cues and spontaneity, creating a sense of isolation or separation, taking time to develop conversations). Real time visual communication adds an additional element that may not otherwise be present in traditionally asynchronous online courses, and this visual element may inform perceptions of classroom community in new or different ways as suggested by Rovai (2002b, 2002c).

Benefits of nonverbal communication depend on situational factors and how synchronous features are used. Participants discussed several features of synchronous communication technology, yet predominantly focused on webcam use and nonverbal communication during synchronous sessions. Webcam use in synchronous sessions has gained researcher attention with greater exposure to synchronous communication technology worldwide (see Bedenlier et al., 2021, Gherhes et al., 2021; Kozar, 2016; Rajab & Soheib, 2020; Shockley et al., 2021), yet findings are mixed. For example, Shockley et al. (2021) found that webcam use during synchronous meetings may be what creates “Zoom fatigue” and in turn problematic for engagement. However, Bedenlier et al. (2021) found positive correlations between webcam use and student experiences (e.g., high group cohesion, open communication, good teacher-student interaction) in an online course. Participants in our study felt that when students’ webcams were on that they were better able to gauge student engagement and subsequently adjust their instructional approaches as needed, though class size and small video displays were confounding and limiting factors in many recounts. Student engagement is likely difficult to gauge

regardless of webcam use, yet when webcams were on the visual communication available was preferable to the alternative.

Productive and meaningful interaction require intentional (i.e., predetermined instructional use such as lecture, discussion, or assessment) yet flexible facilitation during synchronous sessions. Nearly all of the participants discussed preparing for synchronous sessions with a distinct purpose in mind (e.g., lecture, discussion, check-in, group work). However, their intentions were often met with some expected and unexpected challenges during synchronous sessions. For instance, technical difficulties (e.g., unclear audio, video delays), managing multiple modes of communication (e.g., text-based chatting, audio, video, screen sharing) and a perceived lack of student engagement (e.g., uncommunicative behavior) were common and expected challenges based on participant interviews. Hoffman (2019) found that discourse throughout synchronous sessions appeared in distinct ways such as unified student engagement (i.e., a single discussion thread) or separate student engagement (i.e., multiple discussions threads). In the Hoffman study, separate student engagement using different forms of communication (e.g., text-based chat or audio) was less common though undisruptive and seemed to optimize the affordance of real time communication. Conversely, other studies have suggested that instructors managing multiple forms of synchronous communication may be overwhelming (Cooner, 2010; Karal et al., 2011).

Several participants described different facilitation strategies that they perceived as proactive ways to mitigate some expected challenges such as creating a welcoming environment, reducing lecture time, inviting student participation, and responding to student needs. These strategies echo previous findings on instructor perceptions of

communication technologies (Huang & Hsiao, 2012), instructor presence (Richardson et al., 2016), and community building (Wickersham et al., 2007) in online learning environments. Richardson et al. (2016) found that instructor actions and behaviors, such as setting the tone, were perceived as important to establishing teaching presence. Taken together, phrases such as setting the tone, setting the climate, and creating a welcoming environment attempt to describe the overlap of teaching presence and social presence theorized by Garrison et al. (2000). Instructors may attempt to set the climate in synchronous sessions with predefined facilitation strategies, yet student actions and behaviors remain relatively influential to the success of any strategy (see Cleveland-Innes & Garrison, 2010).

Participants generally expected to provide students technical support with synchronous technology. However, some participants described unexpected challenges such as students crying, students appearing in unexpected attire on screen, or viewing a student's home life in the background. In these instances, instructors discussed their need to be empathetic, to exercise decorum, to respect student privacy, and to do so tactfully as appropriate to the teacher-student relation. The instructional approaches discussed in these situations align to the concept of pedagogical tact that focuses on the affect, attitude and improvisation that characterize teachers' engagement in various pedagogical situations (see Friesen & Osguthorpe, 2018; Sipman et al., 2019; Van Manen, 2016). In discussing pedagogical tact, Sipman et al. (2019) emphasized the immediacy of teacher action in handling complex situations, and Friesen and Osguthorpe (2018) posited that "students and the conditions of the classroom demand flexibility and improvisation, and no amount of planning and strategy development can prevent this" (p. 3). Given the real

time communication and interaction taking place during synchronous sessions, it became evident that instructors were working to engage with students in a pedagogically tactful manner. Even though the aforementioned facilitation strategies were helpful to some instructors, synchronous sessions were still unpredictable and often required instructor flexibility and improvisation in ways that do not happen in online courses that rely solely on asynchronous communication.

Synchronous sessions can provide a place for community to build and grow but they are not required for community development. Real time communication via synchronous communication technology provides additional avenues for student-student and student-instructor interaction that may inform classroom community development and may not otherwise be present in traditionally asynchronous online learning environments. Still, participant perceptions were mixed on whether the inclusion of synchronous sessions in traditionally asynchronous online courses were helpful to building classroom community. On one hand, several participants thought that real-time visual communication helped establish rapport, roles, and norms, and inform their knowledge of others which aligns with previous research (see Slagter van Tryon & Bishop, 2009; Yi, 2006). On the other hand, several participants thought that their actions and intentions had little to no influence on whether a sense classroom community started to develop which aligns with previous research (see Oyarzun et al., 2021). In either case, our findings suggest that instructor facilitation of synchronous sessions are not the only ways to build community in online courses. More specifically, our findings provide some support to the notion of synchronous lectures being less conducive to classroom community development. Participants felt that other uses of synchronous communication

technology may aid community building in online courses (e.g., discussion, feedback and annotation, check-ins), and each in need of further investigation.

### **Limitations**

The results from this study should not be generalized to all online instructors. First, the instructors who took part in this study were all involved in some way with the field of education or specifically educational technology. Second, interview data for this study was collected in the summer of 2020 amidst the COVID-19 pandemic. As a result, instructor perceptions of synchronous communication technology use in online courses may have been influenced by feelings of fatigue or other impressions during this unprecedented time. Future, post-pandemic studies can either confirm or dispute these findings as time, exposure, and comfort with synchronous communication technology may influence results.

### **Conclusion**

This study adds to a nascent field of inquiry. Relatively little is known about the communicative aspect of community with synchronous communication technology uses occurring between students and instructors in online courses. Instructor perceptions and experiences using synchronous communication technologies offer multiple perspectives and add to a growing body of research. Thematic analysis revealed that instructors use synchronous communication technology in multiple and various ways in online courses, and that the perceived benefits of real-time visual communication outweigh the drawbacks identified. This analysis also shows that the benefits of nonverbal communication depend on situational factors and how synchronous features are used. The study also concludes that productive and meaningful interaction requires intentional yet

flexible facilitation during synchronous sessions, and synchronous sessions can provide a place for community to build and grow but they are not required for community development.

Findings from this study suggest that real-time visual communication may aid in community building. More specifically, imploring intentional yet flexible facilitation strategies during synchronous sessions may assist instructors in developing the teacher-student relationship further by reducing feelings of isolation common among online learners. However, participants in this study recognized the inherent limitations and challenges associated with requiring students to use their webcams during synchronous sessions; they encouraged webcam use as appropriate. Recognizing the difficulty that webcam (non)use nevertheless represents we contend that such use could be encouraged as a means toward building classroom community in online courses. However, we acknowledge that classroom community development can occur in other ways.

The five themes identified and discussed in this study provide several avenues for future research. Future studies could explore the various ways instructors use synchronous communication technology (e.g., feedback and annotation, assessment, check-ins) and the different features (e.g., polling, breakout rooms, screen sharing, whiteboarding) more explicitly. Future studies could also explore differences in gender, age, social equity, and access relative to synchronous communication technology use and community building. Equity and access are pressing problem spaces as the efficiencies afforded by the use of synchronous communication technologies in online settings should not come at the expense of student inclusion. Lastly, future research could explore the

influence of synchronous communication technology on the teacher-student relation in online settings relative to community, connectedness, and similar research constructs.

## CHAPTER FOUR: STUDY 3 - PHENOMENOLOGICAL ANALYSIS

### **The Teacher-Student Relation in an Online Graduate Program: A**

#### **Phenomenological Analysis**

Teacher-student relationships are an integral part of the academic experience (Chickering & Gamson, 1987). Researchers have explored teacher-student relationships with adolescents (Ang, 2005; Engels et al., 2016; Hughes et al., 2012; Jia et al., 2017; Muller, 2001; Murray & Malmgren, 2005; Murray & Pianta, 2007; Wang et al., 2013), with adult learners (De Jong et al., 2014; Frymier & Houser, 2000; Jorgenson et al., 2018; Lee et al., 2011), and across multiple fields of research (i.e., psychology, education, and communication; Hagenauer & Volet, 2014). Research has shown, among other things, that positive teacher-student relationships are a key factor in student success (Arbaugh & Hornick, 2006; Johnson, 2006; Meyer, 2003). Yet, Hagenauer and Volet (2014) contend much of the research on post-secondary teacher-student relationships focuses only on student attrition.

Communication and interaction between teachers and students are essential to the teacher-student relationship (Katz, 1968). The frequency and occurrence of teacher-student interactions in higher education settings has been widely studied (Lampton, 1993; Hagenauer & Volet, 214). Research has shown that the frequency of interactions between teachers and students influences, among other things, the quality of the teacher-student relationship (Jacob, 1957; Rogers, 1962) and student learning outcomes (Pascarella & Terenzini, 1978). Yet, less is known about the quality of these interactions, particularly



those taking place between teacher and student in post-secondary settings (Hagenauer & Volet, 2014).

Communication between teachers and students can be conceptualized as interactions that occur at either a sociological level of roles (e.g., teacher or student) or a psychological level of individuals that constitutes interpersonal communication (Dobransky & Frymier, 2004; Millar & Rogers, 1976). Interpersonal communication involves relational qualities or factors that influence experiences of the relationship such as control, trust, and intimacy (Millar & Rogers, 1976). Relational qualities such as intimacy are subject to varied researcher interpretations and, as such, result in varied, similar, or overlapping definitions of terms. Regardless, Dobransky and Frymier (2004) contend that “while the terms immediacy and intimacy have been used differently, they have both essentially been conceptualized as closeness” (p. 213).

Closeness, in turn, has been used in the study of teacher-student relationships in a way that is similar if not interchangeable with connection or connectedness, although these terms are defined differently in different studies (see Dikkers et al., 2012; Giles, 2012; Hattie & Yates, 2013; Jorgenson et al., 2018; Lundy & Droin, 2016; Townsend & McWhirter, 2005; Trespalacios et al., 2021). Of further significance to the present study is the fact that in their review of the relevant literature, Townsend and McWhirter (2005) found “most conceptualizations of connectedness included a self-in-relation to others component and a more internally focused self component” (p. 168). In other words, the student’s experience of connectedness to teachers in the teacher-student relationship concerns both how they relate to their teachers as well as how they relate to themselves. In summarizing the work of Pianta and others, Hattie and Yates (2013) described

closeness in teacher-student relationships simply as “...the emotional context of teaching interactions” (p. 17).

Research on teacher-student relationships in traditional in-person classroom settings suggests that these relationships are multidimensional and dynamic (Frymier & Houser, 2000; Giles, 2008; Hagenauer & Volet, 2014; Jorgenson et al., 2018) -- multidimensional in that there are many factors and aspects that may influence the relationship (e.g., age, parents, teachers, schools, community, environment, and so on). Teacher-student relationships are dynamic in that they are subject to changes over time (Gehlbach et al., 2012), are marked by relational turning points (Docan-Morgan & Manusov, 2009), and involve highly contextualized and individualized processes and events (Pianta et al., 2012). The case can be made that such processes and events emerge between teacher and student, and are not the result of impersonal factors and techniques that can simply be manipulated at will by the teacher.

