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Klyng, Jonathon

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2023

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UNIVERSITY OF CALIFORNIA

Los Angeles

Building Community in Synchronous Online Community College Courses

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of
Education

by

Jonathon Austen Klyng

2023

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2023

ABSTRACT OF THE DISSERTATION

Building Community in Synchronous Online Community College Courses

by

Jonathon Austen Klyng

Doctor of Education

University of California, Los Angeles, 2023

Professor William A. Sandoval, Co-Chair

Professor Mark P. Hansen, Co-Chair

Building community is essential to achieving optimal learning conditions. Failure to build community in online courses is linked to higher drop-out rates, feelings of isolation, and lower academic success rate (Adams & Wilson, 2020). Although there is research on building a sense of community in online course settings, much of this work has focused on the asynchronous environment and/or at four-year colleges. Synchronous online learning has become more common since the Covid-19 pandemic and is situated to be a common teaching method for years to come. There is a need for research focusing on synchronous online courses taught at community colleges. While the literature recommends several strategies for building community in synchronous online courses (Berry, 2017, 2019; Chlup & Collins, 2010; McGrath et al., 2014; Tanner, 2012), it is unknown how effective these practices are within our district, nor the extent

to which they are used. Therefore, this study seeks to understand strategies mentioned in the literature, as well as other strategies which are currently being used to build a sense of community in the synchronous online environment within the Los Angeles Community College District (LACCD).

The results of the study show there are nine common practices that faculty independently mentioned as aiding them in building a sense of community in their synchronous online courses (the use of videoconferencing being the top practice). Furthermore, the study found the Community of Inquiry framework to be positively correlated with the perception of successful community building in synchronous online courses. Consequently, this study recommends a new presence, care presence, to be added to the existing presences (teaching, social, cognitive) within the Community of Inquiry framework. While care presence may be seen as an outgrowth of social presence, this study suggests it should be treated as a unique additional presence.

The dissertation of Jonathon Austen Klyng is approved.

Louis M. Gomez

William A. Sandoval, Committee Co-Chair

Mark P. Hansen, Committee Co-Chair

University of California, Los Angeles

2023

TABLE OF CONTENTS

ABSTRACT OF THE DISSERTATION	ii
LIST OF TABLES AND FIGURES.....	ix
Figures.....	ix
Tables.....	ix
VITA.....	x
CHAPTER ONE: INTRODUCTION.....	1
Community in Online Courses.....	2
Study Overview	3
Research Questions.....	3
Study Design.....	3
Study Significance	4
CHAPTER TWO: LITERATURE REVIEW.....	5
History of Remote Synchronous Learning	5
Correspondence Learning.....	5
Videoconferencing.....	6
Web Videoconferencing	6
Synchronous Online Learning Challenges.....	7
Access	8
Fatigue.....	9
Community	9

Community in Online Education	9
Community of Inquiry (CoI) Framework	11
Cognitive Presence.....	13
Social Presence	13
Teaching Presence	13
Strategies for Building Community	14
Small Group Discussions.....	14
Social Icebreakers	15
Metacognitive Activities.....	15
Content-based Activities.....	15
Conclusion	16
CHAPTER THREE: METHODS.....	17
Research Design.....	17
Site and Sampling.....	18
Data Collection	20
Quantitative Data Collection.....	20
Qualitative Data Collection.....	20
Data Analysis	21
Quantitative Data Analysis	21
Qualitative Data Analysis	21

Characteristics of the Study Participants	22
Participant Demographics.....	22
Participant Trainings.....	23
Participant Colleges and Pathways	25
Participant Teaching History	26
Participant Perceptions of Community Building	27
Participant Engagement in Community Building Practices.....	28
Community of Inquiry	29
Interview Participants	29
Role Management and Ethical Concerns.....	30
Credibility and Trustworthiness.....	31
Limitations	31
CHAPTER FOUR: FINDINGS.....	33
Findings Related to Research Question #1: Correlates of Perceived Success in Building Community	33
Findings Related to Research Question #2: Instructors’ Strategies for Building Community .	35
Strategy #1: Encourage Camera Use	37
Strategy #2: Build Relationships and Identities.....	40
Strategy #3: Create a Virtual Safe-space to Connect.....	41
Strategy #4: Use Chat Tools	43

Strategy #5: Use Collaboration Projects	46
Strategy #6: Encourage Students	47
Strategy #7: Breakout Rooms	48
Strategy #8: Encourage External Communications	50
Strategy #9: Presentation Assignments.....	52
Conclusion	53
CHAPTER FIVE: DISCUSSION.....	54
Synchronous Online Compared to Face-to-face.....	54
The Importance of Social Presence.....	55
Helping Instructors with Strategies.....	55
Care as a Distinct Form of Presence	56
Suggestions for Future Research	58
Conclusion	59
APPENDIX A: PARTICIPANT QUESTIONNAIRE.....	60
APPENDIX B: INTERVIEW PROTOCOL.....	63
REFERENCES	65

LIST OF TABLES AND FIGURES

Figures

Figure 2.1 – Community of Inquiry Framework	12
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Tables

Table 2.1 – Elements of the CoI Framework	12
Table 3.1 – Study Participant Characteristics: First Online Course and Demographics.....	23
Table 3.2 – Study Participant Characteristics: Training/Professional Development	24
Table 3.3 – Study Participant Characteristics: College and Pathway	26
Table 3.4 – Study Participant Characteristics: Course Information.....	27
Table 3.5 – Perceptions of Success in Building a Community of Inquiry	28
Table 3.6 – Activity Frequency	29
Table 3.7 – Community of Inquiry Identifiers	29
Table 3.8 – Interview Participants.....	30
Table 4.1 – Polychoric Correlations Among Questionnaire Items	35
Table 4.2 – Strategies for Building Community	37

VITA

Education

- 2009 A.A. Liberal Studies
Los Angeles Pierce College
Los Angeles, California
- 2011 B.A. Philosophy
University of California, Los Angeles
Los Angeles, California
- 2015 M.A. Philosophy
California State University, Los Angeles
Los Angeles, California

Work Experience

- 2015-2016 Adjunct Professor – Philosophy
Los Angeles Pierce College
Los Angeles, California
- 2016-2023 Professor – Philosophy
Los Angeles Harbor College
Los Angeles, California

CHAPTER ONE: INTRODUCTION

Prior to the pandemic, interest in online learning was rising due to the increased flexibility offered to students (Lohr & Haley, 2018). Besides flexibility, we know that online learning expands access to higher education by serving more students, leads to more students earning degrees, and increases college revenue (Selingo, 2016; Allen & Seaman, 2015). For these reasons, online learning was slowly becoming more attractive as it presented new opportunities to students and colleges alike. But the pandemic accelerated the adoption of online courses at lightspeed, as colleges and universities switched to online learning to provide educational continuity to their students (Alhazbi, 2021). According to the California Community College Chancellor's office, more than 50% of students were enrolled in online courses as of Spring 2022 (CCCCO DataMart, 2022). This is in stark contrast to Fall 2019, when less than 20% of students were enrolled in online courses. Further, while the number of students taking asynchronous online courses has doubled since 2019 (from 80,000 to 175,000), the number of students taking synchronous online courses has increased nearly seven times over (from 4,000 to 27,800). The flexibility offered by synchronous online courses, especially with real-time video conferencing, led many faculty to adopt this modality during the COVID-19 pandemic (Adair & Slattery, 2021; Bailey, 2021; Bedenlier et al., 2021; Wijaya et al., 2021). According to the Los Angeles Community College District's (LACCD) Department of Educational Programs and Institutional Effectiveness (EPIE), as of Spring 2021 32% of students say they would be interested in taking online synchronous courses in the future (LACCD EPIE, 2021). Therefore, faculty must be prepared to continue offering quality synchronous online instruction at a massively increased clip.

Challenges in online synchronous courses emerged during the pandemic, including technological access, unfit learning environments, and “Zoom fatigue.” These challenges have impacted student engagement and sense of belonging in their online synchronous courses (Pelletier, 2020; Adair & Slattery, 2021, Massner, 2021; Reed, 2020; Williamson, 2020; Nesher & Wehrt, 2021). Nevertheless, the digital campus has arrived, and it is here to stay (Pelletier, 2020). Building a sense of community can increase engagement and help students develop a sense of belonging (Berry, 2017; Garrison, Anderson, & Archer, 2010)

Within LACCD, faculty have undoubtedly employed strategies to build a sense of community in their synchronous online courses, but no existing studies have been done to identify these successful strategies. This study begins to address that gap by exploring the strategies used by LACCD faculty in their synchronous online courses to develop a sense of community.

Community in Online Courses

A community is a supportive social group in which members feel a sense of belonging and share a common interest, experience, or goals (McMillan & Chavis, 1986). When students feel a sense of community, they are less likely to drop out of their academic programs (Ke & Hoadley, 2009). Community increases academic achievement and satisfaction with learning (Adams & Wilson, 2020). Studies about online instruction conducted prior to the pandemic stressed the increased challenges that online students face to combat isolation and build a sense of community with their instructor and peers (Berry, 2017; Rovai, 2003). While there is no shortage of literature based on building community in online courses, most of that literature is focused on doing so in the asynchronous environment (Adams & Wilson, 2020; Berry, 2019;

Garrison, Anderson, & Archer, 2010). For this reason, more research is need on how a sense of community is developed in the synchronous online environment.

Study Overview

This study seeks to identify the most common strategies which have helped instructors build a sense of community in their online synchronous courses. To this end, the study explored the experience of online synchronous instructors by gathering information about their teaching practices, philosophies, and suggestions for the future. This information can be used by fellow faculty members to improve their teaching practices, as well as the district to improve support for both faculty and students who use the online synchronous modality.

Research Questions

In order to identify the specific strategies and tools used by faculty to develop community within online synchronous courses in the district, the study aimed to answer the following research questions:

1. To what extent is perceived success in building a sense of community in a synchronous online course associated with success in face-to-face format, implementation of specific activities, and Community of Inquiry indicators?
2. What are the strategies implemented by faculty who self-identify as successful in building a sense of community in online synchronous courses within LACCD?

Study Design

This study employed an exploratory mixed methods research design. Exploratory research is used when you want to discover something new and interesting about a research topic (Elman, Gerring, & Mahoney, 2020). Mixed-methods research (MMR) is a research methodology that uses both quantitative and qualitative methods to address research questions in

an appropriate and principled manner (Bryman, 2012; Creswell, 2015; Creswell & Plano Clark, 2011). This study used a questionnaire to capture quantitative trends in synchronous online instruction from a large sample of instructors. Next, one-on-one semi-structured interviews were conducted with nine different faculty members (one from each of the nine colleges in the district). These interviews focused on the qualitative experiences of building community in synchronous online courses.

Study Significance

We know that building a sense of community is essential to achieving optimal learning conditions and increasing student achievement (Berry, 2017, 2019; Demmans Epp et al., 2017; Lohr & Haley, 2018;). Failure to build community is linked to higher drop-out rates, feelings of isolation, and lower academic success rate (Adams & Wilson, 2020). Therefore, this study seeks to understand strategies which have been successful at building community in the synchronous online environment for faculty in our district. Additionally, I seek to understand how the perceptions of building community are linked to perceptions of success in the face-to-face format, specific teaching strategies, and the Community of Inquiry framework.

CHAPTER TWO: LITERATURE REVIEW

First, I will give a brief history on the evolution of synchronous online learning. Second, I will provide a list of barriers to implementing synchronous online learning. Third, I will provide a background on community in education and introduce the Community of Inquiry (CoI) framework (Garrison, 1985). Finally, I will provide some examples of strategies used to build community within online synchronous courses.

History of Remote Synchronous Learning

This section starts with the earliest form of remote synchronous learning known as correspondence learning. Next it moves to the earliest form of videoconferencing. It concludes with a section on web-video conferencing, which is what we use today.

Correspondence Learning

In 1985, D. Randy Garrison stated, “the rate and quality of correspondence is the main factor in providing a legitimate form of distance education” (p. 2). He noted three generations of correspondence in the evolution of quality and rate. The first generation of correspondence was by pen and paper – individual letters which were dispatched from educators to learners and back again. This type of feedback is now considered archaic, mainly because of the rate of correspondence. The second generation ushered in telephone conferencing (one-on-one) and audio teleconferencing correspondence (multiple individuals), which greatly increased the rate of correspondence. Remote synchronous instruction began with this second generation of correspondence. While one-on-one telephone conversations established a faster rate of feedback, they were generally not a great use of the educator’s time. The use of telecommunications to engage in two-way voice communications among three or more individuals at a distance in real-time characterizes audio teleconferencing. Although audio teleconferencing dates back to the

1930s, it has only been since the late sixties that serious efforts were made to use this technology in distance education (Garrison, 1985). Videoconferencing brings us into the third generation of correspondence, which is what we now call synchronous online learning.

Videoconferencing

Al-Samarraie (2018) defines contemporary videoconference technology as a correspondence medium that connects users to share visual and audio in real time. Al-Samarraie further explains sharing can be done between educator and learner, as well as learner and learner. (Al-Samarraie, 2018).

In the 1960s, videoconferencing was available but far too expensive and clumsy to be serviceable (Gerstein, 2000). Like teleconferencing, the medium would not be accessible for some years to come. The ability for a large classroom of students to connect together from several remote sites was not available until the 1990s, when the virtual classroom became a reality (Armstrong-Stassen et al., 1998). Even then, bandwidth and hardware limitations stifled videoconferencing. In the mid 2000s, high speed ethernet improved the quality of video and removed the barriers to using facial expression and body language that previously limited the degree of “social presence” possible in the videoconference (Gillies, 2008). Only since 2010 has videoconferencing gained the capability to accommodate the numbers of synchronous users for large-class formats (Lawson, 2010).

