The Impacts of Asynchronous Video Reflection
on Perceived Learner Social Presence

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Dedication

Omistan tämän työn vanhemmilleni Ritvalle ja Tapanille sekä veljilleni Pekalle ja

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even when my belief in myself faltered.

Abstract

This dissertation examined how an asynchronous video reflection tool impacted learners' perception of social presence and their feeling of community in an online learning environment. More than ever before learning in postsecondary education takes place online through computer mediated communication, as almost all colleges and universities offer some of their courses online (Moore & Kearsley, 2012). There are many benefits of online learning (Graham, 2006; Griffiths & Graham, 2009b; Rourke, Anderson, Garrison, & Archer, 2001), but there are problems as well. One of the problems students can have while learning online is the feeling of isolation and the lack social presence with others (Ali & Leeds, 2009; Borup, West, & Graham, 2012; Rovai, 2002). To help mediate this problem, instructors use different online technologies that encourage learners to communicate in a variety of ways, including through video and visual media. There are many video-based tools available and many are newly in development; this study examines one in particular called Flipgrid that can be used by instructors and students to create and share video-based reflections on course content.

The purpose of this study is to help online instructors, instructional designers and educational app developers find new ways of enhancing or increasing social presence for their target audience by exploring the following research questions: (1) How does an asynchronous video reflection tool impact students' perception of social presence in an online class? (2) How does seeing classmates' video recordings influence students' feeling of community in an online class? And (3) How does creating video recordings influence students' feeling of community in an online class?

        This interpretive case study (Stake, 1995) was informed by the Community of Inquiry framework (Garrison, Anderson, & Archer, 2000) and utilized qualitative methods for data collection and inductive data analysis to understand the phenomenon of social presence and how learners experienced it while using an asynchronous video reflection tool. Data was collected from students from five separate undergraduate courses that took place fully online. Analysis of qualitative surveys, focus group, and individual interviews revealed three themes from the data: familiarization, authenticity, and distractions. Participants expressed that getting to know classmates by seeing and hearing them in an online course was important to them, and authentic videos in which students shared personal stories to support their points of views were highly valued. There were also distracting elements, like privacy concerns and the feeling of being rushed while doing recording, that negatively impacted the experience of recording and watching video reflections. Based on the findings of this study, a refined definition of social presence is proposed.

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CHAPTER 1

INTRODUCTION

More than ever before learning in postsecondary education happens in an online

learning environment through computer mediated communication (CMC), and almost all

colleges and universities offer some of their courses online (Moore & Kearsley, 2012).

There are great benefits for learners in online courses like time flexibility, lower cost, and

absence of required physical learning location (Graham, 2006; Griffiths & Graham,

2009b; Rourke, Anderson, Garrison, & Archer, 2001); but it is not without its problems

(Perry & Pilati, 2011). One problem that learners can have in an online learning

environment is a feeling of isolation and a lack of social connection with others (Ali &

Leeds, 2009; Borup, West, & Graham, 2012; Rovai, 2002). This social connection has

also been referred to in the literature as *social presence*.

Social presence has been defined multiple ways, including the ability of learners

"to project themselves socially and emotionally, as 'real' people (i.e., their full

personality), through the medium of communication being used" (Garrison, Anderson, &

Archer, 2000, p. 94), and to "feel affectively connected one to another" (Swan & Shih,

2005, p. 115). The overall goal for establishing social presence in an online learning

environment is to form a level of comfort in which participants feel comfortable around

the instructor and each other (Aragon, 2003). Research has suggested that lack of social

presence impacts student engagement, interaction, and participation (Richardson & Swan,

2003; Tu, 2000b; Tu & McIsaac, 2002), and it has a direct negative effect on the most

important goal of any learning environment, the learning itself (Kear, 2010). Establishing

strong social presence in an online environment is challenging compared to a face-to-face setting because of the absence of learners' physical presence and the use of limited and impersonal CMC such as asynchronous chat, discussion forum, and email which lack verbal and non-verbal cues (Griffiths & Graham, 2009b; Walther & Parks, 2002). Given the advances that CMC technology has made in the past decade, like the implementation of asynchronous video components, researchers must continue to explore ways to help establish stronger social presence in online learning environments.

Many influential social presence studies have collected their data from students whose courses were held in environments that used asynchronous text-based CMC methods and naturally their data collection instruments, like self-report surveys and questionnaires, were designed with that type of environment in mind (Gunawardena, 1995; Gunawardena & Zittle, 1997; Richardson & Swan, 2003). Today contemporary technologies are available that are capable of providing more advanced tools to be used online that go beyond asynchronous text-based communication. For example, an asynchronous video element may have the potential to affect social presence by enabling learners to literally see who is with them in their online course. Griffiths and Graham (2009b) point out that more research is needed in asynchronous online settings to study the potential of asynchronous video.

This study's unique contribution to the field of educational technology is to address that need by using an interpretive case study methodology and multiple qualitative research methods to examine students' perception of social presence in online learning environments that use asynchronous video communication. While many

previous studies have solely relied on surveys designed exclusively for text-based online environments, this study used a qualitative survey, focus group, and individual semi-structured interviews with students to explore how an asynchronous video reflection tool impacts students' perception of social presence and their feeling of community in an online learning environment.

Social presence research has grown as schools are offering more classes online (Sung & Mayer, 2012). But this progress does not come without new problems and unique challenges, as prior research has shown. Contemporary technology is capable of connecting students with each other better than ever before, but these technologies need to be tested and researched in depth to understand their implications and determine how they can help to improve students' experiences and their perception of social presence in an online learning environment (Borup et al., 2012). This study seeks to address these very issues.

Studying a Community-Based Tool for Asynchronous Video Reflection

It is important to note that the use of asynchronous video and its connection to social presence in online learning environments has been studied before (Borup et al., 2012; Borup, West & Graham, 2013; Griffiths & Graham, 2009a; 2010). In previous research, the methods of how students and instructors record and distribute their video clips has varied from emailing files to each other (Griffiths & Graham, 2009b) to uploading them to video hosting websites like Youtube (Borup et al., 2012). However, this research study is unique in that the video tool in this study works much differently. With the community-based tool for asynchronous video reflection that provided the

context for this study, the students do not have to send video files through email or upload them to hosting websites, nor do they have to install any software on their computers. The videos from the whole class are all in one place and accessible through a web browser or smartphone app. The particular tool used in this study has the unique feature of a 90-second recording time limit, which is designed to help the recorder stay on topic and keep students' attention on the video. The user interface is minimalistic and it has been designed to quickly show students the reflection questions presented by their instructor and the grid of recorded reflections made by their peers (see Figure 1.1). The interface allows students to quickly record their reflection and watch their peers' reflections without ever leaving the web page on which the grid is hosted or embedded.
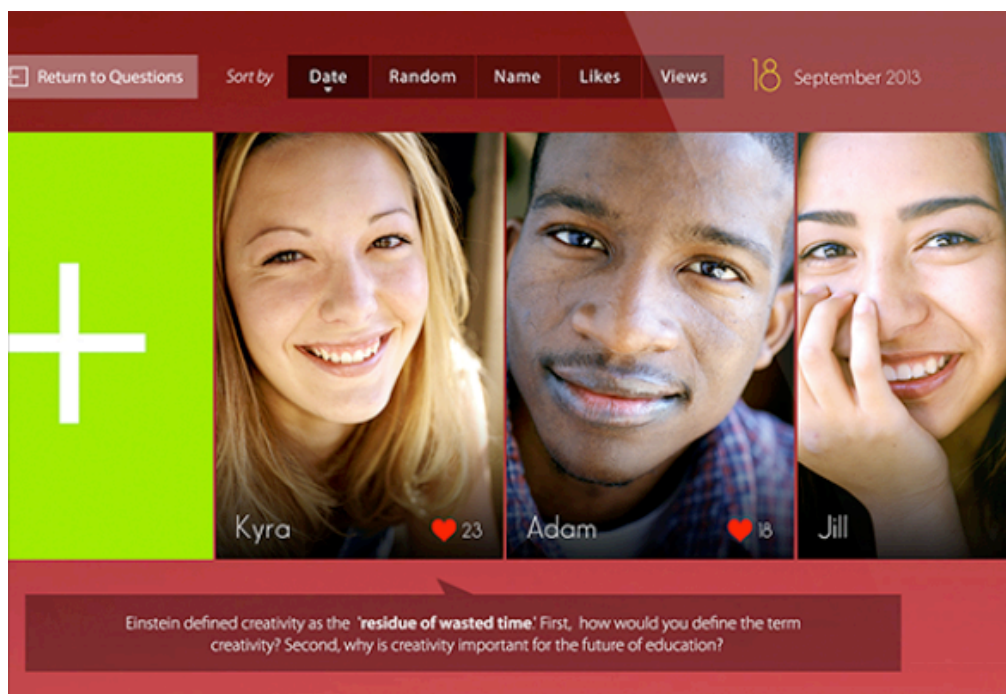
Figure 1.1. Screenshot of Flipgrid's user interface.

Overview of the Research Study

This dissertation presents an interpretive case study (Stake, 1995) that examined how an asynchronous video reflection tool impacts learners' perception of social presence and their feeling of community in an online learning environment. This study was informed by the Community of Inquiry framework (Garrison et al., 2000) and utilized qualitative methods for data collection and inductive data analysis to understand the phenomenon of social presence. Research participants included students from five separate undergraduate courses that took place fully online. The purpose of this study is to help online instructors, instructional designers and educational app developers find new ways of enhancing or increasing social presence for their target audience through the use of an asynchronous video reflection tool.

Research Questions

The following research questions guided this study:

   I. How does an asynchronous video reflection tool impact students' perception of social presence in an online class?

   II. How does seeing classmates' video recordings influence students' feeling of community in an online class?

   III. How does creating video recordings influence students' feeling of community in an online class?

Definition of Key Terms

Online class. This study examines students' experiences during their participation in *an online class* or while they are enrolled in a completely online course. An online

class can mean different things, and it most often references the mode of delivery of the course. In this case, it also refers to all interactions among instructor, students, and content as they are situated in an online learning environment. Some online courses may include electronically delivered components with some in-person elements embedded into them. However, in the context of this study *an online class* refers to a course that takes place fully online without any in-person elements, and the five courses included in this study were fully online classes. All course related activities, such as weekly discussions, assignments, and other communications, occurred online and students only saw and interacted with their instructor, fellow students, and the course content through online technology tools.

Video reflection. The research questions guiding this study refer to the process of *video reflection*. Reflection generally refers to the act of metacognition during the learning process, as students are encouraged to think deeply about the content being explored and then articulate their informed thoughts or perspectives (Boud, Keogh, & Walker, 1985). The expression of such thoughts and perspectives can take multiple forms depending upon the medium being used, and online classes afford opportunities to leverage a variety of communication media for students to use to express their ideas and understanding in unique ways. In this study, video reflection refers to the use of a video-based communication tool to respond to a reflection question or prompt posed by the instructor of the course. These reflection prompts are worded in a way that require students to give more than just yes or no answers in their video reflection. Each student created or recorded a video reflection at least once per week and these video recordings

were accessible to the rest of the class and could be viewed asynchronously by classmates.

Overview of the Dissertation

In order to conceptually and theoretically frame this research, chapter 2 provides a literature review on how social presence has developed, how its definition has been in constant flux the past few decades, and how social presence has been studied so far. Chapter 3 then presents the methodology and the research design of this qualitative case study, including the qualitative data collection and inductive analysis methods that were used to probe students' perception of social presence in an online learning environment and the ways in which an asynchronous video reflection tool impacted that perception. Chapter 4 presents the analysis of the data through initial coding and focused coding methods, as well as the three themes that were revealed in the findings. The codes and categories that shaped these themes are described and direct quotes from the research participants are included to illustrate how they experienced the use of an asynchronous video reflection tool in these online courses and how it influenced their perception of social presence as well as their feeling of community in myriad ways. Finally, chapter 5 synthesizes the key findings and discusses the conclusions and how they relate to the research questions that guided the inquiry. Practical implications for the findings are also proposed in chapter 5, as well as the limitations of this study and future directions.

CHAPTER 2

LITERATURE REVIEW

As more postsecondary education takes place online through CMC, there is the potential for learners to feel isolated in these environments and lack social connection or, as it is referred to in the literature, *social presence* with others (Borup et al., 2012; Song, Singleton, Hill, & Koh, 2004). The purpose of this study is to help online instructors, instructional designers and educational app developers find new ways of enhancing or increasing such social presence for their target audience by exploring how an asynchronous video reflection tool impacts learners' perception of social presence and their feeling of community in an online learning environment. To understand what social presence is and how it has formerly been studied in online environments, this chapter will provide a review of the literature. Variations in online course delivery methods will be described as well as how definitions of social presence have emerged and how it has been measured over the past four decades.

Research on Social Presence

Technology used in online learning environments has improved drastically over the past decade, but studies suggest students still lack social presence and feel isolated and disconnected from their fellow students and instructors in mainly text-based environments (Ali & Leeds, 2009; Borup et al., 2012; Kear, 2010). Social presence in an online environment, or lack thereof, has been studied extensively over the past two decades (Gunawardena, 1995; Gunawardena & Zittle, 1997; Richardson & Swan, 2003; Rourke et al, 2001; Tu, 2001). Almost all studies to date have used similar data collection

instruments and data analysis techniques, and the most popular have been self-reported

questionnaires (Caspi & Blau, 2008; Gunawardena, 1995; Gunawardena & Zittle, 1997;

Harms & Biocca, 2004; Richardson & Swan, 2003; Sung & Mayer, 2012) and content

analysis of conferencing transcripts (Rourke et al., 2001; Shea et al., 2010; So, 2005;

Swan & Shih, 2005). The reason for the similarity in data collection tools is because two

of the most cited social presence publications (Gunawardena, 1995; Short, Williams, &

Christie, 1976) used questionnaires to collect data, and questionnaires are also easy to

administer, analyze and interpret (Cui, 2013).

Modern technology and faster Internet connections have made it possible for

instructors and students to use more advanced tools in online classrooms such as

asynchronous audio and video tools accessible to students in low-bandwidth

environments compared to a decade ago when video files, especially, would take several

minutes to load (Giesbers, Rienties, Tempelaar & Gijselaers, 2014; Hrastinski, 2008a;

Perry & Pilati, 2011). These tools and their impact on social presence must be researched

in greater detail by using qualitative methods to question and carefully listen to the target

audience, the students, to learn more about their experience. According to Merriam

(2009) and Patton (2002), qualitative data collection methods like focus groups and

interviews allow the researcher to probe for meaning and rich understanding about the

phenomena under investigation. The ways in which these qualitative methods informed

the methodology of this study will be presented in chapter 3 of this dissertation. Chapter

2 will first frame the research by describing different styles of online learning

environments and then presenting the history of social presence by listing the multiple,

ever changing definitions of social presence from the mid-1970s to the current day. The ways in which social presence has been studied thus far will also be discussed, including the types of data collection instruments and methods that were used in those studies.

Online Course Delivery Methods

Delivery methods used in post-secondary online courses fall into three categories: synchronous, asynchronous, and a combination of asynchronous and synchronous methods (Hrastinski, 2008c). In synchronous methods both teacher and student are in the online space at the same time, just like in a traditional face-to-face classroom. Communication happens through text-based chat sessions or through audio and/or video conferencing software. Benefits of this method include the ability of the instructor and learners to see and/or hear or, at the very least, text-chat with each other in real-time (Hrastinski, 2008b; Johnson, 2006). This real-time communication allows for instant feedback, troubleshooting technical issues, having virtual office hours, quickly getting to know each other, and more social interaction (Branon & Essex, 2001; Hrastinski, 2008a). However, a synchronous environment does not come without limitations as it ties both parties into same schedule, which can be an inconvenience. Other limitations include the aforementioned trouble of getting all participants into the same virtual space at the same time, the challenge of moderating large-scale conversations, short reflection time for students, and if the synchronous communication method is limited to typing, then poor typists can have hard time keeping up (Branon & Essex, 2001; Paige, Pauli, Sturm & Fierstein, 2011).

The opposite of the synchronous learning method is asynchronous e-learning, where teacher and students are not in the same virtual space at the same time (Skylar, 2009). Communication in an asynchronous learning environment between instructor and students and among students happens through text-based chats, threaded discussion forums, email, and even through recorded audio and video clips. Asynchronous online courses are sometimes popular because of the freedom of time given to instructors and students, "[i]n fact, many people take online courses because of their asynchronous nature, combining education with work, family, and other commitments" (Hrastinski, 2008a, p. 52). Advantages of asynchronous learning environments include the possibility for learning activities to take place whenever the learner has time. This is convenient, but it also requires self-determination and time management skills from the learner (Chen & Jang, 2010; Giesbers et al., 2013; Michinov, Brunot, Le Bohec, Juhel, & Delaval, 2011). Other advantages for the learner include more time to process information and write messages, and almost all student postings are content-related (Hrastinski, 2008a; Martin, Parker & Oyarzun, 2013). Asynchronous online learning, like synchronous online learning, does not come without disadvantages, however, including an unpredictable schedule for students postings, the increased amount of time it can take the discussions to mature, small group discussion can be hard to get going, and lack of immediate feedback and social interaction (Branon & Essex, 2001; Hrastinski, 2008a; Martin, Parker & Oyarzun, 2013).