Research also suggests that the dynamics of teacher-student relationships in online courses may differ from those developed in face-to-face courses (Song et al., 2016). For instance, teachers and students in online courses can engage one another with multiple modes of communication both within the learning management system (e.g., discussion boards) and outside of this system (e.g., virtual office hours or email). Teacher-student relationships in online programs may also differ from those in a single or one-off online course as students may have greater opportunity to engage, communicate, and interact with teachers in different ways over longer periods of time. Research has shown, among other differences, that graduate student perceptions of connectedness to online programs may vary (Bolliger & Inan, 2012; Exeter et al., 2009; Green et al., 2017;

Irani et al., 2014; Jamison & Bolliger, 2020; Rockinson-Szapkiw et al., 2014; Trespalacios et al., 2021). However, teacher-student relationships in online courses and programs are under-researched; the majority of literature on this relationship focuses on the face-to-face context.

Researchers seek to correlate the development of positive teacher-student relationships in online settings with other factors. These include the intensity and frequency of teacher communication methods (Green et al., 2017), the type of teacher communication (e.g., email or feedback) (LaBarbera, 2013), and the delivery of teacher communication (e.g., asynchronous or synchronous) (Martin et al., 2018). Despite such studies, researchers agree that further research is needed on connectedness in online settings (Green et al., 2017; Irani et al., 2014; LaBarbera, 2013; Martin et al., 2018; Trespalacios et al., 2021).

Research suggests that students who perceive a sense of connectedness with instructors are more confident (Ryan et al., 1998), less anxious (Creasey et al., 2009), and perform better academically (Eccles, 2004; Pianta & Stuhlmann, 2004). There is also reason to believe that developing a such a relational sense is even more important in online doctoral programs, programs in which students can be enrolled on average for more than 5 years (NSF, 2019) and in which student success often depends on their working relationship with their faculty supervisor and with those on their dissertation committee.

Untangling highly related constructs such as connectedness, belongingness, and community may be an onerous task when defining terms in research (Trespalacios et al., 2021). Indeed, “previous research suggests that [teacher-student relationships] can be

described using a range of concepts including closeness, care, connection, safety, trust, honesty, fairness, respect, openness, support, encouragement, availability, and approachability” (Hagenauer & Volet, 2014, p. 378). Yet, Trespalacios et al. also suggested that “community and connectedness are highly related, if not synonymous” (p. 6). However, the case can be made that these terms, community and connectedness, are neither synonymous nor mutually exclusive constructs in research on teacher-student relationships. Developing a sense of community requires, in part, “a shared faith that members’ needs will be met through their commitment to be together” (McMillian & Chavis, 1986, p. 9) whereas developing a sense of connectedness requires, in part, interdependence but may not require such shared faith. Also, community obviously involves multiple individuals whereas a teacher-student relation is structured dyadically.

Previous research on teacher-student relationships suggests that developing such positive relational attributes is predicated upon experiences of positive emotions (see Arbaugh & Hornick, 2006; Green et al., 2017; Johnson, 2006; LaBarbera, 2103; Martin et al., 2018; Meyer, 2003). However, less is known about what constitutes such positive emotions in this relation and previous research has yet to capture the nuanced complexities of the lived experiences of students sensing connectedness or closeness with their teachers. The quality of the teacher-student relationship--like any relationship--is lived, involving changing feelings and impressions that are inadequately communicated through scales and other measures. Survey instruments, for example, presuppose the relevance of fixed, a priori constructs (such as positive or negative valuations or levels of satisfaction) potentially limiting the range of relational phenomena and variations that may be available for study (see Bolliger & Inan, 2012; Terrell et al., 2009). Through its

phenomenological design, this study focused on the experience of relation between teacher and student without unnecessarily framing it as a question of predefined evaluative or correlational categories.

Given the importance of the teacher-student relationship specifically in online doctoral education and the noted gaps in the literature, there is a need for more research on such relations. There are many questions that can be addressed. For instance, what do doctoral students consider positive or negative in a teacher-student relationship of this kind? How do communication technologies and teaching approaches relate to students' experiences of the teacher-student relationship? Thus, the purpose of this phenomenological study was to investigate doctoral students' lived experiences of the teacher-student relationship while completing an online doctoral program.

### **Methodology**

The teacher-student relation is a relation which is simultaneously professional and personal, cognitive and affective in character. It is one that lacks the mutuality, say, of a friendship, and is deliberately arranged to come to an end. In these and other ways, the relationship between student and teacher appears different from other relationships in our lives. Yet, few studies focus on this unique combination of qualities. Phenomenological research methodologies endeavor to bring to light experiences and perceptions of individuals from their perspectives (Lester, 1999). Such techniques can assist researchers in exploring differences in how the teacher-student relationship appears. Yet, few studies have neither explored the postsecondary teacher-student relationship using phenomenological research methodologies (viz., Giles, 2008) nor studied this relationship in online settings. By conducting a descriptive phenomenology of students' lived

experiences of the teacher-student relationship, this study sheds light on the role it plays not just in online settings, but in students' experience and development on the graduate level more broadly. The guiding research question of this phenomenological study was: How do doctoral students experience the teacher-student relationship in a fully online doctoral program?

### Sample/Context

This study was conducted with graduate students enrolled in a fully online Educational Technology doctoral program at a university in the western United States. We employed a mixture of convenience and purposive sampling to identify participants for this study. The principal researcher first selected a fellow doctoral student with whom he had previously established a connection with to pilot the interview questions (which are discussed next). The pilot interview helped this researcher refine the semi-structured interview questionnaire and his own interviewing technique. After the pilot, interview questions were finalized with the assistance of the other researchers. Questions such as: (a) How would you describe the relationship you had or have with your online instructors?; (b) Do you feel drawn to specific online instructors?; (c) Of the courses you have taken, which online instructors do you remember? What do you remember about those online instructors?; (d) Could you describe a specific example of a positive or negative interaction with an online instructor? What was it that made you consider this as positive or negative?

Invitations to participate in this study were emailed to 29 students who were currently enrolled in or recent graduates of the same doctoral program. These 29 students were selected based on criteria that included their availability and willingness to

participate as well as their backgrounds and positions, including positions of both gender, age, and profession, as well as their representativeness of students in a fully online doctoral program, including students at various stages in the program (e.g., completing coursework, writing dissertations, and recent graduates). A total of 11 students were interviewed including the student interviewed in the pilot. These 11 doctoral students had been exposed to similar types of instructor communication (e.g., email), and terminology and technologies common to educational contexts, but this sampling brought in varied perspectives and experiences. 11 interview transcripts were included in the analysis. However, extracts from only seven interview transcripts were included in the final report of the findings. The researchers felt that these extracts, which include participant vignettes and research commentary, demonstrated "...convergence and divergence, representativeness and variability" (Smith, 2011, as cited in Beck, 2021, p. 124).

### Data Collection

The primary data collection procedure for this study was semi-structured interviews. The semi-structured interviews remained flexible enough to allow the principal researcher to ask follow-up or probing questions, and to follow lines of questioning about particular experiences not anticipated in the interview questions. For example, the primary researcher asked participants to explain an incident, expression, or statement articulated during the interview in greater detail in order to "drill down" to specific experiences conveyed by the participant on several occasions. The interview transcripts provided rich descriptions of the experience which were then subjected to coding and thematic analysis.

The interviews were conducted in Zoom video conferencing software, recorded, and transcribed verbatim. Transcribed data for this phenomenological study was stored as a single NVivo file including all sources of data collected (i.e., interview transcripts, jottings and field notes, and analytic memos). Secure data storage aligned with the procedures set by the Institutional Review Board that approved this study. Study participants were assigned pseudonyms to ensure participant anonymity and confidentiality. Further, any mention of specific people during the interviews were assigned aliases to ensure anonymity and reduce reputational risk.

### Data Analysis

The principal researcher used NVivo software to code, visualize, and query data as complex data collection requires equally complex tools for data analysis (Silver & Patashnick, 2011). The data analysis procedure aimed to identify issues within each case and look for common themes that transcend the subjects' reports (Creswell & Poth, 2018). Data analysis included analytic memo writing, coding, modeling, and thick description. Multiple passes through the data afforded the opportunity to gain a deeper understanding of aspects of participants' experiences. With each pass, participant statements of experience were treated equally no matter how often they appeared during a single interview or across multiple interviews. This process confirmed initial findings and heightened reliability. The coding and analysis are described in greater detail below.

### Analytic Memo Writing

After each interview, the principal researcher jotted down initial thoughts and feelings (i.e., jottings or field notes) and wrote analytic memos that became more detailed as each subsequent interview afforded greater basis for comparison. The analytic memos



began by posing a question (e.g., what is the online classroom?) and attempting to answer this question based on the most recent interview. Several theories came to mind throughout memo writing related to the participants' experiences such as the theory of transactional distance, the community of inquiry, the pedagogical triangle, and the notion of transactional presence.

Some participants were more forthcoming about their experiences than others which provided pause to reflect on how the principal researcher related to participants' experiences and the phenomenon of closeness in the teacher-student relation. The principal researcher reflected on what these experiences meant to him having shared several of the course- and program-based interactions with participants and whether or not he could or would be as forthcoming about these experiences and if these experiences were truly shared or unique. Reflection involved thinking about the duality of student-researcher or insider-researcher and the heightened sensitivity or due diligence required of being a researcher as well as a student and engaging with the phenomenological research method.

### Coding

Data analysis began with a careful study of the interview transcripts in their entirety several times to gain familiarity with the data and to get a sense of the participants' description of their experience. After this initial reading, transcripts were coded using in vivo coding of significant statements: in vivo coding was important to this research methodology as it oriented the analysis to the participants' accounts of their experiences in their own words. A second cycle of coding was performed by analyzing the significant statements for recurring phrases or common topics and concerns that

formed the basis of statement themes or meaning units (Saldaña, 2015). However, these remained flexible as not to isolate and formalize themes without first establishing familiarity with the data corpus as a whole. Next, themes or meaning units were transformed from first-person participant accounts' to the third person. This process assisted the principal researcher in remaining sensitive to the experiential meanings within the data (Giorgi, 2009). The transformation of meaning units continued in Husserl's tradition of imaginative or eidetic variation to determine underlying, common or "essential" meanings. By systematically comparing and contrasting varying meanings or thematic units, the principal researcher attempted to move his analysis from consciousness of individual and concrete objects and "...come to an awareness of the necessary moments of the thing... which in their definite relations form the essence of the independently existing object" (Drummond, 2007, p. 64). Such an "independently existing object" in effect constituted the common and general themes or findings of the study. During this imaginative variation, the principal researcher worked to uncover common implicit meanings from explicit data with the goal of eliciting and defining meanings that were present or that varied across participants' accounts of their experiences (Giorgi, 2009).

