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Online Course Communication and International Student Academic Performance

Christie L. Smith
Abilene Christian University, cls17a@acu.edu

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Doctor of Education in Organizational Leadership

Nannette W. Glenn, Ph.D.

Dr. Nannette Glenn, Dean of the College of Graduate and Professional Studies

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Dissertation Committee:

Dr. J. Scott Self, Chair

Clementine M. Msengi

Dr. Clementine M. Msengi

Joseph Cardot

Dr. Joseph Cardot

Abilene Christian University

School of Educational Leadership

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Acknowledgments

But Moses' hands grew weary, so they took a stone and put it under him, and he sat on it, while Aaron and Hur held up his hands, one on one side, and the other on the other side. So his hands were steady until the going down of the sun. (Exodus 17:12, ESV)

I thank God for those "Aarons" and "Hurs" (Exodus 17:12, ESV) He sent to love and support me as I grew weary. To my amazing, faithful, and strong husband, Michael, I cannot begin to list the sacrifices you have made as you walked this journey alongside me. Thirty-three years ago, God gave me you and gave you a calling that would involve years of high-maintenance "spousing"—four of which have culminated in your expression of the deepest love a wife could ever know. You put life on hold for this insane goal of mine, yet you never complained and never ceased to meet my every need. I don't deserve you, but God is all about giving unmerited favor to His children. I consider you the second grace he bestowed on me immediately after He saved my soul.

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dream to be involved in the lives of her kids and grandkids, and now that this dissertation is complete, I plan to annoy you all with my presence!

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Abstract

Online course communication activities can be used to support the social and cognitive needs of students in online courses, but when those students are international students from across the globe studying in the United States where there are language and cultural differences, online learning can be a challenge. The purpose of this study was to examine undergraduate international students' online course communication behaviors and their academic performance in order to inform quality online course development and delivery. In this qualitative case study, semistructured interviews with 11 undergraduate international students were conducted, online course communication behaviors were observed, and five faculty members were interviewed. Data collection took place virtually via videoconferencing that were recorded and then transcribed in order to code and analyze the data. The community of inquiry model was utilized in creating the instruments used for this study, as well as in the data analysis and conclusion formulation. Findings indicated that while international students performed well in their course communication activities, their learning experiences could have been enhanced by more direct instruction using multimedia, a higher degree of interaction with professors, and more informal social learning opportunities. Higher education institutions in the United States can benefit from this research by implementing recommended instructional design and delivery strategies.

Keywords: Community of Inquiry, communication, higher education, interaction, instructional design, instructional strategies, international student, online learning

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Chapter 1: Introduction

Studying in a foreign country can threaten the academic success of even the most well-prepared college student, and taking online courses could make matters worse. Many international students currently studying in the United States make online learning their mode of choice, despite the additional challenges it may bring (Institute of International Education, 2020; Sadykova & Meskill, 2019). Communication activities in the online course could help their academic performance, but potential language and cultural barriers may get in the way (Kumi-Yeboah & Smith, 2016; Zhang & Kenny, 2010).

This chapter begins by informing the reader of two general subjects of the study and how they are currently situated in the realm of higher education in the United States: (a) the prevalence of, and protocol for, admitting and serving the international student population; and (b) the growing popularity of online learning. Following the cursory information about the main topics of study is a description of the theoretical framework against which all aspects of the study were analyzed and interpreted. Finally, the statement of the problem, purpose of the study, research questions, and key term definitions are presented.

International Students in Higher Education

The number of international students in U.S. higher education institutions has remained over one million since 2015 and as late as 2020 represented 5.5% of all U.S. college students (Institute of International Education, 2020). Recruitment of international students is big business in higher education, as it can result in substantially increased revenue streams (Jin & Schneider, 2019). According to the U.S. Department of Commerce, it is estimated that $45 billion brought into the U.S. economy in 2018 came from international students (Institute of International Education, n.d.). International students study abroad in the United States and other countries

because they believe they can obtain a higher quality education there than in their home countries (MacGregor & Folinazzo, 2018). More specifically, they gain global communication skills, which consequently increase their earning potential, especially with multinational corporations (Rawlings & Sue, 2013).

Because communication skills are essential for student success (Campbell et al., 2016), international students are normally expected to prove English language proficiency through testing or completing remedial English programs before they are allowed to enroll in college-level courses (Karkar-Esperat, 2018). Options vary by institution. Typical tests of English language proficiency are the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), and Pearson Test of English (PTE; Berdan & Goodman, 2016; EducationUSA, 2020).

Online Learning in Higher Education

Online learning continues to increase at higher education institutions in the United States. In 2017, over 6 million students enrolled in online college courses, which can be offered in various forms, including asynchronous fully online courses, blended or hybrid courses, and synchronous face-to-face web-enabled courses (Bastrikin, 2020). Students choose to enroll in online courses for access, flexibility, and convenience (Karkar-Esperat, 2018). While undergraduates represent a greater percentage of students taking at least one online course, graduates represent the larger proportion of those enrolled exclusively online (Bastrikin, 2020; National Center for Educational Statistics, 2018).

Conceptual Framework

Online courses have been historically criticized for high attrition rates, due in part to social factors (Bawa, 2016); therefore, researchers and educators have made great strides in

finding effective strategies to engage students and improve their performance. One conceptual framework cited in many such studies is the Community of Inquiry (CoI) framework, posited by Garrison et al. (2000) as essential for deep learning in online courses. CoI involves three types of presence that must take place in order to build community: teaching presence, social presence, and cognitive presence. Teaching presence is the instructor's effort in selecting content, facilitating learning, assessing student learning, and providing feedback. Social presence is the student's connection with classmates and building relationships. Cognitive presence is the student's ability to construct meaning through continued dialog with the classroom community.

Statement of the Problem

While international students meet English language proficiency requirements in order to take college-level courses in the United States, they still experience challenges that adversely affect their academic performance (MacGregor & Folinazzo, 2018). Both international students and the faculty who teach and advise them report challenges related to cultural and language differences, including communication, self-efficacy, self-regulated learning skills, isolation, and philosophical learning differences and/or preferences. Moreover, studies show that factors such as course curricula, instruction, and institutional dynamics further compound the difficulties that international students face (Ku & Lohr, 2003; Kumi-Yeboah, 2018; Sadykova, 2014). Andrade (2010), specifically, concluded that, while faculty are sympathetic to students' language learning needs, they view the responsibility for improvement as being that of the students themselves or the English and/or English as a Second Language (ESL) faculty.

Although online learning is a popular mode of delivery in the United States (National Center for Educational Statistics, 2018), online student success and retention rates have been consistently lower than those of traditional programs due to social, technological, and

motivational issues (Bawa, 2016). For international students who already face similar challenges in on-ground courses, online learning can exacerbate the problem (Sadykova & Meskill, 2019). Some studies, however, report the opposite, citing the difference being the presence and strength of instructional strategies, curriculum design quality, and student services (Heitner & Jennings, 2016; Kumi-Yeboah & Smith, 2016; Powell & Kalina, 2009; Sadykova, 2014).

Higher education institutions strive to help their students perform well academically and accomplish their educational goals. It is crucial, therefore, for faculty, curriculum developers, instructional designers, and administrators to fully comprehend the factors that contribute to international student performance in online courses. Analyzing academic performance by merely examining the students' GPAs, as has been done in past studies (Kumi-Yeboah & Smith, 2016), is not sufficient; a more holistic view of student performance requires examining their engagement in the online classroom, alongside how well they met the learning outcomes (Cao et al., 2014; Haan et al., 2017; Unruh, 2015).

Furthermore, while studies of online students abound, most that focus on international students, in particular, and involve only graduate students. Undergraduate international student success in online courses is worth additional consideration.

Purpose of the Study

The purpose of this study was to examine undergraduate international students' online course communication behaviors and their academic performance in order to inform quality online course development and delivery. In this qualitative case study, I interviewed and observed a purposive sample of 11 international undergraduate college students in a very large, public, two-year college in order to report on their experiences in an online course.

I solicited participants from a list of international students who were enrolled in online courses during the timeframe of the study. I collected case study data through semistructured interviews with students and faculty as well as extraction of documents and artifacts (summative assessments, activity logs, and digital communication) from the institution's learning management system.

Research Questions

RQ1: How do communication activities in online courses support the cognitive and social needs of international undergraduate students?

RQ2: How do undergraduate international students utilize online course communication to support their cognitive and social needs?

Definition of Key Terms

Affective domain. The affective domain is a category used to describe students' attainment of educational goals in the realm of emotional capacities, such as feelings, values, and attitudes (APA, 2020).

Blended or hybrid courses. Courses that are facilitated through a combination of online and face-to-face methods, with 30 to 79% of delivery conducted via online resources such as online discussions, posting and submission of assignments online, and multimedia lecture content available online (Simonson, 2019).

Cognitive domain. The cognitive domain is a category used to describe students' attainment of educational goals in the realm of intellectual capacities, such as understanding, applying, analyzing, and evaluating (APA, 2020).

Domestic students. Students that are studying at U.S. higher education institutions and are U.S. citizens or have permanent resident status (Kim et al., 2017).

English language proficient. A non-native English speaker's ability to use the English language to participate and succeed in an English-only learning environment (Great Schools Partnership, 2014).

Face-to-face web enabled courses. These courses are held in real time, but the instructor(s) and students are in different physical locations. They meet virtually using teleconferencing technologies (Bastrikin, 2020).

Fully online courses. Courses that are fully online are those that provide most or all of the instruction, assessment, and communication online (Bastrikin, 2020).

International students. These are foreign students studying at U.S. higher education institutions while in the country on a temporary basis, usually on an F-1 student visa (Kim et al., 2017).

Nonresident alien. A person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely (National Center for Educational Statistics, 2020).

Online learning. A method of education whereby students learn in a fully virtual environment, enabling them to engage with an academic institution and other students online from different geographical areas and learn flexibly, at their own pace, while working towards a degree or certificate (Top Hat, 2020).