Web Videoconferencing

Web Videoconferencing (WVC) is currently pushing this medium to its capacity. WVC primarily runs through a web-server, which drastically reduces the load on the individual device. WVC allows registered users to transmit files, slides, static images, and text through the platform being used (such as desktop and Web). Given the widespread availability of browser-ready

devices and the abundance of WVC platforms, WVC is the most widespread form of correspondence learning offered in higher education (Al-Samarraie, 2018). Media richness (Kock, 2005) refers to how closely a communication medium resembles the face-to-face experience. Emails have low levels of medium richness, while phone conversations have higher levels. Due to the multimedia capabilities of web-based videoconferencing technology, teachers and students can express themselves using audio, visual, and verbal communication with others. WVC significantly reduces the ambiguity caused by text-only communication and enhances psychological engagement, which potentially leads to a performance level in collaborative tasks comparable to face-to-face communication (Kock, 2005). Additionally, the potential for videoconferencing can widen students' abilities to interact globally. WVC in particular can bring students together from very different linguistic, social, and cultural backgrounds. Large amounts of evidence show how the kinds of interactions that are possible through videoconferencing can offer understanding, broadened awareness, tolerance, and new insights (Gilles, 2008).

Synchronous Online Learning Challenges

Synchronous platforms used for WVC, most notably Zoom, have become commonplace. During the pandemic, students who did not have access to high-speed internet or reliable devices struggled to succeed in the digital environment. This access critically impacted students who were asked to actively participate in synchronous courses (Pelletier, 2020; Adair & Slattery, 2021). Without a clear understanding of synchronous learning which incorporates videoconferencing, we risk favoring students who can readily access and use the requisite technology (Adair & Slattery, 2021). The inability for a student to participate in synchronous online activities leads to feelings of isolation and makes it difficult for that student to develop community (Adams & Wilson, 2020). This puts the student at risk for missing out on the positive

outcomes associated with community building. This context reveals socioeconomic issues which lead towards a variety of equitable barriers relating to race, ethnicity, economic status, technological literacy, language literacy, age, and first generation college students. Francis and Weller (2022) explain how the intergenerational transmission of racial wealth inequality likely played out at rapid speed during the pandemic. According to the U.S. Census Bureau (2020), Black and Hispanic/Latinx households possessed less reliable internet and fewer available devices, students spent less time on their online classes.

Access

Institutions need to discover whether students have adequate levels of digital access. Without the right type of device and internet connection, Zoom video conferencing will not be possible. Initially, this concern seems to have an obvious solution: provide laptops and/or internet access to those who do not have it. But access is not dichotomous; it is multifaceted (Williamson, 2020). The quality of that access determines how successful it will be. Using the internet enables more opportunity but also risks. Williamson states, “Typically, strong filters are placed on devices that make them less usable and less like the digital experiences of their peers” (Williamson, 2020, p.110). During the COVID-19 pandemic, there was a hurried effort to get students up and running remotely (Correia et al., 2020; Reed, 2020). Devices were borrowed and internet connections were temporarily provided for free or covered by the institution (Williamson, 2020). Ideally devices should be given to the young person and their families to ensure they have agency over what they use it for and why. In addition, there need to be clear guidelines about what happens when families have issues affording internet, with care not to push families into continuing with a scheme they cannot afford (Williamson, 2020).

Fatigue

Current and past research establishes a connection between prolonged video conferencing and increased mental distress (Nesher & Wehrt, 2021; Jiang, 2020; Massner, 2021; Williams, 2021; Schoenenberg et al., 2014; van Wyk, 2022). Brady (1971) coined the term “conversational reality” to measure the degree to which a technology-reliant conversation resembled one in reality. He showed that divergence from conversational reality was positively correlated with transmission delay. Following up on Brady’s research, Schoenenberg et al. (2014) determined that increased delay or “lag” in audio between participants led to negative perceptions between speakers and listeners. The study showed that listeners often misattributed speech delays to people rather than to the technology. The same study showed that when visual dissonance is added on top of existing speech delays, the cognitive effort required for Zoom calls is exacerbated. (Schoenberg et al., 2014).

A mixed methods study (N=81) over a two-week period suggests that video conferences requiring cameras are more exhausting than asynchronous online or face-to-face courses (Nesher & Wehrt, 2021). Another study involving 597 nursing students concluded that 46.9% experienced high levels of Zoom fatigue and 19.8% experienced very high levels. This study also showed that younger students, female students, and lower income students were far more likely to experience Zoom fatigue than their counterparts (Oducado et al., 2021).

Community

Community in Online Education

Building community in the online synchronous environment may be able to overcome some of these challenges. In the context of this study, I consider a learning community as a type of community, and an online learning community as a type of learning community.

Historically, community has been defined in terms of spatial boundaries and the connections or closeness achieved within those boundaries. Definitions of community have evolved to focus on feelings of connection developed by shared interests, experiences, or sense of belonging (McMillan & Chavis, 1986; Vesley, 2007). For the purpose of this study, a community can be defined as a supportive social group in which members feel a sense of belonging and share a common interest, experience, or goals (McMillan & Chavis, 1986). Further, a learning community can be defined as a group of people who share a common interest in a topic or area, a particular form of discourse about their phenomena, tools and sensemaking approaches for building collaborative knowledge, and valued activities (Fulton & Riel, 2005). Learning communities are associated with increased student satisfaction and achievement (Adams & Wilson, 2020; Berry, 2017, 2019; Demmans Epp et al., 2017; Lohr & Haley, 2018). Building a learning community involves creating a space in which students and instructors are committed to a shared learning goal through frequent collaboration and social interaction (Columbia Teaching and Learning, n.d.). In this sense, building a learning community is grounded in the constructivist approach (Dewey, 1916; Garrison et al., 2010) – recognizing that interacting with others (collaboration) and promoting social interaction (increased sense of belonging to a social group) are key to the learning process. Learning communities are essential in higher education because they reduce feelings of isolation, improve student academic and social achievement, and increase satisfaction with learning (Adams & Wilson, 2020).

The focus of this study is online synchronous learning. I understand an online learning community as a community that maintains all aspects of a learning community while doing so in the online setting (Lai, 2015). The differences between a face-to-face learning community and an online learning community are significant. The challenges students can face in online

synchronous learning make building community in these courses more difficult than their face-to-face counterparts (Adams & Wilson 2020; Adair & Slattery, 2021; Berry, 2017; Rovai, 2003).

Community of Inquiry (CoI) Framework

Developed by Garrison (1985), The Community of Inquiry (CoI) framework is philosophically grounded by John Dewey's (1916) concept that learning is a socially constructed activity as well as a reflective practice. Within a CoI, learners are tasked with collaboratively working together to solve a challenging problem. In this framework the activity of problem solving is often more important than the solution itself (Garrison et al., 1999). This is because the activity of collaborative problem solving *allows* for (not necessitates) students to construct meanings which they would not be able to generate on their own (Dewey, 1916).

I chose the CoI framework for its application to online learning as well as its propensity to increase student belonging and collaboration (Berry, 2019; d'Alessio, 2019; Garrison et al., 2010; Lohr & Haley, 2018; Peacock, 2019), which are critical for any learning community. The framework defines three “presences” that serve as the foundational concepts of the theory: cognitive, social, and teaching. These presences when combined, develop a community for critical thinking (Oyarzun, 2021). Figure 2.1 uses a triple Venn diagram (adopted from Garrison, 1999) to represent the CoI framework. The area of the Venn diagram where each circle overlaps in the epicenter is labeled as “educational experience.” An optimal online educational experience will be produced when the three presences are effectively employed. These presences can be broken into sub-categories in Table 2.1 below.

Figure 2.1
Community of Inquiry Framework (Garrison, 1999)

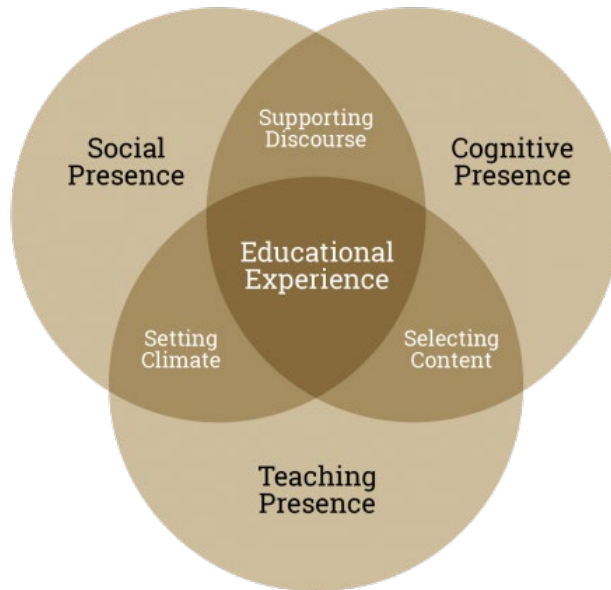


Table 2.1
Elements of the CoI Framework (Garrison, 2009)

Presence	Sub-Categories
Cognitive	Triggering event Exploration Integration Resolution
Social	Affective expression (affective) Open communication (interactive) Group cohesion
Teaching	Design & organization Facilitating discourse Direct instruction

Cognitive Presence

Cognitive presence is developed when students are faced with a problem or event to be studied that is puzzling, ambiguous, or even ill-structured. Such problems compel students to actively create their own understanding through four steps of a Socratic-like method: (a) being presented with a broad, challenging problem (a triggering event); (b) exploration, data gathering, and exchange of information; (c) arranging the ideas and data into a connected, coherent whole (integration); and (d) attempting to resolve the problem (Garrison, 1999).

Social Presence

Social presence is a process whereby students and instructors make themselves known to others as real people. The indicators of social presence include affective expression (expression of feelings/moods), open communication (public expression), and group cohesion (development of belonging) (Garrison, 1999). Individuals can develop trust, establish group cohesion, and create membership in a collective effort.

Alhazbi and Garrison (2008) hypothesized that both cognitive and teaching presence will suffer if social presence is not prioritized early and often. Studies have been done to examine this hypothesis and, while it may be that social presence is more dynamic than the other presences, it is unclear whether social presence is primary over the other presences (Armellini & De Stefani, 2016; d'Alessio et al., 2019).

Teaching Presence

Teaching presence addresses the role of the instructor in the design and organization of the course (curriculum, activities, and timelines), monitoring and managing the discourse, and in providing direct instruction; intervention to summarize, establish direction, and even help the conversation get out of a stall. (Garrison 2009; Warner, 2016).

Strategies for Building Community

Using this definition as a reference point, the following is an inexhaustive list of strategies that can be used to build community in a synchronous online classroom. Since these strategies contain many of the indicators contained within Garrison's sub-categories, it is likely instructors who are using these strategies are already building CoIs in their class (even if they were unaware of it). These strategies encourage collaboration and develop a sense of belonging, which culminate in increased student achievement (Berry, 2017, 2019; Demmans Epp, Phirangee, & Hewitt, 2017; Lohr & Haley, 2018). Note these strategies require a working understanding of basic tool use to be effective.

Small Group Discussions

Group discussions are useful to help students establish social presence and build community with each other (e.g., Akcaoglu & Lee, 2016; Yahya et al., 2020). The size of the group is relevant, as too large a group will lead to the inability for students to meaningfully connect with each other (Garrison et al., 2013). Larger group sizes lead to students being less engaged in higher-order thinking, less likely to produce dialogue, ask fewer questions, and increase the likelihood of a few individuals dominating the discourse (Hamann et al., 2012). For this reason, it is recommended that small groups do not exceed five group members (Wijaya et al., 2021).

A 2021 study used problem based learning (PBL), an approach that asks students to discuss and answer problems related to previously taught material, in conjunction with synchronous Zoom breakout rooms (4-5 students per group) to measure the amount of social presence among students (n=92) (Dolmans et al., 2021). At the end of a 13-week period, researchers found that students put into small groups were more likely to start dialogue, felt

increased learning satisfaction, and reported higher levels of social presence and social identity than students in a larger lecture environment (Wijaya et al., 2021).

Social Icebreakers

Social icebreakers are pedagogical tactics designed to facilitate rapport building with students, cultivate safe learning environments, and relieve inhibition or tension in the class (Chlup & Collins, 2010; McGrath et al., 2014). Well-designed icebreakers should be ungraded and used purely as a team-building exercise (McGrath et al., 2014). Social icebreakers are usually employed in the beginning of the semester but can be used at any point to continue the community building process and allow for more substantive interaction among students.

Metacognitive Activities

Metacognition is thinking about one's own thinking. Metacognitive activities allow for students to reflect upon cognitive processes involved in directing their learning (Akyol & Garrison, 2011). These activities encourage students to become more self-aware as critical thinkers and problem solvers. For the purpose of community building, metacognitive activities provide students with opportunities to develop metacognitive skills together and establish shared learning experiences. Most of the time, metacognitive activities are characterized by a personal or group activity followed by a group share or whole-class debrief.

Content-based Activities

Casual and informal interactions are not the only way to build community. Students can engage with each other in discipline-specific conversations in collaboration with their peers. In this sense, content-based activities serve the purpose of achieving both community building and learning objectives of the course. Content-based activities can occur at any point of the semester.