#### Principal Researcher Positionality

I am a 36-year-old white male, brother, husband, and father and, like many, have experiences both good and bad in these relationships and with many other types of relationships. I have taught both online and in person courses in higher education settings, though I was not teaching postsecondary courses at the time of data collection or analysis. I espouse a social constructivist pedagogy in my teaching and interpretation and

understanding of the world. I analyzed the qualitative data corpus in solitude. I am a novice researcher and doctoral candidate in the field of educational technology. As a doctoral student enrolled in the same program of the participants, I perceive my insider-outsider perspectives as a continuum of positions undertaken throughout the research process from conceptualization to outputs. I consider these positions situationally dependent apt schemata (e.g., when receiving feedback on the proposal or manuscript from my teachers versus analyzing the qualitative data corpus) yet acknowledge that a complete dichotomy of positions was never achieved. I have also designed and assisted others in the design of hundreds of online courses in postsecondary educational settings and contexts. The impetus for this study came from my personal and emotional experiences of closeness in the teacher-student relation in the study site, and previous experiences of related closeness in other settings and contexts in my life. I wondered if my experiences were unique, shared, or arbitrary and desired to better understand how the teacher-student relation unfolds online.

### **Findings**

Four aspects or sets of aspects of closeness in the teacher-student relation emerged in this study: direct teacher-student communication, indirect teacher-student communication, self-relation, and the style or the communication of personality (understood as teacher persona). These aspects were present in all of the participants' descriptions of experiences. These aspects attempt to illustrate the phenomenon of closeness in the teacher-student relation. The interplay of these aspects is of critical importance as I believe that in various combinations, they underlie the subtle and overt, complicated and simple facets of the emotional context of teaching interactions. Table 4.1

contains definitions of each of these four aspects in the context of this study and are followed by researcher commentary on selected accounts and extracts of participants' experiences.

**Table 4.1 Aspects of Closeness in the Teacher-Student Relation**

<p><b>Direct teacher-student communication</b> The relation or atmosphere shared between student and teacher is cultivated through asynchronous or synchronous communication that occurs directly and mutually between the teacher and the student (e.g., feedback on academic work; individual emails) or in group settings (e.g., course announcements or discussion boards). This is one way, perhaps the dominant way, in which relation arises and is experienced.</p>
<p><b>Indirect teacher-student communication</b> Communication that discloses aspects of the teacher to the student only indirectly, through myriad aspects of curricular and course design (e.g., teacher instructions and introductions, instructional media), and the habits and tempo (for example) associated with the course as the semester progresses.</p>
<p><b>Self-relation (how the student relates to themselves in the relation)</b> How the student relates to themselves in the relation to the teacher. Students see themselves as being (mis)recognized, (under)valued and/or (mis)understood in their relation with instructors.</p>
<p><b>Style or the communication of personality (teacher persona)</b> How the student perceives the instructor's personality or teacher persona that as conveyed and indirectly expressed through all of the forms of communication described above.</p>

### Experiences of Closeness and Disconnect

#### Emmerson's Experience

Emmerson worked in higher education full-time and was in his second year of the doctoral program. He was still in the process of completing coursework having taken six courses. Emerson was between the ages of 25-34 and had never taught online before. He remembered three specific instructors from the doctoral program as "having their own specific style." One instructor was good at "building a sense of community," another instructor was good at facilitating small group work, and one instructor he remembered

for the feedback that was provided to him on a project. Emmerson associated teacher persona with the design of an online course and the types of interactions instructors chose to facilitate. He explained, “each course you go into, the professor chooses to focus either more sometimes on like... discussion forums... feedback... annotation... one-on-one peer review... I think the course design is reflective of the instructor.” Emmerson described teachers as mentors and found exposure to different instructors beneficial and helpful. He found co-authoring a paper with one instructor as a positive experience and he appreciated when instructors shared more about their experiences. He explained, “having them share their experiences kind of influenced me to kind of be more mindful of [fit for purpose writing].” Emmerson was eager to learn more about all of the instructors in the program but felt he could relate more to one specific instructor. He explained:

*“I think their work strategy too comes across as different. Like I, I could relate to [one instructor] because I think he has a little bit of [a condition] and kind of jumping around more and I could see I, I could see that, you know, in his personality and, and how and I could relate to that myself you know versus other professors who are very kind of buttoned-down and this is you know the, the, the order. So, it depends on, on the professor like I think their personality does come, you know, come across for sure. But I also think that there is this kind of tie-in of just kind of seeing the different specialties of research, is really the main, the main window, that's, that's provided.”*

Emmerson also shared that recollections of interactions with teachers were not always episodic:

*“I think there's also sometimes with teachers and learning I feel like it's not always an episodic memory but it's more a change in how you approach things like you see somebody else using a certain way of how to format like a lit review or how to how to approach, you know, pure editing. And you're like, oh I'm going to take this, and you may not even think directly of how it came about. But now you suddenly, you're incorporating these new strategies into your process for, for performing tasks.”*

Emmerson was in the early stages of the doctoral program and did not express a sense of closeness to any particular instructor. However, he had a few positive interactions with some instructors and felt he could relate to one instructor based on how they conveyed their personality and approach to academic work. Teacher persona and direct and indirect teacher-student communication all resonated with Emmerson in a few different course-based interactions with instructors. His association of teacher persona with the design of an online course suggests that closeness in the teacher-student relationship may be difficult to sense when only exposed to one instructor for one course. In addition, he described the process of becoming a doctoral student as matriculating with instructors in *their* environment (e.g., attending conferences) as well as collaborating on publications. In his self-relation, his description of being a student was very self-reflective, self-aware, almost as if he understood how he would grow from being exposed to different online instructors in the program. He described associating an instructor's personality with their research interests which speaks to his own curiosities in research and how he may be exploring a path forward and searching for guidance. In this way, he demonstrated a cautious optimism. He was eager to build relationships but also self-protective in keeping instructors at arms-length. Emmerson was still gathering information about himself and others and did not sense closeness within any one particular teacher-student relationship.

### Kerri's Experience

Kerri also worked in higher education full-time and had previously completed a fully online masters degree less than ten years ago. She was in her second year of the doctoral program and was still in the process of completing coursework having taken

approximately 11 courses. Kerri was between the ages of 35-44 and had some more recent experiences teaching online due to the COVID-19 pandemic but conveyed that the rapid transition to online teaching was a less positive experience given the nature of her work in higher education that was heavily reliant on in-person interaction. Kerri had been exposed to around five instructors in this doctoral program and recalled three specific instructors for three different reasons. She remembered one instructor as being “approachable, flexible, and down-to-earth,” another instructor she remembered as having “quite high standards,” and the third instructor she remembered as having “a nice way of leaving constructive criticism.” Generally speaking, Kerri had a positive disposition about the program, the instructors, and her experiences. She explained:

*“I would characterize myself a year ago [taking classes] being kind of nervous and not really quite sure about this program and then characterize myself a year later, as two pretty different people. I think that's a large part due to the instructors and the intentionality they build into the courses... I think that [the instructors] spend a great deal of energy coming up with ways for people to interact and, and ways for people to feel more comfortable with the instructors and with each other, and so I think that kind of creating that small community, very intentionally contributes a lot to the feeling of, not just with your instructors, but also your comfort within your classes you're feeling of belongingness, and then your, your relationship with your classmates.”*

Although she had only been exposed to a small number of instructors, Kerri described a sense of closeness to her research advisor emerging from a series of interactions that included receiving feedback on academic work and receiving encouragement and support for pursuing publication. She explained:

*“My [research advisor] I took a course with him too, but I've only taken one. He had quite a positive influence. I won't say that we did a lot of video interaction in the course I took with him, but he has a nice, a nice way of leaving constructive criticism... [in this course] we worked on these papers and these projects and kind of got this whole paper done as the culmination of the course. And something that was really positive was, at the end of the class, and after he had made kind of all of his edits he had said, you know I think this is really good, and if you want*

*to, I'm not just saying this because I'm you know your [research advisor], but I really think that this is something you should pursue publication on and I would like you to work on this and let's work on this together so that was, you know, really positive. I think it was a series of like interactions and getting that positive feedback and improving my paper and then kind of culminating in I think this is really good and I'm willing to help you take it a step further... we're [also] trying to co-develop a grant together. So it would be nice to take some more classes with him and just get a better feel for his instructional type outside of just the one class I've taken with him."*

Kerri's experiences with her research advisor were generally positive. She described how she resonated with how this instructor provided feedback on academic work which made her feel empowered to make mistakes. She also conveyed that the quality of her academic work was acknowledged and valued by this instructor in his willingness to support the publication process which resonated with her positively. Kerri had developed a sense of closeness to this instructor that was enabled via direct teacher-student communication and reinforced, in part, by teacher persona or the communicative style of this instructor.

Kerri indicated wanting to pursue the relationship with her research advisor further, yet still struggled in relating to herself in the relation to this instructor. On one hand, Kerri demonstrated a respect for the boundaries of a teacher-student relationship and recognized how both teachers and students can choose how they present themselves to one another when using communication technology. Still, in her description, she revealed that she potentially yearned for communication with this instructor via videoconference when stating, "I won't say that we did a lot of video interaction in the course I took with him, but..." For Kerri, synchronous video-based communication with this and other instructors may have been helpful to relationship building. For example, she also commented that Zoom sessions were helpful in "humanizing" her experiences



and “getting to know instructors better.” She also felt that she could exhibit *her* personality in a “humanizing” way in comments and annotations that she placed in Google docs so that instructors might get to know her better. In these ways, Kerri exhibited a desire to build relationships with instructors through direct and indirect communication. On the other hand, Kerri also expressed that she was “self-directed and could manage her time” but grappled with feedback from instructors that “lacked clarity.” For Kerri, asking for clarification would be bothersome, it would infringe on an instructor’s time, and it might make her “expose ignorance” in her instructors’ eyes. As a result, she noted turning to peers either inside or outside of the program to seek clarification. In these ways, Kerri concealed herself from her instructors, including her research advisor. She was confident in her ability to complete tasks but fearful of the unknown, both in what an instructor might think about her and what she might think about herself if she were to reveal her uncertainties. Kerri’s experience suggests sensing closeness may be influenced by one’s ability to trust others as well as oneself. Kerri described sensing closeness with her research advisor that began with course-based interactions and moved into other forms of collaboration, yet also noted wanting to “get to know” her research advisor better “if [they] were going to be working together *that way*.” Her experiences suggest that sensing closeness in the teacher-student relationship may emerge from direct teacher-student communication alone in a single course, but may also be dependent upon continued communication and interaction beyond a single course.