Self-efficacy. An individual's subjective perception of their ability to perform or to attain desired results (APA, 2020).

Self-regulation. An individual's capacity to autonomously control their behavior (APA, 2020; Kegan, 1982).

The Test of English as a Foreign Language (TOEFL). The standardized test designed to determine an applicant's ability to benefit from instruction in English (National Center for Educational Statistics, 2020).

Summary

In this chapter, I introduced the multifaceted phenomenon faced by institutions of higher education in the United States. While institutions favor international student enrollments, they are ill-prepared to academically support this student population within the online environment. The review of literature in Chapter 2 expands on the contextual background and theoretical models summarized above and then delve into the current research showing how (a) international students, in general, may be supported academically, and (b) all students are best supported in the context of online learning. Ultimately, the stage is set for a study that bridges the gap between those two areas of research and shows how international students may best be supported academically in online courses.

Chapter 2: Review of the Literature

The purpose of this study was to examine undergraduate international students' online course communication behaviors and their academic performance in order to inform quality online course development and delivery. The study attempted to reveal the types of instructional practices and learning activities that contribute to improved international college student performance in online courses.

The following is a review of the literature resulting from an investigation of the CoI framework, online learning challenges in higher education, international students who study in U.S. institutions of higher education, and the particular case of international students taking online courses.

Literature Search Methods

I discovered the literature presented in this chapter through multiple search methods. My focus was on empirical studies found in peer-reviewed journal articles and books; however, where relevant, I searched educational organization and government data sources through online websites. I used the Abilene Christian University Library website to access most sources using the EBSCO Host research platform. Databases and other sources include Athens Institute for Education & Research, Business Source Complete, Directory of Open Access Journals, Education Source, Elsevier, ERIC, Online Learning Consortium, online-journals.org, SAGE, ScienceDirect, Taylor and Francis Online Worldcat.org, and Zenodo.org. I searched using multiple combinations of the following terms as keywords and phrases: academic performance, attrition, challenges, CoI framework, college, curriculum, distance learning, English Language Learner (ELL), discussion, faculty, higher education, instructional design, instructional

strategies, interaction, international student, learning activities, online learning, persistence, presence, study abroad, success, teaching practices, and university.

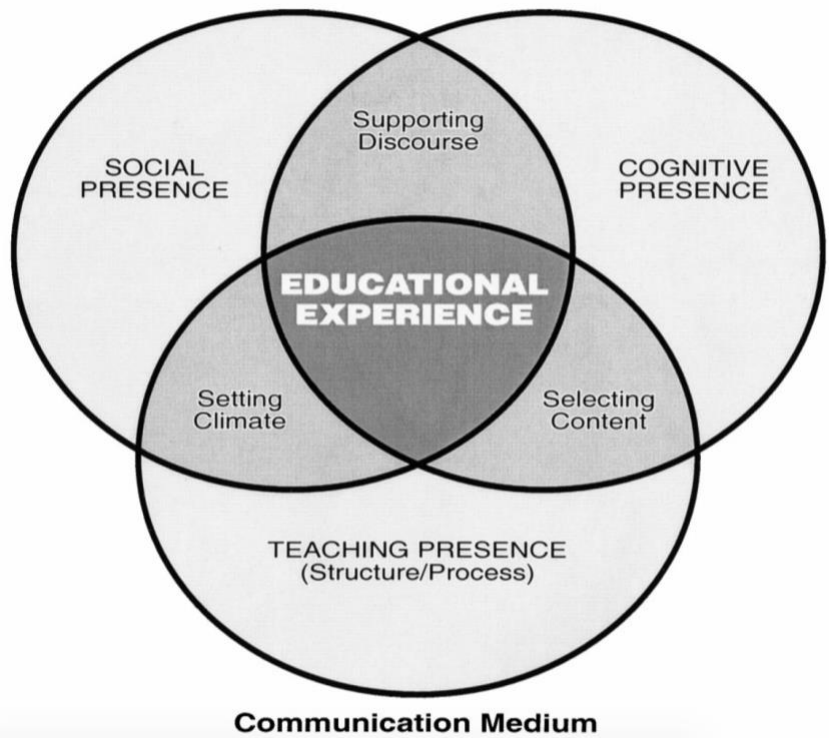
Community of Inquiry (CoI) Model

The ultimate goal for higher education institutions is to see students persist and succeed in accomplishing their educational goals. In the case of academic success for students in online learning environments, in particular, the community of inquiry (CoI) model provides appropriate and useful considerations for researchers; therefore, it is the model that I used to frame this study. When online learning, termed *distance learning* in the CoI model's seminal studies, began incorporating asynchronous computer-mediated, text-based communication among students and instructors, there arose a need for understanding how computer conferencing facilitated the learning process (Garrison et al., 2000). The dilemma was how to determine if community was being developed and maintained at a distance and, if so, whether it contributed to cognitive development in the same way that in-person communication did.

Canada's University of Alberta colleagues Randy Garrison, Terry Anderson, and Walter Archer developed the CoI model, which has made possible the analysis of text-based conversations in online courses (Garrison et al., 2000). CoI is a conceptual framework based on a collaborative-constructivist learning approach that examines three elements of electronic educational conferencing—elements that must be present in any educational experience, whether online or in person: cognitive presence, social presence, and teaching presence. Figure 1 is the CoI model diagram depicting their interrelationship and how they work together to affect the educational experience.

Figure 1

Community of Inquiry (CoI) Model Diagram



Note. Figure from "Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education," by D. R. Garrison, T. Anderson, & W. Archer, 2000, *The Internet and Higher Education, 2*(2), p. 88. Copyright 2000 by Garrison et al. Reprinted with permission (See Appendix A).

The framework was used to create a template for researchers to analyze and code communication transcripts and identify the existence of the three key elements, each of which is described below.

Cognitive Presence

The first CoI element, cognitive presence, is how well learners can "construct meaning through sustained communication" in a community of inquiry (Garrison et al., 2000, p. 89). It is the most essential presence for critical thinking, which is a principal outcome for college students (Shea & Bidjerano, 2009). Sustained communication, however, is more easily examined

through oral than through written modes of communication, and because online learning mostly involves written communication that flows differently, Garrison et al. (2000) found it necessary to develop a tool that could identify unique indicators of critical thinking in written transcripts. Working from Dewey's (1933) model of critical thinking called the Practical Inquiry (PI) model, they developed the following categories of cognitive presence indicators: (a) a triggering event that creates a state of dissonance in the learner' mind, (b) exploration to find information that will ease the feeling of dissonance and find clarity, (c) integration of the newly discovered information, and (d) resolution of the problem. Cognitive presence, then, can be identified in written transcripts by indicators such as showing an awareness of a problem (triggering event), discussing uncertainties (exploration), relating ideas to suggest solutions (integration), and lastly applying the concepts to evaluate solutions (resolution; Garrison et al., 2000).

During the first decade of the CoI model's use, further studies indicated that there may have been too much emphasis on cognitive presence alone because of its connection to critical thinking (Garrison et al., 2010). While this revelation appeared to fault the authors' emphasis on cognitive presence, it also served to confirm the necessity for all three of the model's presences to work together in creating an effective community of inquiry. Shea and Bidjerano (2009), for example, found that 70% of cognitive presence variation among students was directly related to the fostering of teaching and social presence by their instructors. Furthermore, students reported higher cognitive presence when their instructors actively facilitated discussions to maintain their relevancy. These additional factors—namely social presence and teaching presence—work in conjunction to enhance cognitive presence.

Social Presence

While the cognitive domain of learning is viewed as fundamental to education, it is not what motivates students to persist (Tinto, 1987). They must find fulfillment in the learning process, which, in the realm of communication, is found in how they relate to their classmates and instructors. This affective domain of the learning environment exhibited through social presence was argued by Rourke et al. (1999) as having a direct influence on academic success when it works alongside cognitive presence to support critical thinking. The authors explained social presence as the student's ability to "project themselves socially and emotionally in a community of inquiry" (p. 52). Garrison et al. (2000) listed the following categories of social presence indicators in written transcripts: emotional expression, open communication, and group cohesion.

Multiple studies have attempted to prove that social presence cannot be as effective in text-based communication because of (a) the lack of nonverbal and social context cues (Short et al., 1976), (b) the possibility of participants' lack of restraint or immodest sharing, and (c) the potential for other socially unacceptable behaviors that would not normally be exhibited in face-to-face discussions (Sproul & Kiesler, 1986). However, other studies have reported the benefits of online communication. For instance, students are able to concentrate less on the "how" of interacting (Daft & Lengel, 1986) and more on the content of their contributions. Another study showed that students tend to include more interpersonal elements in their writing than they would in speaking (Hara et al., 2000). After nearly a decade of criticisms and further research, Garrison (2009) found a stronger link between social presence and academic inquiry. The dimensions of social presence progressed over time in the course, from the early formation of the student's social identity, to finding trust in the community and communicating more

purposefully, to finally fostering interpersonal connections. Garrison reported that this progressive nature is similar to that of the other two presences.

Teaching Presence

The third element of the CoI model is teaching presence, which is necessary for pulling the other two elements together. Teaching presence involves three functions: the design, facilitation, and direction of cognitive and social processes (Anderson et al., 2001). Garrison et al. (2000) listed the following indicators of teaching presence in written transcripts: instructional management, building understanding, and direct instruction. The importance of teaching presence cannot be emphasized enough, as it has been strengthened by the results of multiple studies since the initial project concluded (Garrison, 2009).