The debate over which style of online learning to use, synchronous or asynchronous, has been ongoing, but studies have generally revealed no significant

differences between the two (Gunawardena & McIsaac, 2004; Skylar, 2009). It can be argued that both synchronous and asynchronous methods have their advantages and disadvantages. Therefore, it has been suggested that to get the best of both methods and to limit their disadvantages, they should be integrated into one environment that supports students' needs most effectively (Er, Özden & Arifoglu, 2009). This integrated approach gives way to a third type of delivery, often referred to as a blended method (Graham, 2006; Guzer & Caner, 2013). This style of online delivery includes a mix of asynchronous and synchronous methods. For example, student and instructor or students among themselves can have some instances where they are in synchronous contact in real-time through audio, video, or text-chat. These could be occasions when it's preferred to get a point across in an instant, like brainstorming sessions for group assignments, instructor-led monthly wrap-up sessions, or troubleshooting technical difficulties. Then other activities happen asynchronously, like discussions that run through the whole week or students giving feedback on fellow students' assignments. More research is needed on the ways of using asynchronous and synchronous methods in the same course, as currently studies that provide useful insight into blended online delivery methods are scarce (Giesbers et al., 2014; Johnson, 2006).

Regardless of delivery method, social presence can be strong or weak in any of these environments, and research has shown that lack of social presence can lead to less effective learning (Kear, 2010). To know how to have strong social presence in a synchronous, asynchronous, or blended environment, it must first be defined. Many have done so in the literature, and the definition of social presence is evolving.

Defining Social Presence

Social presence has been defined multiple ways in the literature, and there does not seem to be one accepted definition for all to use (Biocca, Harms, & Burgoon, 2003; Tu, 2002b). These varying definitions are presented in Table 2.1 and indicate an evolution of understanding of this complex phenomenon over time. It is also important to note that social presence has not always been studied in the same context. The development of educational technology has been tremendous from the mid-1970s to the current day and that has certainly impacted how social presence has historically been defined.

Social presence as an attribute of the medium. Social presence theory was first introduced by Short et al. (1976) "to explain the effect that telecommunications media have on communication" (Lowenthal, 2012, p. 3). Short and colleagues defined social presence as "the salience of the other in a mediated communication and the consequent salience of their interpersonal interactions" (p. 65). They argued that communication media has a direct impact on social presence because people perceive media like video as having higher social presence compared to audio or text where there are no visual cues for them to see. They added that the medium's ability to transmit information about the communicator's facial expression and non-verbal cues particularly impact the social presence of a communication medium.

This early theory of social presence was heavily influenced by Argyle and Dean's (1965) concept of intimacy in that it is established in communication by proximity, eye contact, smiling, and personal topics of conversation. The theory was further informed by

Wiener and Mehrabian's (1968) concept of immediacy, which refers to the psychological distance that communicators place between themselves and the person with whom they are communicating. Short et al.'s (1976) definition of social presence is commonly cited by educational researchers when they track the history of social presence, and, thus, may be considered seminal work in this area (Cobb, 2009; Gunawardena, 1995; Lin, 2004; Lowenthal, 2012; Rourke et al., 2001; Tu, 2002b).

Perception of others in an online space. During the mid- and late 1990s researchers (Gunawardena, 1995; Gunawardena & Zittle, 1997) revealed how CMC can be very social and interpersonal, challenging Short et al.'s (1976) view that computer-mediated communication is impersonal because it is nonverbal and lacks visual cues seen in face-to-face interaction. From this point on there has been a steady stream of research studying online learning environments and the role that social presence has within them (Garrison et al., 2000; Picciano, 2002; Richardson & Swan, 2003; Rourke et al., 2001; Swan & Shih, 2005; Tu, 2002a). Each of these published studies has defined social presence differently, and both the differences and similarities should be noted.

Gunawardena (1995; Gunawardena & Zittle, 1997), conducted quantitative studies that explored social presence and student satisfaction in text-based computer conferences. She defined social presence as "the degree to which a person is perceived as a 'real person' in mediated communication" (Gunawardena, 1995, p. 151). Until the mid-1990s no researcher had measured the effects of social presence on learner satisfaction in the CMC environment, nor was there an instrument developed to do so. First developed by Gunawardena (1995) and later by Gunawardena and Zittle (1997), a questionnaire was

used as an instrument to measure social presence and quantitatively explore its

relationship to student satisfaction in a text-based computer conference. The results of

research by Gunawardena and Zittle (1997) indicated that social presence is a strong

predictor of student satisfaction in a text-based computer conference. According to Cobb

(2009), the most cited social presence researcher to date is Gunawardena and many social

presence studies that followed have based their data collection instruments on the one

developed by her (1995; Gunawardena & Zittle, 1997).

   Evolving definitions and theories of social presence. In the early 2000s Biocca,

Burgoon, Harms, and Stoner (2001) acknowledged the need for a more sophisticated

theory of social presence to reflect the growth of the telecommunication structure

resulting in a substantial increase in the variety of communication forms that take place

online. They also discussed the difficulty in defining social presence so that it would

accurately address the range of phenomenon that supports it. Biocca, Burgoon et al.

(2001) argued that current definitions were too vague or too broad to provide guidance

for research on social presence. Early on they defined social presence fairly vaguely as

"being together with another in the virtual environment" (Biocca, Burgoon et al., 2001, p.

2), which even they considered to be only a tentative definition.

   Further evidence of the evolving nature of social presence definitions is that the

same research groups have redefined it several times in subsequent years. For example,

Biocca, Harms, and Gregg (2001) redefined social presence as the "moment-by-moment

awareness of the co-presence of another sentient being accompanied by a sense of

engagement with the other (i.e., human, animate, or artificial being)" and later modified it

to "moment-by-moment awareness of the co-presence of a mediated body and the sense of accessibility of the other being's psychological, emotional, and intentional states" (Biocca & Harms, 2002, p.10). Biocca and Harms (2002) argued that social presence is composed of three underlying dimensions and progressive levels: co-presence, psychological involvement, and behavioral engagement. The lowest level of social presence is the sense of spatial co-presence where the observer believes he/she is not alone, is aware of others, and is cognizant that others are aware of them. Psychological involvement is a higher level of social presence than co-presence. In this state, the observer has a deeper connection to others where he/she can empathically sense or respond to the emotional states of others and has awareness of others' intentions, motivation, and thoughts. According to Biocca et al. (2001), the highest level of social presence, then, is behavioral engagement in which the observers' actions are connected to, reactive, and dependent upon each other. Based on this conceptualization, Biocca et al. (2001) developed a measure of social presence called the Networked Minds measure that "seeks to provide a metric to measure the degree to which individuals feel interconnected to each other through networked telecommunication interfaces" (p. 2).

Picciano (2002) also pointed out how the definition of social presence is ever-evolving due to the emergence of multiple presences like telepresence, cognitive presence, and teaching presence, among others. Because of the different ways presence is discussed in the literature, researchers keep refining the definition of *social* presence and distinguishing it from the others. Picciano (2002) defines social presence as "a student's sense of being in and belonging in a course" (p. 22), and he goes on to emphasize that

interaction and presence are not the same thing. For example, a student posting on a discussion forum may indicate presence but it does not mean that automatically because she may not necessarily feel she is part of the group. The interaction must also include a deeper sense of belonging as Tu and McIsaac (2002) contend that frequency of participation is not enough to result in higher social presence; rather, it is the quality of interaction that matters.

To further distinguish social presence, Tu (2001) also argued that social presence is comprised of three dimensions: (1) social context, which includes task types, perception of privacy, topics, and social relationships; (2) online communication, which refers to the language students use online; and (3) interactivity, which consists of group activities, timely responses, and communication styles. Tu and McIsaac (2002) later conducted a study that supported the argument that these three dimensions positively impact social presence. Tu (2002b) stated that "[t]he level of social presence is not only determined by the attributes of media (online communication) and users' perceptions (social context), but also the activities in which the users are engaged (interactivity)" (p. 43). He also added that the level of privacy the students feel while communicating in an online environment impacts social presence as well; thus, less private CMC methods result in a decreased sense of social presence. Tu and McIsaac (2002) went on to refine the definition of social presence as "the degree of feeling, perception, and reaction of being connected by CMC to another intellectual entity through a text-based encounter" (p. 140).

Table 2.1

Evolution of Social Presence Definitions

Year	Author(s)	Definition of Social Presence
1976	Short et al.	The salience of the other in a mediated communication and the consequent salience of their interpersonal interactions.
1995	Gunawardena	The degree to which a person is perceived as a 'real person' in mediated communication.
2000	Garrison et al.	The ability of participants in a community of inquiry to project themselves, socially and emotionally, as 'real' people (i.e., their full personality) through the medium of communication being used.
2001	Biocca Burgoon et al.	Being together with another in the virtual environment.
2001	Biocca et al	Moment-by-moment awareness of the co-presence of another sentient being accompanied by a sense of engagement with the other (i.e., human, animate, or artificial being).
2001	Rourke et al.	The ability of learners to project themselves socially and emotionally in a community of inquiry.
2002	Picciano	A student's sense of being in and belonging in a course.
2002	Biocca & Harms	Moment-by-moment awareness of the co-presence of a mediated body and the sense of accessibility of the other being's psychological, emotional, and intentional states.
2002	Tu & McIsaac	The degree of feeling, perception, and reaction of being connected by CMC to another intellectual entity through a text-based encounter.
2009	Garrison	The ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by the way of projecting their individual personalities.
2012	Sung & Mayer	The subjective feeling of being connected and together with others during computer mediated communication.

Social presence theory as a component of the Community of Inquiry

framework. Social presence also emerged in the literature as part of the Community of

Inquiry (CoI) framework, which was developed in the late 1990s by Garrison et al.

(2000) and whose goal was to define, describe and measure the elements of a

collaborative and worthwhile educational experience. The CoI framework consists of

three overlapping domains: cognitive presence, social presence, and teaching presence

(see Figure 2.1).

Community of Inquiry

SOCIAL
PRESENCE

COGNITIVE
PRESENCE

EDUCATIONAL
EXPERIENCE

TEACHING
PRESENCE
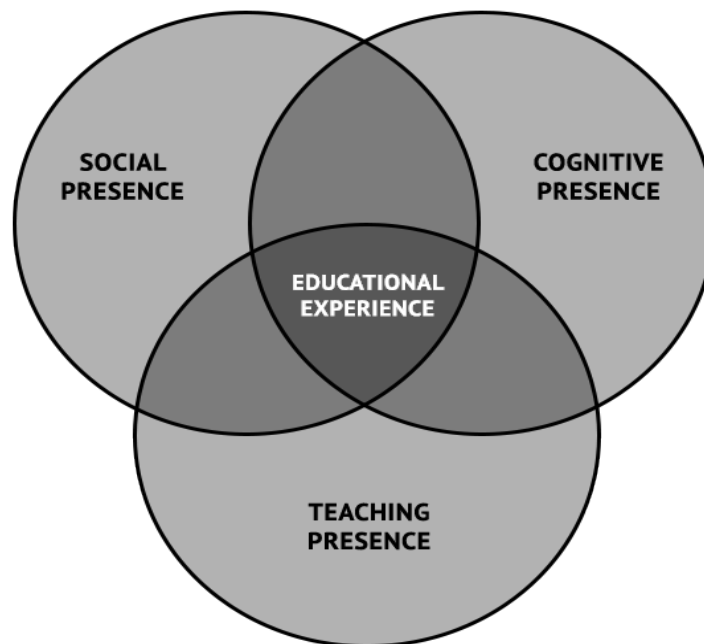
Figure 2.1. Elements of the Community of Inquiry framework. Adapted from "Critical Inquiry in a Text-based Environment: Computer Conferencing In Higher Education," by D.R. Garrison, T. Anderson and W. Archer, 2000, in *The Internet and Higher Education, 2*(2-3), 87-105.

Garrison and colleagues contend that these three overlapping elements are necessary for an effective educational experience and that deep and meaningful learning happens at the intersection of these domains. This framework has been adopted and implemented by educators and scholars all over the world, and Garrison et al.'s (2000) seminal paper has been cited almost a thousand times in scholarly articles since its publication a decade and a half ago (Garrison et al., 2010).

Arbaugh et al. (2008) speculated that the reason for the CoI framework's success was that it provided methodological guidelines for measuring each of the three presences in the model. Similar to Gunawardena and Zittle (1997), but with a bit more detail, Garrison et al. (2000) defined social presence in their seminal paper as "the ability of participants in a community of inquiry to project themselves, socially and emotionally, as 'real' people (i.e., their full personality), through the medium of communication being used" (p. 94). They studied text-based computer conferences by looking at postings for indicators of social presence and then grouping those indicators into three categories: emotional expression, open communication, and group cohesion.

Rourke et al. (2001) were the first from the original CoI research group to study the social presence element separately from the CoI framework, and they defined it as "the ability of learners to project themselves socially and emotionally in a community of inquiry" (p. 3). They also redefined the Garrison et al.'s (2000) original social presence categories to better reflect the indicators that emerged from their study (see Table 2.2).

Table 2.2

Categories and Indicators of Social Presence According to the Community of Inquiry

Model

Category	Indicators	Definition of Indicators
Affective	Expression of emotions	Conventional expressions of emotion, or unconventional expressions of emotion, includes repetitious punctuation, conspicuous capitalization, emoticons.
	Use of humor	Teasing, cajoling, irony, understatements, sarcasm.
	Self-disclosure	Presents details of life outside of class, or expresses vulnerability.
Interactive	Continuing a thread	Using reply feature of software, rather than starting a new thread.
	Quoting from others' messages	Using software features to quote others entire message or cutting and pasting selections of others' messages.
	Referring explicitly to others' messages	Direct references to contents of others' posts.
	Asking questions	Students ask questions of other students or the moderator.
	Complimenting, expressing appreciation	Complimenting others or contents of others' messages.
	Expressing agreement	Expressing agreement with others or content of others' messages.
Cohesive	Vocatives	Addressing referring to participants by name.
	Addresses or refers to the group using inclusive pronouns	Addresses the group as we, us, our, group.
	Phatics, salutations	Communication that serves a purely social function; greetings, closures.

Note. From "Assessing Social Presence in Asynchronous Text-based Computer Conferencing" by L. Rourke, T. Anderson, D. R. Garrison, and W. Archer, 2001, in *Journal of Distance Education,* 14.

The emotional expression category was relabeled to 'affective responses', which in

computer conferencing is expressed in many ways, including the use of emoticons,

humor, and self-disclosure. Open communication became 'interactive responses', which

in CMC are instances like replying to someone's messages and quoting directly or

referring to someone else's post. Garrison et al.'s (2000) third category of group cohesion was refined by Rourke et al. (2001) to 'cohesive responses', which include phatics and salutations, vocatives, and addressing the group as "we" or "us" reflecting the collaborative nature of the group. Even in subsequent literature published by the original members of CoI research group the definition of social presence has not stayed constant through the years. For example, Garrison (2009) later redefined it as "the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationship by the way of projecting their individual personalities" (p. 352). Again, all of these examples illustrate how definitions have continued to evolve and how the dynamics that have been argued to comprise the phenomenon of social presence have been refined over time.

One of the most current social presence definitions comes from Sung and Mayer (2012) who contend that the degree of online social presence is based on two factors: characteristics of the medium and student's perception. They (2012) defined social presence as "the subjective feeling of being connected and together with others during computer mediated communication" (p. 1739). In Sung and Mayer's definition, a participant's feeling of being a "real" person or seeing others as "real" people while using CMC is a perceived view and a subjective view. This is the definition that will be used to define social presence in this research study that will probe students' perception of social presence. The subjective nature of perception must be recognized and acknowledged, as what one learner feels or perceives in the online environment is not necessarily the same as what another person perceives. For example, one online learner could feel that her

social presence is strong but the person with whom she is communicating might not see it the same way.

Variations in definitions of social presence mirror variations in the way social presence has been studied. Research on social presence has been conducted in different fields and different contexts. Educational researchers have published most of the research on social presence, but they study it from different points of view, in different situational contexts, and the data is collected from different course settings. Short et al. (1976) developed early social presence theory to explain the impact telecommunications media have on communication by comparing face-to-face interactions with different communication media. Naturally educational researchers have been interested in social presence ever since learning started to happen online where the medium might not have the capability to transmit facial expressions, intonation, or other non-verbal communication cues (Caspi & Blau, 2008). Through the years the focus of social presence researchers has shifted from telecommunications to computer mediated conferencing to online learning and so on, and for all of these contexts researchers have most often explored ways to measure social presence quantitatively.