#### Rory’s Experience

Rory worked in K12 full-time and had previously completed a fully online masters degree. He had more recent experiences teaching online courses as a result of the

COVID-19 pandemic. He was in his third year of the doctoral program and still completing coursework having taken nine courses. Rory was between the ages of 25-34 and remembered his most recent instructor for teaching the “most organized and most well-run course out of all that I’d taken so far.” He also expressed that “every professor has their own style of doing things” and recalled having positive experiences with four different instructors. He described enjoying the presentation of content from one instructor in one course, he recounted learning a lot as a teaching assistant to another instructor, he conveyed that one instructor “was really helpful in kind of explaining how things go,” and he expressed deference for one instructor that “was really hard on everyone but I appreciated that a lot because that really taught me a lot.” Rory described a sense of closeness to these four instructors for different reasons that included prolonged communication and interaction, the teaching assistant role, and feedback on academic work. He described his research advisor as being smart and helpful to his understanding of his research space and interests. In serving as a teaching assistant, he was exposed to some aspects of teaching in an online university setting, and he described feeling as if he knew this instructor better as a person and teacher based on their regular meetings in Zoom. Rory sensed closeness to his research advisor and teaching assistant mentor that included sustained communication and interaction. He explained:

*“...the ones that I've had to just communicate with more I've gotten in a closer, you know, relationship to so yeah you know just going back to [my research advisor], [my teaching assistant mentor] just because I had to regularly communicate with them, that was a part of it.”*

Rory also sensed closeness to two other instructors from two different courses that he had only been exposed to in course-based interactions. He sensed closeness to each of

these instructors for different reasons. One instructor provided robust feedback, answered questions, and was engaged in discussion forums. He explained:

*“I was kind of more drawn to [this instructor] just because I love the way she had set up her class and the way she was explaining everything and doing everything and the way she like would clearly respond to my questions and things like that she's really good at you know, giving me clarity in that and [this instructor] would give so much feedback to all of us in the class, like every single discussion, she would write like a big paragraph like, actually reading our discussion posts and things like that... so I guess that would draw that kind of drew me to her as a professor, even though I didn't have that same relationship where I had to speak to her regularly every week, you know, in a you know Zoom conference like I did with [my research advisor] and [my teaching assistant mentor]... I think she's just approachable... I feel comfortable with her and I just had her as my professor for a semester, and she just engaged with me like she did with anyone else, you know, in our discussion posts and stuff like that, and just, you know, basic, answering basic questions that I had about certain things, so I guess that online presence is, it really is just that level of engagement that they give and how well they're able to communicate.”*

The other instructor had a different teaching persona that Rory was intimidated by, yet feedback on academic work from this instructor resonated with Rory. Reflecting on his experiences, he ultimately appreciated and respected this instructor's approach to teaching. He explained:

*“I don't know, he had a way. You know, it's something I can't really describe to be honest. I don't know what his style is he was very blunt and to the point. And he wouldn't pull any punches with you, at all... it was a, it was a good type of pressure, I thought, that made me, that pushed me pretty hard to do good... with [this instructor], he would just say man that sucked like, that's really bad, like what is this, that doesn't make any sense, what are you doing, so yeah, you know, I guess, I guess, in my own mind I, I have an idea of where I am lacking skills and I know that I need to improve in a lot, a lot of places and, unlike other professors that would say, oh it's fine, it's fine [this instructor] would definitely call me out on any, any of those things.... I guess what I'm saying is personal, when he leaves comments and everything, he'll let me know how it is... it's just writing is never my strong suit, you know, research writing and stuff like that, so I was like oh my God, I was at the whims like of this man like I don't even know what to say... I feel much better, I mean now that it's done. But like I said I grew, I really, like I said, I really do respect [this instructor] and I probably took some, like, I took a lot, I took a lot from his course, and I learned a lot about writing.”*

Rory was exposed to different types of communication and interactions with instructors from which he sensed closeness. He described sensing closeness to his research advisor and with his teaching assistant mentor due to more frequent and prolonged communication and interaction. He also described sensing closeness to two different instructors stemming from course-based interactions. Rory demonstrated an awareness and sensitivity to direct and indirect teacher-student communication in each of these teacher-student relations. For Rory, a sense of closeness emerged with one instructor, in part, due to the design of the course (i.e., indirect teacher-student communication) when he affirmed that “I love the way she had setup her class.” His sense of closeness to this instructor was also influenced by direct communication with the instructor stemming from feedback on his academic work.

Direct teacher-student communication with other instructors also resulted in the emergence of a sense of closeness, although the nature of these communicative exchanges were somewhat different with each instructor. He received feedback from his research advisor on research interests and ideas as well as feedback from his teaching assistant mentor on the mentor’s teaching style. Conversations with these instructors were sustained over greater periods of time which allowed more personal aspects to evolve into the conversations, both the teacher and student sharing more with one another in a relaxed and casual way (i.e., less formality compared to feedback on academic work). However, he also described feedback on written assignments and discussions from instructors as profoundly helpful to his understanding having only taken one course with each of them. These two instructors had different approaches or communicative styles to providing feedback and these different styles both resonated with Rory. He sensed

closeness to one instructor based on the abundance of feedback which he felt revealed instructor engagement, online presence, and teacher style. He sensed closeness to the other instructor as a more knowledgeable other which also demonstrated instructor engagement, online presence, and teacher style yet in different ways that, according to Rory, did not manifest positive emotions. In his self-relation, he gained an appreciation for the teacher persona of the latter instructor as it helped him grow as a student. Rory's experiences also suggest that a student may sense closeness to the teacher-student relationship that is unbeknownst to the teacher. For example, both instructors providing feedback on academic work were likely doing so instinctually, out of duty or habit and not necessarily doing so to enhance this student's sense of closeness or to demonstrate a reciprocity or mutuality of closeness in the relationship.

#### Rylee's Experience

Rylee worked in higher education full-time and had previously taught undergraduate online courses as well as accelerated five- and eight-week online courses with adult learners. They felt that being an online teacher as well as an online student provided perspectives that inform one another. Rylee had completed two graduate degrees prior to the doctoral program. They were between the ages of 35-44 and were in their fourth year of the doctoral program. Rylee had completed around eight courses and was writing a dissertation. They recalled completing one course where they "felt like the instructor was not even present in the course, and that was rare because it was just the one instance, the one course." Rylee expressed overall, though, that instructors were "pretty engaged, have helped to create an environment that made folks feel welcome, and made sure there was an adequate level of community in the online environment." They also felt

that the instructors in the program came off as “busy... I think that so many of them are pulled in so many different directions. I think, from an advising perspective, and from just instructors who have taught me, I feel like they’re pretty busy, and sometimes I guess that reflects in their teaching.” Rylee did not sense closeness with any instructors in the program. They explained:

*“I honestly don't know any instructors that I really have a close relationship with. I don't, I can't identify any instructors. Honestly, not even my advisor like within the last year, my advisor and I have, have more conversations um I think that I wished that we had developed a closer relationship earlier on in the program. Um, I feel like a lot of the interaction that we're having now is kind of late. But there's not one instructor in the entire program that I can say knows me well, um, my advisor is starting to, I think, but I've been in the program [for a number of years], and so I don't there's no one I really have a close relationship with or anything so.”*

Rylee attributed this disconnect to several factors that included an unawareness of opportunities to get to know instructors, a lack of interest in getting to know instructors, changing job locations and research areas, and feeling less power and control in relationship building as a student. They explained:

*“...it's always a possibility that there's just this disconnect, it's very possible. I just, I don't know what opportunities have been presented and there could be some that I've overlooked where there's you know just space outside of the particular course that you're taking with the instructor to get to know them, for them to get to know you.... but I don't know that I've seen those opportunities presented, or at least that I felt compelled to participate any in any of those opportunities in getting to know my instructors outside of the course, the online course... I think I would have been able to strategically connect with particular instructors who had expertise in a particular area, but I think that part of the reason that I haven't done that is because I moved around so much and my, my focus is, my research focus has changed right. I was thinking about, you know, a different set of students, a different group of faculty, a different type of context, three different times throughout this entire program and it was just hard for me to wrap my mind around the meaningful connections I should have made or could have made, right, to build on what my thoughts were initially and how those could have evolved through relationships with instructors because it's changed so many times... I think another thing is that no matter how old I get or no matter what degree I, what degree program I'm in, this is the third graduate degree I'm*

*pursuing, I've never looked at my instructors as peers or colleagues, I've always felt like the student, and I think that is a shortcoming on my part. Just to not have that perspective, and I think that that is something I mean it's too late to work on it kind of sort of because, after this one I'm done right, but I just think I, I just realized that by myself thinking about it now is that, that could be a barrier for some of the relationship building because, I've always just considered myself a student, no matter what level student I've been."*

Rylee expressed that they were starting to get to know their research advisor more but did not sense closeness to any teacher-student relationship. Rylee discussed receiving feedback on academic work as both positive and negative experiences. In one instance, Rylee was impressed and pleasantly surprised that an instructor was able to provide feedback that was relevant to the context of Rylee's work and research area. Rylee explained that their research area was highly specific and fell out of the realm of the educational technology program (i.e., beyond expected instructor expertise). In another instance, Rylee did not respond well to an instructor who expected more from their academic work. Rylee felt that adhering to page requirements seemed arbitrary and did not have any energy left to give that particular assignment. Rylee exhibited self-relation relative to relationship building and demonstrated some personal ownership of any shortcomings in teacher-student relationships. Yet, Rylee's experiences suggest that sensing closeness in the teacher-student relation is not experienced by all students. Further, Rylee's experiences suggest that a student's awareness of closeness in the teacher-student relation embodies self-relation. Rylee was writing a dissertation and had experienced prolonged exposure to different instructors in the program. However, Rylee's experiences relative to teacher persona, direct and indirect teacher-student communication, and self-relation oscillated between positive and negative emotional connotations and resulted in sensing disconnect to the teacher-student relation. Rylee's

experiences also bring to light the intrinsic or extrinsic motivational factors that students may need to possess to sense closeness when entering a teacher-student relationship.

### Leila's Experience

Leila was also writing a dissertation. Leila worked in higher education full-time, she had been teaching online for ten years, and had been an online student in two different graduate programs. She was between the ages of 35-44 and completed between 12 to 15 courses in the doctoral program. Leila enjoyed teaching online and the flexibility of asynchronous online learning. Overall, she described a positive disposition about the program and her experiences with different instructors. She described having a “strong impression” of three different instructors based on different types of interactions. She described having positive impressions of her research advisor stemming from her advisors’ support, availability, prompt responses to her inquiries, feedback on academic work, and regular meetings in Google Hangouts with webcams on. She described having positive impressions of another instructor with whom she served as a teaching assistant and that her experiences helped her to get to know this instructor better in a casual and informal way. She also described having positive impressions of a third instructor who had a teaching style that resonated with her. She explained:

*“there's a couple of the professors who seem to go out of their way to really put, you know, something of themselves into the class every week... one of the professors does weekly videos and she may make them like two years beforehand, but, but they come up every week like they're new, and you hear her voice talking over the content of the week and they're just like a minute and a half long but it gave you a sense of, of her being there and then she also would respond in the, there are required discussion, and I think that she would always respond in there. And the, the responses were sort of, there is a boilerplate happening, like a template but she was also you could tell she was reading everything.... [in this instructor's courses] there was a lot of information being conveyed, but it was always, it was a lot of information, a lot of it was like information that was on YouTube or other online sources so it felt there was an element of curation I*



*would say to how she approached the classes. Which at the doctoral level felt, felt appropriate, like she was saying, here are the resources that I think will teach this best, but she was also open to further discussion on everything, so I took I, I enjoyed that I took, you know, have modeled some practices of my own on that. And she was another who was very good about, not only like being present like having a very visual and active presence in the class but also, she was extremely consistent, just like you could expect that. You would see new content Tuesday by noon, and you would see feedback at a certain time, and you knew it would take like a certain form... but then she fills in enough detail that it's clear she's read your work and it's consistent, so that was very effective."*

Teacher persona resonated with Leila, and she attributed her awareness of teacher persona to previously teaching in face-to-face classrooms and "having gone through some teacher training." In this program, Leila had some choice as to who her research advisor was but also described not having a choice as to who her instructors were on a course-by-course basis. Leila described the importance that she placed on an instructor's teacher persona by indicating that she would not take certain instructors again. She explained:

*"I never really had a choice of what I would take, and therefore I didn't have a choice of instructors. If, if I were thinking about taking something else, I would put it the other way, there are people I wouldn't take a classroom again, I guess, because I know that their, their style is frustrating to me, but there are there are plenty of others, that I would, I would be happy to take a classroom again particularly having taken one already."*

Leila described the professionalism and power dynamics of the teacher-student relationship in online settings. Particularly, her descriptions revealed that doctoral students may enter the relation with online teaching experiences and expected models of communication, interaction, and behavior. Leila's experiences also highlight the potential for teacher persona to have either positive or negative emotional connotations that inform student actions, reactions, and behaviors. She considered her online instructors still as "teachers" because she has not graduated yet but considered other instructors (outside of

the study site) as colleagues. Leila also discussed that consistent, clear, and sustained communication were advantageous to the teacher-student relationship, especially with one-to-one feedback from instructors on academic work. Leila was seemingly very aware of the teacher-student relationship and understood it quite profoundly almost as if it was a measured action. She expressed how her communication and interaction with her instructors was predominately academically-related, career-focused, or professionally-based and that this made sense, was expected, hoped for, and appropriate. Leila sensed closeness to instructors that had teacher personas that resonated with her own. She also described trying to tailor, match, or model an instructor's communication prose back to the instructor via email as a way to communicate more efficiently and effectively. She explained that she wanted to model student behavior that she would appreciate as an instructor.