As social and cognitive presence does not happen naturally in the online environment, they must be intentionally and strategically designed into the curriculum ahead of time by either the instructor or another course developer (Garrison et al., 2000). This is the function of the first dimension of teaching presence—*design and organization*. Opportunities for social and cognitive presence are provided through carefully choosing resources and creating and organizing learning activities and assessments that require collaboration and higher-order thinking skills. After the course launches, *facilitation*, the second function of teaching presence, begins. Notably, Garrison et al. (2000) explained that, in higher education, facilitation is performed by all participants as they discover, share, and apply topics of study within a social context—resulting in a community of learners. Also termed *facilitating discourse*, this function emphasizes collaborative dialogue among all participants, and the instructor's role is to moderate, ensure the discourse is productive and focused, and pose guiding questions (Shea et al., 2006). Lastly, the third dimension of teaching presence is *direct instruction*. This is

accomplished in numerous ways, such as providing feedback, adding diverse perspectives, supplementing with other materials as necessary, etc. (Garrison & Cleveland-Innes, 2005).

Although technology for online learning has evolved since the CoI model was developed over 20 years ago, it is still considered "one of the most extensively used frameworks in online teaching and learning" (Castellanos-Reyes, 2020, p. 558). As the questions for this study ask how communication activities in the online classroom affect student performance, they directly address all three elements of the CoI model: cognitive presence, social presence, and teaching presence.

Online Learning in Higher Education

A 2016 report on distance learning in U.S. higher education showed 14 years of continued enrollment increase, which did not appear to be affected by the type or size of the institution or the economy (Seaman et al., 2018). In 2017, it was reported the 6.6 million postsecondary students enrolled in at least one distance course, of which over 80% were undergraduates (Bastrikin, 2020). Several reasons for the increasing popularity of online learning have been reported: the need for schedule flexibility due to work or family commitments, availability of offerings in the pursued field of study, distance to campus, and the perceived personal anonymity it provides (Bastrikin, 2020; Bawa, 2016; Milman et al., 2015).

Despite the benefits that online learning offers, it has its drawbacks, evidenced by high attrition, low retention, low persistence, and/or low academic success rates (Angelino et al., 2007; Bawa, 2016; Jaggars & Xu, 2010; Xu & Jaggars, 2011). It is, therefore, necessary for institutions to examine why students in online courses and programs drop out or perform poorly so that they may consequently find and implement remediation strategies. A review of the literature regarding online course satisfaction and student retention, revealed four categories of

factors that are discussed below: student-related factors, environment-related factors, institutional and/or program factors, and course-related factors (Lee & Choi, 2011). Rovai (2003), however, emphasized that problems with online course retention, persistence, and success are multi-faceted and often interrelated; therefore, researchers are encouraged to note that students seldomly drop out of online courses and/or programs due to one isolated reason.

Student-Related Factors

In Lee and Choi's (2011) literature review of online course dropout studies spanning 10 years, they found that student factors were the most prominently cited reasons students dropped out of online courses or programs. Student factors include characteristics such as aptitude, past academic performance, previous online learning experience, time management skills, computer proficiencies, ability to handle multiple responsibilities at one time, resilience, and motivation (Bawa, 2016; Nash, 2005; Shea & Bidjerano, 2014). As several studies pointed out, when students initially choose online learning, they are often unprepared for the demanding workload, abundance of information to be processed, and high degree of self-directed learning it requires (Bawa, 2016; Karkar-Esperat, 2018; Kumi-Yeboah & Smith, 2016; Nash, 2005). Similar findings came from a review of literature conducted by Rostaminezhad et al. (2013) that concluded three student-related factors either directly or indirectly affected online course dropout rates: motivation, self-regulation, and interaction.

Interestingly, several studies in Lee and Choi's (2011) review found that neither the student's age nor gender were significant predictors of whether they would drop out of online courses. Other studies, however, found the opposite: student's age, gender, and academic level proved to have direct impacts on dropout rates (Shea & Bidjerano, 2009; Xu & Jaggars, 2013).

Environment Factors

Environment factors, such as work commitments, family responsibilities, and friend influences, were found to affect online course withdrawal, but they are typically outside of the institution's control (Lee & Choi, 2011). Studies show that, if a student's family and/or friends provide a healthy support system, their persistence increases; conversely, pressure from family and/or friend obligations that compete for the student's time and commitment increases the likelihood of withdrawal or failure (Layne et al., 2013; Lee & Choi, 2011; Milman et al., 2015). Bean and Metzner (1985) found that, especially for adult students over 24, who typically enroll in online courses, family and work responsibilities prevent them from fulfilling their educational goals. While Lee and Choi (2011) explained that environment factors are outside of the institution's control, they did recommend identifying these students early and providing them with counseling focused on coping strategies that mitigate the effects of those outside influences.

Institutional and/or Program Factors

Institutional and/or program factors are student support services such as admissions and registration, academic advising, orientations to the institution and to online learning, academic support, financial aid, library resources, technology support, career placement, student organizations, student success and retention services, and tutoring—interventions found to greatly increase satisfaction and/or persistence in online courses (Lee, 2010; Lee & Choi, 2011; Stewart et al., 2013). Administrative structure, faculty salaries and workload, program evaluation and effectiveness, and student access to services were other factors found at the institution level that, when deemed deficient, online student dropouts were higher (Lee & Choi, 2011).

Course-Related Factors

As this study's focus is on what occurs inside the online learning environment from the student and instructor perspective, the remainder of this section is dedicated to the course-related factors affecting student engagement—namely, student interaction and course design. There are three types of student interaction, all of which should be designed into a course: interaction between students and (a) the instructor, (b) the content, and (c) other students (Fredericksen et al., 1999; Lee & Choi, 2011; Swan, 2003). Of those three, instructor-student interaction appeared to make the most significant difference in some studies (Battalio, 2007; Marks et al., 2005). Another study found that instructor variables and interactivity both had strong positive correlations to student satisfaction in the online environment (Bolliger & Martindale, 2004). More recently, Phirangee et al. (2016) found that students actually preferred instructor-facilitated online discussions to peer facilitation because they viewed their instructors as experts in their fields, they prevented students from straying from the topic, and they guided and facilitated learning. This aligned with findings from a previous study that additionally found instructor facilitation as necessary for increasing the momentum of a discussion when it begins to diminish (Hew, 2015). Furthermore, the CoI model purports that instructor facilitation is what makes discourse contribute to learning, versus mere social conferencing that is unrelated to the subject matter of the course (Rourke et al., 1999).

Fewer studies have been conducted to determine the effectiveness of student-to-content interaction, which was explained by Swan (2003) as referring "both to learners' interactions with the course materials and to their interaction with the concepts and ideas they present" (p. 4). Lee and Choi's (2011) review of the literature found that the more students accessed the course content, and the more time they spent viewing the content, the higher their persistence rates

were. However, interaction with content goes beyond viewing the content because, after all, "information is not learning" (Schank, 1998, as cited in Swan, 2003, p. 5).

As explained by the CoI model, course design is one facet of teacher presence, which works alongside social presence to activate cognitive presence (Rourke et al., 1999). Course design is what turns mere content into learning experiences via learning activities that facilitate interaction (Garrison et al., 2000). Course design was defined by Lee and Choi (2011) as the manner in which learning activities meet students' needs. Activities that provide opportunities to interact or collaborate with other class members and/or the instructor are considered desirable course design elements because they satisfy the student's need for belonging (Angelino et al., 2007). For opportunities for interaction to be effective, research shows that they must exist in a learning environment in which students feel connected and comfortable communicating with one another and the instructor (Layne et al., 2013; Rovai, 2002).

Student perceptions of learning were studied extensively by Swan et al. (2000) and Garrison et al. (2001), who found instructor feedback, communication with peers, and course activity increase students' perceptions of learning. Swan et al. (2000) concluded that the instructor is the key to building a "knowledge-building community" (p. 380) in the online course, and that students' connections to that community rely heavily on the instructor's ability to incite participation by facilitating discourse. The authors also emphasized that online discussion is where knowledge is built, and students will only participate if they believe the discussion is worthwhile. Garrison et al. (2001) expanded on this concept with their conclusion that effective discussions spark higher-order thinking, beginning with dissonance, followed by critical discourse, and ending with resolution—all guided by a skilled facilitator.

Challenges to the aforementioned conclusions about the necessity of interaction do exist, however. In a review of 25 studies surrounding the issue of interaction with the instructor, classmates, and content, Battalio (2007) concluded that highly interactive courses may not always be necessary. His findings showed that some students may prefer less interaction and more time to be reflective on what they have learned, explaining that learning styles may play a role. Further, Battalio reported that their study and another earlier study both found that the most helpful interaction was between student and instructor, and the most difficult was student-to-student interaction (Battalio, 2007; Collins, 1996). Berry (2019), on the other hand, found that providing opportunities to connect is not enough; instructors must use community-building strategies to *teach* students how to connect. Such strategies include initiating contact with students early and often during the course, personalizing the course, providing feedback, encouraging social connections outside the online classroom, and incorporating the latest technologies to engage students. More recent technologies used to provide highly interactive experiences were missing from the older studies mentioned by Battalio (2007). Such tools include video discussion posts, videoconferencing, social media, and more.

International Students in Higher Education

For the purpose of generating new revenue, many institutions of higher education outsource agents to recruit international students to come to the United States and study on F-1 visas (Cao et al., 2014; Jin & Schneider, 2019; Kim et al., 2017). During the 2019-2020 academic year, the number of international college students studying in the United States was nearly 1.1 million (Institute of International Education, 2020). Predictions reported that international student enrollments in 2020 would continue to rise as they had since 2008, but those predictions did not anticipate a worldwide COVID-19 pandemic, which, for the Fall 2020

academic term, caused the U.S. government to halt new nonresident alien international student admissions to institutions that decided to offer classes 100% online (Institute of International Education, 2020; Student and Exchange Visitor Program, 2020).

Though academically prepared for the rigors of higher education learning (Bergey et al., 2018; Campbell et al., 2016), international students face challenges when studying in the United States. Language and cultural differences proliferate into multiple challenges, such as communication barriers, social strains, discrimination, loneliness, and isolation—all of which may contribute to low student satisfaction and poor academic performance. The literature explaining these factors is presented below.