Measuring Social Presence

Just as the definition of social presence has been ever evolving with no real consensus, the same goes for measuring it. Biocca, Burgoon et al. (2001) state that "[w]hile various measures have been proposed, there is as yet no widely accepted measure of social presence" (p.7). There is no one instrument for measuring social presence because researchers seem to want to revise instruments that have already been

developed (Lin, 2004; Lowenthal & Dunlap, 2014). This is necessary because situations and environments differ from study to study, and some (e.g. Rourke et al., 2001) have even encouraged others to build upon and tweak the social presence indicators they have developed. This has led to a variety of influential ways that social presence has been measured over the past four decades and a great deal of debate about appropriate measurement techniques.

Bi-polar scale questionnaire: initial instrument to measure social presence. Not only was Short et al.'s (1976) definition of social presence the first to appear in the literature, they also developed the first questionnaire to measure it using the semantic differential technique. This initial questionnaire was developed based on communication literature, and it looked into communicators' perception of a medium's impact on social presence using a seven-point bi-polar scale, e.g. warm-cold, personal-impersonal, sensitive-insensitive, and sociable-unsociable. Short and colleagues contend that when a communicator perceived the medium they were using to be warm, personal, sociable, and sensitive, they also perceived it to be higher in social presence. The results supported their hypothesis that social presence would vary between different media and that the face-to-face communication would be more sociable than closed-circuit television and an audio system. However, it has been argued that the questionnaire items Short et al. (1976) used in their study are too general to measure the research participants' perception of social presence and that the semantic differential technique may not be a proper method to conduct a study because participants might understand keywords differently than others (Tu, 2002b).

Social presence scale. Gunawardena (1995) also developed a survey based on the

literature to measure students' perceptions of the medium. She referred to her survey as

the GlobalEd Survey for social presence, which was later referenced as Social Presence

Scale v. 1, and it used 17 bi-polar scales asking students to rate a range of items if they

were sociable or unsociable, or warm or cold. Gunawardena conducted two similar

studies and participants rated CMC as a highly interactive and social medium in both.

Interestingly, these studies suggested that the instructor plays a very important role in

enhancing social presence in an online environment. Gunawardena and Zittle (1997)

refined Gunawardena's (1995) original survey and created an instrument called the Social

Presence Scale referred to by others as the Social Presence Scale v. 2, and it included 14

questions on a 1-5 Likert scale to measure how well social presence predicted learner

satisfaction in a text-based medium. Results revealed that "social presence is a strong

predictor of satisfaction in a computer conference" (Gunawardena & Zittle, 1997, p. 23).

Tu (2000; 2002b) criticized the Social Presence Scale questionnaire, stating that it was

missing several important variables like privacy, recipients, and topics needed to

thoroughly capture students' perception of social presence and that the questions were

created for a group of students that was too specific. Nevertheless, Gunawardena and

Zittle's Social Presence Scale questionnaires have been widely adopted by other

researchers as a tool to measure social presence (Boston et al., 2009; Richardson & Swan,

2003; Swan & Shih, 2005).

Richardson and Swan (2003) studied social presence and its relationship to

students' perceived learning and their satisfaction with the instructor. The instrument they

developed was based on the Social Presence Scale created by Gunawardena (1995; Gunawardena & Zittle, 1997) but was modified in several ways and renamed Social Presence Survey. The language used in this questionnaire was changed to fit the study environment but the key refinements changed the independent variables to focus on students' perceived learning. The majority of the items in the questionnaire were Likert-type items with a six-point response scale, but they also included two open-ended questions, which ultimately provided support for the findings revealed in the quantitative data. Richardson and Swan's study found that students who reported a high perception of social presence scored high in perceived learning and were more satisfied with the instructor than students who reported low social presence.

The Networked Minds Questionnaire. Biocca, Burgoon et al. (2001) suggested that the field needed a more robust and detailed theory and measure of social presence that would better help to understand this phenomenon in mediated environments. Biocca et al. (2001) developed a conceptualization of social presence called the Networked Minds Social Presence that was comprised of three dimensions: co-presence, psychological involvement, and behavioral engagement. Based on this conceptualization, they designed the Networked Minds Questionnaire to measure "the degree to which individuals feel interconnected to each other through networked telecommunication interfaces" (p. 2). This questionnaire initially included 69 items measuring the three dimensions on a seven-point Likert scale. It was finally trimmed down to 38 questions based on an analysis of face validity, content validity, and factor analysis of internal consistency. A pilot study of the questionnaire showed concurrent validity displaying a

consistent pattern of results in distinguishing between social presence experienced in face-to-face and mediated interaction (Biocca et al, 2001). The Networked Minds Questionnaire has been further developed and refined resulting in variations of the original appearing in more recent literature (Harms & Biocca, 2004).

Social Presence and Privacy Questionnaire. Tu (2002b) criticized the social presence measurement instruments developed by both Short et al. (1976) and Gunawardena (1995), citing their inability to capture the complex dynamics of social presence and lacking several important variables like privacy, recipients, and topics. He went on to design the Social Presence and Privacy Questionnaire (SPPQ) based on two existing instruments, the CMC Attitude Instrument (Steinfield, 1986) and an instrument to measure perceived privacy (Witmer, 1997). Several items from the two instruments that the SSPQ was based on were removed because they were originally designed for a different audience and the rest of the questions Tu (2002b) developed were based on the social presence literature. A final version of Tu's SSPQ consisted of a demographics section followed by 17 social presence questions and 13 privacy questions that used a five-point Likert scale. Three dimensions – social context, online communication, and interactivity – emerged from the study, and Tu (2002b) stated that those three plus online privacy are important factors in impacting the level of social presence. He also argued that social presence is influenced by the medium's characteristics and the user's perceptions (Tu, 2002b).

Tu and McIsaac (2002) used the refined version of the SSPQ in their mixed-methods study and found that social presence positively influences online interaction.

Findings also confirmed the three dimensions that emerged in Tu's (2002b) original study and as a result, they defined social presence as "the degree of feeling, perception, and reaction of being connected by CMC to another intellectual entity through a text-based encounter" (Tu & McIsaac, 2002, p. 140). They also added that the study indicated social presence is even more complicated than previously believed and recommended that the SSPQ needs to be revised further to include the variables that emerged from the qualitative data.

Picciano (2002) studied students' perceived social presence, interactivity, and performance in an online course. He designed a questionnaire based on the Inventory of Presence Questionnaire created by the Presence Research Working Group and on the questionnaire developed by Tu (2001). In Picciano's study he collected three types of data: (1) student participation in online discussions, (2) a summative questionnaire at the end of the course asking students about their perception of the course experience, learning and interaction, and (3) performance measures based on examination scores and written assignment scores (Picciano, 2002). Picciano (2002) found a strong relationship between students' perception of their interaction and their perceived performance, but a comparison of the actual student interaction to actual performance scores were not consistent. Also, there was no evidence of a statistically significant relationship between students' perception of social presence and performance on the examination. However, findings did reveal a statistically significant relationship between students' perception of social presence and performance on the written assignment (Picciano, 2002).

Content analysis with indicators of social presence. The content analysis method has been used in several studies of social presence. One such study was conducted by Rourke et al. (2001) who were a part of the original research group that developed the Community of Inquiry theoretical framework that includes social presence as one of three presences that support learning (Garrison et al., 2000). As described previously, Garrison et al.'s (2000) social presence categories were emotional expression, group cohesion, and open communication, but Rourke and colleagues later refined them to affective responses, cohesive responses, and interactive responses to better reflect the twelve indicators they used to analyze text-based CMC transcripts. The research protocol that they developed shifted the way social presence could be measured. Instead of using questionnaires, they coded text-based CMC transcripts and then analyzed them using content analysis method to measure social presence (Lobry de Bruyn, 2004; Na Ubon & Kimble, 2004).

Swan and Shih (2005) also used content analysis in a mixed method study to investigate the nature of social presence and how it develops in a text-based CMC environment. Quantitative data was collected using a questionnaire they designed based on Richardson and Swan's (2003) Social Presence Survey. Additionally, qualitative data was collected using interviews and analyzed using content analysis and social presence indicators developed by Rourke et al. (2001) and Swan (2002; 2003). Based on the quantitative data and qualitative data supporting it, Swan and Shih (2005) found a significant correlation between perceived social presence and satisfaction with the online discussions.

In summary, early social presence research utilized quantitative methods and participants were asked to rate their perception of the medium using bi-polar scales. This in turn evolved into more detailed quantitative questionnaires in which bi-polar scales gave way to Likert scales, and the focus shifted from the quality of the medium to the participant and how the interactions between participants impacted their perception of social presence. Analysis methods like content analysis of participants' online discussions gained traction with the introduction of the Community of Inquiry framework. Eventually, quantitative methods were mixed with a qualitative approach, and data analysis methods started to include variations like word counts, constant comparison, and content analysis, to name a few.

Four decades of evolving definitions and measurement tools. This chapter first discussed three different online course delivery methods, including synchronous, asynchronous, and a combination of both methods. It then illustrated how the definition of social presence has not been stable over the past four decades by presenting the ways in which many researchers have re-defined and re-conceptualized it throughout those years. Definitions of social presence first appeared in the literature with Short et al.'s (1976) version, which may be considered seminal work in this area, and it is a phenomenon that continues to be defined and redefined in various ways.

Indeed, defining social presence has been a challenge and it appears that measuring it has been even more difficult. Social presence questionnaires and indicators to research this rich and complex phenomenon continue to evolve over time, as illustrated

by the use of quantitative survey instruments with bi-polar scales or Likert scales as well as mixed-methods studies combining quantitative surveys with in-depth interviews.

New directions for inquiry into social presence. This study seeks to examine and understand social presence in deeper ways than measurement and quantitative data can provide. Interpretive case study methodology and qualitative data collection and analysis methods are used to address the following research questions in order to reveal rich information about participants' perceptions of social presence as they share narratives about their experiences in online courses: (1) How does an asynchronous video reflection tool impact students' perception of social presence in an online class? (2) How does seeing classmates' video recordings influence students' feeling of community in an online class? And (3) How does creating video recordings influence students' feeling of community in an online class? This inquiry into learner perceptions about social presence will be framed by Sung and Mayer's (2012) definition of social presence as "the subjective feeling of being connected and together with others during computer mediated communication" (p. 1739). This definition was chosen for this study as it recognizes that the participants' feeling of being connected and together with others is a subjective view where one participant's perception of being connected is not necessarily the same as what another person perceives. Next, chapter 3 presents the methodology and research design used in this interpretive case study to uniquely explore how an asynchronous video reflection tool impacts learners' perception of social presence and their feeling of community in an online learning environment.

CHAPTER 3

METHODOLOGY

For this dissertation, a case study (Stake, 1995) was conducted that utilized qualitative methods to explore how an asynchronous video reflection tool impacted learners' perception of social presence and their feeling of community in an online learning environment. The focus of the study was on learners in an online course and how they experienced the phenomenon of social presence in the class. Qualitative methods provided the optimal way of collecting the data in this particular case to understand this phenomenon in deeper ways than mere measurement could provide. Interpretive case study methodology and qualitative data collection and analysis methods were used in the study to examine and seek to understand perceptions of social presence while learning online. The social presence element from Garrison, et al. (2000) and Rourke et al.'s (2001) Community of Inquiry Framework as well as Sung and Mayer's (2012) social presence definition as "the subjective feeling of being connected and together with others during computer mediated communication" (p. 1739) served as the conceptual framework for the study.

The most cited researchers on social presence have studied students' perceptions of presence quantitatively, collecting self-reported survey data (Gunawardena, 1995; Gunawardena & Zittle, 1997; Richardson & Swan, 2003) and used content analysis to analyze text-based CMC transcripts (Rourke et al., 2001). In contrast, this study also relied on students' perception but was unique in that it sought to hear from the students' themselves in deeper ways by using a combination of three different qualitative methods.

An initial qualitative survey was followed by a focus group with five students, and then individual semi-structured interviews were conducted with five selected participants who were able to best provide data that explained perception of social presence in rich detail. Data from all three of these methods were included in data analysis. These methods were intentionally chosen to get the researcher into direct interaction with participants and, therefore, allow clarification of meanings and deeper probing into the research questions with each subsequent data collection method (Finch & Lewis, 2003).

Research Questions

The purpose of this study is to help online instructors, instructional designers and educational app developers find new ways of enhancing or increasing social presence for their target audience by exploring the following research questions:

I. How does an asynchronous video reflection tool impact students' perception of social presence in an online class?

II. How does seeing classmates' video recordings influence students' feeling of community in an online class?

III. How does creating video recordings influence students' feeling of community in an online class?

Community-Based Tool for Asynchronous Video

The particular asynchronous video reflection tool used in this study is called Flipgrid, developed at the University of Minnesota. In Flipgrid, the teacher creates a short text or video question and students respond through recorded videos. Flipgrid works on a web browser. To record a video response or watch classmates' recordings, students

simply go to the web address their instructor gives them, or it can be easily accessed by embedding on any web page. Flipgrid's unique feature is the 90-second recording time limit, which forces students to stay on topic when recording their answers. This time limit is also designed to help maintain students' attention as they watch their peers' recordings; for example, they don't have to watch a 10-minute long recording of each of their fellow classmates. As Picciano (2002) quoted nobel prize laureate Herbert Simon, "a wealth of information can create a poverty of attention" (p. 23).

Flipgrid was designed with simplicity in mind and, therefore, the user interface is a minimalistic grid of recorded reflections (see Figure 1.1) presented as accumulated images of the authors rather than lists of files or user names. This aesthetic visual representation of recorded videos is designed to give the user instant feedback of who has recorded their reflection, and to allow the user to quickly browse the video reflections by clicking the side-by-side images. Users can also share their recorded reflections through different social media sites or send links to video reflections using email or Twitter.

Case Selection & Participant Selection

This bounded case included five undergraduate-level online courses in which students used an asynchronous video reflection tool throughout the semester over 14 weeks. According to Stake (1995), the researcher's main obligation is to understand the case that is being studied, so purposeful sampling was chosen as the sampling strategy because it focuses on selecting information rich cases. Patton (2002) further contends that "[s]tudying information rich cases yields insights and in-depth understanding rather than empirical generalizations" (p. 230). Purposeful sampling is often used when the case is an

intact group, "such as school classes, making random assignment of individual subjects impossible" (Singleton & Straits, 2005, p. 207).

To be selected for this study, the case had to meet the following criteria: (1) the course had to be offered fully online, and (2) the students in the course had to use asynchronous video reflection tool at least three times a month throughout the duration of the course. Course selection was also based on the researcher's access to a specific group of courses at a large Midwestern university in the U.S. and his knowledge about the instructors' use of a common asynchronous video reflection tool to avoid discrepancies in functionality and usability. The courses were selected in which the instructors had integrated the asynchronous video reflection tool extensively in their curriculum. The population for the study consisted of undergraduate students enrolled in the five courses selected for this study.

Data was collected during the spring semester of 2015. Once an agreement was established with the instructors to conduct research in their courses, all enrolled students were sent a survey to determine which students had (A) the interest to share their experiences and (B) something interesting and substantive to say (i.e., something more than just "it's great" or "I don't like it"). The data collection process was accompanied by ongoing data analysis as an iterative process rather than a linear series of events (Saldaña, 2013). Based on the richness of survey findings, participants were chosen for a focus group interview, and then based on the analysis of focus group data, the data collection process funneled down to intentionally select five students to interview individually based upon those who provided the most insight and detailed descriptions of their

experience with the tool and their perceptions of social presence or/and the feeling of connection or community. Data collection instruments used in the focus group and in the individual interviews were based on the previous instruments but were modified based on what was discovered from the survey data. These discoveries were helpful in determining the focus group interview questions as well as the individual interview questions. This funneling down process was a characteristic of criterion sampling, which is a purposeful sampling strategy that can be used to select participants that can provide the most meaningful data to help understand the phenomenon under investigation (Patton, 2002). This sampling strategy was an effective approach to identify participants that could provide the richest data for this case study.

Data Collection

The three qualitative methods used in this study to collect data for analysis were designed to provide responses that explained perception of social presence in the most rich detail, as described in Table 3.1. The survey was originally intended to provide base information on participants and their use of asynchronous video reflection tool, and also be used as supporting and guiding material for the focus group and the interview sessions. However, the qualitative survey responses were surprisingly descriptive and rich in detail. Participants for the focus group and interviews were selected based on the survey data.

Table 3.1

Overview of Data Collection Methods

Data collection method	Approach	Type of data	Purpose
Survey	Qualitative	Open ended questions	Base data, survey all participants
Focus group interview	Qualitative	Focus group transcripts	Further explore data revealed in survey responses
Semi-structured individual interviews	Qualitative	Interview transcripts	Probe deeper into specific experiences and data revealed in survey and focus group responses

Survey. All students in five participating online courses were asked to participate in this study, representing a total of 98 students. The survey instrument was based on the social presence section of Community of Inquiry Questionnaire (CoIQ), developed by a multi-institutional research group (Arbaugh et al., 2008; Swan et al., 2008) and later revised by Lowenthal and Dunlap (2014). The survey questions were modified from their original form for this study to better fit the context of the asynchronous video reflection tool. Additional modifications were necessary because both the original CoIQ and the version reflecting Lowenthal and Dunlap's recommendations assumed that the studied participants were in two-way communication using a text based CMC (i.e., discussion forums or email). However, this study examined a different type of communication medium. Further, the answers for the survey questions in this study were open ended and qualitative in nature, whereas former versions of the CoIQ used a quantitative Likert

scale. Surveys with open-ended questions are exploratory in nature and the goal of these types of questions is to get more detailed responses about the topic of study (Patton, 2002).