#### Brax's Experience

Brax worked in higher education full-time and was a recent graduate of the doctoral program. He had been teaching online for eight years and had taken a few continuing education courses online around ten years before starting the doctoral program. He was between the ages of 35-44 and had completed 16 courses in the doctoral program before graduating. Brax remembered ten different instructors from the program, one of whom was his research advisor and one of whom he met at graduation. The other eight instructors he remembered from the courses that he completed. Brax's general disposition about the program, the instructors, and his experiences were overwhelmingly positive. He described being drawn to instructors that were leaders in their fields and in online education. He explained:

*“I think these folks, the ones I gravitate to, are the ones that want to lead the way. As opposed to letting the way lead them, they're not like here's my canned course I'll teach it, you know, whatever it's something that I'm doing. It's I'm going to lead you and I'm going to be your you know your professor, those are the folks I gravitate to, and I'd say, for the most part, all of them in the program were like that...”*

He described three instructors in particular as having a “commanding online presence” and “very well-design courses.” Brax sensed closeness to these three instructors as their teaching styles resonated with him. He explained:

*“...it was their teaching style it was there, largely their ability to connect with students. I felt like I knew those faculty as if I were in class with them every day, they had very commanding online presence... there's almost like a call it like a brand to the course whether it's. Very intentional interaction very intentional communication very intentional presence... they were very involved. You knew exactly where you were and what you had to do... They reached out to make sure I was getting everything I needed and still even afterwards, you know how's everything going how's your family like they just they feel like. They're connected to you, and some of this is natural human instinct... what makes you want to connect is the fact that they're humans they're not just this person this face behind a screen... We are forced to do more connections online because there's not a standing you know, three-hour class every week where we're together there's not a mandatory you know office hour requirement in this program by being forced to connect more because we have to. I think that made me feel more connected to them... I think that because they get to know you at a professional level but also at a personal level, to an extent, just like they would in person, they can make those connections... I think that's why I felt like I was connected to them and even in those interactions that we're at a distance it wasn't always school school school, it was we talked about work we talked about life.*

Brax described how these three instructors got to know him on both a professional and personal level. These instructors, one of which was his research advisor, also gave Brax the impression that they would be interested in continuing a professional or collegial relationship beyond graduation and that they treated him as if he were a colleague or peer as opposed to a student. He explained:

*“...they never treat you like a you know I'm this professor your this student, it was that relationship exists but I'm also here to help you, I want to be your peer because, for how many years after this. you know [my research advisor] and I are*

*only [a few years apart in age], how many years after this are we going to be needing to have a professional relationship let's cement that now... Say like [another instructor] was you know near retirement yeah, we're still going to have a potential professional relationship, it may not be as lengthy, but [this instructor] didn't act like well I'm going to be done in five years, or whoever the [instructor] might be [this instructor] was still there to say we're peers we're working on paper together, right now... let's do things together."*

Brax sensed closeness to certain instructors that stemmed from a combination of direct and indirect teacher-student communication, teacher persona, and self-relation. Brax's experiences of teacher-student communication and interaction were prolonged, and he described taking a number of courses with not only his research advisor who also chaired his dissertation committee, but also with the two other instructors of which he sensed closeness. Brax also described very briefly that his relationship with his dissertation committee was "particularly strong." In addition, he expressed that the way his courses were designed in many courses felt intentional (i.e., predetermined or purposefully scaffolded) but not prescriptive. Several instructors exhibited teacher personas that Brax interpreted as welcoming, affable, and "folks who [were] not afraid to take on the challenge of working at a distance." Brax reflected on these experiences often from a programmatic lens, but self-relation was also evident on his recounts of the transition from student to becoming a peer or colleague to certain instructors post-graduation. Self-relation was also present in how Brax described receiving feedback on academic work from different instructors that caused either emotional resonance or dissonance. Feedback that resonated with Brax was detailed, guided, and contained examples. Feedback that did not resonate with Brax was less guided, open-ended, and unsupportive. He described sensing a disconnect to one instructor based on what he perceived as unguided feedback that ultimately made him uninterested in a specific

research methodology. He described feeling as if there was a mismatch between the level of student he was and the type of feedback he received. He explained, "I would never expect my master students to be at my level I would expect them to be at the master student level... I get it we're doc students but we're also not perfect and we need help and support to get there." In his self-relation, Brax attributed emotional dissonance to feeling less supported, although he acknowledged being a doctoral student, he paradoxically was quick to dismiss the doctoral station and that the feedback provided by the instructor was intended to guide Brax. In this way, Brax displayed a conflict between his own self-image as a student and how his instructor was asking him to see himself in this specific communicative interaction. In this instance, the instructor's teacher persona did not resonate with Brax, but he maintained that this instructor was "brilliant... wonderful at the research [they] do."

#### Brief and Unexpected Experiences of Closeness

In the following section, we analyzed two extracts of participant experiences relative to lived time, lived body, and lived space. These two extracts are representative of short communicative exchanges that arose between a student and a teacher and were selected to illustrate a range of emotional responses in sensing closeness to the teacher-student relation.

##### April's Experience

April worked in higher education full-time and had taught a few postsecondary online courses. In reflecting on her experiences as an online student, she described teaching online as "a little bit harder because it's harder to get engagement from your students in completely asynchronous kind of online teaching." She was in her second

year of the doctoral program and in the process of completing coursework having completed eight courses. She had previously completed a fully online masters program and was between the ages of 25-34. April described feeling closer to her research advisor because they had “constant” communication. Yet, she also described a specific communicative exchange illustrative of a brief and unexpected experience of closeness with her advisor. She explained:

*“When I got a new puppy, we're both German shepherd fans, so it's like we're talking about dogs were sending pictures like so I feel like I have a really great connection with him, but I think that's again just because he's my advisor in the program.”*

The experience of getting a pet, of conversing about that experience with another person, and sharing pictures of pets tend to evoke positive feelings that can be traced in terms of both lived body and space. Sharing pictures and accounts about their dogs can be said to have oriented teacher and student around a common time: the present in their engagement with their pets. It also brought them together around a common (but admittedly still divided) space: the “here” of their homes or domestic environments which they shared with their pets. It is perhaps not surprising that this experience of a common space and time brought the two closer in their relationship, as it is certainly more concrete and unambiguously positive than a discussion about a student’s writing or about feedback on a submitted document. Important, also, in this communicative exchange between April and her advisor, is how April was relating to herself in the teacher-student relation (e.g., describing her experiences, her eagerness to share, her excitement about pet ownership). In this way, sensing closeness requires, in part, an awareness of individuality, a consciousness of our influence on others, and what we desire or need from others. In April’s description of this communicative exchange, it is

evident that the experience was not prolonged over a greater period of time. The experience was rapid and intense. Although April described sensing closeness to a teacher based on shared and immediate experiences, one cannot assume that such personal qualities are the only ways in which closeness can emerge between teacher and student in relation.

Relating to someone on the basis of these and other moments of sharing can emerge in subtle and complex ways and circumstances. For instance, when viewing a film one might relate to a character in a scene, or when listening to music one might relate to the melody, the lyric, or the composer, or when browsing social media one might relate to the posting of a complete stranger. In an educational context, these moments may similarly arise between teacher and student in both the direct and indirect communication taking place between them. While direct communication between teacher and student in online settings may rise and fall relatively quickly, indirect communication manifests a certain constancy (e.g., through ever-present course design, curricula, instructor-created videos, and so on). April's experience also exemplifies how the time of the teacher-student relation is discontinuous: sharing their experience about their pets only lasted briefly in their communication. At the same time, the feelings involved in such an exchange may linger. In April's description of her experience, closeness appeared suddenly through a sudden communicative exchange with a teacher; however, she ends up attributing this closeness to their regular and ongoing communication throughout the course.

### Leila's Experience

Leila experienced a moment of disconnect in a brief communicative exchange with an instructor. She described having a negative experience with this instructor during a synchronous Zoom meeting. However, her disposition during the meeting was influenced by a previous and indirect communal exchange by the instructor. She explained:

*"[This instructor] has a tendency to go on, to complain on social media about students in general and forget that students can see it, so I may have already had a negative feeling about that before we met."*

The experience of scanning social media for context cues about others can evoke both positive and negative feelings. Feelings of joy may arise when scrolling past a witty meme or feelings of anger or disgust may arise when scrolling past that same meme. Feelings will vary by taste and individuality, but are felt nevertheless. Leila described a distaste for this particular exchange as she felt personally attacked as a student. Like April's experience, however, it is impossible to know or assume how the instructor felt in this moment. Leila's experience alludes to several aspects of the teacher-student relation that include teacher persona, direct and indirect communication, and self-relation. Her description suggests that students may enter into direct communication in the teacher-student relationship with preconceived notions about a teacher or their teacher persona. The Zoom meeting she described as a negative experience was direct teacher-student communication whereas the posting on social media was indirect. Yet, this indirect communication stirred such a sudden and intense emotional response that Leila could not let it go when meeting and communicating directly with the instructor. What Leila's experience illuminates is the subtle and overt implications of the communicative



exchanges (that may span multiple communicative episodes) that surrounds the teacher-student relation and how sudden and perhaps nuanced the exchanges can be that at once constitute and also color the relationship either positively or negatively over the course of its existence.

### **Discussion**

As might be expected, the lived experiences of students in this study suggest that there is not one type of teacher-student relationship. Students described the teacher-student relation with research advisors, as teaching assistants, with specific instructors based on previous course-based interactions, with specific instructors based on other scholarly or academic pursuits (e.g., journal publication, conference presentation), and with program coordinators. Each of these different types of teacher-student relationships may require further investigation as there are several factors that may influence emotions (Quinlan, 2016) and the communication and interaction taking place between teachers and students (e.g., prolonged communication between research advisors and advisees). For instance, research has shown that supportive or difficult teacher-student relations throughout the dissertation process can have positive or negative effects on students, respectively (Burkard et al., 2014). Teachers and students may be more sensitive to the dynamics of the research advisor-advisee relation (e.g., sensing interdependence or long-term commitment) that influence perceptions of closeness in comparatively different ways than other types of teacher-student relationships (e.g., single or one-off course-based interactions).