They can be used to orient students to general subject matter, facilitate student inquiry and learning, and also be used for collaborative reflection.

Conclusion

This chapter covered the history and present state of synchronous online instruction, the concept of community and the CoI framework, and some existing strategies for building community. Next, the methods for the study will be explained.

CHAPTER THREE: METHODS

While we know that building community is essential to creating desirable learning conditions, the blueprint for building community within online synchronous courses in our district is not readily available. Failure to build community is linked to higher drop-out rates, feelings of isolation, and lower rates of academic success (Adams & Wilson, 2020). Therefore, this study seeks to understand the following questions:

1. What are the strategies implemented by faculty who self-identify as successful in building a sense of community in online synchronous courses within LACCD?
2. To what extent is perceived success in building a sense of community in a synchronous online course associated with success in face-to-face format, implementation of specific activities, and Community of Inquiry indicators?

Research Design

This study used an exploratory mixed methods approach to understand the experiences of faculty who teach online synchronous courses within LACCD. The quantitative portion included a questionnaire component which was used to gather correlational data and select interview participants. The qualitative portion included interviews which seek to capture the phenomenological experience of instructors teaching synchronous online courses within LACCD.

Exploratory research is used when you want to discover something new and interesting about a research topic (Elman et al., 2020). This method was chosen since no existing information on community building in synchronous online courses currently exists within LACCD.

Mixed-methods research (MMR) is a research methodology that incorporates multiple methods to address research questions in an appropriate and principled manner (Bryman, 2012; Creswell, 2015; Creswell & Plano Clark, 2011), which involves collecting, analyzing, interpreting and reporting both quantitative and qualitative data. MMR was chosen for its ability to find correlations among a large number of participants via survey (quantitative) as well as explain the more nuanced experience of individual instructors (qualitative). This method allowed me the best opportunity at answering my research question.

In addition to sending a questionnaire out to 723 instructors, I conducted one-on-one semi-structured interviews to best understand faculty's views, experiences, and perspectives towards community building in synchronous online courses. These methods allowed me to gain both a broad and more nuanced understanding of the strategies used to building community in synchronous online courses.

Site and Sampling

LACCD is the largest community college district in the country (LACCD Website). The total number of students enrolled in the district in Fall 2021 was 91,815. Of those, 45% were first generation students (neither parent holds a degree beyond highschool). The majority of these students identified as Hispanic (58%), followed by White (15%), Black (9%), Asian (7%), Multiethnic (4%), Unknown (4%), Filipino (2%), and American Indian (1%). The gender distribution was 71% Female, 28% Male, and 1% Non-Binary. The age distribution was as follows: 20% under the age of 20, 19% age 20-24, 28% age 25-34, 27% age 35-54, and 6% age 55 and over.

There are nine campuses within the district located across the city of Los Angeles. A questionnaire was sent out to all faculty across our district who taught a synchronous online

course during the Fall 2022 semester. I worked together with LACCD's Office of Institutional Effectiveness to produce a list of faculty who had taught at least one synchronous online course in Fall 2022. For instructors who taught more than one synchronous online class, a randomizer was used in R. Ultimately, I sent an email to 723 instructors that included a link to the online questionnaire.

The instructor was asked to fill out the questionnaire in relation to a specific course they taught in Fall of 2022. The questionnaire was used to recruit instructors who had reported success at building community in their online synchronous course and developed the presences associated with Garrison's (2009) Community of Inquiry framework. Of those 176, I narrowed potential interviewees to 51 (28% of questionnaire participants). Those 51 instructors were then contacted via email to participate in the interview portion of the study. For campuses with more than one individual who wished to participate, a choice was made based upon the following parameters: diversity of discipline, equal gender distribution, diversity of racial/ethnic background, diversity of time spent teaching, and diversity of age. Ultimately, one participant per campus was invited to be interviewed. One interview was not viable and a replacement candidate could not be found. Every participant in the interview reported being "very successful", "moderately successful", or "slightly successful" at building community in their chosen course. My original goal was to only select individuals who were "very successful", but it was not possible to find an individual at some campuses who fit this description.

In addition to meeting the threshold for being either "very successful" or "moderately successful," the interview sample was selected based on the following parameters; diversity of discipline, equal gender distribution, diversity of racial/ethnic background, diversity of time spent teaching, and diversity of age.

Data Collection

Quantitative Data Collection

The questionnaire itself was created in Qualtrics. The questionnaire contained questions in the format of traditional multiple choice as well as a matrix bubble-selection format. The questionnaire contained questions about demographics, teaching experience, training experience, teaching activities, and CoI identifiers. The entire questionnaire can be found in Appendix A. The sample data, which contained participant's emails, was uploaded to Qualtrics and used to create custom questionnaire links for each participant in the sample.

An initial email was sent to each participant in the sample which included an introductory message and a link to the questionnaire. A followup reminder email was sent after two weeks. In the end, 176 of the 723 eligible instructors (24%) completed the questionnaire and were included in the study.

Qualitative Data Collection

In total, nine participants were interviewed. However, one of the interviews was discarded because the participant did not provide relevant or complete answers to the interview questions.

Participants were interviewed using a semi-structured protocol. This protocol was developed for its commitment to flexibility while also offering guided questions. The protocol was used to gather information on strategies for building community in online synchronous courses. Initial questions about workplace and familiarity with online learning were used to build rapport. Further questions aimed to prompt each participant to describe which practices they believe are successful at building community. Further, the protocol was designed so participants

explained why they believe those practices are successful and if there are conditions which pre-suppose successful practices.

Interviews lasted between 30-45 minutes for each participant. The interviews were conducted on Zoom. The recording of each interview was uploaded to Yuja, which provides a custom A.I. transcription service for our district. I then listened to the recording and made manual corrections to the transcript as needed. The recordings and transcripts were then uploaded to a secure online storage system. Interview participants had their identity protected by creating a pseudonym.

Data Analysis

Quantitative Data Analysis

I used the R software (R Core Team, 2022) to obtain descriptive statistics, including response frequencies, means, and standard deviations. I used the polycor package (Fox, 2022) to estimate polychoric correlations, which describe associations between ordinal variables such as rating scales. I used the piercer package (Pierce, 2023) to perform statistical tests of those polychoric correlations. Polychoric correlations with p-values of .05 or less were considered statistically significant.

Qualitative Data Analysis

Interview excerpts were organized into “buckets” which are relevant to the theoretical framework and literature review (e.g. learning communities, social presence, videoconferencing, metacognitive learning activities). Dedoose, a data coding platform, was used to create, organize, and analyze the bucketed data into layered themes and sub-themes. The code co-application function was used within Dedoose to determine which strategies participants used to build community in their courses. Excerpts were analyzed several times to ensure that codes were properly applied.

Staying consistent with the phenomenological approach, phenomenological reduction was used to identify the participants' shared vision of building a sense of community in online synchronous learning. This final process is described by Merriam & Tisdell (2016) as phenomenological reduction, a data analysis method for understanding the essence of a given phenomenon.

Characteristics of the Study Participants

This section presents the data collected from the questionnaire. This will include data on participant demographics, participant trainings, college and pathway representation, teaching experience, perceptions of success regarding community building, activities associated with community building, Community of Inquiry indicators, and finally a list of participants selected for interview.

Participant Demographics

Table 3.1 shows characteristics of the 176 individuals who filled out the questionnaire and the 8 individuals who were included in the interview analysis. Note that while more women filled out the questionnaire than men, more men were part of the interview analysis. Racial diversity was present across the interview sample, though it should be noted that the majority of questionnaire participants were White. Three of the 8 individuals in the interview sample had started teaching synchronous online before 2020. This meant that they did not start teaching due to emergency remote protocol. Considering that only 4% of questionnaire respondents were 25-34 a fairly even distribution of age was featured in the interview sample.

Table 3.1*Study Participant Characteristics: First Online Course and Demographics*

	Questionnaire (n=176)		Interview (n=8)	
	n	%	n	%
<i>Year First Taught Synchronous Online Course</i>				
Before 2020	29	16.5	3	37.5
In 2020	114	64.8	5	62.5
After 2020	30	17.0	0	0.0
Unsure/Other	3	1.7	0	0.0
<i>Gender Identity</i>				
Man	80	45.5	5	62.5
Woman	91	51.7	3	37.5
Transgender	0	0.0	0	0.0
Non-binary/non-conforming	1	0.6	0	0.0
Prefer not to say	4	2.3	0	0.0
<i>Race</i>				
Am. Indian/Native Am./Alaska Native	0	0.0	0	0.0
Asian	22	12.5	1	12.5
Black or African American	19	10.8	3	37.5
Hispanic or Latino	15	8.5	1	12.5
Native Hawaiian or Other Pacific Islander	0	0.0	0	0.0
White	97	55.1	3	37.5
Other	19	10.8	0	0.0
Prefer not to say	4	2.3	0	0.0
<i>Age</i>				
18-24	0	0.0	0	0.0
25-34	7	4.0	0	0.0
35-44	36	20.5	2	25.0
45-54	38	21.6	2	25.0
55-64	38	21.6	1	12.5
65+	47	26.7	3	37.5
Prefer not to say	10	5.7	0	0.0

Participant Trainings

Table 3.2 summarizes the training participants took in relation to synchronous online teaching. Participants were asked to indicate all training they had participated in. This gives us a look at the percentages of instructors exposed to each training.

Table 3.2*Study Participant Characteristics: Training/Professional Development*

	Questionnaire (n=176)		Interview (n=8)	
	n	%	n	%
<i>Certification Trainings or Equivalent</i>				
LACCD's ITC/IOTL	111	63.1	5	62.5
@ONE Training	55	31.3	2	25.0
CVC/OEI POCR Training	23	13.1	2	25.0
At least 1 of the above	139	79.0	6	75.0
<i>Supplemental Trainings</i>				
LACCD DE Webinars	109	61.9	6	75.0
Workshops/Trainings at the College Level	96	54.5	7	87.5
Workshops from a publisher	33	18.8	3	37.5
Other	37	21.0	2	25.0

Sixty-three percent of participants took LACCD's ITC/IOTL, which is the district's official required training to teach online (along with @ONE Training and the CVC/OEI POCR Training which are mentioned below).

@ONE Training accounted for 31.3% and was the primary alternative method for individuals to receive their online teaching certification in the district. This training was deemed wholly equivalent to LACCD's ITC/IOTL courses. Some instructors may have also taken this training to supplement their existing pedagogy.

CVC/OEI POCR (Peer Online Course Review) Training was taken by 13.1% of participants and represents the most rigorous online training on this list. This training takes a considerable amount of time to complete and is also an alternative method for instructors to receive their online teaching certification. Instructors who are POCR-certified can create POCR-certified courses, which are listed at the top of California's Online Course Database. Students

from across the state who are looking to take an online course would be encouraged to take POCR-certified courses above all other options.

Those who took neither ITC/IOTL nor @ONE nor CVC/OEI POCR training may have had their online teaching requirement met through a “grandfathering” approach. Prior to the pandemic, each campus had a different training process for online certification which was not wholly uniform across the district. During March of 2020, the online teaching certification (and certification training) was standardized across the district. Therefore, individuals who had completed training at their home campus before the pandemic were certified to teach online even if they had not taken the (now) required ITC and IOTL. Some individuals may have also done equivalent training at another campus and petitioned for certification through the District Distance Education Committee (DDEC).

Sixty-two percent of individuals took an LACCD DE Webinar – a supplemental training offered by faculty in the district. Next were Workshops/Trainings at the College Level at 54.5% – these trainings were sometimes done as part of opening day or offered just for the faculty at a specific college. Finally, 20.5% of instructors indicated that they had completed some “Other” training. These included training through YouTube, various online conferences, 3CSN (California Community College Success Network), and training offered by other colleges.

Participant Colleges and Pathways

Table 3.3 shows the Colleges and Pathways represented in the sampling frame, the questionnaire participants, and the interview participants.

Table 3.3
Study Participant Characteristics: College and Pathway

	Sampling Frame (n=723)		Questionnaire (n=176)		Interview (n=8)	
	n	%	n	%	n	%
<i>College</i>						
A (ELAC)	97	13.4	26	14.8	0	0.0
B (LACC)	146	20.2	37	21.0	1	12.5
C (LAHC)	26	3.6	8	4.5	1	12.5
D (LAMC)	45	6.2	11	6.3	1	12.5
E (LAPC)	109	15.1	29	16.5	1	12.5
F (LASC)	55	7.6	7	4.0	1	12.5
G (LATTC)	111	15.4	27	15.3	1	12.5
H (LAVC)	100	13.8	22	12.5	1	12.5
I (WLAC)	34	4.7	9	5.1	1	12.5
<i>Pathway</i>						
Business, Economics, Hospitality	25	3.5	3	1.7	0	0.0
Arts, Performance, Design	60	8.3	24	13.6	0	0.0
Education	122	16.9	33	18.8	2	25.0
STEM	289	40.0	58	33.0	1	12.5
Health and Human Services	43	5.9	15	8.5	2	25.0
Society and Communications	153	21.2	34	19.3	3	37.5
Other	31	4.3	9	5.1	0	0.0

Note that these data are based on the class selected for the questionnaire and not the instructor. It is possible that an instructor may teach at more than one campus and teach classes nested in more than one pathway.

The questionnaire participants are largely similar to the sampling frame. LACC had the largest number of respondents (21%) followed by LAPC (16.5%), LATTC (15.3%), ELAC (14.8%), LAVC (12.5%), LAMC (6.3%), WLAC (5.1%), LAHC (4.5%), and LASC (4%). Four of the 6 main pathways were represented in the interview sample.