  Focus group interview. Krueger and Casey (2009) define a focus group as "a carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment" (p. 2), and focus groups are often used to support other data collection methods like surveys and interviews (Morgan, 1997). According to Krueger and Casey, focus groups have the ability to produce discussions and debates that give the researcher an opportunity to observe viewpoints that could be missed with surveys, and interactions among participants often produce in-depth data. For this case study, one focus group interview was conducted with five participants (Krueger & Casey, 2009; Patton, 2002) two weeks following the survey data collection to allow enough time for appropriate analysis of survey findings. Participants for the focus group were partially selected based on the survey results. The survey inquired about students' willingness to participate in a focus group, and eight out of 31 students responded yes. Based on the descriptiveness and insightfulness of their answers, five of those students were invited to the focus group, and all those invited were able to attend. The researcher facilitated the focus group interview, which was audio recorded and later transcribed.

  Individual interviews. Following the analysis of focus group data, five individual, semi-structured interviews were conducted with participants who were strategically selected for their ability to provide deep analytical explanations in their

survey answers. Interview protocol based on the CoIQ (Arbaugh et al., 2008; Swan et al., 2008) were developed to guide the interviews while also keeping in mind the main purpose, which was to probe deeper into data and insights that the participants provided in their surveys. After the fifth interview the decision was made not to conduct any more interviews because in the great amount of data collected at that point numerous patterns were evident, and in participants' responses during each subsequent interview, similar patterns were seen but nothing additional or new was revealed.

Data Analysis

In this study, inductive analysis with initial coding and focused coding methods were used to analyze for recurring patterns in the data (Saldaña, 2013). Elements of constant comparison methods (Glaser & Strauss, 1967) were also evident as the codes and categories were constantly compared throughout the coding cycles until saturation.

As noted earlier, data analysis was an iterative process that started with a data preparation step in which all the survey answers and researcher notes were printed, and all focus group and individual interview audio recordings were transcribed verbatim. Data preparation was followed by a careful familiarization with data by the researcher reading the whole data set several times to get a "whole picture" of the data set. The insights and understandings that resulted during the initial reading were written down as analytic memos (Elliott & Timulak, 2005). During the initial reading the data was also edited to remove unimportant digressions in order to be able to focus on what was deemed as relevant to the purpose of study as well as the research questions.

The next step of data analysis was the first cycle of coding in which the initial coding method was used to code all the data line-by-line (Saldaña, 2013). Saldaña (2013) contends that "[c]oding is not a precise science; it is primarily an interpretive act" (p. 4) in which the researcher is the instrument responsible for deciphering the meaning of the passage and determining the appropriate code. Coding involves assigning a meaningful code to everything that the participant shared in their response to a survey question, a focus group question, or an interview question. Codes varied from a single word to a short phrase. During this cycle the data was broken down into discrete parts that were closely examined and compared for similarities and differences. This stage was important for the researcher to immerse himself in data and find the small nuances and meanings, and to code them for the categorization that followed.

Data was categorized during the second cycle of coding, which used the focused coding method to accomplish it. During this cycle, tentative categories were created by clustering together similar codes. Several cycles of focused coding was required, as some codes fit into multiple categories and some categories were ultimately combined after careful comparison with rest of the codes and categories.

Comparison of data in this study followed closely the method used in constant comparison analyses, which is one of the most commonly used methods to analyze qualitative data in social sciences (Leech & Onwuegbuzie, 2007). It was first proposed by Glaser and Strauss (1967) and used in their approach to grounded theory research as a means to analyze data; however, this method of analysis is not limited to a grounded theory approach (Onwuegbuzie, Leech, & Collins, 2012). The original goal of constant

comparison analysis in grounded theory was to collect data in multiple stages and produce theory out of data (Strauss & Corbin, 1998). But over the years constant comparison analysis has been modified to analyze data that has been collected in one phase (e.g. a single interview), and it can be used with almost any type of data like interviews, documents, video, and observations (Onwuegbuzie, Leech, & Collins, 2012).

It is important to note that this study did not solely use constant comparison for the analyses; rather, it was used as a supplement to help sort and categorize the data. The multiple cycles of data analyses used in this study was similar to the five-step process of constant comparative analysis (Leech & Onwuegbuzie, 2007; Lowenthal, 2012) in which the researcher systematically reduces sources to codes, then inductively develops themes from the codes (Onwuegbuzie, Leech, & Collins, 2012). The five-steps are:

1. Read through the data

2. Chunk data into meaningful units

3. Code each unit while constantly comparing them with other codes

4. Group codes

5. Identify and develop themes that emerge from data

These steps described here should not be read as a linear process because the reality is that they occur as an iterative process. Reading of data, coding, and comparison of codes was done continually throughout the research process and in all of the stages of data collection and analysis. For example, the researcher was better able to focus the questions asked in the individual interview sessions because the questions were refined based on the analysis of survey and focus group data (Leech & Onwuegbuzie, 2007).

According to Merriam (2009), member checking is a common and important strategy to ensure internal validity in qualitative research. Maxwell (2013) highlights the importance of member checking stating that it "is the single most important way of ruling out the possibility of misinterpreting the meaning of what participants say and do and the perspective they have on what is going on" (p. 126-127). Member checking was accomplished by asking the interview participants about the categories and themes that had been identified during the analysis of survey and focus group data.

In summary, this interpretive case study utilized qualitative data collection and inductive analysis methods to explore how an asynchronous video reflection tool impacted learners' perception of social presence and their feeling of community in an online learning environment. This research makes a unique contribution to the field as it provides online instructors, instructional designers and educational app developers with the opportunity to hear students' perspectives about their experience with online learning and to gain insight on a topic that has been studied for decades but rarely the way it is done here.

Next, chapter 4 provides a detailed presentation of the qualitative methods used for data analysis. This started with initial coding, a line-by-line analysis of raw data from three data collection methods that broke the data down into descriptive codes. This was followed by focused coding that categorized codes by comparing, revising, and grouping them by similarity. Then, categorization of data revealed three themes that served to organize the research findings in a meaningful way. The categories that formed the themes are presented in chapter 4 with direct quotes from participants to reveal how they

experienced the use of an asynchronous video reflection tool in their online courses and

how it influenced their perception of social presence as well as their feeling of

community.

CHAPTER 4

ANALYSIS OF DATA

The purpose of this study is to help online instructors, instructional designers and educational app developers find new ways of enhancing or increasing social presence for their target audience by exploring how an asynchronous video reflection tool impacts learners' perception of social presence and their feeling of community in an online learning environment. The following research questions informed this study:

    I.   How does an asynchronous video reflection tool impact students' perception of social presence in an online class?

    II.   How does seeing classmates' video recordings influence students' feeling of community in an online class?

    III.   How does creating video recordings influence students' feeling of community in an online class?

An interpretive case study (Stake, 1995) utilizing qualitative methods was conducted to address these research questions. Data was collected from students from five separate undergraduate courses that took place fully online at a large university in the Midwest United States during the spring semester of 2015. For the course to be part of the study, the students had to use an asynchronous video reflection tool at least once per week throughout the semester. This chapter will describe in detail the analysis of the data that was collected using qualitative survey, focus group and individual interviews through initial coding and focused coding methods as described by Saldaña (2013). It is important to note, once again, that the data collection and analysis processes were intertwined and

occurred in tandem, as analysis started immediately when the first survey results came in

and continued along side subsequent data collection as well as after all data was

collected. This chapter will also include the results of data analysis and the research

findings.

As described earlier, participation in this study was voluntary and the data

collection started with a qualitative online survey, which was sent to all of the 98 students

enrolled in five courses selected for this study. Out of 98 students, 31 completed the

survey. Participants for the focus group and the individual interviews were selected based

on the depth and insightfulness of their survey answers. The focus group had five

participants and five more were individually interviewed.

Data Analysis Methods

Two main interpretive analysis methods were used, initial coding and focused

coding, and a third important element of the analysis process, analytic memos (Saldaña,

2013), were used throughout the analysis process as well. These memos were important

in documenting the researcher's initial reactions, thoughts, and conclusions. These three

key elements will be described in detail.

Analytic memos. Maxwell (2013) states that "[m]emos are one of the most

important techniques you have for developing your ideas" (p. 20). In this study the first

analytic memo was written even before the research questions were fully formed and the

last one was written close to the very end of the writing of this chapter. The purpose of

writing analytic memos was to help the researcher to document his thoughts, intuition,

and hunches that came up during the study. These thoughts were usually initial reactions

while coding the data or passing thoughts about the study that came at a moment's notice,

sometimes while out running or at deli section inside the local grocery store. If the

computer was not close by then the memos were written on the index card application on

a phone, and later that day transferred to a document on a computer. Analytic memos

were invaluable during the analysis phase of the study as they included a lot of the

researcher's thoughts and reflections about the emergent patterns and reactions about

developing categories. Stake (1995) stated that "[G]ood research is not about good

methods as much as it is about good thinking" (p. 19), and this was true with writing of

analytic memos as they provided a space to record and document the researcher's train of

thought.

Initial coding. An important analysis method used in the early phases of data

analysis was initial coding (Saldaña, 2013; Charmaz, 2006), also referred to as open

coding in some publications (Strauss & Corbin, 1998). According to Saldaña (2013), the

relevance of the term *code* in qualitative data analysis refers to "a researcher-generated

construct that symbolizes and thus attributes interpreted meaning to each individual

datum for later purposes of pattern detection, categorization, theory building, and other

analytic processes" (p.4).

As a means to get familiar with the data, all survey answers, the focus group

transcript, and interview transcripts were first read several times over, and individual data

artifacts were compared across the corpus of data. Saldaña (2013) discusses initial coding

as a first cycle of coding whereby data is considered as a whole and then broken down as

content from each of the data artifacts are compared for similarities while staying open

for all possible directions that the data presents. Subsequently, coding was done line-by-line from the survey and transcript text, as the focus at this point was on transforming the raw text into codes that varied from a single word to a phrase that summarized what was shared by the participants in their narrative responses.

     Initial coding of survey data. First to be coded were the qualitative survey responses, which were all printed out and then grouped by the course and the question, i.e., responses from all participants for course 1 - question 1 were all grouped together, then responses from all participants for course 2 - question 1 were all grouped together, and so on. This order was made to ensure that if there were anomalies or notable differences in responses between the courses those would be easier to find. However, this ended up not being the case, as the responses between the courses for each question did not vary noticeably and in fact were very similar.

     Coding notes were written in the right margin next to each response and, as described above, the codes varied from a single word to a phrase. Categorizing the data was avoided yet so as not to make too big of conclusions this early in the analysis phase. For example, some of these initial codes included phrases like *see who is who* and *face to a name* and these were coded separately at this point, even if it was obvious that they could be grouped under one code. Table 4.1 lists the codes that were produced from the first two survey questions. The survey questions were worded in such a way that encouraged participants to give more than just yes or no answers; and as a result, the responses were rich in detail and information. This table demonstrates the richness of the data and the table also helps visualize how some categories like *getting familiar with*

classmates and *authentic videos* would later begin to form after analysis of subsequent survey question responses.

Some tentative categories became evident at this point based on similar or complementary codes, and these categories were written down immediately into a separate analytic memo so they did not muddle or interfere with the process of generating initial codes from the raw data. This way they were still easily accessible to the researcher as well and could be referenced later. Some level of tentative categorizing started to happen towards the end of the survey coding when response wording was close to a code that was already used; when this similarity was evident, the same code was used. In some cases the researcher did go back and tweak the codes to more effectively describe the situation, as during this process of initial coding all the proposed codes were tentative and provisional (Saldaña, 2013).

Table 4.1

First Two Survey Questions to Illustrate How Codes Were Determined During Initial

Coding

Survey Question	Codes
Did your classmates' video recordings help you form impressions of who they were? Please describe and if you can, give an example.	See who is who Name to a face How they look Environment they are in Too short videos Lacked personal touch Did not watch Tone of voice Gestures Facial expressions & motions Surroundings Who I'm studying with Understand them better Lacked authentic vulnerability Rarely talked about themselves Use of language Glimpse of who they are Rehearsed
In your recordings, did you try to project who you are to the other participants? How so?	Was just myself Showed only the best side No, rushed Through my views Didn't participate Related topics to own life Real life examples Well prepared Just my opinions Personal experience and perspective Interest areas and opinions If did it was unintentional

Initial coding of focus group data. The focus group consisted of five students from four different courses and was conducted approximately two weeks after the participants had completed the survey. The focus group interview delved deeper into how participants experienced the watching of classmates' videos and recording videos themselves and how these experiences impacted their feeling of community in an online course. The focus group session was audio recorded and the resulting recording was transcribed to text. The transcript of responses from the focus group interview was then coded the same way as the survey data. These responses were more detailed than what the survey had produced. After the initial coding process, the codes generated from the focus group data were the same as codes from survey. This triangulated the coded data as well as the categories of similar or complementary codes that had started to form during the survey analysis. Table 4.2 lists two questions from the focus group interview and the codes from the responses to illustrate how codes were determined during the initial coding phase. Similarities can be noted between the survey codes listed in Table 4.1 and the focus group codes listed in Table 4.2.

Table 4.2

Two Focus Group Questions to Illustrate How Codes Were Determined During Initial

Coding

Focus Group Question	Codes
Would you have preferred to write your answers instead of record them?	Little embarrassed to record Rushed to finish Pressure to perform With writing one can edit More detailed answers when writing Like seeing classmates Video more like interaction See faces Get to know classmates better Writing can be boring Variety good (other than writing) Read from script
Did you feel like you had formed some impression of any of your classmates by watching their video recordings?	Facial expressions Body language Everyone just polite and professional Could tell who is hard working student Didn't watch late submissions Watched always same students videos Didn't watch a lot Not required Watched to better understand the question Late poster, did not watch If required then watched more

Initial coding of individual interview data. Five individual, semi-structured

interviews were conducted during the week following the focus group interview.

Individual interview questions were a compilation of survey and focus group questions

with some personalized or customized questions based on participants' survey responses.

Initial coding of this data resulted in many of the same codes as those determined from

the survey and focus group data, but the responses from individual interviews were generally much more detailed than the other data sources. As an example, one of the survey responses to a question about whether videos helped to form an impression of classmates stated, *"no, because time was too short;"* however, one of interview responses revealed more details about how the 90-second time limit impacted the participant's ability to form an impression of classmates (see Table 4.3).

Table 4.3

Example of Individual Interview Question with Codes Determined During Initial Coding

Based on the Excerpted Response

Individual Interview Question	**Excerpt of the Participant's Response with Codes**
Do you feel that you actually got to know some of your classmates, even though you only saw them on your screen?	*"A little bit. What was more telling was accents. And I see the non-verbal but I don't know if I got a true sense of exactly where they were coming from with their ideas. Because it was so short. The longer posts, um, made them much easier to figure out."* Accent telling Non-verbal Short video Longer posts easier figure out

In summary, this initial coding process was the first cycle of coding for survey, focus group, and individual interview data. Throughout this line-by-line analysis of raw data from three data collection methods, the data was broken down into descriptive codes

and prepared for further analysis of emerging categories, referred to by Saldaña (2013) as focused coding.

      Focused coding. The second cycle of data analysis involves focused coding, which is used to categorize data as it "searches for the most frequent or significant codes to develop the most salient categories" (Saldaña, 2013, p. 213). All raw data and the codes produced during the initial coding or the first cycle of coding were reread. During this reading, the researcher sought to compare the codes once again, revise them, and group them by similarity. This was first done one question at a time throughout each data source by grouping similar codes together that were generated from participant responses to each question. A word or short phrase was chosen to describe this group of related codes as a category. An analytic memo was also written to provide an audit trail (Patton, 2002) with detailed notes about how the category was chosen, the names of the codes that were included, a short description of what it meant, and the narrative excerpts from participants' responses to illustrate the codes and categories that emerged as a result of this strategic analysis and focused coding. Below is an example of what was noted in an analytic memo about the code *time limit* when the researcher was reading the answers from the fifth survey question. Letter and numbers inside the parentheses are locator codes for the researcher so the full answer and data source can be traced quickly. Italicized text indicates direct quotes from the participants.

      CODE: TIME LIMIT

      Some participants did not feel like they communicated effectively because 90

      seconds was not enough time: *it prevented me from completing my thoughts* and *I*

felt rushed. Sometimes it was hard to fit all my thoughts into 90-second video.

(JO5, JI5). *I was as effective as possible given the (time) limits* (SO5). *Sometimes*

I do not think I communicated effectively due to time limit, I felt some pressure

(SO5). Some Flipgrid questions raised a lot of thoughts in participants' minds that

they wanted to talk about, but they could not share them all because of the time

limit (SO5).