Communication Barriers

Language Effects on Communication. College students who take courses that are delivered in a language that is not their native language have reported a lack of confidence in their ability to speak and/or listen well enough to effectively interact with their classmates and instructors (Ferris, 1998). They require more time to prepare to contribute to classroom discussions; for instance, they must process the material being discussed, decide how they will contribute, research what they will say, and practice saying it (Han, 2007). Neither passing an English language proficiency assessment such as the TOEFL nor successfully completing an ESL course proves the student is proficient enough to interact academically with others at the college level as well as they would in their first language (Akanwa, 2015; Bauer & Picciotto, 2013). One study of Asian ESL students showed that their lack of English language proficiency caused lower participation in classroom discussions, which in turn resulted in low satisfaction and interest (Han, 2007). Li et al. (2010) concluded that English proficiency was a significant predictor of Chinese international students' academic performance. Further, studies involving

international students from countries other than China have reported similar findings. For example, Ontario Canada's Colleges Integrating Immigrants to Employment (CIITE) found that international students, in general, find it difficult to take notes during lectures in their North American courses due to fast instructional pace, unfamiliar material, and misunderstood instructions (MacGregor & Folinazzo, 2018). In arguing the need for additional writing assistance for their international students at University of California San Diego, Bauer and Picciotto (2013) reported that international students lack knowledge of American writing conventions such as writing essays, supporting their writing with evidence, and analyzing literature.

Cultural Effects on Communication. Differences exist between the classrooms of American host institutions and those that international students are accustomed to; therefore, the students may be uncertain about how to interact with their classmates. Based on a comprehensive study of culture and values in the workplace, Geert Hofstede (2001) developed a model of six national dimensions that distinguish cultures based on their individual constituents' preferences. This research has been applied in both academic and professional settings since the model was originally published in 1980. The first of the six dimensions known as the Power Distance Index (PDI) appears in multiple studies of international students from non-Western cultures enrolled in Western institutions (Dresser, 2005; Wan, 2001; Zhang, 2013; Zhang & Xu, 2007a). Power distance is how accepting less-powerful society members are of unequal power distribution (Hofstede, 2001). In societies where the PDI is low, the hierarchical order is less accepted and equal distribution of power is demanded. Conversely, society members in cultures with high PDI accept hierarchical order with little or no justification. While North America has a relatively low PDI, most of the international students studying here are from countries with significantly higher

PDIs, namely China, India, South Korea, Saudi Arabia, Vietnam, Taiwan, Japan, Brazil, Mexico, Nigeria, Nepal, Iran, Turkey, & Kuwait (Hofstede Insights, 2021; Institute of International Education, 2020).

As power distance is low in America, students are often expected to actively contribute to the classroom learning experience; therefore, international students from high-PDI societies find it difficult to participate, and thus their academic performance may be hindered (Zhang, 2013). Han (2007) found that a student from Thailand, for example, expressed concern about speaking up in the professor's presence because they feared it would appear contentious. Another student from Japan kept silent during discussions because they were always being interrupted by classmates, which is opposite the Japanese classroom norm where students wait for others to stop talking before speaking up. Additionally, students from non-Western cultures value social harmony and being indirect, which clashes with the manner in which whole group discussions in American classrooms are conducted (Campbell et al., 2016).

Social Strains

International students experience social strains both inside and outside the classroom, and those strains can affect academic performance and overall satisfaction with the study abroad experience (Poyrazli & Isaiah, 2018; Zhang & Xu, 2007b). Somewhat related to the communication issues explained above is the fact that international students who are not confident with their English-speaking ability and/or are unsure about how to conduct themselves in the classroom will invariably withdraw from activities that involve social interaction. That withdrawal can then result in their feeling alienated or misunderstood. Furthermore, international students often feel a perceived racial or ethnic discrimination, which also hinders performance (Ku & Lohr, 2003; Poyrazli & Isaiah, 2018; Smedley et al., 1993). Lee and Rice (2007)

concluded from their study of international students in the southwestern United States that negative stereotyping and ill treatment toward students because of their language or cultural differences impedes intellectual growth, "which should be the outcome of exchange" (p. 405). Social strains like the aforementioned, cause students to self-segregate, which then leads to disengagement from both curricular and campus life (McCormack, 1998; Smedley et al., 1993).

International Students in Online Higher Education Courses

While there have been multiple studies of online student experiences and international student experiences, there have been far fewer studies of online international student experiences. From the ones that did occur, there were mixed findings about the benefits and drawbacks of online learning for international students. One benefit was the pace of the online course. From a study of non-native English-speaking students at a Canadian university, researchers Zhang and Kenny (2010) found that online asynchronous course communication allowed students the extra time they needed to process what they read and formulate responses. They explained that they would have been nervous in a face-to-face course where there would be little time to process what others were saying and then formulate a proper response with the proper English. Further, they admitted that the stress and worry of embarrassment would likely prevent them from responding at all. In the online courses, they had time to do the extra work of translating, checking grammar and spelling, etc.; therefore, they were more apt to interact with their classmates without fear of being misunderstood. Similar findings were reported in multiple studies (Biesenbach-Lucas, 2004; Gerbic, 2006; Greenlaw & DeLoach, 2003; Kamhi-Stein, 2000; Yi & Majima, 1993; Yildiz & Bichelmeyer, 2003; Zhang, 2013). It is clear that students who may not always share ideas aloud in a regular classroom may prove to be more effective contributors in their online courses.

Interaction with others in the online classroom has not always been positive, however. One study involving domestic students showed that online discussions provide social benefits by providing students the opportunity to interact with their classmates, sharing experiences and ideas and providing support for one another (Biesenbach-Lucas, 2004). On the other hand, studies of international students revealed that they felt isolated due to a lack of peer interaction in their online courses (Ku & Lohr, 2003). Moreover, studies have revealed that, even though opportunities for interaction existed, minority students felt misunderstood because of their language and cultural differences, and instructors found it difficult to meet students' cultural needs (Kumi-Yeboah, 2018; Kumi-Yeboah et al., 2017). Zhang (2013) found that Chinese students were less likely to engage in one-on-one interactions with their instructors, even in the less threatening asynchronous environment because of the power distance differences between their culture and the American culture. Even curriculum has been reported as being a hindrance to minority students' participation because it lacked culturally diverse content that would allow them to provide examples from their personal context (Kumi-Yeboah et al., 2017). These discrepancies between online learning benefits and their respective drawbacks for international students are worth additional examination.

Summary

According to recent statistics, online learning in higher education is here to stay, and it is likely to continue to increase in both popularity and necessity. Additionally, studies dating back 25 years have revealed various challenges of online learning, specifically in the areas of student success. Low retention and persistence rates, along with high attrition rates, plague online programs. The diverse reasons for these problems with online learning involve student-related, environment-related, institutional- and/or program-related, and course-related factors. As this

study's emphasis is on international student success in online courses, this chapter likewise focused on learning activities designed and facilitated by instructors found by researchers to both positively and negatively affect student engagement and/or satisfaction in the online learning environment. In chapter 3, I present a qualitative case study design for examining the lived experiences of international students in online courses, their engagement in communication activities, and the associated outcomes.

Chapter 3: Research Method

The purpose of this study was to examine undergraduate international students' online course communication behaviors and their academic performance in order to inform quality online course development and delivery. My research questions were:

RQ1: How do communication activities in online courses support the cognitive and social needs of international undergraduate students?

RQ2: How do undergraduate international students utilize online course communication to support their cognitive and social needs?

I begin this chapter by explaining the rationale behind my choice for performing a qualitative case study and how it was designed. I then describe the details of the study, including (a) the population, (b) study sample, (c) materials used, (d) methods for collecting and analyzing the data, (e) my role in the study, (f) ethical issues considered, (g) assumptions, (h) limitations, and (i) delimitations of the study.

Research Design and Method

I chose a qualitative case study approach to examine the communication activities of international students in their online coursework. Qualitative studies are built on the belief that individuals continually construct knowledge by making meaning of the activities they engage in, the experiences they navigate through, and the phenomena they encounter—the foundation for a learning theory termed *constructivism* (Merriam & Tisdell, 2015). Constructivism's influence on qualitative studies compels the researcher to investigate individuals' interpretations of their experiences rather than the elements of the experiences alone. Understanding what international students perceive their cognitive and social needs to be, and how they learn from interacting with

others in a course, warrants collaboration between the researcher and participant; therefore, a qualitative, constructivist approach was considered most appropriate.

Simons (2009) defined a case study as "an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, programme or system in a 'real life' context" (p. 97). The case in this particular study was the student's experience in the online classroom.

Yin (2018) explained that case studies have a "distinct advantage" (p. 13) when several factors exist. The first factor is that the researcher is looking to answer "how" or "why" questions about a phenomenon. As I sought to understand how communication-specific learning activities support the needs of international students, as well as how the students utilize online course communication, a case study was, therefore, an appropriate research method to employ.

A second factor making case study a suitable method of choice is that the study focused on contemporary events rather than historical ones. Yin (2018) described historical events as those that comprise a "dead past" where direct observation is not feasible and contrasted them from contemporary events that are "fluid" and include the recent past as well as the present (p. 12).

The final factor contributing to my decision is that in a case study, the researcher has no control over the behavioral events that may occur during the study. While this study was not completely historical, I was nevertheless unable to manipulate student behavior. I was neither the instructor nor the designer of the courses in which the student participants were enrolled, and the interviews focused on communication activities in which students participated in the recent past. The interviews were semistructured, so the participants played a part in directing the course of conversation (Saldaña & Omasta, 2018).

While a case study could involve the collection and analysis of both qualitative and quantitative data (Yin, 2018), this study involved only qualitative data. In order to achieve the goal of this study, I followed international student participants through several weeks of one term in their online course(s) and conducted semistructured interviews with them to gain insight about their participation in communication-based course activities. I chose semistructured over unstructured interviews because I had reviewed learning activities and other opportunities for communication in their courses prior to meeting with the participants, and I employed guiding questions pertaining to those activities as they aligned with the CoI framework to initiate the conversations. I did, however, expect those questions to spark very individualized memories and perceptions that would affect the direction of the interviews differently for each student.