Participant Teaching History

Table 3.4 shows us the number of times instructors in the questionnaire sample taught their selected course synchronously online versus other modalities.

Table 3.4
Study Participant Characteristics: Course Information

	Questionnaire (n=176)		Interview (n=8)	
	n	%	n	%
<i>Number of times instructor taught course in synchronous online modality</i>				
0	18	10.2	0	0.0
1	29	16.5	2	25.0
2	34	19.3	1	12.5
3	25	14.2	2	25.0
4+	70	39.8	3	37.5
<i>Number of times instructor taught course in other modality (not synchronous online)</i>				
0	14	8.0	0	0.0
1	8	4.5	0	0.0
2	12	6.8	1	12.5
3	11	6.3	0	0.0
4+	131	74.4	7	87.5

Looking at the second half of Table 4 gives us a nice picture of participants' total experience in the course. Participants were, on the whole, well-seasoned when it came to teaching their selected course. 74.4% of participants had taught the course more than 4 times in other modalities. Additionally, 7 of the 8 interview participants had taught their course more than 4 times using other modalities.

Participant Perceptions of Community Building

Table 3.5 shows us the self-identified perceptions of building community held by study participants in their selected course, the synchronous online modality in general, and finally the face-to-face equivalent. Questionnaire participants overall felt as though they were better at building community in their face-to-face courses than in online courses.

Table 3.5
Perceptions of Success in Building a Community of Inquiry

	Not successful (1)		Slightly successful (2)		Moderately successful (3)		Very successful (4)		Mean	SD
	n	%	n	%	n	%	n	%		
<i>In a particular course</i>										
Questionnaire (n=176)	12	6.8	32	18.2	77	43.8	55	31.3	2.99	0.88
Interview (n=8)	0	0.0	1	12.5	3	37.5	4	50.0	3.38	0.74
<i>In online synchronous courses in general</i>										
Questionnaire (n=176)	10	5.7	34	19.3	88	50.0	44	25.0	2.94	0.82
Interview (n=8)	0	0.0	1	12.5	3	37.5	4	50.0	3.38	0.74
<i>For teaching this course face-to-face rather than synchronous online (if applicable)</i>										
Questionnaire (n=176)	6	3.4	10	5.7	53	30.1	107	60.8	3.48	0.76
Interview (n=8)	0	0.0	0	0.0	3	37.5	5	62.5	3.62	0.52

Participant Engagement in Community Building Practices

Table 3.6 shows how the participants reported the frequency of their engagement in three established practices for building community: *social ice breakers, small group breakouts, and metacognitive activities*.

Table 3.6
Activity Frequency (Self-Identified)

	Never (1)		Less than once per class session (2)		About once per class session (3)		More than once per class session (4)		Mean	SD
	n	%	n	%	n	%	n	%		
<i>Social Ice Breakers</i>										
Questionnaire (n=176)	34	19.3	50	28.4	61	34.7	31	17.6	2.51	1.00
Interview (n=8)	2	25.0	1	12.5	3	37.5	2	25.0	2.62	1.19
<i>Small Group Breakouts</i>										
Questionnaire (n=176)	67	38.1	31	17.6	37	21.0	41	23.3	2.30	1.20
Interview (n=8)	4	50.0	2	25.0	0	0.0	2	25.0	2.00	1.31
<i>Metacognitive Activities</i>										
Questionnaire (n=176)	54	30.7	31	17.6	43	24.4	48	27.3	2.48	1.19
Interview (n=8)	2	25.0	2	25.0	1	12.5	3	37.5	2.62	1.30

Community of Inquiry

Table 3.7 features six different indicators which map onto the CoI measurement tool (Arbaugh et al., 2008). Indicators 1 and 2 map onto *teaching presence*. Next, indicators 3 and 4 map onto *social presence*. Finally, indicators 5 and 6 map onto *cognitive presence*.

Table 3.7
Community of Inquiry (CoI) Identifiers (Self-Identified)

	Strongly disagree (1)		Somewhat disagree (2)		Neither agree nor disagree (3)		Somewhat agree (4)		Strongly agree (5)		Mean	SD
	n	%	n	%	n	%	n	%	n	%		
	<i>1. I clearly communicated important course instructions, dates, topics, and goals</i>											
Questionnaire (n=176)	3	1.7	3	1.7	1	0.6	20	11.4	149	84.7	4.76	0.71
Interview (n=8)	1	12.5	0	0.0	0	0.0	0	0.0	7	87.5	4.50	1.41
<i>2. I provided helpful and regular feedback</i>												
Questionnaire (n=176)	3	1.7	0	0.0	3	1.7	37	21.0	133	75.6	4.69	0.68
Interview (n=8)	0	0.0	0	0.0	0	0.0	2	25.0	6	75.0	4.75	0.46
<i>3. Students in my course were able to form a sense of belonging</i>												
Questionnaire (n=176)	1	0.6	13	7.4	36	20.5	63	35.8	63	35.8	3.99	0.96
Interview (n=8)	0	0.0	1	12.5	1	12.5	1	12.5	5	62.5	4.25	1.16
<i>4. Students felt comfortable engaging and collaborating with others</i>												
Questionnaire (n=176)	5	2.8	14	8.0	31	17.6	65	36.9	61	34.7	3.93	1.05
Interview (n=8)	1	12.5	0	0.0	1	12.5	3	37.5	3	37.5	3.88	1.36
<i>5. Students sharing new information with each other was a primary learning activity</i>												
Questionnaire (n=176)	12	6.8	13	7.4	34	19.3	60	34.1	57	32.4	3.78	1.18
Interview (n=8)	2	25.0	0	0.0	0	0.0	3	37.5	3	37.5	3.62	1.69
<i>6. I developed challenging problems which motivated students to explore</i>												
Questionnaire (n=176)	3	1.7	9	5.1	25	14.2	73	41.5	66	37.5	4.08	0.93
Interview (n=8)	0	0.0	2	25.0	1	12.5	1	12.5	4	50.0	3.88	1.36

Interview Participants

The interview sample includes eight individuals—each selected from a different college. I have assigned a pseudonym for each interviewee. These pseudonyms will be used when quoting each instructor in Chapter 4. Table 3.8 presents some background information about the eight

instructors. Of note, each participant taught a different discipline. This offered a variety of different perspectives.

Table 3.8
Interview Participants

<i>Name</i>	<i>Gender</i>	<i>Race/Ethnicity</i>	<i>Age</i>	<i>Discipline</i>
Greg	Man	African American	35-44	Speech
Scott	Man	Hispanic/Latino	55-65	English
Maven	Man	White or Caucasian	65+	Hebrew Studies
Pat	Woman	African American	65+	Nursing
Chris	Man	White or Caucasian	65+	English
Billy	Man	Asian	35-44	Chemistry
Dora	Woman	White or Caucasian	45-54	Kinesiology
Barbara	Woman	African American	45-54	Childhood Development

Role Management and Ethical Concerns

Because I am both a Professor and a Distance Education (DE) coordinator in my district, it was important that I disclose that information to the faculty I interviewed. It was also important for me to disclose that I am a UCLA graduate student conducting the study in coordination with the DE Coordinators, District Chair of Distance Education, and Supervising Dean of Distance Education.

There is an ethical concern that, in conjunction with the findings of this study, I may use my role as a DE coordinator to influence the flow of district/college resources to my home college. As a DE coordinator my duty is to ensure the optimal functioning of online education for our students. I do not have any interest in personally leveraging or dictating this information for personal gain.

Lastly, I gave each participant the chance to review their transcripts just in case there was information they wanted me to omit. No omissions were required.

Credibility and Trustworthiness

I used several methods to strengthen my credibility and trustworthiness as a researcher. Prior to the interviews, I informed each participant of the data collection process, method for transcription, and how the data would be used. As soon as interviews were conducted, they were transcribed and sent to participants to ensure they are consistent with their personal experiences. Finally, I conducted member checks and respondent validation. I emailed participants to see if they wanted to follow up with their interviews. None of the participants wished to follow up. They only asked to see a copy of the dissertation once it was completed.

I also invited my DE Committee colleagues and interviewees to review the tentative findings of my data. This helped me determine whether my findings were plausible and within the scope of my research question.

Limitations

This study has several limitations. The method for recruiting instructors for interviews relied upon instructors self-identifying themselves as being successful at building a sense of community. Student input is important when determining whether an instructor is successful at building a sense of community and this study does not include student input.

Additionally, I did not observe instructors while they were teaching. What I learned about their implementation of strategies and their success in building community was based on their own self-assessment. These findings may have looked different if I had directly observed instruction or asked students to share their experiences. I may also have selected a different group of instructors for the interview sample.

The study design does not provide a basis for claiming that the strategies mentioned by the interviewees were necessarily the cause of success in building a sense of community—even

though the instructors described them as contributing to their success. Nor is it possible to say whether the strategies mentioned are unique to the online synchronous format since only that format was studied. Moreover, it is possible that instructors were not actually implementing the strategies that they mentioned. It is also likely that instructors used strategies beyond those which they mentioned, due to forgetting or thinking some things were not worth mentioning.

A final limitation is the singular focus of synchronous online courses within one community college district (LACCD), and only eight of the nine campuses were represented in the interview sample. There are most likely variations in building online learning communities which are unique to the faculty and students within this district.

CHAPTER FOUR: FINDINGS

This study focused on the instructor experience of building community within LACCD synchronous online courses. The questionnaire provided valuable big picture analysis while the interviews provided more magnified details of that analysis. The interview participants were asked to explain the strategies they used to build community in their courses. In answering the research questions, the questionnaire provided correlational findings between strategies associated with the CoI framework and the self-identified success for building community in an online synchronous course. Additionally, the interviews identified nine concrete strategies which offer a more granular analysis.

This chapter presents the study findings related to the two research questions:

1. To what extent is perceived success in building community in a synchronous online course associated with success in face-to-face format, implementation of specific activities, and Community of Inquiry indicators?
2. What are the strategies implemented by faculty who self-identify as successful in building a sense of community in online synchronous courses within LACCD?

Findings Related to Research Question #1: Correlates of Perceived Success in Building Community

The questionnaire asked instructors to rate their perceived success in building community in a specific online synchronous course, in their online synchronous courses in general, and in the face-to-face version of the specific course. They were also asked about their implementation of three community building strategies and rated their specific online synchronous course using six CoI indicators. Response frequencies and other summary statistics for these variables were

presented in Chapter 3 (see Tables 3.5, 3.6, and 3.7). Table 4.1 illustrates the polychoric correlations among these variables.

Table 4.1
Polychoric Correlations Among Questionnaire Items (n=176)

# Item	Success			Activities			Community of Inquiry				
	1	2	3	4	5	6	7	8	9	10	11
Perceptions of Success											
1 This particular course											
2 Online synchronous courses	.822										
3 This course face-to-face	.539	.578									
Community Building Activities											
4 Social Ice Breakers	.254	.246	.231								
5 Small Group Breakouts	.351	.368	.246	.433							
6 Metacognitive Activities	.420	.374	.225	.500	.565						
Community of Inquiry											
7 Clear communication (TP)	.308	.146	.171	-.045	.157	.148					
8 Feedback (TP)	.373	.254	.204	.000	.212	.243	.863				
9 Sense of belonging (SP)	.672	.609	.309	.224	.273	.328	.559	.488			
10 Collaboration (SP)	.649	.526	.305	.240	.275	.230	.497	.343	.825		
11 Sharing information (CP)	.556	.500	.398	.359	.327	.395	.335	.177	.589	.618	
12 Challenging problems (CP)	.457	.459	.386	.151	.273	.358	.580	.489	.588	.578	.555

Notes. TP = Teaching Presence, SP = Social Presence, CP = Cognitive Presence. Correlations with $p < .05$ are shown in bold.

Success in building community within the specified course was more strongly associated with success in online courses generally ($r = .822, p < .05$) than with success in the face-to-face version of the course ($r = .539, p < .05$). Social Ice Breakers, Small Group Breakouts, and Metacognitive Activities were positively associated with building community in the selected online course. Each of the six CoI indicators had a positive and statistically significant association with perceived success in building community in the specified online course (correlations ranged from .380 to .672). Among these six indicators, the two social presence indicators showed the strongest associations (sense of belonging, $r = .672$; collaboration, $r = .649$).

Findings Related to Research Question #2: Instructors' Strategies for Building Community

This section presents the specific strategies the eight interview respondents described for building community in their synchronous online courses and their perceptions of the value of those strategies. Although the previous section shows that interview respondents differed in some respects from the larger survey sample, they represent instructors who identified as being particularly successful in building community in online courses during the pandemic. This section focuses on the major strategies they identified for building community and how they described the implementation of those strategies.

Table 4.2 summarizes the most commonly used strategies these instructors used to build community in synchronous online courses. The chart is listed in descending order based on the number of instructors who used the strategy. (Only strategies mentioned by at least three instructors are included.) The definitions for the strategies were created by using the simplest explanation possible. Some of the strategies are more cut-and-dry than others, for example “use camera” *only* occurs when students and instructors have their cameras on. This is contrasted with “encourage students” which has much softer and more conceptual boundaries.