This study attempted to describe how closeness or the emotional context of teaching interactions experientially manifested in teacher-student relations in a fully

online doctoral program. Participant descriptions revealed that a sense of closeness may emerge over time with prolonged communication and interaction between teacher and student. However, participant descriptions also revealed that a sense of closeness may emerge in very instantaneous and granular ways (i.e., brief moments when student receives or is exposed to teacher) such as receiving feedback on academic work, viewing instructor-created video recordings, attending instructor-led synchronous sessions, or interpreting an instructor's communication prose in email, course-based announcements, or discussion boards. Participant descriptions suggest that sensing closeness in the teacher-student relation is experienced individually and requires a degree of student self-awareness in the relationship. Teachers may or may not share the same sense of closeness with students or even be aware that students are emotionally resonating with their teacher personas or their direct or indirect communication to the student. For example, Rory's descriptions of experiences in course-based interactions with two different instructors in two different courses suggests that the instructors were communicating out of habit and not necessarily out of a shared sense of closeness. Student experiences of closeness may also confound teachers in a fully online distance learning environment as teachers often do not see students interacting with the content they develop or the feedback they provide in the same ways as traditional in person classroom settings.

Four aspects of closeness in the teacher-student relation emerged in this study: direct teacher-student communication, indirect teacher-student communication, self-relation, and style or the communication of personality (teacher persona). Each of these four aspects are influential to experiences of closeness and are discussed in greater depth below.

### Direct Teacher-Student Communication

The preponderance of participant descriptions of feedback or lack of feedback on their academic work supports findings of previous studies that suggest a strong correlation exists between connectedness and instructor feedback (see Gallien & Oomen-Early, 2008; Glazer & Wanstreet, 2011; LaBarbera, 2013). Previous research has also shown that clarity, timeliness, mode of delivery, and the credibility of instructor feedback may influence student perceptions of connectedness (Sheridan & Kelly, 2010; Poulos & Mahony, 2008). However, the communicative aspect of *feedback* needs further investigation relative to closeness in the teacher-student relation, and the various ways that students may experience feedback in online settings. This became more evident as participants discussed reacting negatively to instructor feedback but still sensing closeness in the relation.

Other direct teacher-student communicative aspects that require further investigation are teacher and student communication and interaction that occur asynchronously or synchronously with various communication technologies. Participants described how nonverbal communication that arose out of synchronous video-based communication technology use between teachers and students (e.g., Zoom, Google Hangouts) informed and added to their perceptions and interpretations of instructor's teacher personas. Such interpretations influenced participants' sense of closeness to teachers either by supporting or opposing their preconceived ideas of teacher persona.

Students may enter the teacher-student relationship with assumptions about teachers and these assumptions can come from various sources such as peers, reviews or evaluations, bios, social media, and so on. Further, these assumptions likely hold constant

in the student psyche until proven false or otherwise untrue. It is not until the student communicates directly with the teacher that they can rectify the unknown with the actual on their own terms. In moments of such confirmation, the student is likely unwavering in their opinion (good or bad) and in moments of opposition, the experience is likely pleasantly or unpleasantly surprising. Thus, sensing closeness may develop or be moderated by preconceived ideas of others (good or bad). Martin et al. (2018) found a small correlation between instructor use of synchronous features (e.g., polls, emoticons, whiteboard, text, or audio and video chat) and student perceptions of connectedness to instructors. More research is needed but the case can be made that certain features of synchronous communication technology (e.g., video chat or webcam use) may afford students with revelations of teacher personas not otherwise available in asynchronous text-based communication alone. Participants also described how both recurring and intermittent synchronous communication and interaction with instructors allowed them to experience their instructor's personality in authentic, casual, and informal ways. In Rory's, Leila's, and Brax's cases, recurring synchronous sessions with their respective research advisors allowed a sense of closeness to emerge. However, both Rory and Leila, and several other participants, also described how a sense of closeness emerged from asynchronous instructor-created videos in a single online course as it allowed them to experience the instructor's teacher persona on an individual basis (i.e., on their own terms).

#### Indirect Teacher-Student Communication

The design of an online course appears to influence student perceptions of closeness in the teacher-student relation. Each participant expressed interest or disinterest

in getting to know specific instructors better based on the design of the online course the instructor taught. Participants described feeling as if the design of the online course mirrored the motivation and interest of the instructor. When participants perceived the course design favorably, they also perceived the instructor favorably. Favorable online courses included structure, sequence, clarity, curation and organization, and students associated these design characteristics with positive instructor attributes (e.g., caring, organized, invested, supportive). Shea et al. (2005) suggested that the design of an online course can have a positive effect on “students’ sense of being connected with and supported by their instructor” (p. 72). Conversely, in unfavorable online courses, participants perceived the content in the learning management system as outdated, inaccessible, or lacking organization and clarity. One participant noted, “...even naming files appropriately... little things that made the course easy to follow” was a signifier of instructor commitment. Participants discussed how in the absence of instructor curation or attention to course-related details they were left to their own devices to construct meaning or “guessing,” often turning to peers for support in understanding resources and materials. The interplay of indirect teacher-student communication and teacher persona became evident as participants drew associations and inferences about teaching persona from the design of an instructor’s online course.

### Teacher Persona and Self-Relation

The style or the communication of personality (teacher persona) that was described by participants also sheds light on how students experience and interpret teacher persona in a distance learning environment. Teacher persona permeated through the various communication media of which students were exposed that included teacher

communication and interaction in emails, discussion forums, course-based announcements, feedback on academic work, synchronous meetings, and asynchronous video recordings. Additionally, the interplay of teacher persona and self-relation is informative as it captures how students may be drawn to teachers that resonate with their own personalities or aspirations as teachers. Similarity-attraction theory may inform this interplay in the teacher-student relation (see Berscheid & Walster, 1969; Byrne 1961; 1971). Yet, this occurrence may be more nuanced than similarity-attraction in the teacher-student relation. For example, Rory sensed closeness to one instructor whose teacher persona did not resonate with Rory. In this instance, and instances of the like, it is possible that teacher persona acts as catalyst toward self-relation like looking in a mirror. Style (1996) provided a metaphor for curriculum as a window and a mirror. Style posits “if the student is understood as occupying a dwelling of self, education needs to enable the student to look through window frames in order to see the realities of others and into mirrors in order to see her/his own reality reflected” (p. 1). Like curriculum, students may experience teachers as windows into other realities and mirrors that spark introspection. Students may perceive teachers as mirrors in that the more self-aware students are, the more apt they may be to sense closeness in the relation and navigate it appropriately.

Etymologically, the word *persona* derives from the Latin or Ancient Greek connotation of wearing a mask. Generally speaking, persona embodies the personality one chooses to present to others or the social role that one adopts. In educational contexts, teacher and student are different personas and social roles. More nuanced personas might include the dutiful student or the strict teacher. Personas may be as varied as the people and personalities behind the mask so to speak, but commonalities may exist

among the teacher and the student personas, respectively, in how these personas emerge or are shown to one another. Yet, a shortcoming of the student persona, is that “an unrealistic view of the self is often part of the student persona” (Steiner, 2014, para. 4). Meaning, students may not see themselves for who they truly are in the persona they choose to embody and display to teachers. Misaligning or lacking such self-awareness provides greater freedom from the responsibility of the student role and creates challenges for educators in deciphering the individuality or individual needs of a student. Further, the pedagogical relation is asymmetrical in that the balance of power tilts in favor of the teacher (Friesen, 2017). As such, students are disadvantaged to stereotypical student personas and need to possess the apt self-awareness to overcome such stereotypes as well as the motivation and courage to reveal themselves to teachers so that they can be seen as who they truly are or what they truly need in their present and future selves.

Different communication theories offer possible explanations for typified personas in online settings. For instance, the online disinhibition effect posits that individuals communicate differently in online environments compared to in person environments as online communication acts as both a shield and a sword in communal exchanges with far less physical consequence (Suler, 2004). Still, other studies suggest that silent or uncommunicative behaviors are common in online settings (Smith & Smith, 2014). In either case, the persona the student chooses to embody in online spaces is not the mirror as in Style’s metaphor, it is in fact the teacher persona that reflects the students to themselves, and the student must be ready and willing to experience their reflection.

Indeed, the power dynamics in the teacher-student relationship inform closeness relative to teacher persona and self-relation. Participants described how they did not

always feel comfortable communicating and interacting with teachers. Hesitancy, in these instances, stemmed from participants seeing themselves as less knowledgeable, incompetent, lacking confidence, or feeling as if their research interests were too far removed from instructor expertise. Participants also conveyed that at times they felt that their instructors were busy and, as such, they did not want to be bothersome or intrude on an instructor's time. Although the participants in this study were all adult learners, they described being intimidated by and fearful of a more knowledgeable teacher (see *zone of proximal development*, Vygotsky, 1931-1934). Seemingly, participants who had previous teaching experience were more in tune with this power dynamic and their experiences may have informed their self-relation in ways that other students may have not yet been exposed to or capable of. Additionally, participants described how they often did not have a choice as to who their instructor was for many of the courses in this particular program (see *bounded community*, Wilson et al., 2004). Participants conveyed that they were generally appreciative of the structure of the program, yet reducing students' choice of teacher may moderate closeness in the teacher-student relation.

The teacher-student relationship is different from other relationships in our lives. Participants described this relationship as professional, collegial, mentor, and personal. Although students described how they felt that they knew more personal information about some instructors compared to other instructors based on what these instructors chose to share in their communication and interaction, the relationship is personal in that students grapple with, navigate, and experience the relation individually. The relational quality of closeness may or may not appear for all students in the teacher-student relation. Yet, there are moments that strike an emotional cord, tone, or response within students



that seem to shape whether or not they permit closeness to emerge in this relation.

Further, these moments do not always have to have resonance or a positive emotional connotation for a sense of closeness to emerge.

### **Limitations**

The findings of a phenomenological study cannot be generalized. For example, the views of the study participants may or may not reflect the views of those in other online graduate programs, or others within the same program. Readers of this study are required to bring in their own experience and critical judgement to moderate this limitation--with acknowledgement that different readers will do so differently. The principal researcher's experience in the program as a student and researcher gives him greater understanding of some particularities of participant experience, but also limits his purview to just one program. Other researchers, even those with a similar background, could well interpret the same data differently. The program comprises core, research, cognate, and elective courses as well as a comprehensive exam and dissertation research. Most of these courses follow a 15-week timeline in the fall and spring semesters, some follow a 7-week timeline in the summer semester. All of these courses and research hours are completed in a fully online and predominantly asynchronous learning environment, synchronous communication between students and teachers varies by teacher, student, and cohort. The program is taught by a relatively small group of full-time faculty with intermittent assistance from visiting or adjunct instructors.

Participants in this study were in different stages of the program (e.g., completing coursework, writing dissertations, and recent graduates) and described varied perspectives and experiences of closeness in the teacher-student relation. However, these

participants are not entirely representative of the breadth of individuality that students may embody here and elsewhere. Nonetheless, phenomenological research gains its value by producing descriptions and interpretations whose value and validity is recognized not just on a conscious, critical level, but also on one that is non-cognitive, emotive and intuitive (Friesen, forthcoming).

### **Conclusion**

Research has shown that the distant or online learner is often relegated to an inherent self-direction and autonomy that often requires at least a partially advanced idea of the self as a learner. Meaning, in online learning environments it might be too difficult to leave students alone to their own devices in this meaning making and realization of self in the process. A student's relationship with their teacher is personal, somewhat fleeting, but often sticks with us beyond our immediate or continued communication and interaction with the teachers. In this way, the teacher-student relationship is not necessarily bidirectional or reciprocal but a matter of a student's individual interpretation and sensitivity to their personal growth and development as a student.