Three cycles of focused coding were conducted and all the codes were placed into

similar groups or categories. The codes that were not relevant to the research questions

and purpose of this study were discarded after meticulous comparison to the rest of the

codes and categories, as to make sure no important data got removed. Groups of related

codes were identified as categories and were noted in analytic memos. Charmaz (2006)

provides guidelines for determining data saturation once multiple cycles of analysis no

longer reveal any new information or insight by suggesting that a study "fits the empirical

world when you have constructed codes and developed them into categories that

crystallize participants' experience" (p. 54). To help with categorizing, all the codes that

were not yet placed into any group or category as well as already formed groups and

categories from the analytic memos were printed on paper, cut into individual pieces, and

placed on a table. Saldaña (2013) calls this method *tabletop categories* and it allows the

researcher to physically move pieces of paper around and arrange them into categories.

Physically touching and looking at the data helped the researcher better visualize the

connection between codes and strengthen the categories that were formed during the

focused coding process. Next, the results of data analysis, or research findings, will be presented with supporting narrative excerpts from participants.

From Codes and Categories to Themes

To make sense of the groups and categories that were developed during the focus coding it was then necessary to develop themes. Themes served to make the data and the results of data analysis more meaningful in terms of how they relate to the research questions driving this study. Guiding the discovery of themes was Saldaña's (2013) description of a theme as "an outcome of coding, categorization, and analytic reflection, not something that is in itself coded" (p. 175), and DeSantis and Ugarriza's (2000) assertion that "a theme is an abstract entity that brings meaning and identity to recurrent [patterned] experience and its variant manifestations. As such, a theme captures and unifies the nature or basis of the experience into a meaningful whole" (p. 362). To develop and discover themes the researcher moved categories and groups around to consider how they were linked to each other and what type of relationships existed between them and to the research questions.

As a result of multiple phases of data analysis, three themes emerged from the data: familiarization, authenticity, and distractions. The rest of this chapter presents these three themes with the categories that formed them as well as a detailed descriptions of each category. Direct quotes from the participants are also provided as an authentic narrative to reveal how these students experienced the use of an asynchronous video reflection tool in their online courses and how it influenced their perception of social presence as well as their feeling of community in myriad ways. In the following

paragraphs, the parts of text that represent meaningful interpretations of the participants'

responses are italicized for emphasis, and if the text is a direct quote it will include

quotation marks or appear in block quotes (quotes will not be italicized). Pseudonyms are

also used for the research participants to ensure confidentiality.

Theme #1: Familiarization

The first theme is *familiarization*, which includes categories of *seeing and*

hearing, *nonverbal communication*, *setting*, *a face to a name*, *avatar*, and *adjustment*

period. Adjustment period further included sub-categories of *comfortable recording*, *not*

comfortable recording, *effective communication*, and *not effective communication*.

According to participants in this study, getting familiar by seeing and hearing classmates

in an online course may be important for the feeling of community, and the use of an

asynchronous video reflection tool may improve the familiarization process. See Table

4.4 for a description of theme #1 and the categories and sub-categories that comprise it.

Table 4.4

Theme #1 with Categories and Sub-Categories

Theme	Categories sub-categories indented
Theme #1: Familiarization *Getting familiar by seeing and hearing classmates in an online course may be important for the feeling of community, and the asynchronous video reflection may improve the familiarization process.*	**Seeing and Hearing** A face to a name **Nonverbal communication** **Setting** **Avatar** **Adjustment period** Not comfortable recording Comfortable recording Effective communication Not effective communication

Category: Seeing and Hearing. One of the first things student participants brought up when they talked about the use of the asynchronous video reflection tool in the online course was the positive sensation of seeing and hearing their classmates. Hannah described how special it was to see other people's faces instead of just written text: "It was nice reminder that I was taking the class with other human beings and not a faceless person replying to posts." Students liked that the video recordings gave them an opportunity to see who is with them in the class, as can be seen from Chuck's initial reaction to using asynchronous video reflection:

> I found the video recordings to help me get to know people a little better. An example of this would be the very first time when we used Flipgrid and everyone introduced themselves. This helped me get a better idea of who was in the class.

Many said that it helped them to know *what do [classmates] look like* as Mary said that because of the videos: "If I see you I know who you are. It helped in that aspect." The words *putting a face to a name*, especially, came up multiple times during the data collection. Online environments have, for a long time, had the ability to put up a picture of a participant for everyone to see; but in this case, students liked the fact that they were able to *see classmates introduce themselves* in action. All of the courses in this study asked students to do an introductory video at the beginning of the course. This was described as a *nice way to start an online course* where one could, right away, *put a face to a name*. Anna also saw introductory videos as beneficial and she noted that after viewing more videos she learned to know her classmates through their ideas and, thus, felt more connected to them:

> The first thing she [instructor] had us do was to introduce ourselves and that was probably the most beneficial part of this because people would talk about themselves for 90 seconds and we'd get to see them. …I think as we did more posts and I got to know more of their ideas I felt more connected.

Other participants also said that putting a face to a name made them *feel better connected* to their classmates because *people weren't faceless anymore*. Mary talked about one incident in which seeing her classmates' videos helped her: "Flipgrid was the only, technically, face-to-face that we had and one of my groups decided to meet [in person] and if I didn't have Flipgrid I wouldn't have known what they looked like. It put a face to a name."

All of the courses had international students in them and many mentioned how it was great to *see and hear voices from other cultures and countries*. Some felt that videos also enabled them to *better understand each other,* as Jill described:

> By watching their recording, I could understand who they were. In the other words, their thinking based on their culture and norm. There are many international students in my class including me and based on the cultural diversity, I could hear many different opinions.

Positive notes were not only related to the seeing and hearing aspect of the videos, but also *putting your face in there* enhanced the attitude towards the course because *no one was anonymous anymore.* Lester talked about how he saw it as a positive thing that the faces were visible:

> I want to point out that Flipgrid and the video interaction actually enhanced the attitude towards the class because you put your face in there. I think that's really important. When you put your face in there I think it changes your attitude. It's like on the Internet, I don't know anybody and I'm scared of that. You put your face in there and then you obviously let people know who you are and that makes me think one more time what

I'm saying and what I'm going to put into this class. So I think it's really positive in that way.

Some research participants felt that seeing and hearing their classmates provided them with a sense of community and made them feel better connected to one another, as Sarah articulated, "knowing classmates' faces [and] voices gave me a sense of community." Mary compared her experience in this course to another online course she was taking concurrently that did not use any video element:

> I was taking two online classes this semester and one that had no recording what so ever and this one. I felt like I was closer knit to the class with the recordings rather than the one that didn't have that.

Alex felt connection to a certain group of students who posted their video around the time she did, "there were always the same bunch, we'd all kind of do it on Mondays so especially seeing those faces kind a brought us together. We were all kind of doing this at the same time." Alex continued describing the face-to-face feeling that asynchronous video reflection by stating, "It definitely helped [the feeling of community] because videos gave that face-to-face. It's not quite face-to-face but you get to see their face. That part made it connected."

Category: Nonverbal communication. According to several participant responses, nonverbal communication was stated as an important part of the experience that is missing from an online environment where one does not actually see their classmates. Participants said that they were able to get to know their classmates better and feel better connected to them through the use of the video-based reflection tool because they got to see others' gestures, facial expressions, motions, and animated

reactions. Bryce talked about how video provided more information about the author of

the post than just a written word:

> While writing style does give me a peek into their personality, a video
> does provide more information including tone of voice, physical gestures,
> facial expressions, and what is in the background of their video.

Jeff saw it much like Bryce did as he pointed out that, "in Flipgrid you can

actually see the person's emotions and you know what kind of language they use and

then their body language, it tells you a lot." Anna also indicated that, "[the most

beneficial for me was] the nonverbal cues, are they really animated… that revealed a lot."

Jill felt that "seeing [classmates'] subtleties of nonverbal communication enabled the feel

of community."

Category: Setting. Recording a video of oneself will unavoidably have

something in the background, and the research participants mentioned that the

environment the person on the video was in offered additional information about them.

Anna elaborated, "I was able to see them and hear them, but what is interesting is seeing

their background, you know, what's behind them gave me an idea of who they were."

Videos were recorded in various places like in participants' homes, workplaces, coffee

shops, and several different school buildings. Morgan talked about this unique element

that discussion boards do not offer:

> You learn about what their interests and cares are within the conversation,
> it was empowering. You also get a glimpse into their life through the
> video. The background where their video is filmed also gives you an idea
> for home environment and how [home] looks like physically.

While most impacts related to the setting were discussed in a positive way, some participants' responses indicated that the setting also had the potential to negatively impact both the experience of recording and watching videos, and these negative impacts and responses will be described later in this chapter.

Category: Avatar. When a user (in this case, a student) opens the class Flipgrid, all they see is the questions their instructor has provided. Clicking any of the questions will then show a grid of avatars; an avatar refers to a photo that usually has the video creator looking straight into the camera with the text name entered by the creator superimposed across the bottom of the image (see Figure 4.1).
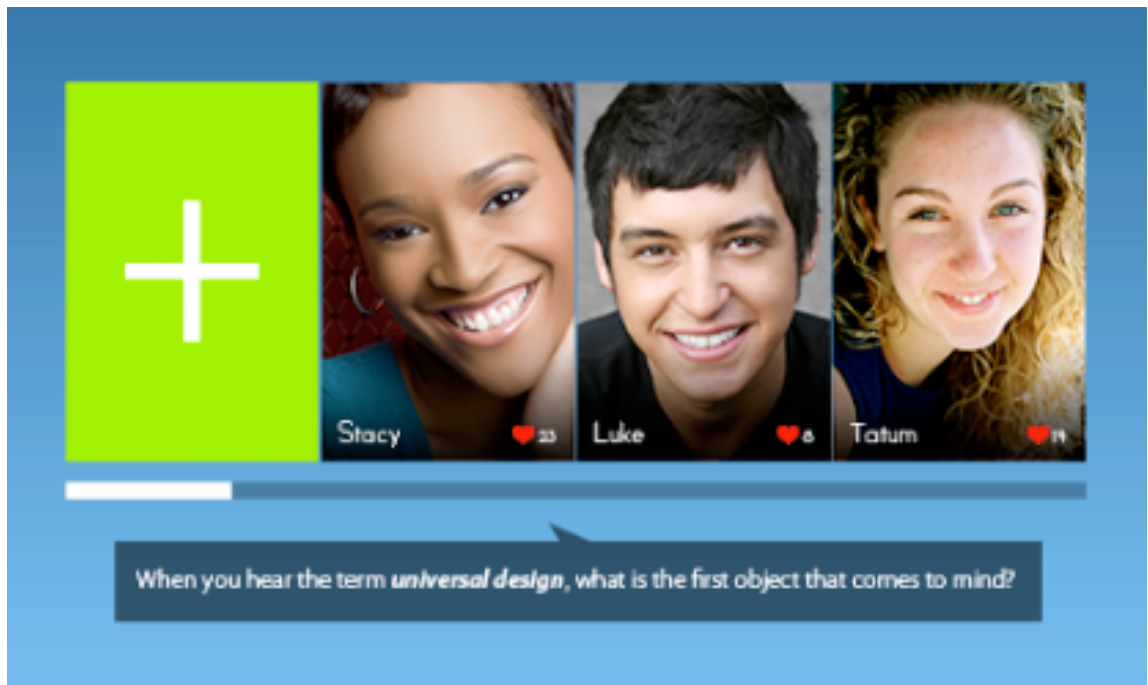
Figure 4.1. Flipgrid interface showing grid of avatars of those who have recorded their video.

By clicking any of the avatars, the user gets to see that person's video response or reflection on the question posed by the instructor. Research data indicated that for some, the appearance of the avatar was a key reason they chose to watch the video. Peter admitted that he did not watch many videos but "I occasionally clicked a video just because he or she got a pretty avatar and I wanted to check the person out." How one acted on the avatar photo also mattered as Devon explains, "One of my classmates, she really made a funny face whenever she captured [her avatar photo]. I always clicked hers. It was funny." Alex also added:

> Thinking back, I probably clicked more the people that were smiling.
> Some people don't care you know. Some people you could tell from their
> smile. I was probably more geared towards clicking on their video rather
> than someone sitting there with their headphones and then kind of
> slumped or something.

For some participants, the decision to click on and video a classmate's video came down to whether they saw something interesting in the avatar, like clothing or decoration. Diane stated, "I pick the ones [to watch] with the most interesting backgrounds like either decoration of their home or the setting, like the office or campus or even the guys with a hood on." Avatars were also mentioned as a good way to get to know others because each week students saw their classmates' photos with their names attached to it, so there seemed to be a *reinforcement* aspect as they watched videos as well according to some participant responses.

Category: Adjustment period. Being able to effectively communicate through video recording was linked to being comfortable. Those participants who did not feel comfortable recording themselves because of either being *embarrassed to record*

themselves or *not enjoying seeing* [themselves] *on the screen* also indicated that they felt

they were not communicating effectively either. Some directly stated that they preferred

writing their response rather than recording a video, like Ellie who stated, "I preferred to

write [answers] down instead of recording myself because I feel a little bit embarrassed. I

don't necessarily enjoy seeing myself on the screen."

Many said that there was *an adjustment period* of getting comfortable with

recording and, interestingly, once comfortable they then felt their communication was

effective as well. Steve talked about the adjustment period in this way:

> Some of the time I thought I did a good job communicating, but this
> wasn't until we neared the end of the semester. At the beginning it was
> awkward. I felt more comfortable as the class weeks went by.

Lester felt much like Steve as he said "It was kind of an adjustment at first but it wasn't

too bad. Recording yourself, I guess it was something I had to get used to." Anna

elaborated about her initial nervousness: "There was a little bit nervousness and it was

very very superficial like is my hair okay, is it okay if they see me in my pajamas? I mean

that kind of nervousness." Several other participants described this initial nervousness,

but also like Anna, after couple of recordings those thoughts disappeared and recording

became more natural. There were also some participants who indicated that they were *not*

camera shy and *felt comfortable in front of the camera* from the start; they also felt they

were consistently *communicating effectively*. For example, Mary's response to being

comfortable in front of the camera was common: "I didn't think it was a big deal for me.

Camera shy? No, not at all." A couple of participants stated that they felt comfortable

because they thought *no one would watch* their videos. When asked to elaborate why they

assumed that no one was watching, Mary stated:

> I don't really know if they even go and watch it to be honest. I know the
> instructor will see it but I'm not sure if classmates really went to look at it.
> Because even I looked at some of them but not all throughout the
> semester.

In summary, the theme of familiarization was formed by categories that gave

students a better idea who their classmates were and helped them understand each other

better. Students participating in this study liked that the video recordings gave them an

opportunity to see who is with them in the class, what they look like, and helped them put

a face to a name. Videos gave them the opportunity to see and use nonverbal

communication like gestures, facial expressions, motions, voice tones, and accents. These

visuals also offered a rare glimpse into students' homes, workplaces, favorite coffee

shops, or wherever the videos were recorded.

Theme #2: Authenticity

A second theme that emerged as a result of data analysis was authenticity, which

included categories of *greetings*, *personal information*, *being myself*, and *inauthentic*

projections. According to participants in this study, being authentic in terms of seeing

authentic disclosing of personal information and real life stories in an online class may

positively impact the feeling of community, and the use of an asynchronous video

reflection tool may help foster this authenticity. See Table 4.5 for a description of theme

#2 and the categories and sub-categories that comprise it.

Table 4.5

Theme #2 with Categories and Sub-Categories

Theme	Categories sub-categories indented
Theme #2: Authenticity *Being authentic in terms of seeing authentic disclosing of personal information and real life stories in an online class may positively impact the feeling of community.*	**Greeting** Real people **Personal information** Sharing stories **Being myself** Personality **Inauthentic projections** Rehearsed Fake Only nice videos Impersonal

Category: Greeting. When creating a video, most participants started their recording with a greeting such as hi or hello. They were asked during focus group and individual interviews why they did this, and they indicated they did so because they *liked to be greeted at the beginning of a video* and it *made the video welcoming* and *less formal*. Harry described how he felt when he was greeted: "it felt more welcoming and less formal." Lou elaborated on the importance of being greeted:

> I enjoyed it when people would start their video with a greeting. It made me feel like they acknowledged that we are an actual class, and not just a bunch of compartmentalized recordings of each other. Gesturing with a greeting is nice and friendly. Recording on cell phone may limit to one-handed gestures, but I feel the gains out weigh the potential losses.

Sometimes the greeting was *just a nervous wave,* but participants said that it still *felt good*, *comforting*, *warm*, and as Morgan described, "The greeting made it feel a little more intimate, because it makes the poster more approachable than those who go directly into discussion." Jill felt that greeting was "a good way to start the video considering it makes me feel like I am actually interacting with them if they do." Sarah added, "I liked the greeting. It makes the video more like a conversation and makes me want to keep watching." For some the greeting was a reminder that they are taking the course with real people, as Steve said, "Sometimes there would be a greeting. I liked it because it was another reminder that these people are real." Alice continued, "I saw few of them say 'Hello' and wave their hand. That made me feel like I communicated with them and that I was engaging with classmates." No participant was against the greeting but some *did not care* if they were not greeted and some did not even remember if they offered a greeting to start their own recording. Mark explained:

> The majority of people waved or said hello. I didn't feel like there was much of a difference between the students that greeted me and the students that decided to answer the prompt right away. I do not think greeting is necessary after the first Flipgrid video.