Table 4.2
Strategies for Building Community

Strategy	Definition	Example (Quote)	# of Instances	# of Instructors
Encourage camera use	Instructors ask students to turn their cameras on and interact with their classmates and the instructor.	“For synchronization, the video component is so crucial with the breakout groups for social connection.” (Dora)	20	8
Build relationships and identities	Instructors ask students share something about themselves with the instructor and/or with their fellow classmates. This can be done in front of the entire class, in a breakout room, or done as part of an assignment.	“In the assignment, I want them to tell me something about themselves that they would like me to know.” (Chris)	12	8
Create a virtual safe-space to connect	Instructors tell students they are free to share in a non-judgmental space	“Students need to feel valued in synchronous online courses. They need to feel that their community is one that's safe, is one that is concerning, is one that's engaging and one that is fundamentally sound.” (Barbara)	12	7
Use chat tools	Instructors use chat to convey instructions, help solve problems, and interact socially.	“Oh, I think chat just immediately that that's the number one thing. Because chat functionally works similar to social media apps, Instagram, live, TikTok, when people will watch somebody on TikTok or something like that, or watching on Instagram, you can, I don't know, somebody doing one of those stupid social media dances. People react to those. They give hearts or thumbs up, or somebody will be talking about stuff and they will do sort of react negative reactions to that. I think chat is analog, functionally the most similar or the most basic form of communication.” (Greg)	17	6
Use collaboration projects	Instructors have students work together on a shared assignment via Google Docs, the LMS (Canvas), or Zoom breakouts.	“Put them in little separate little groups and give them a problem. ‘You have this patient who has delirium dementia, you got to give 'em a bath. Okay, it's due. They haven't had a bath in a few days. How would you guys work through that?’” (Pat)	14	5
Encourage students	Instructors encourage their students by checking in on them either verbally or through text communication.	“Students email me, especially when I message them the first time, they haven't had me before...and now they are getting a message from me. It's like, ‘oh, I see you working, keep working.’ It's like, ‘oh, I feel so motivated.’ I think they... they're willing to put it in extra gear.” (Billy)	10	5

Use breakout rooms	Instructors place students into breakout rooms on Zoom where they can interact in a small group environment.	“And I have them in breakouts for five minutes, and then we'll get into lecture activities, discussion. But I do that quite a bit where I give them, okay, five minutes, get in the rooms and they don't have to produce anything necessarily, but just to have a chance to talk about something productive.” (Barbara)	8	5
Encourage external communications	Instructors use external means of communication where students could chat, ask questions about the course, and help each other with assignments.	“They use Discord or they do group chats. They use WhatsApp or stuff like that. They'll literally exchange phone numbers and they'll just text each other because they'll want to be able to just text with stuff. So I think chat is absolutely the most essential, but also not just for students to use. Faculty also need to learn how to use that.” (Greg)	12	4
Use presentation assignments	Instructors require students to develop and screen-share materials as an assignment. This can be a video recording, a document, a live presentation, or a hybrid. These presentations can be collaboratively executed.	“Monday's class, all of you as a team made an outline. Wednesday's class. Okay, record yourselves presenting this. And then the next class will be like, okay, let's start watching people's videos and we'll compare how well each team did given the same task in the same amount of time.” (Greg)	4	3

Strategy #1: Encourage Camera Use

All eight instructors believed that the use of cameras helped build a sense of community in their synchronous online courses. Instructors in this study used the Zoom application exclusively for video conferencing.

Zoom is powerful, not only for the ability for students and instructors to see each other's faces, but for the breakout and screen share tools it offers. For example, Maven believed there was no better way to teach a language online than using Zoom. He said, “the facial expressions are important, we need to see those when speaking a language.” Pat agreed, stating that “you really need to get that human connection by seeing student faces.” She later stated, “Zoom is absolutely essential.”

Dora said that the “video component of Zoom is so crucial for social connection.” She even would prefer to see people even if it means there is some audio or visual disruption: “So I would rather have somebody on screen with a baby that's crying or a dog or whatever than not have them present.”

Other instructors saw alternate ways to develop social presence using Zoom. Barbara, for example, offered extra credit for students who turned their cameras on. She strongly felt that students who turned their cameras on were more likely to “participate in the classroom community” even if they were originally apprehensive.

While Greg claimed Zoom was “a critical part of [building community in] synchronous learning,” his analysis was a bit more nuanced. He did not believe Zoom was a plug-and-play tool, stating that “Zoom is really important, but only if faculty know how to use it” and “what is more important than the tool is making sure faculty are given training to use it.” In a similar vein, Billy believed that students also needed training to use Zoom. He even spends the first day going over how to use Zoom in class: “I go over it with them so that they know how to use the tool.” He emphasized that “students need to know how breakout rooms work” and “they need to use the share screen function.”

Zoom might even offer superior functionality than the classroom for small group discussions. Billy claimed that he can “easily broadcast detailed instructions to the entire class...which is not possible in person.” Likewise, Dora lauded the seclusion and facilitation Zoom breakouts offer. She said that in person, “we are moving chairs and tables and there’s all this noise, it is chaotic and I can’t seem to facilitate fast enough,” whereas on Zoom, “it runs much more smoothly.”

Instructors were not always gushing when speaking about Zoom. Three of the eight interviewed instructors were very frustrated with the fact there was no districtwide policy that students turn their cameras on. Pat emphatically noted,

We can't order students to turn on their cameras...And so that becomes a problem. And the problem is, I can't read students' faces to see if they're understanding what's being taught or when I'm giving notes to see whether or not they're even taking notes, let alone whether they've finished taking the notes or not. And so that becomes a problem.

She found that installing a small penalty into the syllabus helped to keep students attentive, "If I call on them twice and they don't respond, it's an absence". She also noted that, while her program requires that students have working technology, there is no effective way to enforce it at the district level. She said, "I can see it (the device) not working once or twice, but after that you can't get away with it." She believed it was up to the student to assume personal responsibility to make sure they were "able to participate in a synchronous program."

For comparison, Barbara would call on students who "didn't have their camera on and weren't responding to the class discussion or the chat," just to make sure that they stayed engaged. However, she also offered a reward for students turning their cameras on: "You are going to get extra credit if you show up on Zoom with your camera on and ready to go." She found it effective, though she would prefer for all students to have their cameras on all the time.

Greg noted that student devices were often the cause for students not turning their cameras on. He said that "instructors need to familiarize themselves with the devices students are using." Cell phones, for example, "easily overheat" and struggle to handle the "processing load of a 40 person Zoom room." He went on to say that "once a device overheats, the device wont

turn on until the battery cools down,” so the student can’t even come back to join at all. He praised the district for distributing Chromebooks to students who did not have laptops, but noted that “they are only able to do the basics” and “aren’t great for sharing screens or doing other tasks while on Zoom.”

Strategy #2: Build Relationships and Identities

All eight instructors reported it was important to build relationships with their students and facilitate opportunities for students to build relationships with each other. This involved learning names, faces, personal histories, interests, geographic locations, and other information about each other. There was not a consistent process across the board, and no instructor mentioned any training related to best practices.

Barbara said that building a relationship with her students “actually makes them feel present and remembered” such that “they feel that difference.” Usually, this process starts with some type of ice-breaker where students introduce themselves to the class. Maven said “we always introduce ourselves at the beginning of the class...much like we do in a face-to-face environment.” Scott would have students introduce themselves then prompt them to answer a question. This would encourage them to turn their cameras on and participate while also doing the work of revealing information about themselves to the class.

Chris would have students share this information in reflection assignments he would post on Canvas. He said, “I would try to have them share something about themselves...it could be anything.” He would then ask them to present this information to the class if they wanted to. Again, the assignment encouraged participation while at the same time helping students to build their identity.

Building identity was not limited to students sharing information with their instructors. Instructors also found it was important to share information about themselves. Benny would tell his Chemistry students about his background as a student. He says it is crucial to “share a lot of information about who you are from the very beginning.” Barbara added, “they know about you...they may be willing to share about themselves.”

Dora hoped that this relationship building would extend outside of the classroom. To that end, she set up discord servers and encouraged students to hang out. She said it wasn't as successful as she'd hoped, but even if “a few of them” would study at a coffee shop, it was “better than nothing.”

Strategy #3: Create a Virtual Safe-space to Connect

Seven out of the eight instructors believed it was important to demonstrate care and mental well-being in their online synchronous courses. Barbara said her synchronous online students know when “you don't care about them,” which is detrimental to building community. She shared several strategies that cultivated an “open and safe space for students to share...and feel comfortable [expressing] their identity in a community.” First, she made sure to provide concrete expectations in her syllabus and arrive to class prepared. Second, she explicitly told her students she was there to learn from them. Barbara believed that these reminders helped students “feel part of an academic community, where they feel their voice is respected.” Third, she intentionally built a classroom culture of “privacy and confidentiality” to ensure what students shared would stay in the classroom, saying “it's not just that it is a safe zone, it is a place of privacy.” Barbara's commitment to building a caring presence was particularly salient when working with a student who suffered from bipolar disorder:

Prime example, I had one student—actually, it was a summer synchronous Psychology 1 course—and he felt so comfortable in the course that he spoke upon suffering from bipolar. And the whole point is that I've set up a non-judgmental environment in these synchronous courses, so that students should be able to feel that they can share, and that it's not just that it is a safe zone, it is a place of privacy, that if they speak upon it, that they know that their classmates are going to stand with them.

Building a safe and private environment allowed Barbara to develop trust with her students and, also, for her students to develop trust with each other. She mentioned that her students knew “their classmates will stand with them.” Chris echoed Barbara’s sentiment, stating, “care is trust” and “if you have no trust, you have no community”.

Care presence was also important for Dora, who said that you cannot build community without showing sensitivity and care. She said that “(building community in synchronous online courses) only happens best when I, or other faculty, show that I really genuinely care about my students.” For Dora, this genuine care is shown by extending the community outside set course hours. Her primary strategy for building community outside of the classroom is to set students up with tools that allow them to communicate with each other or with her on their own time. She uses tools like Discord and even encourages students to meet up in person: “‘Hey, I’m setting up a Discord,’ or ‘let’s meet at Starbucks.’” Dora also found that this type of external engagement is beneficial towards students helping each other solve problems:

I have had a couple students that set up Discords, which was super cool... they seem to enjoy that. And it's cut down a little bit on the volume of email that I'm getting from them because they are helping each other out.

Billy was also inspired by the responses his students gave when he would interact with them outside of class hours. Billy used a Canvas tool which allows him to track when students are working on their online assignments. If he sees they are struggling, he will message them and let them know, “you are so close, you are almost there.” He said this strategy has literally changed students’ lives: “they come to me saying they were going to fail the class, and they succeeded due to that extra push.” He also showed care by relating to student struggles. He showed his students a copy of his chemistry exam from college where he got 20%. He said, “Look, I struggle. I got 20% and I am here. Every day was a challenge, we are no different from each other.”

Strategy #4: Use Chat Tools

Chat was widely mentioned by instructors during the interviews. Six of the eight instructors mentioned chat as a useful strategy for building community in their courses. Viewpoints ranged from chat being “absolutely essential” for building community to it being a “useful tool” for students to communicate. This section will cover the familiarity and ease of using chat, how chat can be used as a problem solving tool, and some dissenting remarks on chatting.

Greg noted that chat was ultimately “the number one thing” for several reasons. First, he found that students were already interacting using chat in social media apps like Instagram live, TikTok, Twitch streams, and group messages. Using chat created a familiar experience for students. Second, he acknowledged that the chat function worked more effectively on student devices. He shared that the Chromebooks students were given by the district were “not great, they’re cheap and often crashed under heavy load...phones were not powerful enough [to accommodate] 40 people in a Zoom room which required a lot of data and processing power.”

Although Greg acknowledged that chat did not replicate a traditional face-to-face classroom learning experience, using a tool that students already use regularly allowed him to “build community” both with and among his students. Greg said that he saw chat as an “equitable” alternative to video conferencing. Wedged in the larger discussion, chat continually came up as an easy way to keep in contact.

Barbara claimed her students would use chat when “their home environments were too noisy.” In this sense, she saw chat as a tool that enabled students to participate and “develop their social presence” within the classroom. She also mentioned how some students who claimed to be “shy” were more comfortable communicating with chat to the point of being “absolutely engaged from a chat perspective.” In those cases with too much noise, she noted that “they’re going to put their comments in the chat and still serve as an active participant in the social setting.”

Similarly, Billy spoke about how chat allows him to “easily keep up constant contact” with students in his chemistry labs. He found that he could easily message students through chat while they were working on their lab assignments. Students could ask for feedback, and he could quickly provide it. Even though he couldn’t “see them in person,” chat offered a way for students to “show how much effort they were putting into an assignment.” He likened this showing of effort to how students would show effort in an actual chemistry lab and viewed this as a “crucial component” of synchronous online courses. Billy also noted that students were using chat on their own to build community. He said they would use Discord channels, a free chat server, to communicate with each other outside of the classroom. He stated that, “just because we are not in a class meeting, does not mean we are not in a community.” He saw that chat allowed students to easily extend the classroom.

Dora believes that chatting is “something the students really enjoy” because they “already love to text.” However, unlike others, she does not believe that chat “is necessary for building community.” Dora agreed with Billy’s statement that chat can be useful for students to communicate with each other. She said that students using chat “communicate well in a peer-to-peer fashion.”

Other instructors mentioned that chat can be a powerful tool for problem solving. Unlike the classroom, a live chatroom can accommodate dozens of answers or statements at once. This means that problems can be solved faster than if students were asking the professor one at a time. Scott mentioned that chat is best used as a tool for “resolving problems.” He said that students can “chat among themselves if they are confused” and that by chatting “they have been able to resolve confusion faster than I could.” When doing assignments, students can “bounce” ideas around in the chat. This concept of “bouncing ideas” is not new to online teaching. But a live chat room adds a brand new element in real time. Scott said, “They use the chat quite a bit and it is so fast. They’ll ask me questions on things they are unsure about.”