Such an interpretation of closeness suggests that the terms *connectedness* and *closeness* may be similar but not synonymous relative to teacher-student relationships. For instance, connectedness presupposes mutuality or perhaps a reciprocity of emotions of subjects in relation. However, such mutuality, shared faith, or emotional reciprocity between subjects are not necessarily presupposed in our understanding of closeness in the teacher-student relation: We understand that closeness may well be perceived in feelings more related to antipathy, ambivalence, or appreciation than reciprocity and mutuality. Future studies may benefit from such an interpretation.

This study adds to the research on personal aspects of the teacher-student relationship and fills a noted gap in the literature. The four aspects of closeness described in this study provide a model of this relational phenomenon and shed light on the little-studied postsecondary teacher-student relations that unfold online. Moreover, the open-ended phenomenological focus on student experience provides a novel contribution to research into teacher-student relationships more broadly.

The emotional context of teaching interactions are personal. Students grapple with several aspects of closeness that include direct and indirect teacher-student communication, self-relation, and teacher persona. Each of these aspects provide different areas for future research in distance learning environments. The findings of this study suggest that the interplay of these four aspects are inseparable from the relational quality of closeness. Future studies could explore students' intrinsic and extrinsic motivations relative to self-relation with teachers with different student populations, courses, and programs. Further, studying experiences of closeness resulting from indirect teacher-student communication alone could shed light on the multiple ways the student is exposed to the teacher in online settings. Findings from this study suggest that a student's sense of closeness may emerge in asynchronous communication and interaction alone. Yet, questions remain as to whether or not the communicative aspects that color and surround the teacher-student relation in predominately asynchronous communication constitute a mutually shared atmosphere.

There are multitudes of ways in which students and teachers communicate and interact in online settings that provide greater opportunities for experiences of closeness to emerge. Student and teacher experiences in online courses and programs will

undoubtedly vary from person to person and course to course, but the technologies that were formally thought of as creating an undesirable distance between teachers and students, may now present greater opportunities for varied and frequent teacher-student communication and interaction that might not have been previously possible with in person instruction alone. Teacher persona has been studied in many ways and similarity-attraction theory offers a plausible explanation, yet resonance with teacher persona or sensing closeness in the teacher-student relation is not relegated to teachers like ourselves. Lastly, there are many types of teacher-student relationships (e.g. research advisor, program coordinator, teaching assistant mentor) that moderate or exacerbate direct and indirect teacher-student communication that could be studied relative to sensing closeness in the teacher-student relation.

## CHAPTER FIVE: CONCLUSION

In response to a need for further research in a nascent field of inquiry, the purpose of this dissertation was to explore the communicative aspects of community and connectedness with asynchronous and synchronous video communication in online settings through a structured sequence of investigations. Each of the three studies presented provide insight into video communication. The first study analyzed more recent empirical studies published between 2010-2020 to synthesize research across disciplines. This study showed that there are certain ways that video communication appears in online settings (e.g., video lectures, video discussions, video feedback and annotation as well as orientation videos, video announcements, virtual office hours, and video-based check-ins). The second study analyzed faculty experiences with synchronous video-based communication technologies in online courses relative to classroom community building and development. This study showed that, in the perception of faculty participants, the benefits of visual communication outweigh the drawbacks and that a sense of community can develop with video communication but that such communication is not required to develop community in online settings. The third study showed, though somewhat indirectly, that synchronous video-based communication is perhaps one of the few, if not the most opportune, forms of direct teacher-student communication that may afford a sense of connectedness or closeness to emerge with students as both teacher and student are in a sense sharing the same communicative atmosphere. Still, indirect teacher-student communication abound in online settings (e.g., asynchronous video, curricula, course

design). What this study illuminates is *how* these technologies communicated to students in various ways, informing their sense of closeness or disconnect with their instructor. This study also showed that students may experience brief and unexpected moments of closeness or connectedness to teachers. As such, questions remain as to what constitutes the communicative atmosphere of the teacher-student relation in online settings and whether or not video communication is indeed a proxy for such a shared atmosphere. Taken together, these three studies show that the social implications (e.g., community and connectedness) of video communication are less known and require further investigation. Each of these studies provide contributions to noted gaps in the literature and potential avenues for future research. The findings for each of these studies are further summarized in the next section that include implications for future research and practice. Next, a synthesis of the general themes that emerged in these three studies is provided. Finally, this chapter concludes with final thoughts that provide areas for researchers and practitioners to consider in online teaching and learning moving forward.

### **Summary of Findings**

#### **Study 1 - Literature Review**

This study reviewed more recent empirical studies (e.g., 2010-2020) on video use in online and blended courses across disciplines. The themes that emerged from this study represent types of use and included: delivering video lectures, fostering video discussions, offering video assessments and video feedback, and creating video check-ins. The review further synthesized asynchronous and synchronous uses of video communication technology in each of these four themes. However, research on synchronous video assessments and synchronous video feedback did not appear in the

studies reviewed, suggesting further research is needed for such uses. In the next sections, summaries of the advantages and disadvantages of asynchronous and synchronous video communication uses across themes is provided.

#### Advantages and Disadvantages of Asynchronous Video Communication

Researchers identified a primary advantage of asynchronous video communication in its provision to students of control and a sense of agency in their learning (Beale et al., 2014; Chen & Wu, 2015; Dinmore, 2019; Fleischmann, 2020; Geri, 2012; Geri et al., 2014; Hajahasemi et al., 2016; Lervik et al., 2018; Valenti et al., 2019). Such communication in online settings may also support at-risk students (Miller, 2014; Murphy & Stewart, 2015), novice online learners (Taylor et al., 2015), and may encourage student self-direction (see Borup et al., 2013; Clark et al., 2015). Studies also showed that asynchronous video communication may help establish social and teaching presence (see Borup et al., 2014; Clark et al., 2015; Draus et al., 2014; Goldingay & Land, 2014; Izmirlı & Izmirlı, 2019; Thomas et al., 2017), and to manage student expectations (see Clark et al., 2015; Goldingay & Land, 2014; Izmirlı & Izmirlı, 2019; Taylor et al., 2015). Such communication may also result in increased student satisfaction, engagement, and interaction (see Borup et al., 2013; Draus et al., 2014; Fleischmann, 2020; Izmirlı & Izmirlı, 2019). Students visualizing instructors in video communication can be considered socially constructive (Dinmore, 2019; Hegeman, 2015) and can provide a visual character to online learning that may be interpreted by students as welcoming, affective, emotive, supportive, and conversational (see Atwater et al., 2017; Borup et al., 2015).

Researchers tended to focus on the initial recording process as a primary disadvantage of asynchronous video communication. In these instances, researchers attributed a lack of faculty time, resources, and technical expertise as deterrents to quality video production (Beale et al., 2014; Dinmore, 2019; Green et al., 2018; Müller et al., 2018; Valenti et al., 2019). Studies also showed that asynchronous video communication does not guarantee increased student engagement or interaction (Beale et al., 2014; Borup et al., 2013; Draus et al., 2014; Geri et al., 2014). Such communication may be less efficient, convenient, organized, and focused compared to text-based communication (see Atwater et al., 2017; Borup et al., 2015). Further, polarized student perceptions of asynchronous video communication may be common (see Valenti et al., 2019).

#### Advantages and Disadvantages of Synchronous Video Communication

A further primary advantage of synchronous video communication in online settings identified in the research is its potential to provide a place for instructor and students to connect and interact in real-time (Abdous & Yoshimura, 2010; Dahlstrom-Hakki et al., 2020; Hoffman, 2019; Martin & Parker, 2014). Researchers also identified synchronous video communication as providing a convenient and flexible (Wang & Huang, 2018), means for enhanced interaction and student engagement (Akbaba & Baskan, 2017; Martin et al., 2014; Martin & Parker, 2014; Stewart et al., 2011; Valenti et al., 2019), and providing students with experiences similar to face-to-face experiences (Francescucci & Foster, 2013; Izmirlı & Izmirlı, 2019; Rockinson-Szapkiw & Wendt, 2015; Macharaschwili & Skidmore, 2013; Wang & Huang, 2018). Studies showed that synchronous video communication may build social and teaching presence (see Clark et al., 2015; Hoffman, 2019; Martin et al., 2012), and may afford instructors opportunities



to expand upon content in greater depth (see Martin & Parker, 2014). Research also indicated that such communication may help develop community (see Martin & Parker, 2014), and may improve educational access and reach students at different geographic locations (see Marcharshwili & Skidmore, 2013; Martin & Parker, 2014). Such communication was shown to help reduce feelings of isolation among students (Clark et al., 2015; Goldingay & Land, 2014; Hogan & Devi, 2019), form student-student and teacher-student relationships (Atwater et al., 2017; Lowenthal et al., 2017), and create a more casual and relaxed atmosphere compared to video recordings (Dahlstrom-Hakki et al., 2020; Rockinson-Szapkiw & Wendt, 2015).

Researchers tended to focus on technical difficulties (e.g., unstable internet connection, delayed video, unclear audio) as primary disadvantages to synchronous video communication (Akbaba & Baskan, 2017; Dahlstrom-Hakki et al., 2020; Marcharshwili & Skidmore, 2013; Martin et al., 2012; Olson & McCracken, 2015; Pardasani et al., 2012; Wang & Huang, 2018). Researchers also identified synchronous video communication as being fast-paced, socially demanding, and attention-consuming (Dahlstrom-Hakki et al., 2020), potentially leading to emotional disconnect among online students (Pardasani et al., 2012), and reducing student agency with set meeting times (Olson & McCracken, 2015). Studies showed that synchronous video communication may be an unnecessary investment to build community (see Olson & McCracken, 2015), may be disruptive to student communication norms (see Szeto, 2014), may create technological distractions in classroom settings (see Marcharshwili & Skidmore, 2013; Stewart et al., 2011). In addition, such communication may make student attendance and engagement difficult (see Lowenthal et al., 2017). Further, mixed student perceptions of

synchronous video communication has been shown to be common (see Martin et al., 2012).

This study provided a general overview of asynchronous and synchronous video communication uses in online and blended courses. The advantages and disadvantages that emerged from the literature reviewed tended to focus on either time or technology. Asynchronous video use has the potential to afford students with greater flexibility in how they use their time whereas synchronous video use reduces student flexibility as they are required to meet in the same place at the same time. Similarly, instructors may be limited by time in these instances both in acclimating to the technologies being used and developing video content.

#### Study 2 - Qualitative Exploratory Study

This study explored faculty perceptions of synchronous video-based communication technology uses in online courses and if faculty perceived such uses as conducive to classroom community development. The themes that emerged from this study suggest that there are myriad uses of synchronous communication technology in online settings, and that the perceived benefits of real-time communication outweigh the drawbacks identified. The research also suggests that the benefits of nonverbal communication that may arise from synchronous communication technology uses are situational and depend on how certain features are used. Finally, the study indicated that productive and meaningful interactions during synchronous require intentional (i.e., predetermined instructional use such as lecture, discussion, or assessment) yet flexible facilitation, and that synchronous sessions can provide a place for community to build and grow but are not required for community development.