The data collected from student interview transcripts became the primary data source for the study. Secondary data sources were collected as needed to verify and/or supplement the student interview accounts. This secondary information originated from interviews with the students' instructors, examination of course content and communication logs, discussion transcripts, activity reports, assessment results, rubrics, instructor feedback, student assignment submissions, and comparison of student performance against the intended learning outcomes.

No two international student participants were enrolled in the same course; therefore, I conducted the study as a multiple-case study (Yin, 2018) because the courses were not similar enough to treat them as one case. Themes did, however, still emerge during data analysis. For a holistic multiple-case study where each case is set in the same context (online course environment), Yin (2018) recommended conducting each case study simultaneously, writing individual case reports simultaneously, and then drawing cross-case solutions from those case

reports (p. 58). Because this study did indeed become a multiple-case study, I proceeded with Yin's recommendation.

Population

The primary population for this study was undergraduate international students, and the population for a secondary human subject data source was the faculty who facilitated the courses in which the participants were enrolled. According to Open Doors® (Institute of International Education, 2020), there were 1,075,496 international higher education students studying in the United States in 2019–20. This represented 5.5% of the total number of higher education enrollments. Open Doors® (Institute of International Education, 2020) reports additional data that validates choosing a two-year institution in the southern United States as a suitable context for the target population:

- The number of undergraduate international students was higher than those in graduate and OPT (Optional Practical Training) programs.
- The southern states of Texas and Florida ranked third and seventh, respectively, in the list of top 20 states hosting international students.

Study Sample

There is no recommended sample size for case studies, except that they should involve more than one participant; the goal, instead, is to estimate what it will take to obtain enough data to sufficiently describe the phenomenon, or achieve data saturation (Creswell, 2013). Data saturation is "the point, when interviewing, that you determine that nothing new or interesting will be found in subsequent interviews" (Terrell, 2016, p. 255). Further, as qualitative research does not generalize to a larger population, the sample in this case study did not represent all undergraduate international students (Saldaña & Omasta, 2018; Yin, 2018). This study involved

11 international college students enrolled in undergraduate online courses at a very large community college in the southwest. The participants' countries of origin, native languages, and cultural backgrounds are all different.

I used a purposive sampling strategy to recruit participants who met specific criteria. Purposive sampling is common for qualitative research when it is the intent to gain a deep understanding of phenomena from a small sample (Saldaña & Omasta, 2018). After receiving Institutional Review Board (IRB) approval from the target institution, I solicited a list of potential participants from the institutional research department. They provided me a list of international students who were enrolled in at least one online course during the Spring 2021 semester. Because I was teaching online for the institution during the same term, I removed the records of students who were enrolled in my sections. The list of remaining potential participants totaled 1,801. It included their email addresses and phone numbers, as well as their preferences for receiving phone calls and text messages. I chose to contact the potential student participants via email. The email included an introduction of myself and the study, why they were selected and invited to participate, how I would collect the data, and how their identity would be protected if they participated. From the 1801 students to whom the email was sent, 19 responded with interest. Those 19 were sent another email with screening questions that asked their residency status, whether they were enrolled in at least one online course during the Spring 2021 semester, and the course offering details—all information that I assured them they were not obligated to share but that, if shared, would be the sole basis for selection. After receiving their responses, I realized that the students' residency statuses were not necessarily indicative of their experience in U.S. schools; therefore, I followed up with them to determine if they had not completed a majority of their elementary and secondary education in the United States. A total of

11 international students were selected to participate, and all 11 continued through the duration of the study.

After finalizing the sample of student participants, I approached the faculty who were assigned to teach the online or hybrid courses in which they were enrolled. In an email to those faculty, I asked them to participate in the study to provide secondary data that would potentially add to the robustness of the results. I requested of these faculty two things: (a) permission to observe the international students' participation in their online classrooms, and (b) to consider participating in a focus session near the end of the term. Eight faculty agreed to allow me to observe the students in their online classrooms, and five agreed to the focus group session. Further into the semester, it became difficult to find a time that all five faculty could meet for the focus group session; therefore, I changed the format to individual semistructured interviews via video conferencing. I informed the faculty of the change, and all of them consented to the new format.

Materials and Instruments

I collected data using various materials and instruments (see Appendices B—E). I gathered demographic data from each student participant using a brief survey (see Appendix B) at the beginning of the study. The questions in the survey were developed according to recommendations made by Hughes et al. (2016). The survey data is not directly related to the purpose of this study but could be helpful for the reader to make their own inferences about the findings. Also, at the beginning of the study, I asked both student and faculty participants to sign consent forms, providing their permission to use the data collected for this study and to record the interviews.

According to Saldaña and Omasta (2018), participant observations often trigger ideas for topics or questions to include in future interviews; therefore, I utilized field notes to record my evaluation of the course content and observation of participant behavior in the online classroom. To minimize bias and increase objectivity, I developed a Communication Activity Evaluation Guide (see Appendix C) using Standard 5 of the evidence-based, globally recognized Quality Matters™ (2020) quality assurance system for online and digital teaching environments.

In addition to using field notes, I conducted and recorded synchronous, semistructured interviews using Zoom video conferencing software. The student participant interview protocol (see Appendix D) begins and ends with appropriate scripts for starting and concluding the interviews. Between the two scripts is an interview guide containing open-ended questions with potential follow-up/clarifying questions to use as needed. The guide was adapted from the CoI survey, which has been reported to be valid and reliable by multiple studies (Arbaugh et al., 2008; Caskurlu, 2018; Stenbom, 2018). The original instrument collected data in three distinct areas from the CoI model: teaching presence, social presence, and cognitive presence—all of which were maintained in this study's interview guide. I carefully crafted the questions so that they do not intentionally lead the participants to respond in a manner that differs from how they would have responded otherwise. I also conducted synchronous, video-conferenced interviews with five of the participants' instructors in order to collect secondary data. The guide that was used for faculty interviews (see Appendix E) was adapted from the student interview guide and tailored to fit the audience.

As I collected data, I utilized a computer, web browser, and a secure external hard drive. I was given special permission by the institution and learning management system administrator so that I could observe and extract the necessary data from the online courses myself. I used

Microsoft Office, Adobe Acrobat Pro, and Google Chrome to view and anonymize course artifacts, SurveyMonkey to gather demographic data and obtain student consent, HelloSign to gain faculty consent, and Rev.com to assist with interview transcription. I used the NVivo software application to import, organize, code, and analyze the data.

Data Collection and Analysis Procedures

I began data collection approximately three weeks after the participants' online courses began. Prior to that, I had contacted the participants and their instructors via email to explain the study and data that I sought to collect. I sought to establish credibility and rapport with the participants and their instructors by explaining my background in higher education and teaching online, my experiences with teaching international students, and the reason for my particular interest in this study. I explained that I would utilize video conferencing for the semistructured interviews and that I would observe communication behaviors in course communication activities and examine the content of the activities from a course design perspective. In a separate email, I asked the student participants to complete a demographics survey and sign a consent form. In an email to the faculty participants, I requested their signatures on a faculty consent form.

Data Collection

Throughout the term, I collected data from multiple sources in order to increase the case study's depth and accuracy as an attempt to provide construct validity by triangulation (Yin, 2018). Sources of evidence included student and instructor online course communication; student-produced assignment artifacts, resulting scores, and faculty feedback; student activity logs; course design elements involving communication opportunities; and recorded interviews with both student and faculty participants. Due to the online nature of the course activities, most

secondary data was already in digital format, which facilitated seamless collection and storage onto a secure medium.

Approximately two months into the semester, I commenced the student participant interview process. As considerable time had passed since the participants had signed their consent forms, I began the interview protocol with a re-introduction of myself and the purpose of the study, and then I reviewed their signed consent forms and asked them if they still agreed and if they were still available to proceed. Lastly, I asked for permission to record.

During the semistructured interviews with the students, I worked to create and maintain an open, trusting, and relaxed climate by being an active listener, allowing the participants to share without fear of judgment or criticism, and taking notes as they spoke. I avoided the use of verbal and nonverbal cues that could possibly hinder them from responding openly or that could lead them to respond in a way that they thought I would want them to respond. It was my goal to increase the chances of their thoughts being solely their own. I did, however, provide clarification to my interview prompts when needed. Being cognizant of the language and cultural differences between the students and me, I used the following means for minimizing the possibility of miscommunication:

- Utilization of the screenshare tool to provide the initial prompts written in clear terms on slides, allowing students to refer to them if they misunderstood me or forgot the question.
- Maintaining both party's webcam videos within view to ensure both verbal and nonverbal cues could be heard and seen, respectively. This provided an opportunity to remain more in tune with the students' needs and respond both promptly and appropriately.

I interviewed five of the participants' instructors to gain more insight into international students' communication behaviors. Saldaña and Omasta (2018) explained that participants'

interview responses may contradict what was actually observed, leaving the researcher with a need to "reconcile the discrepancies" (p. 30). One such reconciliation strategy in this case was to solicit the thoughts of the faculty using an instrument that closely aligned with the student instrument.

Data Analysis

Due to the variety of data that were collected, I utilized several methods for data analysis. Until I began collecting, organizing, and manipulating the data, I did not know the most appropriate strategy (Yin, 2018). In the end, all methods were driven by the research questions that I intended to answer, as well as the CoI elements—teaching presence, social presence, and cognitive presence. Keeping those in mind allowed me to better identify the evidence I was searching for when faced with scores of data.

The first step of data analysis was to code the data in two passes. The first pass was to identify a posteriori codes utilizing In vivo coding. The second pass was to utilize the CoI model and Quality Matters™ Standard 5 to identify a priori codes and categories. For course documents, such as online communication, student work, and course activity design, I began by recording written memos to determine what was happening in their contexts. I first examined both manifest and latent elements—observable and hidden or inferred, respectively—as much of what participants create are known to "reflect their value, attitude, and belief systems" (Saldaña & Omasta, 2018, p. 68). Then I assigned short, one- to three-word codes that most accurately represented what was being observed. For interviews, I first transcribed the recordings and double-checked the transcripts against the actual recordings for accuracy. I also asked the interviewees to confirm the transcript content. I then labeled the transcripts with codes from most prominent words in the participants' responses.