Pat claimed that students “use the chat to help each other out.” Pat would regularly give her nursing students group assignments where they would be asked to triage a patient on intake. Pat said “the entire class could diagnose faster in chat than if they were going one by one.”

Two of the eight instructors had negative or indifferent views on chat. The apprehension towards chat revolved around class control. One of the two instructors mentioned that the chat was “distracting”. Both instructors admitted that occasionally students would “help each other out” using chat but discouraged using it over speaking on Zoom.

Strategy #5: Use Collaboration Projects

Five instructors mentioned collaboration projects as a successful strategy for building community in their courses. Collaboration in the online synchronous environment requires a complex blend of different software applications, hardware, and functionality. Instructors who spoke about these projects approached them in different ways using different tools. Overall, the following tools were used in conjunction with collaborative projects: Canvas, Zoom (including breakout rooms and screen-share functionality), Google/Word Docs, e-mail and Powerpoint/Google slides.

Greg would give his students an assignment with multiple steps. First, he would tell them to “brainstorm ideas” and “use Google docs so you all can collaborate on there.” Next, he would tell them to put their ideas into a presentation format and use Zoom’s screen-share to present it to the class. Greg believed that having students work together on a shared document was a method for building community.

Collaboration assignments sometimes involved solving a shared problem. Pat, for example, would put her students into breakout rooms and give them a nursing problem to solve. They would then report back their answer as a group to the larger class.

For Billy, doing lab assignments in a collaborative setting is a staple in teaching chemistry. He found it was actually easier for him to facilitate collaborative assignments in the synchronous online format than it was face-to-face. Dora, a kinesiology professor, agreed with this sentiment. She said it was easier to be present, or to “bounce”, from group to group using the Zoom breakout function. Both Billy and Dora emphasized the ability to quickly broadcast messages to students who were working on a collaborative assignment within a breakout room. This helped to curtail common issues students were having with their projects.

One instructor noted that, while collaboration is “common” in the face-to-face environment, instructors within the district “lacked the training” to facilitate them in the synchronous online format. He stressed that you need to not only know how to use software, but you need to know “how students use it.” This same instructor noted that it would be nearly impossible for students to do everything required for a collaborative assignment on a phone or low-end laptop while also showing their camera. He said, “when you are screen sharing and have your camera on, your phone overheats, the battery goes into safe mode, and then it takes forever for it to boot back up.”

Strategy #6: Encourage Students

Five instructors believed encouragement was a key strategy for building community in their courses. Instructors want to encourage their students to succeed. They motivate them by offering extra help, making content fun to use, and building their confidence. Barbara said a community “must be an encouraging environment.” Scott would stay after the Zoom lecture to help students out if they were having trouble. Scott said that encouragement was a way to “let them know we are here for them.”

Sometimes encouragement can occur when students aren’t expecting it. Canvas allows instructors to know when students are logged in and how much time they have worked on assignments. Billy said he would message his students if he was grading and saw them working on an assignment. According to Billy, this extra motivation gave them “the push they needed” to get over the hump and finish the assignment.

Barbara found that encouraging students to share and reflect on course material helped to build their confidence. She would encourage students by letting them know that “anything you

share in here is valuable.” She believes this increased the frequency with which students participated in class discussions, turned their cameras on, and asked for help.

Greg found that building a course around “user friendly tools” was the best way to “encourage students.” He said that the best way to build a course is by having students “do things based off their own knowledge set.” This process was in itself a strategy for encouraging students to participate. An example of this was when he told his students to use their phones while researching a certain argumentation topic. He knew that phone-use was already in their skill set, so they were encouraged to use their phones. He found that students were “more engaged” when they were encouraged to use their phones in class activities. So, instead of trying to force them to use methods they aren’t familiar with, he encouraged them by playing to their strengths.

Chris believed you could encourage students by giving them confidence in how they approached writing. He said he would tell his students to avoid language like “in my opinion” or “I think” when writing their papers. He wanted them to feel confident in “what they are writing and what they are doing.”

Strategy #7: Breakout Rooms

Five instructors mentioned breakout rooms as a strategy for building community in their online synchronous courses. Of those five, three mentioned that breakout rooms are more effective than the face-to-face analog. Dora and Billy both claimed that the breakout rooms were “better” at facilitating discussion than face-to-face groups. Billy specifically stated that, “You can facilitate breakout rooms much better than in-person because of the broadcast message feature.” Being able to have group discussions is seen as an important facet of community building. Dora emphasized, “And those breakout groups are, I think, one of the most important,

if not the most important tool that I use for community building.” She would often use the breakout feature “just to get them talking”. She said that the quick ability to give students an ice breaker and send them out to breakout rooms was a “great way to build that social presence...and that helps with building community.”

Barbara found that breakout room discussions were an effective followup to larger group discussions:

After going over the same material in a previous session...what I end up doing is maybe breaking them up in groups. So then we literally form out to different virtual groups, and then I peek in on the groups just to hear exactly what they're saying and then come back and then ask for a group leader to come back and give the information upon what was discussed or shall we say the responses to those questions.

Pat used a similar strategy. To help her students learn how to solve nursing problems, she would present them with a problem in a large group format. She would then divide them into “separate little breakout groups” to discuss and develop a solution and have them discuss the best solution to the problem. She would instruct them and say, “So how would you deal with this situation?” Then she could “jump” into the groups to see how they were doing. She said the solving of the problem came secondary to the “rapport” they built together while solving it. In this sense, breakout rooms helped to develop social presence.

Billy spoke about strategies for getting discussion going in the breakout rooms. He said he wanted to avoid “students sitting in a room with black boxes not saying anything.” One thing he found that worked was to “group together” students who already knew each other. He said that when two students started talking, others were more likely to join in on the discussion. His

idea here was to let the students “get the discussion going” among themselves rather than them needing him to intervene all the time.

Greg would use breakout rooms in conjunction with another tool. He would give students a Google doc with questions they needed to answer and tell them “Ok. Here is the Google doc, now go into your breakout room.” He would give them about 30-45 minutes to work together on the doc before they had to present their answers to the class. Sometimes he would give them a YouTube video to watch in the small group then come back and share “their thoughts” on it with the class. Similar to Pat, Greg believed the communication, sharing, and relationship building offered by the breakout rooms were a great way to build community.

Strategy #8: Encourage External Communications

Four instructors encouraged students to communicate outside of class hours. The mediums used for this communication were e-mail, Discord, Pronto Chat, Canvas forums, and in-person meetups.

Discord is a popular application for building online communities. Sometimes these communities are centered around an interest (like a sports team), other times the communities are just a group of friends from school. Discord is an application where users need to register themselves using a username and an email address. After registering, users can set up “servers” where they can share files, create discussion threads, and communicate in real time using chat, voice, and video.

Pronto Chat is an application installed within Canvas that works as an instant messenger. Each class has a chat shell which is associated with the students and instructors within that course section. There are additional tools which can be used to break students into different

groups within the application. The chat encourages students and instructors to use it as a casual way to keep in touch.

Canvas forums are discussion boards which can be posted into any Canvas module. These forums can be used for a variety of purposes such as sharing links or files, discussing a topic, or asking for help.

Both Dora and Greg would create or encourage students to create Discord servers as a way to help students socialize with each other. They both acknowledged that students are already using Discord—so why not use it as a way for students to keep in touch? Greg would set a Discord server up and create sub-sections for each of his classes so they could message each other as well as him. Dora would do the same thing, but she said “it gets exhausting” constantly managing the servers. Dora also claimed that students do not use it enough to warrant the effort. She went on to say that “she is still figuring out” the best way to get students to interact with each other outside of the classroom. She said that students would use Canvas forums to help each other answer questions during non-classroom hours and that this was “a great way to build community outside of the classroom.”

Billy mentioned he was aware that students used Discord to communicate with each other, but that they “did it on their own” and without his support or participation. He would use Pronto chat and email to communicate with his students when they were not meeting on Zoom. He said that using external communication was a great way to show students “that I care about their success.” He said that showing care in this method helped to show students that “we are always in a community, even when we are not in class.”

Barbara would use email to share things with her students when they were not in class. While she was not familiar with Discord and chose not to use Pronto chat, she was “aware that

students are communicating with each other.” She encouraged this communication and thought it was part of them “building a community” with each other.

Strategy #9: Presentation Assignments

3 of 8 instructors specifically mentioned presentation assignments as a strategy for building community. These instructors would have students use Zoom to share their presentation with the rest of the class. Barbara, Billy, and Greg would regularly ask their students to verbally share out with the rest of the class, preferably with their cameras on.

Both Billy and Greg emphasized Zoom’s screen-share feature so that students could show the rest of the class what they were looking at. Greg would have his students collaborate on a Google doc and “take the information from that doc and turn it into a PowerPoint presentation.” Students would then be asked to share the PowerPoint presentation on their screens while presenting it with the rest of the class. Greg believed this type of presentation built community in several ways. First, students had to get together in groups and collaborate with each other. This collaboration allowed them to build relationships and develop social presence with each other. Second, the instructor needed to have “tight facilitation” in order to make sure that the groups were staying focused. This facilitation allowed the instructor to develop teaching presence. Third, the students needed to work towards completing a goal, which developed cognitive presence. The final part of actually presenting their work was something that Greg thought made them “feel rewarded” and so it reinforced the notion that they were part of “an academically successful community.”

Billy would ask his students to present their findings when doing lab work in his chemistry class. He found, like Greg, that it was a way for students to show their effort and that they were completing the goals he set for them and felt rewarded.

Barbara would have students present on a topic they discussed in a small breakout room. Often, she would watch a video with them and then say “okay now we are going to get into small breakout rooms to discuss the video.” She would then have them come back into the main Zoom room and present what they talked about. This was “a way to get them talking with each other.” She said that their presentations would sometimes catapult the rest of the groups into a larger conversation around the video/topic they were discussing. This springboard effect helped “to make the entire class feel like they were part of the discussion...and part of a community.”

Conclusion

The correlations and strategies mentioned in this chapter serve to answer the two proposed research questions. The practices mentioned in the literature review, as well as the CoI framework can serve as starting points for faculty to build around. The specific strategies mentioned in the interviews offer a more granular picture of what building a sense of community looks like in LACCD.

CHAPTER FIVE: DISCUSSION

In this chapter I will first provide some remarks about the general practice of building community in synchronous online courses compared to face-to-face learning. Second, I will explain the role of social presence in the study. Third, I will describe how the strategies taken from the interviews can be used as a resource for faculty. Fourth, I will suggest a modification to the existing CoI framework based on the interview findings. Fifth, I will supply some suggestions for future research. Finally, I will conclude with some final remarks on community in the synchronous online space.

Synchronous Online Compared to Face-to-face

Instructors' perceived success in building a sense of community in their synchronous online course reported was less strongly correlated to their success in the face-to-face version of that course than to their success in synchronous online courses in general (.672 vs. .822). I see two interpretations of this finding.

First, as far as self-reported feelings go, faculty in this study were specially equipped or oriented towards building community in synchronous online courses rather than face-to-face. Further studies could be done to compare the strategies, processes, and methods used in the different mediums to see how they align. Additionally, instructors who had been away from the classroom due to the COVID-19 pandemic might have felt more comfortable in the synchronous online space rather than the face-to-face environment due to their absence from the physical classroom. Further studies would need to be done to substantiate this perspective.

Second, faculty are consistent across the scope of their synchronous classes when it comes to their perception of building community. Another way of looking at this is that the perceived level of success in synchronous online courses does not depend greatly on the specific

online synchronous course being taught. One reason for this might be that success is less transferrable across modalities than it is across courses and course content.

The Importance of Social Presence

The two social presence indicators showed strong, positive correlations with perceived success in developing a sense of community (.672 and .649). Social presence is refers to establishing a sense of belonging, building personal identity, and fostering relationships between students and instructors. Each of the three strategies identified in the literature review and asked about in the survey (social ice-breakers, small group discussions, and metacognitive activities) were positively correlated with social presence (.254, .351, and .420, respectively).

Additionally, it is easy to show how the strategies mentioned in the interview findings connected to social presence. For example, cameras allow faculty to see the faces of their students, helping them build a personalized identity. Chat tools serve as a method for students to socialize and let their voice be heard even if they are shy of talking on Zoom or unable to speak because of their environment. Collaboration projects bring students together to work on a shared goal. Breakout rooms allow students to socialize with each other without the constant presence of an instructor. External communications also help students to interact with each other outside of class-time.

Helping Instructors with Strategies

Instructors need more training when it comes to developing a sense of community in their synchronous online courses. Twenty-five percent of instructors who filled out the survey were either not successful or only slightly successful at building a sense of community in their synchronous online course; the same percentage reported they were either not successful or only slightly successful at building a sense of community in synchronous online courses in general.

Meanwhile, substantial percentages of the instructors reported that they were implementing the strategies that were found to be positively correlated with success in building community. About 52% of instructors reported they did not use social ice breakers at least once per class session, 50% did not use breakouts at least once per session, and 52% did not use metacognitive activities at least once per session. There is room for improvement.

The great thing about these strategies is that they can be mixed to form more complex strategies. For example, strategies from this study's findings can be used in small breakouts, as well as metacognitive activities. A small group presentation can be done in a breakout and feature a reflective portion which functions as a metacognitive activity. Students can collaborate on how to best create a safe environment for learning. They can build relationships by doing a chat-only ice breaker – a fun and creative way to learn about each other. Instructors can also encourage their students in real time using chat, or outside of class using external communications. The ability to use strategies in conjunction with each other is endless.