The findings of this study indicate that synchronous communication technology is not a panacea. The COVID-19 pandemic heightened the prominence of synchronous communication technology uses for online teaching and learning worldwide, and this study provides additional considerations for such uses in practice. Generally speaking, this study suggests that faculty perceived different uses of synchronous communication as being suitable for different educational aims, and that they had varied effects on student learning, interaction, and engagement. Additionally, faculty discussed webcam use more prominently than any other technological feature available for use. Although some faculty were adamant about student web cam use correlating to the success of any synchronous session , several faculty also pointed out that, even when students had their webcams turned on, the nonverbal communication available was not always positive or clear nor did it clearly indicate student engagement or interaction. Despite these mixed perceptions, faculty overwhelmingly described the benefits of real-time visual communication as preferable to non-synchronous communicative forms. Thus, further research on teacher and student webcam use during synchronous sessions is needed to explore the effects on student learning more explicitly.

The findings of this study also indicate that intentional, yet flexible facilitation strategies may assist faculty in their teaching efforts. For instance, several faculty described a general cadence to their synchronous sessions that began with creating a welcoming environment, reducing lecture time, inviting students participation and engagement, and responding to student needs. Facilitating synchronous sessions in traditionally asynchronous online courses requires different teaching approaches as well as a degree of improvisation on the part of a faculty member that does not arise in

asynchronous communication alone. The emergence of pedagogical tact in faculty accounts was prominent in this study suggesting that good teaching will permeate an instructional medium and suggests that the intersubjective space or transactional distance between teacher and student is not diminished by synchronous communication technology. Although faculty development and teacher education initiatives may help faculty to recognize pedagogical situations in need of tact, such efforts are not a panacea and cannot refine pedagogical tact to formulaic expressions of if-then, or teacher-student communication and interaction cause and effect. Rather, faculty are best served by greater exposure to students, teaching, and technology over time.

Lastly, the findings of this study suggest that synchronous communication may help classroom community build and grow but are not required for community development. There are various ways that faculty can try to develop a sense of community in online settings that are well-established in the literature. The emergence of community in any educational context depends on several situational factors (e.g., classroom size, students, teachers, time) that cannot necessarily be controlled or manipulated at will by the teacher to instill a sense of community among participants.

### Study 3 - Phenomenological Analysis

The third and last study was a phenomenological analysis of doctoral students' lived experiences of the teacher-student relation while completing a fully online program. The findings of this study are presented through the thematization of four aspects or sets of aspects in the teacher-student relation. The aspects were direct teacher-student communication, indirect teacher-student communication, self-relation, and style or the communication of personality (teacher persona). This study shows how each of these four

aspects are inseparable from the relational quality of closeness in the teacher-relation from the participant's perspectives of their lived experiences. Direct teacher-student communication appears to be a dominant way in which a sense of closeness may emerge with students, yet indirect communication and teacher persona is similarly influential and powerful in experiences of closeness. Further, self-relation was shown to be requisite to sensing closeness in the relation. Students need to be willing to see themselves for who they truly are in the teacher-student relation. In this way, sensing closeness may be considered a heightened emotional state of self-awareness and these emotions may be informed and influenced by other emotions and relational experiences. Readers are encouraged to bring their own interpretations to the findings of this study. As such, I as the principal researcher summarize this study by expanding on the emergence of trust in this analysis of the teacher-student relationship and how such an expansion can lead to future studies.

Students experiencing a sense of closeness to a teacher in an online learning environment may simply like the teacher based on their gut-instinct. Important, then, is how temporal dimensions arise and unfold in communicative exchanges between teacher and student in the development of trust between teacher and student. In a fully asynchronous learning environment, how and when are teachers afforded opportunities to trust students in a relational sense? From there, how and when are teachers acting reciprocally or mutually in their relationship with students and their shared understandings of trust between them? Research has shown that teacher-student relationships involve highly contextualized and individualized processes and events (Pianta et al., 2012). Such processes and events emerge between teacher and student and

are not the result of impersonal factors and techniques that can simply be manipulated at will by the teacher. In other words, teachers cannot make students trust them by implementing some teaching technique. Students either develop or do not develop trust with teachers, it is an individualized process based on events and context, and provides some explanation of the preponderance of participants' descriptions of feedback on academic work when discussing their relationship with teachers in an online course and program.

From the student perspective, experiences of heightened awareness or sensitivity to trust teachers is likely taking place as receiving feedback is both cognitive and affective. Imagine, then, for a moment how nuanced this occurrence might be or how quickly this could arise quite simply in the shortest text-based annotation to a students' essay, from watching a recorded lecture, or from attending a virtual office hour. From this moment, students might glean a sense of closeness to the teacher, they might develop a sense of trust with the teacher, or they might dislike the exchange entirely. From a relationship standpoint, it is difficult if not perhaps unfair to limit relational turning points to such a granular level. In other relationships in our lives we would at least endeavor to the benefit of the doubt or give credence to the notion that more time or information is needed to better understand, appreciate, or assess our relationship with others. Social information processing theory (Walther, 1992) and the "cues-filtered-out" perspective (Culnan & Markus, 1987) offer plausible explanations for the influence of time on trust in relations. Yet, the teacher-student relationship is unfortunately marred by such granularity. However, turning points are not always negative. Turning points may indeed be profound and positive especially as they relate to the teacher-student relation.

The case can be made that students experience relational turning points perhaps consciously or subconsciously over the course of their relationship with teachers. Interestingly, research has shown that switching between communication media has been shown to produce viscosity or “stickiness” relative to trust among people in relation (Szulanski, 2000). Relationships take time to develop, and perhaps students in an online program are in a constant state of information gathering in their relationship with their teachers. These students may also experience relational turning points or develop a sense of closeness with teachers that amass from such “stickiness” over time. Yet, sensing closeness in the teacher-student relation is in and of itself a relational turning point that is not relegated to prolonged communication and interaction over time. In the absence of prolonged communication and interaction with teachers, students are often limited to fleeting displays of direct and indirect teacher communication and teacher persona. It is my contention that students experiencing a sense of closeness to teachers in online settings at least begins with such fleeting moments and in such moments an intuitive trust of an affective domain guides the relational sense of the student more significantly than any other form of cognitive or affective trust. Future studies could explore the interplay and influence of trust on student or teacher experiences of closeness in the teacher-student relation.

### **Connecting Themes**

This dissertation presented a series of qualitative studies aimed at exploring the communicative aspects of community and connectedness in the context of online teaching and learning. Findings from studies two and three offer considerations of the types of video use explored in study one. For example, teacher use of synchronous video-

based communication technology to lecture students may not build community but may expose students to teachers' communicative style; such exposure may constitute a shared communicative atmosphere in which webcam (non)use may inform the emotional contexts of teaching interactions. Teacher use of synchronous video-based communication technology to facilitate or host discussion with students may help develop classroom community but is moderated by student participation, engagement, and potentially webcam (non)use, and such use potentially exposes a student to teacher communication with other students that may help a student self-relate by visualizing or hearing how the teacher communicates and interacts with other students. Lastly, teacher use of synchronous video-based communication technology to provide students with feedback on their academic work or to answer questions during a virtual office hour may or may not build classroom community, but such direct teacher-student communication may evoke a heightened (i.e., both cognitive and affective) emotional sensitivity in students to the communicative exchange with the teacher where webcam (non)use may color and shape the relationship and expose teachers and students to communicative forms not available in asynchronous communication alone.

These three studies highlight the need for further research on synchronous communication in online settings and shed light on the asynchronous and synchronous communicative exchanges that arise between teacher and student that influence, inform, color, and shape the teacher-student relationship. The studies presented suggest that facilitating synchronous sessions requires instructor flexibility, improvisation, and pedagogical tact that will undoubtedly influence the teacher-student relation. Students may develop a sense of closeness to or connectedness with teachers when engaged in



synchronous video communication, yet prolonged communication and interaction (video or otherwise) are not the only ways that a sense of closeness may emerge. As a result, educators may consider all the communicative aspects that are presented to students (e.g., direct teacher-student communication, indirect-teacher student communication, teacher persona) as influential to their relationship with them. Still, students may never sense closeness to teachers in any educational context and teachers, despite their best efforts, may never be able to manipulate or will their relationship with students to be more than fleeting or transactional. Even still, fleeting communicative and transactional moments taking place between teachers and students can be profoundly impactful.

### **Future Research**

This first study presented in chapter two provides several avenues for future research. Future studies could explore the qualitative implications of digital media consumption relative to student viewing behaviors in academic settings as there appears to be a constant push-pull between education and entertainment relative to students consuming asynchronous or synchronous video content. None of the studies reviewed focused on prompting asynchronous discussions in fully asynchronous online courses with instructor-created or third-party videos and the conversational dynamics relative to teacher-student, student-student, and student-content interactions are in need of investigation. Additionally, more recent technological advances have afforded teachers and students the opportunity to overlay timestamped or threaded conversations on video content (e.g., Canvas Studio; VoiceThread) that require further exploration of the benefits and drawbacks to conversing in these ways. Equity and access issues with synchronous video communication technology uses are a burgeoning research space. For instance,

future studies could explore the influence of these technologies on teacher and student behaviors and power dynamics relative to gender and cultural backgrounds during synchronous video communication. Generally speaking, this study highlighted the need for instructors to consider if asynchronous or synchronous video use is the ideal medium intended to support student learning, engagement, or interaction in any given context or instructional use (e.g., lecture, discussion, assessment, feedback, and check-in).

The second study presented in chapter three also provides several avenues for further research. Future studies could explore the occurrence of pedagogical tact in synchronous communication ethnographically as different cultures and populations may approach pedagogical tact in different ways that may inform a collective understanding of teaching with such communication technologies. Future studies could develop theories on the social aspects of synchronous video communication technologies that inform affective teaching approaches in “setting the climate” of an online learning community. Additionally, future studies could explore the teacher-student relation in synchronous communication longitudinally to inform the changing dynamics of post-secondary online education.

The third study presented in chapter four sheds light on the subtle and overt communicative exchanges that rise and fall between teacher and student in online settings. Future studies could explore the influence of different phenomena such as imposter syndrome or the fundamental attribution error that may arise in online doctoral students’ experiences of the teacher-student relationship. Lastly, future studies could explore the intricacies of online course design that influence students’ cognitive, affective, and psychomotor learning domains.

## Final Thoughts

Educators and students are using synchronous and asynchronous video communication technologies in unprecedented ways given the ongoing global pandemic. Researchers continue to explore the various uses, implications, and influence of such technologies on teaching and learning in online settings. This dissertation offers a novel contribution to that end. These studies, though, have led me to question the evolving dynamics of online learning in which we find ourselves. Much of what has previously been studied and what I consider common practice or known about online education stems from the study of asynchronous online education. Ontologically speaking, I came to know, study, and understand online education from a progression of correspondence, distance, radio, television, and internet education. Much of my work and research in higher education is built upon the premise of teacher and student separated by time and space. From my perspective, the recent upsurge in synchronous communication technology use across the educational landscape is in desperate need of further research as comparatively speaking, less is known. Synchronous video communication may significantly alter or change the dynamics of asynchronous online education. Yet, it is difficult to imagine a world in which both types of communication are not simultaneously and deeply ingrained in what was once considered “traditional” asynchronous online education. Similarly, it is hard to imagine capitalizing on the “best of both worlds” in some hybrid, blended, or bisynchronous learning environment as much of what is known in these communication forms is temporally dependent. As educators and researchers a significant challenge lies ahead to adapt our practice, consider, and conform to such changing dynamics in our field. In our efforts, it would behoove us to put the faculty and

student experience, the teacher-student relationship, and the social aspects of teaching and learning in the forefront.

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