Coding made it possible to view sections of the documents based on topics around which I could begin finding patterns. I used pattern matching against the study's purpose, research questions, conceptual framework, and my own set of derived propositions (see Researcher Role).

As I utilized more than one process for coding the multiple types of data, I analyzed the relationships among the resulting codes—a process known as codeweaving—in order to make complete assertions (Saldaña & Omasta, 2018, p. 79). Then, I continued to inductively narrow the relationships into categories or themes that worked best to provide insight for analysis. Using the software application's querying feature, I was then able to view the data in context and better focus on each theme and subtheme and eliminate distracting extraneous data that did not pertain to the research questions.

Methods for Establishing Trustworthiness

Establishing trustworthiness in a qualitative study requires methods that demonstrate credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). In this section, I will describe the methods I used for each.

Credibility

One way that I demonstrated credibility is by spending a considerable amount of time with the data. As I edited the interview transcripts and performed multiple coding passes on them, I was forced to read them multiple times. As I collected course artifacts, I carefully compared student submissions against the activity requirements, their intended outcomes, instructor feedback, and activity design—all for the sake of fully understanding context and thereby minimizing the chances of biased interpretations. The above-mentioned strategies are what Lincoln and Guba (1985) describe as ways in which credibility is established through "prolonged engagement" (p. 301). Furthermore, as I collected, analyzed, and reported on the

data, I established trust by demonstrating a commitment to protecting the participants' anonymity and by asking them to confirm the transcripts' contents.

A second method that I used to establish credibility is triangulation of sources and methods (Denzin, 1978). Collecting such a variety of data through multiple course documents, communication logs, and participant interviews made it possible to examine the data from different angles and obtain a more holistic view. Furthermore, because the interviews occurred after I collected and analyzed the course documents, I was able to situate the questions within the context of those observations. I also interviewed the faculty last and was thus able to fill in gaps with secondary data by gaining different perceptions of the same experiences.

A third way that I established credibility was by collecting digital, raw data from both course artifacts as well as live participant interviews for ongoing reference. This concept was termed "referential adequacy" by Eisner (1975). Fortunately, recorded videoconferences and online course activity leave digital paper trails that can easily be downloaded, anonymized, and stored onto permanent storage devices—a technology that was not readily available to researchers at the time Eisner wrote about it. The benefit that digital data provides is that it can be accessed and examined as often as necessary during analysis, as well as after the study is completed, findings are published, and new similar studies are conducted.

The final method for establishing credibility is through member checking (Lincoln & Guba, 1985). In order to prevent misinformation during participant interviews, I prepared interview tools that include not only prompts for the semistructured interviews but also potential clarification and follow-up thoughts or questions. I also asked the participants to verify my interpretations of what they said, both during the interview and after transcription.

Transferability

As the researcher of a qualitative case study cannot prove external validity of their findings, they can work to provide ample thick descriptions, which would then allow others to determine the findings to be potentially transferable to similar situations (Lincoln & Guba, 1985). I attempted to give these thick descriptions by narrowing the sample and case context down with very specific criteria. The student participants were to be nonresident alien international students, undergraduates, and taking at least one online or hybrid course during the same term. These detailed specifications provided a sufficient gauge for determining transferability.

The methods that I used to collect the data and the duration of data collection also contribute to showing transferability. The course artifacts that I extracted from the learning management system spanned nearly the entire term that the courses ran. This provided a complete description of a typical online or hybrid course, from (a) getting past the initial adjustment period when learners are becoming acquainted with each other, the instructor, the course environment, and the curriculum; then (b) conquering the first major assessment; (c) settling in and engaging in more member exchange activity; and finally (d) wrapping up the final requirements.

Dependability

My dissertation chair, Dr. Scott Self, audited the processes for data collection that I used during the case study. According to Lincoln and Guba (1985), this audit, along with the aforementioned methods of determining credibility, serve to establish dependability. They explain that the auditor must act on behalf of the stakeholders, attest to the correctness, fairness,

and sophistication of my methods, and be experienced in the area of the study without having a special interest in it.

Confirmability

Triangulation of the data, which I explained previously as a method for demonstrating credibility, also demonstrates confirmability as it accompanies additional examination by the aforementioned auditor (Guba, 1981). At the same time the auditor scrutinized my processes, they also assessed the product, namely the data that I collected, my interpretations of the findings, and the recommendations that I made as a result of those interpretations (Lincoln & Guba, 1985). The auditor's task was to confirm that my findings were justified and well documented, and I ensured that confirmation by providing a detailed audit trail throughout the duration of the study. The audit trail consists of a comprehensive inventory of all records with consistent naming conventions and descriptions; detailed notes regarding my processes, thoughts, and rationale; and information regarding the instruments I used.

Researcher Role

I have a particular interest in the findings from this study because I have observed first-hand the challenges that international students face. I have been teaching in higher education for 30 years, 22 of which were mostly in the online environment. Through those years I have noticed the increase of international student enrollments in my classes. In the past few years, I have, on occasion, been asked by students with limited English proficiency for accommodations similar to what students with disabilities request, which I always agree to but always wonder if other instructors do. I realize how difficult that must be for those students when they also desire to blend in. It is the burden I have for them that sparked my interest in this study.

Despite my personal interest and specific experience in teaching international students, my roles as researcher in this study were objective observer, interviewer, and audience. I approached this study as a faculty member and as a curriculum director who wants to gain a better understanding of course design and delivery that will benefit international students, but I also realize my examination and analysis of the data should have a broader scope: how are communication activities supporting their cognitive and social needs? It is by learning the answer to that question first that I, as the audience member, can later deduce what course design strategies to employ.

Following Yin's (2018) recommendation, I developed four propositions to direct and maintain my attention toward the appropriate factors for this study. While my research questions partially served this purpose, they did not sufficiently point me to specific evidence to look for. Therefore, to more accurately guide the case study, I proposed that:

- academic performance would increase where critical thinking was expected and supported;
- critical thinking would be supported through quality communication and engagement;
- communication quality and engagement would be affected by language and culture; and
- the student's ability to interact with others would depend on the types of online modes of communication.

Ethical Considerations

Before recruiting participants or collecting data for this study, I gained full approval of both Abilene Christian University's (ACU) IRB and that of the institution at which my participants were enrolled. Participants did not benefit in any way from their involvement in this study; I offered no compensation or assistance of any kind. The only potential risk to participants

was a breach of confidentiality, the possibility of which was very minimal, considering the methods I employed to protect their identity. I replaced names with pseudonyms in all saved data (with the exception of signed consent forms) and final reports. I was careful not to make connections among two or more factors that could be combined to determine their identity. I stored the data on a password-protected external hard drive so that it was not permanently connected to a shared network. These precautions also fulfill my obligation to follow the guidelines set forth by the Family Rights and Privacy Act (FERPA) as it pertains to higher education students.

After obtaining said approval, I followed the target institution's protocol for identifying potential participants and then attempted to recruit them through their college-issued email accounts. In the email I thoroughly explained the study and my role and asked them to consider participating. I indicated that there were neither costs for nonparticipation or leaving the study during any phase nor benefits to participating except for the knowledge that the results of the study could potentially benefit other international students in online higher education courses. I also explained that their rights to privacy and autonomy would be protected and respected at all times.

At the onset of data collection, I debriefed the participants of every step I would take to collect, analyze, and report on the data, again notifying them of their right to privacy, and obtained their informed consent. I also agreed to maintain transparency by sharing my findings with the participants and any interested stakeholders at the institution.

Assumptions

In this study, I addressed several assumptions—ideas that I believe to be true but cannot fully verify (Terrell, 2016). The first assumption is that 11 students is an appropriate sample size.

As this is a qualitative study where one cannot accurately estimate when data saturation will occur, my analysis of the data began when the study began and continued as data were collected. This allowed me to constantly evaluate the need for additional data as well as recognize redundant data that would indicate saturation.

A second assumption is that the secondary data collected from the learning management system and course content would be useful for triangulation with the primary data originating from participant interviews. To address the possibility that this assumption was incorrect of some secondary data, I closely examined the interrelationships and only reported on empirical findings.

A third assumption was that online community college courses are the appropriate environment for the study because these institutions specialize in serving undergraduate students. As I cannot control the course design or actions of the faculty and participants' classmates, I remained cognizant of this assumption throughout the study and reported issues that appeared to affect the appropriateness of the environment.

Another assumption was that the participants and I would be able to understand one another and that I would accurately analyze and report on the messages that they conveyed. Due to the language and cultural differences between the international student participants and me, I field-tested the interview questions with a professional educator whose first language is not English and who has extensive experience with international students. Additionally, as necessary during the student interviews, I often re-worded my messages in various ways and recasted what the participants said until they agreed it was the message they were attempting to convey. I also member-checked the interview transcripts by asking the participants if I understood them correctly.

Lastly, my final assumption was that the participants would be truthful in their communication with me and authentic in their engagement in the online course environment. Due to the challenges that international students face in higher education and the challenges of online learning, participants in a study like this could feel vulnerable at times. Realizing this, I diligently worked to create an open, trusting, comfortable, and nonjudgmental climate so that they would feel safe in sharing the truth. Most of all, I wanted them to feel that their transparency was appreciated and helpful, and that they were helping me and other educators to know how to help international students succeed.

Limitations

Before beginning the study, I was aware of possible susceptibility to limitations generally outside of my control, which could affect the study's validity and trustworthiness (Terrell, 2016). Researcher bias is one limitation. As explained in the Researcher Role section, I have a vested interest in this study and have developed a compassion for the international student population; therefore, I realized that bias could affect my interpretation of the results. To minimize researcher bias, I strived to remain reflective about my interpretations and reporting and employed peer debriefers when necessary to ensure I understood the data correctly (Terrell, 2016).