Ivan wasn't against the greeting either but remarked that it used up a portion of the 90-second time limit by stating that, "most said hi and introduced themselves. It makes me feel they are wasting time." Ivan was not the only one to mention how the time limit impacted what they said or did on the video.

Category: Personal information. The majority of participants used real life examples to help their classmates *understand better* their *opinions* and *views,* as Norma explained:

> I disclosed my personal information few times during the [video
> reflection] assignments because I thought it might help others to
> understand my opinion. Some people in my section also disclosed their
> personal information few times and I think it helped me to understand
> them better.

Harry also thought the stories helped him understand his classmates better, "I did it

[shared personal information] because it was relevant to the question. The reverse was

true as well. My classmates conveyed information from outside which helped their

arguments and made me understand them better." Bryce felt the same, "[personal stories]

helped me to elaborate examples about the topic easily. Also, it was easier to understand

when classmates used information about life outside of class." Morgan also supported his

answers with stories from his own life:

> I shared any type of information or story in my own life that would help
> move the post along and put my point across. I backed it up with my own
> personal life stories to give the viewers a little peak into some key events
> that made me who I am and my decision on the questions.

Sharing personal information had another type of impact on Morgan:

> I do feel the whole class got in on telling about our life stories and
> opinions about these topics. It made our group a little smaller and more
> secure. It gave everyone a glimpse of who the students were within our
> learning environment.

Alice continued on the same manner, "I liked when my classmates shared their own

personal information [and] because of that we were able to develop a trusting

environment in the class." Not everyone shared personal information, however, and some

said this was because they did not see the need to do so, *just did not want to*, *no time to*

do it in 90 seconds, or had privacy concerns of *who sees the videos* and, thus, decided not

to share. For example, Sam did not share personal info explaining, "I didn't feel obligated

to share any personal information since it was not required. I strictly stuck to the script, so to speak." Others stated similar reasons for not sharing information about their personal lives, as Mark elaborated:

> I don't recall disclosing any information about life outside of class besides talking about how my week was going. The prompts that were given to the students did not require us to talk a lot about our personal lives.

And George who said, "I did not include any information outside of class because I didn't feel comfortable [doing it]."

Category: Being myself. When participants were asked about their behavior in front of the camera while creating their video recordings, almost all said that they *did not try to be something or someone else*, they were just themselves. This was also interpreted to be an element of authenticity as a theme. Chuck explained, "I did not necessarily try to project who I was. I was simply trying to be myself and be comfortable. I think this is the best way to go about recording videos on Flipgrid." Some said that they *projected themselves to the class through their views, perspectives, and opinions on the topic* and sometimes through *relating the topic to* [their] *own life*. Hannah explained her approach:

> I did [project who I was] in the first recordings by letting them know who I am, what I am interested in and what I am studying. In other recordings they got to know who I am by my views and how I relate to things.

Jill's approach was much like Hannah's, as she described, "I didn't purposefully try to project who I was on the video but if you look at the all my videos throughout the semester you can probably get an idea of who I am." Lou felt the same as he stated, "I don't think I did it purposefully but I'm sure unconsciously I did project who I am. And I did it so by putting my personal perspective/experiences into the discussion topics." Most

participants said that they did not think about projecting themselves and just *turned on the camera and started to speak*; any projection that did not represent who they really were was *unintentional* and *not purposeful*. However, some participants were very cognizant of their projection to others and wanted to show certain traits about themselves, like Norma who explained:

> I wanted to come off as prepared for the video submission and tried to prove I did the readings by referencing aspects of the articles assigned to read. I also didn't want to read off of a script to show I was confident speaking my mind.

Other research participants said that they did try to project themselves a certain way as they only answered the questions. Alice stated, "I provided answers to the reflection questions the best I could. If any personal information was included in the answer, it would be completely unintentional." Participants also mentioned that videos revealed what type of students their classmates were as *it was clear when someone was not prepared* or *did not put effort into their recording*.

Category: Inauthentic projections. Many research participants talked about how they learned to know their classmates through the videos, but a few participants commented that they thought the videos did not give a true image of the person creating it. Bryce explained how he saw videos posted by classmates':

> They did show who they were in the context of the methods used in the class. Many students were reading off of a script, and sounded very monotone at times. There was still an exchange of ideas that helped to gather an impression, but these ideas may only be a prescribed effort at getting a grade. One might not share certain personal or unpopular ideas unless it was part of the context of the assignment. Even if it was, it is likely that it would come as a front that protects ones image, and lacks any true authentic vulnerability.

Research participants wanted to see authentic, unrehearsed videos, as can be seen from

Morgan's comment, "Some videos were expressive of personality and thus I was able to

learn more about who they were as people. That said, there was certainly a rehearsed

aspect to it that made some videos fake." Some participants recognized that their own

projection in the videos they created was not a truly authentic representation of

themselves. For example, when asked about whether he felt he was projecting a true

image of himself in his video, Ivan explained: "yes, but it may not completely showed

who I was in the recording because I was trying to show the best side of me when I

recorded." Ellie described how she experienced it in this way:

> I think it's hard [to get a sense of true personality], I mean hard to now
> because everyone tried to be nice and polite when recording the video.
> Everyone just tried to say nice words. Nobody says words like that in real
> life.

Further, participants commented that when *writing a message to a class*

discussion board, they could edit it as long as they are satisfied with it, which makes the

message a bit *inauthentic*. However, with *posting a video,* it is *more real and authentic*

because it is *unedited*. Some videos were, indeed, seen as inauthentic by some

participants, especially when it was clear that the creator had read everything from the

script. This was perceived as negative because those videos were *harder to follow than*

naturally flowing talk.

In summary, the theme of authenticity was formed by categories like greetings

and personal information, which made participants feel like they were interacting with

real people. Real life examples and personal stories helped develop a trusting

environment and suggested that is important to students to be real and to be themselves in the videos and resist things like rehearsed or scripted recordings that could potentially be perceived by others as monotone and inauthentic.

Theme #3: Distractions

A third theme was shaped by the categories of *time limit* when watching videos, *time limit* when recording videos, *privacy concerns*, and *setting distractions*. According to participants in this study, distracting elements like the feeling of being rushed while doing recording, privacy concerns, bad lighting or audio may negatively impact the experience of recording and watching videos when using a video-based reflection tool for online learning. See Table 4.6 for a description of theme #3 and the categories and sub-categories that comprise it.

Table 4.6

Theme #3 with Categories and Sub-Categories

Theme	Categories sub-categories indented
Theme #3: Distractions *Distracting elements like the feeling of being rushed while doing recording, privacy concerns, bad lighting or audio may* *negatively impact the experience of recording and watching videos.*	**Time limit (watching)** 　No time for personal info 　Rushed recordings distracting **Time limit (recording)** 　Rushed to finish 　No time for other than the answer **Setting distraction** 　Bad lighting 　Background noise **Privacy concerns** 　Who sees these videos 　No password 　Where do these videos go after course done

Category: Time limit. The asynchronous video reflection tool used in this study

has a 90-second time limit for video recording and data revealed that this was the most

significant distraction for the participants. Some did not feel that they communicated

effectively because 90 seconds was not enough time and it *prevented [them] from*

completing [their] thoughts because the *feeling of being rushed* took over. Missy

expressed her frustration with the time limit and described other distractions as well:

> The time limit prevented me from completing the thoughts for the
> questions we were asked to answer. I felt rushed. Secondly, I don't have a
> life where recording is easily possible. I work in an office and have little
> kids. Making a video recording is not possible in either situation. So I was
> forced to do my recordings late at night when I wasn't at my most
> coherent.

Ellie expressed feeling significant pressure from the running timer, "I sometimes pause to

think about what I'm going to say and then the time is still ticking. I felt a lot of pressure

from that." Others stated that they *tried to be as effective as possible* given the time limit

but *it was hard to fit all the thoughts into 90 seconds*, like Donald who said, "Sometimes

when I had lots to say I felt the video recordings were too short." Larry saw the time limit

as negatively impacting the effectiveness of his communication sometimes, "I feel I

communicated effectively but sometimes I don't think I did due to time limit, I felt

pressure." Krista expressed similar concerns: "I would try to communicate effectively but

it was hard to since I felt like I had limited time to do so, especially for the questions that

raised a lot of opinions." When asked if the research participants referred to classmates'

posts in their videos, some said that they had only time for their opinions and nothing

else. Sarah talked about how she went to class discussion board after creating her own

video and watching others in order to respond to classmates' posts:

The time limit was way way too short to answer questions and then refer to others. I used the opportunity to respond via text in the discussion board on our class. There isn't a time limit to collect my thoughts.

Sam felt the same and simply stated, "no, because I was in a rush to finish the recording within the time", when asked whether he referred to anyone else's posts in his video. Harry shared that the time limit was one of the reasons he did not talk about life outside of class in his video responses, as he stated, "I did not disclose my information about life outside of class. Since we had limited time of recording. Therefore, I wanted to focus on my discussion and just finish assignment on time." Participants also noted that while watching their classmates' videos, they often noticed others being rushed to finish or rushing to include as much content into the recording as possible. When asked if he thought classmates' communicated effectively in the videos he watched, Steve said, "No, because you could tell some people were trying to finish their recording in time by speaking real fast. I think there was not enough time for them to illustrate some of their opinions." Bryce argued that he thought the tool favored fast talkers:

I feel many others did [communicate] better than I did. Some of the very fast talkers may have done better because they are able to cover more points. This system seems to favor those who can do this, the ones who could talk fast about it naturally following a set of bullet points. Those who could read fast from the script also had good information, but were harder to follow and comprehend.

Time limit also negatively impacted the ability to learn more about the classmates through their videos. Rob stated, "No, I did not feel I was able to get to know my classmates through the video recordings. They were too short." Also, many research participants stated that because of the short videos it was *hard to get a real picture of the*

person, *what their true values were* and *what they thought about certain topics*. Some

participants suggested that *longer posts* would have made it *easier to figure out the*

person and the *connection could have been stronger*. For example, Anna explained:

> I see the nonverbal but I don't know if I got a true sense of exactly where
> they were coming from with their ideas because it was so short. The
> longer posts would have made them much easier to figure out.

It is important to note that 90 seconds was not always seen by the participants in

this study as a negative distraction, as some indicated that they actually watched more

videos because of the time limit. Anna was one of them, as she stated, "I knew that I

wasn't getting into a 15-minute video that I didn't have time to watch. I knew I could

watch one or two 90-seconds." Others also saw 90-second limit as a positive thing

because *it made them go to the point* of their post immediately. This was also true for

others who liked that they did not have to *waste time* watching videos that were off point.

Mary talked about the positives of the 90-second time limit in this way:

> I like that it gives you certain limit. So I can get my points clear and right
> there. When I write, it can just go on and on, but 90 seconds, it does limit
> and I just get my points out there.

Category: Setting distraction. The second most frequently mentioned distracting

element was the setting as it related to where the video was recorded or where it was

viewed. For example, many participants described how distracting it was to watch a

video that was recorded in *a loud environment* or if the *light was too dark*. The majority

of research participants paid attention to the setting and indicated that while most videos

did not have distracting background noise and the rooms were well lit, it was very

noticeable and negatively distracting when this was not the case. They offered examples

such as videos recorded in *a coffee shop that was so loud that it was hard to hear* the

creator talking. A distracting environment negatively impacted the effectiveness of the

video's message, as Tom elaborated, "Some communicated effectively. Some people had

bad lighting and audio so it was hard to follow." Sean felt the same, "Majority

[communicated effectively]. But sometimes people were hard to hear because the

location they were in." Jeff described one video he watched that was negatively

distracting:

> Not really enjoying the noise in the background. On one video, the girl
> was recording somewhere in public, maybe just at school. It was really
> loud in the background and her voice was really low so I couldn't really
> hear it. I couldn't really tell what she was saying.

There were also settings in which the room was so dark that the student on the video

could not be seen, as Lester describes:

> Light, yeah it's a problem because just last night when I watched a video
> there was one guy who had recorded in complete black. I couldn't even
> see him. He just had a voice on there. It was completely black.

Most participants were aware of these setting distractions when recording their own video

and tried to avoid them, as Ellie stated:

> I'm more concerned about background noise because I have a little one at
> home. I try to find a quiet time so I don't get any distractions when I'm
> recording. I'm also concerned about lighting but I'm more concerned
> about background noise.

There were additional examples of visual elements that comprised the setting of the

videos that were suggested to be negative distractions while watching videos. A couple of

students discussed a fellow male student who recorded his video *without a shirt on* and

stated this was *inappropriate* for a school assignment and, thus, very *distracting*.

Sometimes items in the background, like *pictures* on the wall were a *distraction* as Devon

described, "One person had really nice picture behind him so I just focused on the picture

and then I was like oh, I should have been listening to what he was saying. I had to watch

it again." A few participants stated that they wished that their instructor would have told

the class to avoid recording in a loud places and instructed them on how to set up the

lights properly so the videos would have been better in quality.

In addition to their impact while watching videos, distractions were also

suggested to be a negative factor while recording videos. For some participants, there

were issues related to family or household settings. Kids running around in the

background or coming into the creator's lap were specific examples that were offered as

being distracting. Further, a couple of participants discussed times when they *only had*

time to record after work but it was challenging to do so because they had small children

that were either *loud or they were asleep*, and the student *did not want to wake them* by

talking to the camera.

Category: Privacy concerns. When participants talked about disclosing personal

information in their videos, some said that they did not do so because they were *not*

required, or that they were *not comfortable doing it* because they had *privacy concerns*.

The concerns that were expressed were not associated with classmates seeing the videos

but with people not in their class seeing them. Participants indicated that when there was

no password used with the class Flipgrid, they were concerned that their videos *could be*

accessed without authentication. It is important to note that Flipgrid does include a

feature that will allow administrators to set it to private and make it password-protected.

While some participants stated that their class Flipgrid was set by their instructor to

private, others in other courses expressed concern that theirs was open and not password-

protected. Anna described her concerns in this way:

> Thing that made me nervous was that it was open. My recordings could technically be seen by anyone on the Internet. So depending on the topic my opinions that would be very relevant to this class I don't know if I would want that out in public … course site didn't have any password. You have to be a little bit careful about what gets put out there.

Bryce and a few others felt similarly about the lack of password authentication:

> We were asked specifically to introduce ourselves. If not asked, I would probably not do so. I'm concerned about the public nature of the videos. There isn't a need for authentication to view videos. Some students chose to share while others did not. Again, I had privacy concerns for my fellow students because it isn't obvious the videos are public.

A couple of participants said that they wanted to share examples of their life outside the

course but did not do so because *technically anyone could see* their videos and that would

not be something that they were willing to risk. Lester stated that he even contacted his

instructor regarding this privacy issue:

> I just really don't like being recorded. I kind of worry about… you know they say that everything that's on the Internet stays on the Internet. I talked with my instructor part of the way through the class and he explained to me that it's private. So that helped.

Participants expressed that they *wanted clarification from [their] instructor* for questions

like *who sees the videos* and *where do these videos go after the course is over*. Mary

wondered, "The only thing I'm kind of curious is that where do those videos go after I'm

done recording. Like, do they stay on Flipgrid [and] is anyone able to access it."

In summary, the third theme became apparent as participants talked about all of the topics included in the first two themes. Usually after something positive was mentioned, like how students were able get to know their classmates through the videos, they also mentioned things that were negative distractions in the process, like how some recordings had loud background noise. Another example of this positive-negative duality was participants' discussion of the 90-second time limit on the videos, which allowed them to watch more videos on topic and in one sitting but also caused them to feel rushed and distracted when they were recording their own video, impacting their perception about the effectiveness of communication. Privacy concerns were also seen as a distracting element because they prevented some students from sharing their experiences.

In conclusion, this chapter described the three themes that were drawn from the data: familiarization, authenticity, and distractions. During the coding of the survey data it was already evident from participant responses that getting to know classmates by seeing and hearing them in an online course was important to them, and authentic videos in which students shared personal stories to support their point of views were particularly highly valued among participants. These notions were confirmed by triangulated data from the focus group and the individual interviews in which participants shared similar responses expressing a high value for getting to know their classmates and for authentic content by way of personal stories or comments in the videos. All data sources frequently referenced the categories included in the third theme of distractions, which were elements that impacted negatively on the video viewing or recording experience. Next, chapter 5

will provide a discussion of the results of the study and will include the practical

implications of the findings, limitations of the study, as well as future directions.