It will be useful to share these strategies with all faculty who are teaching synchronously online. This information should be shared with distance education coordinators at each campus. The distance education coordinators serve their campuses as both LMS administrators and distance education trainers. They are well suited to distribute this information to the faculty on their campuses. Additionally, the strategies could be incorporated into professional development opportunities. This could be a joint effort between several campus constituencies, including distance education, counselors, and campus departments.

Care as a Distinct Form of Presence

Seven of the eight instructors spoke about how important it was to provide a safe and psychologically comforting environment. While social presence may account for things like

psychological health, it is not explicitly stated in either the Garrison et al.'s (2010) CoI framework or Arbaugh et al.'s (2008) measurement tool. I suggest a fourth presence be added to the framework called *care* presence. Any professional development set up around establishing care presence in the synchronous online environment should touch upon the following: establishing course expectations and participation guidelines, creating a schedule for student check-ins outside of class hours, and relating to the struggles of being a student.

Teacher care has been cited in other literature as being instrumental to student learning. Walker and Gleaves (2016) characterize teacher care in higher education as having two main elements, the fostering of pedagogical relationships and the privileging of trust, acceptance, diligence, and individual attentiveness. Goldstein (1999) explains how showing care is part of student development and that student learning conditions are sub-optimal when teachers do not exhibit care. Noddings (2003) concludes that instructors have an obligation to exhibit this type of care towards their students, and anything less would be to fail in their duty as teachers.

Care presence requires facilitation in the same way social presence does, but care presence cannot be developed solely by communicating with students or having them collaborate with each other. Moreover, care presence requires more than asking students to reflect on their lives. For an instructor to develop care presence, they need to let their students know they are committed to their well-being. I suggest that bolstering the CoI framework with a fourth presence would only serve to create a better framework for building community.

A few things should be mentioned about care presence. First, it is important to note that instructors are not therapists (Coleman, 2022). Second, we must recognize that while schools have moved back in person, students remain (indefinitely) at a heightened risk of mental health related issues due to the pandemic (Gluckman, 2022). When developing care presence,

instructors need to look towards outside resources. Many campuses have mental health centers or school psychologists. Instructors could ask them for assistance in creating a safe space for their students. In doing so, they might also be able to show students who they can talk to and how they can access additional resources for their mental health (Barr, 2014).

Coleman (2022) suggests that instructors should engage students about their mental health as early as possible and build their course with mental health in mind. Johns Hopkins University (JHU, 2018) emphasizes the need for assignments to be spaced out so as to avoid crunch time. Other things like letting students know they will not be punished for mental health related absences could also help make students feel at ease (JHU, 2018). There are other practices which can be adopted into the online synchronous format such as *ungrading*, the practice of having students grade their own assignments, which the instructor may adjust as necessary (Blum, 2020). Developing care presence may also overlap significantly with creating a growth mindset which Dweck (2006) attributes to fostering psychological resilience and improves students' coping response to academic stressors.

Suggestions for Future Research

Future studies should focus on the extent to which instructors in the district are using the 9 strategies listed in this study. To take it a step further, research should seek to investigate how effective students believe these strategies are, and how it varies by discipline, student age, student gender, racial background, and other variables.

CoI measurement indicators (Arbaugh et al., 2008) should be updated to account for care presence. Again, this would require more intervention on the behalf of researchers into the student experience. This would be a large undertaking, but I believe it is necessary. The CoI is a proven framework and we know the measurement tool is accurate. However, the tool was not

created with synchronous online courses in mind. It may also be that the synchronous model, in conjunction with the COVID-19 pandemic, has highlighted care presence in a more pronounced way.

Additionally, further research would compare the strategies mentioned in this study with other community building strategies used in face-to-face courses. Collaborative and presentation assignments, for example, have both digital and in-person versions, so it would be useful to understand the specific differences between them.

Conclusion

I do not believe that schools will ever “recover” from the pandemic. Rather, they have been forever changed out of necessity. Now that the technology is here, it only makes sense to optimize it for learning. For synchronous online learning, we are only now getting into a phase where it is routine. Students know the expectations and they are not experiencing online learning in an emergency environment.

This study illuminates several strategies which instructors think help develop a sense of community in their synchronous online courses. Central to these strategies is an effort to create genuine opportunities and build genuine connections with students. These strategies also aim to foster social interaction among students and demonstrate care for their well-being. I hope community college instructors can use these strategies to forge real bonds with their students while also creating spaces where students can feel safe and encouraged to learn.

APPENDIX A: PARTICIPANT QUESTIONNAIRE

1. In what year did you first teach a synchronous online course?

2. Which of the following best describes your gender identity? Please select all that apply.
 - Man (1)
 - Woman (2)
 - Transgender (3)
 - Non-binary / non-conforming (4)
 - Prefer not to say (5)
3. Choose one or more races that you consider yourself to be.
 - White or Caucasian (1)
 - Hispanic or Latino (8)
 - Black or African American (2)
 - American Indian/Native American or Alaska Native (3)
 - Asian (4)
 - Native Hawaiian or Other Pacific Islander (5)
 - Other (6)
 - Prefer not to say (7)
4. How old are you?
 - 18-24 years old (1)
 - 25-34 years old (2)
 - 35-44 years old (3)
 - 45-54 years old (4)
 - 55-64 years old (5)
 - 65+ years old (6)
 - Prefer not to say (7)
5. Which of the following trainings/professional development you have taken? Please select all that apply
 - LACCD's ITC/IOTL (1)
 - LACCD DE Webinars (2)
 - Workshops/Trainings at the college level (3)
 - @ONE Training (4)
 - CVC/OEI POER Training (5)
 - Workshops from a publisher (6)
 - Other (7) _____

The next set of questions are based upon building a community in online synchronous courses. For the purposes of these next questions, please bring to mind the (course) you taught synchronously online in Fall 2022.

6. How many times have you taught (course) in the **synchronous online** modality prior to Fall 2022?

- 0 times (1)
- 1 times (2)
- 2 times (3)
- 3 times (4)
- 4+ times (5)

7. How many times have you taught (course) in any modality **other than** synchronous online (i.e. face-to-face, asynchronous online, hybrid etc.), prior to Fall 2022?

- 0 times (1)
- 1 times (2)
- 2 times (3)
- 3 times (4)
- 4+ times (5)

One way to define a community of inquiry is, "a group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding."

8. Rate the extent to which you felt you were successful in building a community of inquiry in (course) in Fall 2022.

	Not successful (1)	Slightly successful (2)	Moderately successful (3)	Very successful (4)
In this particular course (Q20_1)	○	○	○	○
In online synchronous courses in general (Q20_2)	○	○	○	○
For teaching this course face-to-face rather than synchronous online (if applicable) (Q20_3)	○	○	○	○

9. To what extent did you use each of the following activities in (course) in Fall 2022?

	never (1)	less than once per class session (2)	about once per class session (3)	more than once per class session (4)
Social Ice Breakers (Q11_1)	○	○	○	○
Small Group Breakouts (using Videoconferencing) (Q11_2)	○	○	○	○
Metacognitive activities (activities which incorporate reflection about one's mental process) (Q11_3)	○	○	○	○

10. Please indicate your level of agreement with the statements below regarding (course) in Fall 2022.

	strongly disagree (1)	Somewh at disagree (2)	Neither agree nor disagree (3)	Somewh at agree (4)	Strongly agree (5)
I clearly communicated important course instructions, dates, topics, and goals (TP) (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I provided helpful and regular feedback (TP) (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students in my course were able to form a sense of belonging (SP) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students felt comfortable engaging and collaborating with others (SP) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students sharing new information with each other was a primary learning activity (CP) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I developed challenging problems which motivated students to explore (CP) (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX B: INTERVIEW PROTOCOL

Warmups:

1. How long have you worked in education?
2. What institution do you work for?
3. What are your day to day activities you do for work? Can you describe a typical day?
4. How long have you been teaching online?
 - a. Synchronous online?
5. Can you explain how you gravitated to synchronous online learning?

Community Building:

In online synch courses:

Questions w/ "community"

1. This study is about community. How would you describe the concept of community? Do you feel like you are in a community?
 - a. Followup: Could you point out anything which is unique to online communities?
 - b. Followup: Can you please explain the key elements of community in an online course?
2. What do you do to build community? What do you have your students do to build community?
 - a. How does your approach to building community in a SO course differ from how you would build community in a face-to-face course?
 - b. How do you create a collaborative environment?
 - c. How do you develop a sense of belonging?
 - d. What are the things you tried that have failed?
 - e. Probe - what are the activities you incorporate, tools, strategies
 - f. What tools do you use to build community in your synchronous online courses? (Your LMS, Zoom, Google docs etc...)
 - i. Direct Followup: All of you have used Zoom videoconferencing over the pandemic - can you talk about how Zoom, or video conferencing more generally, impacts community building?
 - ii. Direct Followup: How frequently do you use tools other than videoconferencing?
 - iii. Direct Followup: On a scale of 1-10, could you rate how important these tools are for building community?
 - iv. Which of these tools do you believe are basic or essential for building community?

3. What strategies do you use for building community in your online synchronous courses?
 - a. Optional Followup: You mentioned “X”, can you please say a bit more about that?
4. Can you explain the work students do outside of lecture hours?
 - a. How does this work help build community?
5. What challenges have you faced when it comes to building community in synchronous online courses? (Examples: Devices, learning environments, tech access, economics)
 - a. Followup: How relevant were these challenges in the pre and post pandemic environment?
 - b. Followup: In what ways are these challenges grounded in student equity?
 - c. Followup: What strategies have you used to overcome these challenges?

REFERENCES

- Adair, H., & Slattery, J. (2021, January 23). *Cameras in Zoom: Should they be on?* Hand in Hand. <https://handinhandclarion.wordpress.com/2021/01/23/cameras-in-zoom-should-they-be-on>
- Adams, B., & Wilson, N. S. (2020). Building community in asynchronous online higher education courses through collaborative annotation. *Journal of Educational Technology Systems, 49*(2), 250-261.
- Akcaoglu, M., & Lee, E. (2016). Increasing social presence in online learning through small group discussions. *International Review of Research in Open and Distributed Learning, 17*(3), 1-17.
- Akyol, Z., & Garrison, D. R. (2008). The development of a community of inquiry over time in an online course: understanding the progression and integration of social, cognitive and teaching presence. *Journal of Asynchronous Learning Networks, 12*(3-4), 3-22.
- Akyol, Z., & Garrison, D. R. (2011). Assessing metacognition in an online community of inquiry. *The Internet and Higher Education, 14*(3), 183-190.
- Alhazbi, & Hasan, M. A. (2021). The role of self-regulation in remote emergency learning: Comparing synchronous and asynchronous online learning. *Sustainability, 13*(19), 11070. <https://doi.org/10.3390/su131911070>
- Allen, I. E., & Seaman, J. (2015). *Grade level: Tracking online education in the United States*. Babson Survey Research Group and Quahog Research Group, LLC. <http://www.onlinelearningsurvey.com/reports/gradelevel.pdf>
- Al-Samarraie, H. (2019). A Scoping Review of Videoconferencing Systems in Higher Education: Learning Paradigms, Opportunities, and Challenges. *The International Review*

of Research in Open and Distributed Learning, 20(3).

<https://doi.org/10.19173/irrodl.v20i4.4037>

Correia, A.-P., Liu, C., & Xu, F. (2020) Evaluating videoconferencing systems for the quality of the educational experience, *Distance Education*, 41(4), 429-452.

<https://doi.org/10.1080/01587919.2020.1821607>

Arbaugh, J. B., Cleveland-Innes, M., Diaz, S. R., Garrison, D. R., Ice, P., Richardson, J. C., & Swan, K.P. (2008). Developing a community of inquiry instrument: Testing a measure of the Community of Inquiry framework using a multi-institutional sample. *The Internet and higher Education*, 11(3-4), 133-136.

Armellini, A., & De Stefani, M. (2016). Social presence in the 21st century: An adjustment to the Community of Inquiry framework. *British Journal of Educational Technology*, 47(6), 1202-1216.

Armstrong-Stassen, M., Landstrom, M., & Lumpkin, R. (1998). Students' reactions to the introduction of videoconferencing for classroom instruction. *The Information Society*, 14(2), 153-164. <https://doi.org/10.1080/019722498128944>

Bailey, D. (2022). Interactivity during Covid-19: Mediation of learner interactions on social presence and expected learning outcome within videoconference EFL courses. *Journal of Computers in Education*, 9, 291–313. <https://doi.org/10.1007/s40692-021-00204-w>

Baker, C. (2010). The impact of instructor immediacy and presence for online student affective learning, cognition, and motivation. *Journal of Educators Online*, 7(1), 1–30.

Barkley, E. F., Cross, K. P., & Major, C. H. (2014). *Collaborative learning techniques: A handbook for college faculty*. John Wiley & Sons.