Another anticipated limitation was the transferability of my findings. Online courses at higher education institutions are all designed differently, especially in regard to communication activities. Further, faculty facilitate online courses very differently. The many variables that are present in this case study could not be controlled, but I endeavored to provide depth to my findings by the number of participants and courses involved, the quality of my data collection and analysis, and the adequacy of time spent observing and interviewing the participants.

Delimitations

I placed further limitations on this study so that I could control some variables to a certain degree (Terrell, 2016). First, I limited the study to one institution so that some consistency in course design and delivery might be present. Although it is a large institution, faculty training is standardized for all faculty assigned to online courses. I also limited the student participants to include only those international students whose first language is not English because I sought to focus on the two main challenges encountered by international students, namely, language and culture.

Summary

To fulfill the purpose of this study, I conducted a qualitative case study in order to investigate international students' experiences in online courses, specifically in the communication activities in which they engage. I conducted interviews with both students and faculty, observed their communication behaviors in the online classroom environment, evaluated the design of the communication activities, and examined course documents. I recruited a sample of 11 student participants from the international student population at a very large community college in the southern United States. After obtaining the participants' commitment to participate, I emailed them privately to explain the study, establish rapport, and gather initial permissions and demographic data.

I employed several instruments and materials for collecting, organizing, and analyzing the data. Data collection instruments (see Appendix B) were developed from valid standards and previously field-tested instruments. I conducted semistructured interviews, coded the transcripts using In vivo coding, and analyzed the data by pattern matching against predetermined

propositions. For secondary data, I recorded field notes from observations and document evaluations and searched the notes as necessary to confirm findings in the primary data source.

Because this study involved human subjects, I followed the proper protocol for obtaining IRB approvals from both ACU and the community college study site. Copies of both IRB approval letters are located in Appendices F and G. I was careful to protect and maintain the participants' privacy and autonomy throughout the study.

Assumptions that were addressed include (a) the appropriateness of the sample size for adequate data saturation, (b) the usefulness of the secondary data that was collected and analyzed, (c) the suitability of the college and online course environment as a location for the study, (d) both the participants' and my ability to communicate with one another effectively, and (e) the participants' truthfulness and authenticity in their communication behaviors.

I identified two limitations to which the study was susceptible. The first is researcher bias. My extensive background in teaching international students in online courses, and my desire help them succeed could have affected my objectivity when collecting and analyzing the data. The second limitation is transferability to similar situations, as certain variables could not be controlled.

Along with setting delimiters around my study so that it can be replicated easily, I outlined a research design that will account for and address assumptions and limitations, thereby increasing the levels of credibility, confirmability, transferability, and dependability of the study.

Chapter 4: Results

The purpose of this study was to examine undergraduate international students' online course communication behaviors and their academic performance in order to inform quality online course development and delivery. This chapter presents the results of the study, beginning with a detailed description of the sample, followed by a summary of the data collection, and ending with a discussion of the findings.

The Sample

Demographic Survey

Through a demographic survey, I gathered some basic nonqualitative data from each of the 11 international student participants to provide the reader with a brief background of each. Table 1 summarizes this information.

Table 1

International Student Participant Demographics

Alias	Age	Country of origin	Native language	Gender identity	Prior post-secondary education	Program of study	Post-completion goal
Baye	18	Peru	Spanish	Male	None	Business	Own a business
Cece	30	Brazil	Portuguese	Female	None	Undecided	Undecided
David	60	Canada	French	Male	Bachelor's degree	Business	Own a business
DW	19	Lebanon	Lebanese Arabic	Male	---	Finance	Transfer to 4-year
Elia	30	Spain	Spanish	Female	Bachelor's and master's degrees	Business	Career in HR
HJ	37	South Korea	Korean, Japanese	Female	Bachelor's degree	Accounting	Become a CPA
Indigo	19	Venezuela	Spanish	Male	None	---	Become a history teacher
John	18	Vietnam	Vietnamese	Male	---	Mechanical Engineering	Transfer to 4-year
Roland	19	El Salvador	Spanish	Male	---	Associate of Science	Transfer to 4-year
Roman	18	Mexico	Spanish	Male	---	Undeclared	Transfer to 4-year
Stella	24	Argentina, Mexico	Spanish	Female	Bachelor's degree	Substance Abuse Counseling	Undecided

To obtain secondary data, I collected faculty perspectives from five of the participants' instructors. I did not obtain demographic data from these faculty members; however, to provide context, Table 2 offers basic information about them—their aliases and the disciplines in which they teach.

Table 2

Faculty Participant Information

Alias	Discipline
Professor Manning	Philosophy
Professor Te	Engineering
Professor Thomas	Philosophy
Professor Vandelay	Computer Information Technology
Professor Vazquez	Government

Participant Profiles

I gleaned additional information about the international student participants through the experiences they shared during the interviews. Some participants were more open about their backgrounds than others, but nevertheless, I was able to construct more robust participant profiles of each. The profiles below may serve to provide helpful context for the reader.

Participant 1: Baye. Baye is an 18-year-old international student from Peru. At the time of the study, it was his first semester to study in the United States. He was visiting the United States on a student visa (F1) and living with a family relative. He was enrolled in three hybrid English to Speakers of Other Languages (ESOL) courses to fulfill the institution's English language proficiency requirements, as his native language is Spanish. In his interview, Baye characterized himself as an "open book" and a "really friendly guy;" however, because of the

COVID-19 pandemic, he found it difficult to socialize as much as he would have liked and admitted he had no friends in the United States; he socialized mostly with his professors outside of class. One benefit to his lack of a social life was that he had ample time to focus on his studies, so he did not find the coursework difficult.

Participant 2: Cece. Cece is a 30-year-old nonresident international student from Brazil whose native language is Portuguese. She has a hearing impairment but reads lips very well; however, she admits it is difficult reading the lips of English speakers. At the time of her interview, Cece had been attending the college for over a year and was enrolled in one online course. She mentioned that she had been taking classes with many of the same classmates since 2019, and she expressed how kind and helpful her classmates and instructors had been to her, which was very different from the way she had been treated in Brazil. She felt that she was finally being treated like a human and that she felt "included." Even as she described times in her U.S. courses when she did not understand others or when she had been misunderstood, she remained positive and refrained from placing blame on anyone.

Participant 3: David. David is a 60-year-old international student from Canada whose native language is French but also speaks English fluently. At the time of the study, he was enrolled in four courses—two hybrid and two online. David has already earned a bachelor's degree and has a strong professional employment background, including a great deal of international travel. He initially expressed concern that his age and experience may be very different from those of other participants in the study, and thus his study methods may not be comparable. I assured him that those things would serve as context for the experiences he shared as an international student studying in the United States. A common theme in David's responses

during the interview, as well as his course communications, was the vast amount and tremendous value of contributions he made to the courses in which he participated.

Participant 4: DW. DW was the only participant who was attending class from his home country, Lebanon, because the pandemic prevented him from being allowed to come to the United States. He is 19 years old, and his native language is Lebanese Arabic. At the time of the study, he was enrolled in four online courses. DW shared two major challenges that he experienced as an international student: the language and time differences. Synchronous class meetings were especially difficult because speaking in English is more difficult for him than writing in English, and because the sessions sometimes occurred at times that he would normally be asleep. Despite those challenges, DW plans to transfer to either the University of Houston or Rice University after he completes his associates degree and is allowed to come to the United States.

Participant 5: Elia. Elia is a 30-year-old international student from Spain and her native language is Spanish. She holds both a bachelor's degree and a master's degree, and at the time of the interview, she was enrolled in four courses that were either online or hybrid. Elia came to the United States in December 2020 and began taking courses the following January. That was the first time she had ever taken an online course, and she described being an international student in an online course as "an extra thing." As she did not have family in the United States and could not have a job due to her student visa, Elia said that she had extra time to dedicate to her studies. She was taking two ESOL courses in order to meet the English language proficiency requirements of the institution, and in addition to those formal ways of improving her English, she took the initiative to attend extra workshops.

Participant 6: HJ. HJ is a 37-year-old working mom and online student who already holds a bachelor's degree and is studying to become a CPA. On the day of her interview, HJ had recently accepted a full-time position in the accounting field and subsequently began working while taking four online courses. HJ is originally from South Korea, and her native language is Korean. She is also fluent in Japanese and she called English her "third" language. HJ is a resident alien in the United States on a L2 visa, and at the time of the interview she had lived in the United States for four years.

Participant 7: Indigo. Indigo is a 19-year-old international student from Venezuela and his native language is Spanish. At the time of the study, he was enrolled in one online course, but he had taken either online or hybrid courses in the past; therefore, he was able to share his online experiences from various disciplines and delivery modes. Indigo shared that when he first came to the United States, he knew very little English, and it took him "months and months and months to actually figure it out." He went on to predict that he would not have been able to perform well if he had been expected to write in English in text-based communications in an online course. Indigo's goal is to become a history teacher after he completes his studies.

Participant 8: John. John is an 18-year-old international student from Vietnam and his native language is Vietnamese. He had previously taken one semester of online courses and during the term of the study was enrolled in four online courses—one of which included a hybrid lab component. His schedule appeared quite demanding, as he was taking courses in chemistry, engineering, English, and education framework. John is enrolled in the college's mechanical engineering program, and he intends to transfer to a four-year university after completing his associates degree.

Participant 9: Roland. Roland is a 19-year-old international student from El Salvador whose native language is Spanish. Before the semester during which he participated in the study, he had attended the college for three semesters. At the time of the study, he was enrolled in one online physics course and four online general education courses, one of which was delivered via synchronous virtual sessions (videoconferencing). Like many of the other participants, Roland plans to transfer to a four-year university after completing his associate degree.