CHAPTER 5

DISCUSSION

The purpose of this study was to help online instructors, instructional designers and educational app developers find new ways of enhancing or increasing social presence for their target audience by exploring how an asynchronous video reflection tool impacts learners' perception of social presence and their feeling of community in an online learning environment. This chapter will present a brief overview of the study as well as conclusions based on a synthesis the key findings and how they relate to the research questions guiding the inquiry. Practical implications for the findings will also be discussed, with several suggestions for online instructors instructional designers, and educational app developers. And finally, limitations of this study and future directions will be addressed.

Summary of the Research Study

This interpretive case study examined the use of asynchronous video reflection in an online course by using qualitative methods to collect and analyze data about participants' experiences as a means to provide a detailed description of their experiences throughout the semester. The study was guided by the following research questions:

I.   How does an asynchronous video reflection tool impact students' perception of social presence in an online class?

II. How does seeing classmates' video recordings influence students' feeling of community in an online class?

III.   How does creating video recordings influence students' feeling of

community in an online class?

Data collection began with a qualitative online survey instrument that was based

on the social presence section of the Community of Inquiry Questionnaire (CoIQ),

developed by a multi-institutional research group (Arbaugh et al., 2008; Swan et al.,

2008) and later revised by Lowenthal and Dunlap (2014). The response rate was

approximately one-third; 31 out of 98 students agreed to participate from five

undergraduate online courses that used Flipgrid, an asynchronous video reflection tool,

throughout the semester. Based on their ability to provide rich or meaningful survey

responses, five students were then selected to participate further in a focus group that

delved deeper into how students' experienced an asynchronous video reflection tool as

they created their own videos and watched their classmates' videos. And subsequently,

data was collected from an additional five students who provided remarkably descriptive

survey answers and, thus, were individually interviewed to further inquire about their

experiences. Collected data was transcribed, coded, and analyzed using the inductive

analysis methods of initial coding and focused coding. Codes were constructed and

developed into categories and sub-categories that were later used to form themes.

Conclusions

Chapter 4 presented the research findings in the form of three themes and the

categories that shaped those themes. The themes that emerged as a result of multiple

cycles of strategic data analysis were (1) **familiarization**, (2) **authenticity**, and (3)

distractions. The relevance of key findings are associated with these three themes and address each of the three research questions guiding this study.

   Key findings. According to the participants in this research study, the use of an asynchronous video reflection tool enabled them to become familiar with their classmates by seeing and hearing them on a regular (often weekly) basis; put simply, it allowed them to put a face to a name. In addition to learning their classmates' names and faces, watching videos also helped students feel as though they actually got to know their peers through the opinions that were shared and their nonverbal communication cues. Participants valued the authenticity of classmates' videos in which the creator shared personal stories to support their opinions and views. Additionally, when participants recorded their own messages, they wanted to be real, authentic, and basically themselves so their classmates would see who they really are. If possible, they also wanted to use real life examples as part of their video posts. Distractions were also a notable part of the experience and had some negative impacts on the experience; they were present when participants watched classmates' videos and recorded their own videos. The main distraction mentioned was the 90-second time limit, which was tool-specific, as Flipgrid does not allow longer than 90-second videos to be recorded. Some participants felt rushed to finish their recordings on time and this was noticed by the viewers as well because they felt that those videos were distracting to watch when students tried to talk as fast as possible in order to get all they had to say into the video.

   These findings addressed the three research questions that guided this study, and the themes informed and provided insight on each of the three questions in several ways:

Q1: *How does an asynchronous video reflection tool impact students' perception of social presence in an online class?* To address this question, one must first know what to look for. Social presence is not a simple thing to define, and it is even harder to measure, as previous research has shown (Lin, 2004; Lowenthal & Dunlap, 2014). Many published studies have defined social presence differently, and attempts to measure the phenomenon of social presence have used multiple different instruments developed for the task. Based on the researcher's own experience teaching online courses, Sung and Mayer's (2012) definition of social presence as "the subjective feeling of being connected and together with others during computer mediated communication" (p. 1739) was chosen to frame this study as it came closest to describing how social presence occurred in the online courses he taught. The key element of Sung and Mayer's definition that is most relevant for this study is that it references perception and describes one's feeling of being a "real" person or seeing others as "real" people while using CMC as a perceived view and a subjective view. This subjective nature of perception is important to note because what one learner feels or perceives in the online environment is not necessarily the same as what another person perceives. For example, one online learner could feel that her social presence is strong but the person with whom she is communicating might not see it the same way.

Participants experienced the use of an asynchronous video reflection tool as something that provided them a way to get familiar with their classmates and see them as "real" people. Getting familiar by seeing and hearing classmates in an online course may be important for the feeling of community, and the asynchronous video reflection may

improve the familiarization process *(Theme #1: Familiarization)*. In a fully online course, an asynchronous video reflection provided elements that are typically not part of an online learning setting, like seeing and hearing peers' gestures, facial expressions, tone of voice, and animated reactions. One participant said that these elements offered the added ability to put bits and pieces of information about the individual behind each face. The setting where the recording happened gave viewers additional information about their classmates. All this information allowed students to form a better idea of who is with them in class and, ultimately, helped them understand each other better. Another participant stated that seeing and hearing her classmates each week was a nice reminder that she was taking the class with other human beings and not faceless people replying to posts. Not everyone was comfortable on video, and when participants indicted they were not comfortable, they also expressed that they felt that they did not communicate effectively. But after an adjustment period of just a few weeks, most became comfortable and then felt they were able to communicate effectively.

Q2: *How does seeing classmates' video recordings influence students' feeling of community in an online class?* In addition to getting familiar with classmates and getting a glimpse into their personality by watching their recordings *(related to Theme #1: Familiarization)*, a majority of the research participants said they enjoyed being greeted and hearing real life stories as part of their classmates' videos. This was perceived as authentic. The authenticity that came through in the videos was valued as one of the most important elements of the experience of using an asynchronous video reflection tool in an online course. Based on the narratives that were shared by participants in this study about

their experiences, being authentic and seeing an authentic disclosing of personal information and real life stories in an online class had a positive impact on their feeling of community in the class *(Theme #2: Authenticity)*. Verbalized greetings or a simple wave of hand at the beginning of a video gave some participants a feeling of acknowledgement that they are an actual class community; the videos became a reflection of that sense of learning in community with others. And in this sense they were more than just simple recordings. The real life examples, stories, and experiences that were shared in the videos held value in that they helped classmates to get to know each other better, which made the group feel a little smaller and aided in developing a trusting environment in class. Some participants also stated that the videos told a little bit about what kind of a student the creator was, and it was clear to students if a classmate was not prepared or did not put any effort into their recording.

There were distracting elements as well when viewing students' videos that impacted negatively on the viewing experience, the effectiveness of communication, and the way the sense of community was or was not felt among students *(Theme #3: Distractions)*. Distracting elements included the 90-second time limit that made some video creators rush to finish on time; those videos were also regarded as distracting to watch because they did not flow naturally. Also, to avoid running out of time, some students rehearsed their videos or wrote a script that they then read in their video recording. As a result, the viewers negatively regarded these videos as monotone and distracting.

The setting where the recording occurred was also a distraction if there was too much background noise or if the lighting was too dark for the viewer to see the person on the video. A few participants also felt that the creator's clothing, if it was inappropriate or unprofessional, was a distraction. Some participants also said that interesting pictures on the wall behind the creator could also be a distraction from the message that the video creator was communicating.

Q3: *How does creating video recordings influence students' feeling of community in an online class?* Many of the items that participants talked about were from the dual perspectives of both video creator and video watcher. For example, if they liked the feeling of being greeted at the beginning of a classmate's video that they watched, this often made them do it as well when they created and recorded their own video. Additionally, if they liked to hear personal stories as part of classmates' videos and felt that it made the post more authentic, this often made them share stories as part of their videos as well *(Theme #2: Authenticity)*. The sharing of personal stories as part of the video reflection was never done just for the sake of sharing but, rather, to support their views or opinions. Being authentic and real seemed to come easy for most of the participants, as the majority indicated that they tried to just be themselves when recording a video. One research participant said that she is a hard working student so she always referenced course readings in her post, not only because it addressed the reflection question, but also to show classmates that she was prepared and a hard working student.

Just as some distractions negatively impacted the experience of watching classmates' videos, this was also the case for creating or recording videos as well. The

90-second time limit made some research participants feel rushed to finish their videos.
Some said that they could not refer to anyone else's video, include personal information,
or real life examples in their video because there simply was no time for that. Also,
seeing the time running out added some additional pressure for a few participants. The
setting where the recording occurred could also be distracting for the student creating
their video. Some participants said that they could not record videos at work or at home
because of kids or other distractions, and this was deemed to be a barrier to the recording
process.

Privacy concerns also impacted some students' recordings, as they wanted to
share personal information and examples but did not do so because they were concerned
about the site not having any password authentication to access it. One research
participant said that he was reluctant to share anything personal because once something
is on the Internet it stays on the Internet. Concern was also expressed over who sees the
videos and where they would end up after the course was over. Student concerns about
privacy has also been referenced in previous research on social presence. Tu and McIsaac
(2002) did not find correlation between social presence and privacy, and they stated that
"[s]tudents know that it is risky to share personal information online, but they feel that it
will not affect them negatively" (p. 146). This is not to say that privacy does not warrant
concern, because as the research participants' narratives from this study revealed, privacy
was indeed a big concern for some and did impact what they shared about themselves
with the rest of the class. System privacy was also part of Tu's (2002b) research on social
presence, and he described system privacy as "the security of CMC technologies

[concerning] the likelihood that someone may read, send or resend a message to or from you" and went on to state that "[c]ertain groups of CMC users are more security conscious and protect themselves against the possibility of information falling into the wrong hands" (p. 36). The privacy concerns raised in this study further support Tu's (2002b) findings even though he studied text-based CMC. And although this study uniquely and exclusively focused on video-based communication, it addressed a relationship between privacy concerns and social presence in which such privacy concerns were seen as a distraction but not a barrier, just as Tu suggested.

Another key finding of this study is that many participants experienced a sense of community and connection as a result of the use of asynchronous video reflection. This finding is illustrated in chapter 4 in several direct quotes from participants in which the words "community" and "connection" came up spontaneously in their own words. For example, sometimes the reference was as simple as the way in which Flipgrid allowed them to put a name to a face and that helped students "feel better connected" to other classmates; at other times this reference was made when participants described the ways in which the ability to see real people and hear the personal stories they shared made them "feel like a community." Participants were also asked directly in several data sources if they felt that Flipgrid helped develop a sense of community in the online class, and if it made them feel better connected to their classmates; the answers where resoundingly positive and affirmative. Follow up inquiry for elaboration and clarification revealed varied responses and descriptions. For some students the feeling of community related to just being able to see real people's faces and hear their voices in an online

course, whereas, for others it was a result of seeing animated body language and subtleties of nonverbal communication. As one participant put it, the feeling of community got stronger for her as the course went on because she got to know her classmates better through their weekly videos. Several students stated that Flipgrid made the course feel more "face-to-face" than the other online courses where they could not see or hear their classmates; that is, the feeling of community was stronger in this course over time because of the video communications.

Practical Implications

Postsecondary education takes place online more than ever before (Moore & Kearsley, 2012), and research suggests online learning has the potential to increase the feeling of isolation and a lack of social connection, or lack of *social presence* as its often referenced in the literature, with others (Ali & Leeds, 2009; Borup et al., 2012; Rovai, 2002). Online instructors must consider ways to improve social presence as it "is an important aspect of a successful learning experience" (Dunlap & Lowenthal, 2014), and one way to do so is to use an asynchronous video element as part of the course activities. This research study showed how participants experienced the use of an asynchronous video reflection as students in an online class and how it made them feel a sense of community with their classmates.

The ability to positively impact students' perception of social presence through the use of asynchronous video reflection requires thoughtful planning from the instructional designers and course instructors that implement this approach and intentional design from the software developers who build and create the types of

applications that support it. This thoughtful planning and intentional design must be grounded in an understanding of how students experience asynchronous video reflection. This study offers insights into this experience according to how it was perceived by a small sample of learners in select undergraduate online courses. Based on the research findings, some basic guidelines, recommendations, challenges, and pitfalls to avoid are suggested for online instructors, instructional designers, and educational app developers. Using asynchronous video reflection will not automatically strengthen social presence among students, but the themes revealed in the findings offer insights and practical suggestions for each of these groups of education professionals to seek new ways of enhancing or increasing social presence for their target audience by using a video reflection tool. It is also important to note that these are suggestions only based on the findings of this small study and, thus, should not be considered generalizable or referenced as best practices.

Suggestions for instructional designers and online instructors. The findings also reveal the importance of including asynchronous video reflection as an integrated part of the online curriculum to help students get familiar with each other. While these findings hold great relevance for instructional designers and online instructors, adding an asynchronous video reflection element into an online course without proper planning has the potential to negatively impact the learning experience and even fail. Thus, instructional designers and instructors need to understand how to integrate this type of tool effectively for the desired results. For example, findings indicate that asynchronous video reflections can be used to develop social presence and foster a feeling of

community among students. In order to do so most effectively, however, instructors should help students use the tool to get familiar with one another, encourage authentic postings, and provide students with basic instructions for how to properly use the tool as part of the course so as to avoid some of the distractions that this study suggested can negatively impact the experience.

Help students get familiar with one another and the tool being used. In many online courses the introductions typically happen through a discussion board where students tell a little bit about themselves or create a profile page comprised of a picture of them with some background information. This could be adequate for some students and for some instructors as well, but as this study showed, the additional affordance of seeing and hearing a classmate had a big impact on students' experience and positively affected how well they got to know each other and develop a sense of community. Video for student interaction can be considered a relatively new component of online courses (Borup et al., 2012) but it is far more convenient to use today than it once was. And as technology advances quickly, there is currently a wide variety of video-based tools that can be used in online courses today. However, while finding a tool to try integrating in an online course is relatively easy, knowing the implications, opportunities, and barriers requires much more forethought and planning. The results of this study can serve that purpose and increase understanding and pedagogical insight into what the effects of a video-based tool like this might be.

Online learning environments that use a video element also give students a new way to communicate. As the findings from this study suggest, video media affords the

ability to see and hear students' gestures, facial expressions, motions, voice tones, accents, and the setting where the video is recorded, and all of these cues add a vibrant layer to the interaction in an online course. This has the potential to positively impact the feeling of community and the effectiveness of communication. With this potential in mind, online instructors are encouraged to try a video-based tool for the sake of getting students to know each other better. However, as these research findings also suggest, instructors also need to keep in mind that there may be an adjustment period for students that must be planned for in order to allow them to get used to recording themselves and more comfortable.

Some specific examples for online instructors or instructional designers to help students gain familiarity with the tool and recording process include creating a separate introductory video for students that is dedicated to explaining how to use asynchronous video reflection most effectively. This video would not be created with a tool like Flipgrid, but would instead be created using a screencapture and/or webcam recording tool. Again, this should be a separate video devoted to a discussion of tool functionality with helpful tips for the proper way of recording reflections, allaying privacy and access concerns, and explaining what will happen to the videos once the course ends. This could potentially help to reduce students' fears and concerns that were expressed in the findings of this study. This information should also be easily accessible on the course website for quick reference. If it is included as a part of the instructor's welcome video that explains the syllabus and more general course information, then there is a danger of it getting lost with all the supplemental course information.

Another example of helping students get familiar with the recording process and with one another is to include an activity in the first week of the course that is dedicated solely for introductions in which students record their first video. It is not easy for all students to be in front of the camera and some may experience discomfort, so the first video should be fun, as easy as possible, with no pressure. The first week's introduction prompts or questions could ask students to introduce themselves (i.e., name, where they are from, major) and then share an interesting note about themselves, such as how they chose this university or one fun thing they did over the summer/winter break. Prompts should encourage students to practice talking about themselves on camera with low stakes or little pressure. And what they reveal in their video recording allows their classmates who watch it to learn a little bit about them as a "real" person.

Limiting the use of asynchronous video reflection only to classmate introductions may not be using it to its full potential. After introductions are made and in subsequent weeks in the class, students should be encouraged to use asynchronous video reflection in increasingly more sophisticated ways with questions and prompts that challenge students' knowledge and understanding of course content. Online instructors and instructional designers should also encourage authentic videos to promote social presence and a feeling of community among learners.

Encourage authentic videos throughout the length of the class. According to the findings of this study, getting familiar with classmates was an organic byproduct of the continued use of asynchronous video reflection throughout the course. Authentic videos in which students greeted their classmates to start their videos and then shared personal

information to support their views and opinions about class content made participants feel like they were interacting with real people. Something as simple as a greeting at the beginning of a video made the students watching feel like they were being acknowledged, and this simple act made the video seem more welcoming. Further, previously published definitions of social presence often include the words "real" and being "there" in the context of how students see themselves in relation to others in an online learning environment (Lowenthal, 2012). The findings of this study revealed multiple occasions in the students' experience when specific things like being greeted in a video made them feel that they were interacting with "real" people and there were others with them in class (they were "there" with them). To appreciate the implications of this, it is helpful to consider visual greetings in general as seemingly simple or natural interactions that occur in other physical contexts. For example, in face-to-face courses, students very naturally greet each other when they see each other in a physical classroom environment. However, when considering this type of interaction within an online learning environment, the capability to visually greet peers or see them greeting you can make the simple quite profound. Having this ability in an online class reminded students of that same feeling they get in physical classrooms; when they see someone greeting them in a video, it may feel very "real" and authentic. The impact of this behavior can be considered for instructors' video communications in online classes as well; when creating a video recording for students they should begin with a greeting before going directly into the course content. As simple and quick as this type of greeting is, it appeared to have a

strong impact on the experience of the research participants and their perception of social

presence and feeling of community, as suggested by the findings of this study.