- Barr, B. (2014). Identifying and addressing the mental health needs of online students in higher education. *Online Journal of Distance Learning Administration*, 17(2), 35–40.
- Bedenlier, S., Wunder, I., Gläser-Zikuda, M., Kammerl, R., Kopp, B., Ziegler, A., & Händel, M. (2020). “Generation invisible.” *Higher education students’ (non)use of webcams in synchronous online learning*. <https://doi.org/10.31234/osf.io/7brp6>
- Berry, S. (2017). *Exploring community in an online doctoral program: A digital case study*. (Publication No. 10257431) [Doctoral dissertation, University of Southern California]. ProQuest Dissertations & Theses Global.
- Berry, S. (2019). Teaching to connect: Community-building strategies for the virtual classroom. *Online Learning*, 23(1), 164-183.
- Blum, S. D. (2020). *Why rating students undermines learning (and what to do instead)*. West Virginia University Press.
- Brady, P. T. (1971). Effects of transmission delay on conversational behavior on echo-free telephone circuits. *Bell System Technical Journal*, 50(1), 115–134.
<https://doi.org/10.1002/j.1538-7305.1971.tb02538.x>
- California Community Colleges Chancellor’s Office. (2022). *DataMart - Students/Headcounts* [Data file]. Retrieved from <https://datamart.cccco.edu/DataMart.aspx>
- Chlup, D. T., & Collins, T. E. (2010). Breaking the ice: Using ice-breakers and re-energizers with adult learners. *Adult Learning*, 21(3-4), 34-39.
- Clark, C., Strudler, N., & Grove, K. (2015). Comparing asynchronous and synchronous video versus text based discussions in an online teacher education course. *Online Learning*, 19(3), 48-69.

- Coleman, M. E. (2022). Mental health in the college classroom: Best practices for instructors. *Teaching Sociology*, 50(2), 168–182. <https://doi.org/10.1177/0092055X221080433>
- Columbia Teaching and Learning. (n.d.). *Community building in the classroom*.
<https://ctl.columbia.edu/resources-and-technology/teaching-with-technology/teaching-online/community-building/>
- Darabi, A., Sikorski, E., & Harvey, B. (2006). Validated competencies for distance teaching. *Distance Education*, 27(1), 105-122. <https://doi.org/10.1080/01587910600654809>
- Demmans Epp, C., Phirangee, K., & Hewitt, J. (2017). Student actions and community in online courses: The roles played by course length and facilitation method. *Online Learning*, 21(4), 53-77. <https://doi.org/10.24059/olj.v21i4.1269>
- Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. MacMillan.
- Dolmans, D. H. J. M., de Grave, W., Wolfhagen, I. H. A. P., & van der Vleuten, C. P. M. (2021). Problem-based learning: Future challenges for educational practice and research. *Medical Education*, 39(7), 732-41.
- d’Alessio, M. A., Lundquist, L. L., Schwartz, J. J., Pedone, V., Pavia, J., & Fleck, J. (2019). Social presence enhances student performance in an online geology course but depends on instructor facilitation. *Journal of Geoscience Education*, 67(3), 222-236.
- Fox, J. (2022). *polycor: Polychoric and polyserial correlations* [R package version 0.8-1].
<https://CRAN.R-project.org/package=polycor/>
- Fulton, K., & Riel, M. (2005). *Collaborative online continuing education: Professional development through learning communities*. Edutopia.
http://www.edutopia.org/php/article.php?id=Art_481&key=338

- Garrison, D. R. (1985). Three generations of technological innovations in distance education. *Distance Education*, 6(2), 235-241. <https://doi.org/10.1080/0158791850060208>
- Garrison, D. R. (2009). Communities of inquiry in online learning. In P. L. Rogers, G. A. Berg, J. Boettcher, C. Howard, L. Justice, & K. D. Schenk (Eds.), *Encyclopedia of distance learning* (2nd ed., pp. 352-355). IGI Global.
- Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2), 87-105.
- Garrison, D. R., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. *Internet and Higher Education*, 13, 5-9.
- Gerstein, R. (2000). Videoconferencing in the classroom. *Computers in the Schools*, 16(3-4), 177-186. https://doi.org/10.1300/J025v16n03_06
- Gillies, D. (2008). Student perspectives on videoconferencing in teacher education at a distance. *Distance Education*, 29(1), 107-118. <https://doi.org/10.1080/01587910802004878>
- Gluckman, N. S., Eagle, A., Michalitsi, M., & Reynolds, N. (2023). Adapting to the COVID-19 pandemic: A psychological crisis support call service within a community mental health team. *Community Mental Health Journal*, 59(1), 25-34.
- Goldstein, L. S. (1999). The Relational Zone: The role of caring relationships in the co-construction of mind. *American Educational Research Journal*, 36(3), 647-673.
- Hamann, K., Pollock, P. H., & Wilson, B. M. (2012). Assessing student perceptions of the benefits of discussions in small-group, large-class, and online learning contexts. *College Teaching*, 60(2), 65-75.

- Jiang, M. (2020). *The reason Zoom calls drain your energy*. BBC Worklife.
<https://www.bbc.com/worklife/article/20200421-why-zoom-video-chats-are-so-exhausting>
- Johns Hopkins University (2018, February). *Task Force on Student Mental Health and Well-Being*. <https://provost.jhu.edu/wp-content/uploads/sites/4/2018/02/Task-Force-on-Student-Mental-Health-and-Well-being-Final-Report.pdf>
- Ke, F., & Hoadley, C. (2009). Evaluating online learning communities. *Educational Technology Research and Development*, 57(4), 487-510. <https://doi.org/10.1007/s11423-009-9120-2>
- Kock, N. (2005). Media richness or media naturalness? The evolution of our biological communication apparatus and its influence on our behavior toward e-communication tools. *IEEE Transactions on Professional Communication*, 48(2), 117–130.
<https://doi.org/10.1109/tpc.2005.849649>
- Lai, K. W. (2015). Knowledge construction in online learning communities: A case study of a doctoral course. *Studies in Higher Education*, 40(4), 561-579.
- Lawson, T., Comber, C., Gage, J., & Cullum-Hanshaw, A. (2010). Images of the future for education? Videoconferencing: a literature review. *Technology, Pedagogy and Education*, 19(3), 295-314. <https://doi.org/10.1080/1475939X.2010.513761>
- Leblanc, A., & Lindgren, C. (2013). Development of on-line courses focusing on quality. In *Proceedings: The Open and Flexible Higher Education Conference 2013*.
- Lohr, K. D., & Haley, K. J. (2018). Using biographical prompts to build community in an online graduate course: An adult learning perspective. *Adult Learning*, 29(1), 11-19.
<https://doi.org/10.1177/1045159517735597>

- Los Angeles Community College District Department of Educational Programs and Institutional Effectiveness. (2021). *Institutional research - Student surveys* [Data file]. Retrieved from <https://www.laccd.edu/Departments/EPIE/Research/Pages/Student-Surveys.aspx>
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning, 22*(1), 205-222. <https://olj.onlinelearningconsortium.org/index.php/olj/article/view/1092/371>
- Massner, C. K. (2021). *Zooming in on Zoom fatigue: A case study of videoconferencing and Zoom fatigue in higher education* (Publication No. 10169573) [Doctoral dissertation, Liberty University]. ProQuest Dissertations & Theses Global.
- McGrath, N., Gregory, S., Farley, H., & Roberts, P. (2014). Tools of the trade: Breaking the ice with virtual tools in online learning. In *Proceedings of the 31st Australasian Society for Computers in Learning in Tertiary Education Conference* (ASCILITE 2014) (pp. 470-474). Macquarie University.
- McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology, 14*, 6-23. [https://doi.org/10.1002/1520-6629\(198601\)14:1<6::AID-JCOP2290140103>3.0.CO;2-I](https://doi.org/10.1002/1520-6629(198601)14:1<6::AID-JCOP2290140103>3.0.CO;2-I)
- Means, B., & Neisler, J. (2021). Teaching and learning in the time of COVID: The student perspective. *Online Learning, 25*(1), 8-27. <https://doi.org/10.24059/olj.v25i1.2496>
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass Publishers.
- Nesher Shoshan, H., & Wehrt, W. (2021). Understanding Zoom fatigue: A mixed-method approach. *Applied Psychology, 71*(3), 827-852. <https://doi.org/10.1111/apps.12360>

Noddings, N. (2003). *Happiness and education*. Cambridge University Press.

<https://doi.org/10.1017/CBO9780511499920>

Oducado, R. M. F., Fajardo, M. T. R., Parreño-Lachica, G. M., Maniago, J. D., Villanueva, P. M.

B., Dequilla, M. A. C. V., et al. (2021) Is videoconference “Zoom” fatigue real among nursing students? *Journal of Loss and Trauma*, 27(5), 490-492.

<https://doi.org/10.1080/15325024.2021.1950987>

Oyarzun, B., Hancock, C., Salas, S., & Martin, F. (2021) Synchronous meetings, community of inquiry, COVID-19, and online graduate teacher education. *Journal of Digital Learning in Teacher Education*, 37(2), 111-127. <https://doi.org/10.1080/21532974.2021.1890653>

Palloff, R. M., & Pratt, K. (2007). *Building online learning communities: Effective strategies for the virtual classroom*. John Wiley & Sons.

Peacock, S., & Cowan, J. (2019). Promoting sense of belonging in online learning communities of inquiry in accredited courses. *Online Learning*, 23(2), 67-81.

<https://doi.org/10.24059/olj.v23i2.1488>

Pelletier, S. (2021). *The digital campus: Obstacles and opportunities in tech transformation*. The Chronicle of Higher Education. <https://www.chronicle.com/featured/digital-higher-ed/>

Pierce, S. J. (2023). *piercer: Functions for research and statistical computing* [R package version 0.16.0]. <https://github.com/sjpierce/piercer/>

Pinsk, R., Curran, M., Poirier, R., & Coulson, G. (2014). Student perceptions of the use of student-generated video in online discussions as a mechanism to establish social presence for non-traditional students: A case study. *Issues in Information Systems*, 15, 267-276.

R Core Team (2022). *R: A language and environment for statistical computing* [software]. R Foundation for Statistical Computing. <https://www.R-project.org/>

- Reed, M. (2020, May 13). *Should showing faces be mandatory? A new question posed by technology*. Inside Higher Ed Blog. <https://www.insidehighered.com/blogs/confessions-community-college-dean/should-showing-faces-be-mandatory>
- Roblyer, M. D. (2003). *Integrating educational technology into teaching*. Merrill Prentice Hall.
- Rolim, V., Ferreira, R., Lins, R. D., & Găsević, D. (2019). A network-based analytic approach to uncovering the relationship between social and cognitive presences in communities of inquiry. *The Internet and Higher Education*, 42, 53–65.
<https://doi.org/10.1016/j.iheduc.2019.05.001>
- Rovai, A. (2003). In search of higher persistence rates in distance education online programs. *The Internet and Higher Education*, 6(1), 1-16.
- Schoenenberg, K., Raake, A., & Koeppel, J. (2014). Why are you so slow?—Misattribution of transmission delay to attributes of the conversation partner at the far-end. *International Journal of Human-Computer Studies*, 72(5), 477–487.
<https://doi.org/10.1016/j.ijhcs.2014.02.004>
- Selingo, J. J. (2016). *There is life after college: What parents and students should know about navigating school to prepare for the jobs of tomorrow*. Harper Collins Publisher.
- Swedberg, R. (2020). Exploratory research. In C. Elman, J. Gerring, & J. Mahoney (Eds.), *The production of knowledge: Enhancing progress in social science* (pp. 17-41). Cambridge University Press. <https://doi.org/10.1017/9781108762519.002>
- Tanner, K. D. (2012). Promoting student metacognition. *CBE—Life Sciences Education*, 11(2), 113-120.
- U. S. Census Bureau. (2020). *Household Pulse Survey*.

- van Wyk, M. M., Amponsah, S., & Michael Kojo Kolugu. (2022). Academic Experiences of “Zoom-fatigue” as a virtual streaming phenomenon during the COVID-19 Pandemic. *International Journal of Web-Based Learning and Teaching Technologies*, 17(6), 1–16.
- Vesely, P., Bloom, L., & Sherlock, J. (2007). Key elements of building online community: Comparing faculty and student perceptions. *MERLOT Journal of Online Learning and Teaching*, 3(3), 234-246.
- Walker, C., & Gleaves, A. (2016). Constructing the caring higher education teacher: A theoretical framework. *Teaching and Teacher Education*, 54, 65-76.
- Warner, A. (2016). Developing a community of inquiry in a face-to-face class: How an online learning framework can enrich traditional classroom practice. *Journal of Management Education*, 40(4), 432–452. <https://doi.org/10.1177/1052562916629515>
- Wijaya, M. I., Suzanna, S., Utomo, D., & Adnizio, K. (2021). Analysing the impact of social presence on student satisfaction through small group discussion in a synchronous online learning. In *International Conference on Software Engineering & Computer Systems and 4th International Conference on Computational Science and Information Management* (pp. 136-142). <https://doi.org/10.1109/ICSECS52883.2021.00032>
- Williams, N. (2021). Working through COVID-19: “Zoom” gloom and “Zoom” fatigue. *Occupational Medicine*, 71(3), 164–164. <https://doi.org/10.1093/occmed/kqab041>
- Williamson, B., Enyon, R., & Potter, J. (2020). Pandemic politics, pedagogies and practices: Digital technologies and distance education during the coronavirus emergency. *Learning, Media and Technology*, 45(2), 107-114. <https://doi.org/10.1080/17439884.2020.1761641>
- Wittgenstein, L. (1953). *Philosophical investigations* (G. E. Anscombe, Trans.). Macmillan.

Yahya, A., Tasir, Z., Al-Rahmi, W., Al-Sharafi, M. A., & Mydin, A. (2020). Modeling of students online social presence on social networking sites and academic performance. *International Journal of Emerging Technologies in Learning (iJET)*, 15, 56-71.