Authentic videos were also a major component in developing a trusting

environment as perceived by the participants in this study. Considering this, instructors of

online courses may encourage their students to share personal stories and examples to

support their opinions and views in video-based reflections. In a face-to-face learning

environment, students often naturally talk about their experiences and share stories during

class, so it is not surprising that some participants in this study said that video reflections

gave the online course a bit of that "face-to-face feeling." This is not to say that

asynchronous video reflection will make online courses feel like face-to-face courses, nor

should that be the goal, but the findings here suggest that this type of natural sharing of

personal stories and examples may help to remind students that they are taking the class

with real people and not in isolation. This may also offer them a feeling of belonging and

learning in community with others. Connecting these particular findings back to the

literature on social presence, this is compelling because many previously published social

presence definitions have described social presence as the degree to which people are

perceived as real (Gunawardena, 1995) and referred to student's perceptions of being in

and belonging in an online course (Picciano, 2002).

The student participants were not asked to include personal stories as part of their

video reflections but most did it anyway, very organically. They explained that the reason

for this is that they liked hearing their classmates talk about their lives as part of the their

reflection; it then became easier to use examples from their own life when they recorded

their own videos. These personal stories and examples made students feel like they were better connected to their classmates and within a community of learners. This finding aligns with Tu and McIsaac's (2002) definition of social presence, "the degree of feeling, perception, and reaction of being connected by computer-mediated communication to another intellectual entity" (p.140). Using stories as part of the video seemed to come naturally for the students as nearly all said that they were just themselves in their videos. Some were nervous at first but as weeks went by, almost all were comfortable doing the reflections. Students were also very aware of each other and knew that classmates were watching their videos; some were even concerned about sharing personal information because they did not know the extent of who might also watch them outside of the class. Online instructors should strive to support students and help them gain comfort and skill with video reflections over time as a means to develop social presence. Once they are willing and comfortable enough to share personal stories as part of their video reflections in an online course, social presence has the potential to increase based on the findings of this study as it aligns with Garrison et al.'s (2000) definition of social presence as "the ability of participants … to project themselves socially and emotionally, as 'real' people (i.e., their full personality), through the medium of communication being used" (p. 89).

Some specific suggestions for online instructors and instructional designers to encourage authenticity in student videos include scaffolding students from simple reflection prompts to increasingly more sophisticated ones. After introductions are made and in subsequent weeks in the class, students should be encouraged to share their perspectives and ideas as they respond to discussion questions or reflection prompts

posed by the instructor about class content. To promote critical thinking or reveal more

sophisticated levels of learning like synthesis or analysis, questions posed should require

more than a simple yes or no answer. Based on the findings of this study, as they gain

comfort, students should also be instructed to use personal experiences or stories as

specific examples to support their views or speaking points. These pedagogical

approaches could serve to promote authentic videos, which were suggested in the

findings to impact how well connected students felt with their classmates.

   Help avoid or minimize distractions. The findings of this study also revealed that

distractions in asynchronous video reflections can have a negative impact on social

presence and that they can be unexpected. For example, videos that appeared rehearsed

were perceived by the viewer as impersonal and distracting, especially if the student in

the video clearly read everything from a script. However, some students indicated that

when recording a video, they felt more comfortable if they were able to rehearse their

reflection prior to the final recording or write out a script instead of speaking

spontaneously.

   Speaking freely on a video, especially if English is not the student's native

language, can be very challenging, and this must be acknowledged by online instructors

and instructional designers. From the researcher's own experience as a non-native

English speaker, it can be quite daunting and difficult to be comfortable in this type of

situation when you have to think about what you say and how you say it in a language

that does not come as easily as your native language. This challenge may make it

extremely difficult to include personal stories in a video reflection spontaneously and

naturally. Based on this insight, online instructors may consider posing more simple reflection questions for the first couple weeks so that they ease students into creating video posts and articulating their perspectives, allowing them to gain confidence with practice as a scaffolding process (Bruner, 1978). Many research participants stated that they experienced an adjustment period of few weeks to get comfortable with recording videos. Once this comfort develops past the adjustment period, subsequent reflection questions can increase in sophistication and request that personal stories or experiences be shared to support the speaking points.

With regard to the other two distractions revealed in key findings of this study, privacy concerns and setting related issues, these are also encouraging in the sense that instructors and instructional designers can also influence those directly with their efforts and intentional planning. The findings of this study indicate that some participants did not share any personal information because they were concerned about who sees their videos, where the videos will end up after the semester is over, and no authentication or privacy measures on the Flipgrid website. These distractions were perceived by some students to decrease social presence and their feeling of community in the online course.

Specific suggestions for online instructors and instructional designers include explicitly stating privacy measures and policies at the beginning of a course. Password protecting the Flipgrid website, informing students that the course members are the only people who see the videos, and informing them that the videos will be deleted after the course is over may address students' concerns related to privacy. Instructors should password-protect the use of a tool like Flipgrid in which students' personal information

and identities may be shared. This distraction can be resolved with a click of a mouse in

Flipgrid and simply selecting the privacy options. All of these actions have the potential

to improve the familiarization process and authenticity of messages as well. Once

students are reassured in these areas, they may be more willing and more comfortable

with sharing personal information and stories as part of their video reflections to support

course content.

As mentioned earlier, the setting-related distractions revealed in the findings of

this study, e.g. background noise or bad lighting when recording videos, are also

encouraging in that they can be addressed with students by the online instructor. Specific

suggestions for online instructors include discussing appropriate settings for video

recordings and offering helpful tips to avoid potential distractions in the instructions

provided for students at the beginning of the course. The instructor should directly state

the kinds of places that are and are not appropriate for video recording because of

background noise (e.g. private quiet rooms are good settings, loud coffee shops or

exceptionally busy public places are poor settings) or bad lighting (e.g. brightly lit rooms

are good settings, dark bedrooms/ dorm rooms are poor settings). Explaining the proper

way to record videos may seem obvious, but it may not be obvious to students while they

are in the mindset of creating videos. These distractions impact how videos are viewed

and perceived, and so it is important to remind students to acknowledge what the viewing

experience of their peers will be, too. To really get the point across, setting-related

distractions could be demonstrated by the instructor in an instructions video at the start of

the course. For example, he/she could turn music on for a few seconds while talking to

demonstrate the effect for the viewer and then lower the lights while sitting at the front of the camera to demonstrate the effect of poor lighting for the viewer. These demonstrations can provide students with powerful examples of what to avoid when creating their own videos and remind them to be cognizant of how their video will be perceived by the viewer.

According to this study's findings, it may also be necessary to provide additional instructions about appropriate attire while creating class video reflections. More pointedly and addressing the research participants' remarks about the distraction associated with a video involving a shirtless classmate, full clothing is required in a traditional classroom and, therefore, full clothing in class video recordings is also required.

Suggestions for educational app developers. While most of the findings of this study hold practical implications that are related to the efforts of online instructors and instructional designers who work more directly with students, some were relevant for all three groups of educational professionals, including app developers. For example, the findings suggest that many distractions, like the feeling of being rushed or having limited time to share personal information, were associated with the 90-second time limit. This time limit is a design feature of the asynchronous video reflection tool that was used in this study, and it was designed by the developers of the Flipgrid app. Users of the app (e.g. course instructors and students) are not able to change the time limit.

The video time limit was actually the distraction that received the most the attention in participant responses to survey, focus group, and interview questions; and the

fact that it is tool-specific is encouraging for several reasons. While the tool itself may have had some limits as perceived by some students, the process of creating and watching asynchronous video reflections throughout the course still had many positive impacts on social presence regardless of the tool. So what the tool made possible in terms of enhancing social presence is very encouraging. And instructional designers and online instructors may consider other tools for a similar purpose.

The findings of this study also hold relevance for app developers because they offer some insight about the users' (students') experience with this specific tool and the implications and effects of the way it is designed, the way it is used, what it affords, and what it limits. As a result of the insights shared by the participants in this study, the app developers could consider changing features that lead to a better or more effective user experience. For example, addressing some of the challenges noted with the time limit might include adding a feature that would allow the instructor to personalize the time limit slightly with the option of decreasing or increasing the allowable length of videos. Flipgrid is a relatively new tool and developers are always happy to hear feedback from the users of their products. They are typically committed to ongoing product development as long as a tool remains on the market, so change and innovation is imminent.

It is also important to note the positive impacts of a design feature as well; and in this case, app developers, instructors, and instructional designers also need to keep in mind that the 90-second limit was also appreciated by some participants. They said that knowing that a video is not longer than a minute and a half resulted in watching more of them. This time limit also kept students on topic and concise in their responses, as they

needed to share their opinions without steering too far off track or they would run out of time. Based on the researcher's own experience teaching online courses, video reflection without a time limit can lead to lengthy videos and unnecessarily long-winded answers. Whereas, having the ability to record videos slightly longer than 90-seconds, even increasing length by one extra minute, could have the potential to considerably improve the experience by allowing students to be a bit more relaxed as they record. A minute of extra time could provide students with additional time to share their stories and, perhaps, more authentically reveal their personality.

Refining the Definition of Social Presence

The review of literature presented in chapter 2 summarized how the definition of social presence, instruments used to measure it, and the technology used in online classes have evolved over the years; and this study seeks to contribute to this emerging understanding of social presence within online learning environments. The asynchronous video reflection tool used in the online courses comprising this study is new and unique in that it offers students a quick and easy way to create and watch reflection videos through computer, phone, or tablet devices. Yet, as quick and easy as the use of this tool is for students, findings also suggest that it has the potential to profoundly impact their perception of social presence and feeling of community.

While the instruments used to collect data for this research were based on established instruments used by others, this study was unique in that it used qualitative methods exclusively to explore and understand the phenomenon of social presence in deeper ways beyond the quantitative approaches that have been used in the past. As a

result, the new insights gained from this study may be used to suggest a new definition of social presence. Based on the findings of this study, social presence is the subjective view of being familiar with others through computer-mediated communication and the sharing of authentic messages.

Limitations and Future Directions

This study has several limitations that must be acknowledged. This is a small case study whose findings cannot be generalized to a larger population. Yet although the findings are not generalizable to a larger population, they can offer an insight to education professionals about the ways in which online learners might experience asynchronous video reflections as part of their online courses and an understanding of the perceptions that online learners may have when multimedia communication technologies, like video-based tools, are integrated into the online learning environment.

One limitation that may have impacted the findings was the specific asynchronous video reflection tool that the participants used in their classes. Findings indicated that Flipgrid was a robust and user-friendly tool, but it is not the only tool capable of recording videos. If a different tool was used and studied within a similar context using similar methods, the findings may have been very different. It is also important to note that because this study was naturalistic and occurred in a normal educational environment without undue influence of the researcher, it is, therefore, not replicable.

To strengthen this study, a larger sample could have been sought with more participants to gather even more perspectives and insights about how students may experience the use of an asynchronous video reflection tool in their online classes. This

leads to considerations for future directions for this research. Although the researcher was satisfied with the amount of participants in this study, having more participants for additional focus groups and additional individual interviews could potentially offer deeper insights into how social presence is experienced in online learning environments and the elements that impact it.

Future research in this area could address the limitations described above by conducting larger scale studies to confirm or expand upon the findings. The research design could also be restructured to explore the relationship between social presence and the feeling of community in more depth. Other definitions and dynamics associated with social presence could be explored as well. For example, previous researchers (such as Picciano, 2002) have defined social presence as a sense of belonging in a course, and future studies could examine this sense of belonging more closely or in more depth using qualitative methods to see how it may be impacted and fostered by asynchronous video reflection.

Finally, conducting a follow up study with different time limits for the video reflections should be considered. The theme of distractions discussed how the time limit negatively impacted the students' experience in some ways. Changes to the time limit could be considered for further research into both the positive and negative implications of such changes. A valuable study related to this would be to have the Flipgrid developers add a feature allowing administrative users (e.g. instructors) to select the recording length within a pre-determined range and then to study the impacts and implications of video settings at different lengths within the range.

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Appendix A
IRB Approval

From: irb@umn.edu
Subject: 1503E66561 - PI Koivula - IRB - Exempt Study Notification
Date: April 20, 2015 at 9:00AM
To: matti@umn.edu

TO : mill1957@umn.edu, matti@umn.edu

The IRB: Human Subjects Committee determined that the referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #2 SURVEYS/INTERVIEWS; STANDARDIZED EDUCATIONAL TESTS; OBSERVATION OF PUBLIC BEHAVIOR.

Study Number: 1503E66561

Principal Investigator: Matti Koivula

Title(s):
The Impacts of Asynchronous Video Reflection on Perceived Learner Social Presence

This e-mail confirmation is your official University of Minnesota HRPP notification of exemption from full committee review. You will not receive a hard copy or letter.

This secure electronic notification between password protected authentications has been deemed by the University of Minnesota to constitute a legal signature.

The study number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.

Research that involves observation can be approved under this category without obtaining consent.

SURVEY OR INTERVIEW RESEARCH APPROVED AS EXEMPT UNDER THIS CATEGORY IS LIMITED TO ADULT SUBJECTS.

This exemption is valid for five years from the date of this correspondence and will be filed inactive at that time. You will receive a notification prior to inactivation. If this research will extend beyond five years, you must submit a new application to the IRB before the study's expiration date.

Upon receipt of this email, you may begin your research. If you have questions, please call the IRB office at (612) 626-5654.

You may go to the View Completed section of eResearch Central at http://eresearch.umn.edu/ to view further details on your study.

The IRB wishes you success with this research.

We value your feedback. We have created a short survey that will only take a couple of minutes to complete. The questions are basic, but your responses will provide us with insight regarding what we do well and areas that may need improvement. Thanks in advance for completing the survey.
http://tinyurl.com/exempt-survey

Appendix B
Survey Questions
(Adapted from Lowenthal & Dunlap, 2014;
Swan, Richardson, Ice, Garrison, Cleveland-Innes, & Arbaugh, 2008)

1) Did your classmates' video recordings help you form impressions of who they

   were? Please describe and if you can, give an example.

2) In your recordings, did you try to project who you are to other participants? How
   so?

3) In your recordings, did you disclose information about life outside of class? Why
   or why not? Did your classmates disclose any personal information? If yes, what
   did you think about it?

4) In your recordings, did you refer to something in others' videos? If yes, please
   give an example? If no, why not?

5) Do you feel you communicated effectively through your video recordings? Why
   or why not?

6) Do you feel others communicated effectively through their video recordings?
   Please describe.

7) Did Flipgrid help you to develop a sense of community with your peers? Please
   explain.

8) Did you see anyone greeting or gesturing when you watched their video? If yes,
   how did it make you feel? If no, would you have liked to be greeted?

9) When recording your video, did you feel like you were talking to the classmates
   or to your instructor or both? Please explain.

Appendix C
Focus Group Questions
(Adapted from Richardson & Swan, 2003; Swan & Shih, 2005)

1) Would you have preferred to write your answers instead of record them? Please explain.

2) Did you feel comfortable recording your videos when knowing your classmates' will see you? If not, why?

3) Were you conscious of how you or the background looked when recording your reflection? Did it ever factor into postponing your recording for a later occasion?

4) We talked about this in the survey already but let's talk about it again here… When recording your reflection, did you feel like you were talking to your classmates?

5) Did the background of your classmates' recordings impact your viewing experience? Please share an example.

6) Did you feel like you had formed some impressions of any of your classmates by watching their video recordings? In what ways? Please share an example.

7) Do you feel that you actually "know" some of your classmates, even though you only saw them on your screen? Why or why not?

8) Did these recordings enable you to form a sense of online community? In what ways?

9) Is there anything else you would like to add about your experiences with video reflections in this online class?

Appendix D
Interview Questions
(Adapted from Richardson & Swan, 2003; Swan & Shih, 2005)

1) Would you have preferred to write your answers instead of record them? Please explain.

2) Did you feel comfortable recording your videos when knowing your classmates' will see you? If not, why? It did not matter?

3) Which aspects of recording your videos was the most beneficial to you? Please explain.

4) Did recording your videos make you feel like you were better connected to your classmates?

5) Did you feel that you were creating videos for your classmates to watch?

6) Which aspects of watching classmates' recordings was the most beneficial to you? Please explain.

7) Did the surroundings of your classmates' recordings impact your viewing experience? Please share an example.

8) Do you feel that you actually got to "know" some of your classmates, even though you only saw them on your screen? Why or why not?

9) Did watching classmates' videos make you feel like you were better connected to them?

10) Is there anything else you would like to add about your experiences with video reflections in this online class?

11) In your survey you said… could you elaborate more on that?