Participant 10: Roman. Roman is 18 years old and is originally from Mexico and his native language is Spanish. While he is not a citizen, he has lived in the United States under non-immigrant status since he was 10 years old. He came to the United States knowing very little English, but now he is fluent—so much so that he successfully obtained admission into the college's honors English program; however, he prefers to speak Spanish most of his time outside of school. At the time of the study, he was enrolled in three online general education courses and volunteered at the college to mentor other international students. Remembering his experience of being new in the country where everyone spoke a different language and how a classmate from Colombia had helped him those many years ago, he wanted to do the same for fellow students at the college.

Participant 11: Stella. Stella is a 24-year-old international student from Argentina and Mexico and her native language is Spanish. At the time of this study, she was enrolled in an online Japanese course that was delivered synchronously with live videoconferences. She was also taking Chemistry as a hybrid course in asynchronous format with online lecture and on-ground labs. Stella obtained a bachelor's degree and was a language instructor before she came to the United States. She has been fluent in English for many years, but after learning Japanese,

she has come to realize how difficult it would be for international students to come to the United States and “do college” not being proficient with the English language.

Data Collection

The research questions below guided data collection throughout the study.

RQ1: How do communication activities in online courses support the cognitive and social needs of international undergraduate students?

RQ2: How do undergraduate international students utilize online course communication to support their cognitive and social needs?

I collected data during the Spring 2021 academic semester at a community college in the southwest region of the United States. For primary data collection, I conducted semistructured interviews through web conferences with each international student participant using an interview guide consisting of five general discussion points with multiple follow-up questions for each. The guide was directly related to the research questions, the CoI model, and Quality Matters™ Standard 5. I also collected secondary data in two ways: (a) online observations of both communication and academic performance in the online learning environment, and (b) web-conferenced, semistructured interviews with five instructors who had taught the student participants during the same term. Online observations were recorded via annotations on the downloaded documents and external field notes. I recorded the faculty interviews, transcribed them, and then obtained their confirmation that the transcriptions were accurate.

As I collected them, I imported all electronic data into the NVivo application and immediately began a first pass using In vivo coding. This coding involved capturing words and phrases that were regarded as worthy of emphasis. Additionally, I utilized the annotation tool to highlight and comment on noteworthy participant quotes to consider including in the findings.

Discussion of Findings

Both a priori and a posteriori coding of the interview transcripts were performed. A posteriori coding using In vivo resulted in more than 400 individual, unduplicated text segments. From there, I combined words with the same roots and other similar words to narrow the list. In the NVivo application, I used parent-child relationships among the grouped codes and then set the parent codes to aggregate from the children under them. This allowed me to quickly see total code counts for each parent. Combining similar codes into parent-child relationships resulted in less than 300 parent codes.

A majority of the parent codes did not prove useful for analysis, however, because they could not be viewed in context. For instance, the topic upon which the participant was elaborating was not apparent without expanding the code. This forced me to proceed with a priori coding where I was able to combine the parent codes into predetermined categories based on the questions from the interview guide, which was developed around the review of the literature and on the main tenets of the CoI model—teacher presence, social presence, and cognitive presence. This strategy allowed me to align themes and subthemes with the research questions. A total of five main themes emerged, two of which were deemed irrelevant to the purpose of this study; therefore, I settled on three relevant themes and three subthemes. The contents of each theme or subtheme are listed in Table 3, which is then followed by detailed summaries of the findings represented within the themes.

Table 3

Themes and Subthemes

Main theme	Subtheme	Contents
Communication activities	---	Announcements, discussion boards, email, social media, assignment feedback, instructor-created media, virtual office hours, syllabus, and videoconferencing.
Community of inquiry model	Teaching Presence	Course design, teacher-student interaction, and student-initiated communication
	Social Presence	Effects of communication activities and other forces on social presence
	Cognitive Presence	Effects of communication activities, social presence, and other forces on learning
International student attributes	---	Challenges, strengths, and communication preferences

Communication Activities

The first main theme that emerged included the various communication activities that the student participants listed as having experienced in their online or hybrid courses. This section includes descriptions of the activities as explained by the participants, but the effects of the activities are not included; they are explained later in their own sections as related to cognitive and social presence.

Communication activities were the subject of the first question in the interviews, as they were directly related to both research questions, and the students' answers then served to guide the conversations that followed. I intentionally chose not to define the term *communication activity* when I asked the participants to describe them because I did not want to risk limiting

their responses; therefore, several of the students discussed activities that involved one-way communication from professor to student, or vice versa, in addition to two-way communication.

Syllabus and Announcements. One student listed the syllabus as a way that the instructor communicated the course structure and expectations, pointing out that he referred to it often to "make sure I don't miss out on something." Two students listed instructor-posted announcements as communication activities, but in subsequent topics regarding effects on performance, they did not mention announcements again. Similarly, in his initial response to a question regarding communication with students, Professor Manning shared that his online communication began with this:

> The first thing I do is send them the syllabus two weeks before the class begins and invite them to ask me any questions. Of course, that's by email. And as the class begins, I use the announcement page, and I also email them the syllabus once again…. There are study helps or study suggestions in the syllabus.

Videoconferences. Videoconferences were listed by seven of the student participants as communication activities provided by their instructors. The ways in which videoconferences were utilized, however, varied. For instance, two participants explained that their instructors used either Zoom or WebEx for virtual office hours, which were optional. Additionally, Professors Manning, Te, and Thomas reported that they used WebEx for optional exam review sessions or tutoring upon request, but students rarely took advantage of them.

Other student participants said that they were required to attend scheduled sessions with specific agendas—some more interactive than others. While most of the students said that these sessions were beneficial to their learning and/or to community-building, two students added that there were also challenges associated with them. The time difference presented a problem for

DW, as he was attending from Lebanon, which is an eight-hour difference. For Cece, synchronous sessions made it difficult for her to interact with everyone due to her hearing impairment. She explained, “Sometimes it’s a bit hard to interact because I don’t understand everyone, and most of time they forget to type for me, so I feel a bit confused.”

Discussion Boards. The most common communication activities that the participants experienced were asynchronous discussion boards—most in the learning management system’s discussion tool, but some in other products such as Slack and Trello. All 11 students described the discussion board activities as required with an instructor-posted prompt, their initial responses to the prompt, and their replies to a specific minimum number of classmates’ responses. Baye added that although his courses contained graded discussion activities related to the topics of study, one course included a fun ice breaker discussion that helped him get to know his classmates. Additionally, Stella described an optional, ungraded discussion activity in one of her courses that was made available to students merely for questions or comments about anything in the course. Stella admitted, “They didn't seem so helpful, so I didn’t spend a lot of time there.” Similarly, all five faculty participants reported using discussion board communication in their online or hybrid courses—some required, and others optional. Professor Thomas reasoned that most of his required discussion activities were not graded on rigorous standards because the purpose was to simulate classroom discussions. He explained:

> If a student raises their hand and says something that’s wrong, you know, you’re not going to grade them based on getting wrong answers in the middle of a discussion. So, in a similar way on discussion board, usually every institution that I’ve taught and every class that I’ve taught that requires a discussion board has very loose rubrics…where it’s basically like, “Did you try?”

Instructor Feedback and Videos. Two other noteworthy communication activities cited by three student participants were instructor feedback on written assignments or speeches and instructor-created videos. While both are considered one-way communication and only involved the instructor and the student, they were described as helpful and were appreciated. Professor Thomas commented on the amount of time he spends providing feedback to his students, especially on the first few assignments, which sometimes contain feedback that is longer than the content they submitted. Professor Vazquez noted that international students "love constructive feedback" but admitted that although she does provide it on her students' assignments, she does not do it enough.

Social Media. Lastly, the participants described social media activities that occurred outside of the online learning environment and generally did not involve the instructor at all. Applications such as GroupMe, WhatsApp, Discord, Remind, and FlipGrid were specifically mentioned as tools that students usually set up on their own initiative and invite others to join. Students used these apps to collaborate, ask each other questions, share advice, and sometimes just stay connected socially. Although all participants were familiar with one or more of these apps, their levels of involvement varied widely. Elia used WhatsApp to talk to one classmate but not about school, and Stella described her experience with GroupMe as "emotional support;" whereas, Roman's experience with GroupMe was like "your classroom outside of class." John shared that the social media apps helped him to realize, "Oh, they have the same problems that I do and maybe know something more that I don't." DW further described two groups that he was involved in: "One made only by students and for students, and there's the other one, which includes the professor."

One caveat to this type of activity surfaced in the interview with Professor Manning. He said that sometimes students learn better from one another, so he favors the idea of providing a community of support; however, he also realizes that students could potentially share incorrect information with their classmates, so he would prefer they ask him for assistance. When asked if he would prefer for the instructor to be involved in social media conversations, Roland explained that sometimes those group chats include students' comments about assignment difficulty, and, therefore, he believed those issues would not be as prevalent if the professor were involved. He also thought that students' questions would possibly be answered more promptly.

Teaching Presence Through Course Design

According to the CoI model, one way that teaching presence is demonstrated in the online classroom is how the instructor has designed the communication activities in the course. The international student participants in this study offered various comments about the design of the activities. Most claimed that the activities were generally simple to find and understand, including how the students' work would be evaluated. As previously explained, all participants had experience with discussion boards in their online or hybrid courses, and most were required with very similar parameters: (a) post an initial response to the prompt given by the instructor, (b) read your classmates' response posts, and (c) reply to at least two of your classmates' posts. Four students added that their instructors provided extra instruction or tips on how best to respond to their classmates.

Several students shared their concern about instructions that were difficult to understand. One said, "I had issues trying to understand if we were required to put additional sources…only for our main thread…or for…the reply as well. So, like some of us trying to understand…how much is required from us." Another stated,

> Sometimes maybe the professors assume that we're very good at the English language, and they write the instructions or posts or something with some difficult language. Of course, I know that every course requires college readiness in English. I think I read it in every syllabus, but no matter how good we might get, sometimes we misunderstand the instructions or something because of the difficult language.

The design of discussion prompts that were conducive to dialog was another topic of contention for some. DW explained that, although the discussions in his course were designed to include peer replies, the instructions did not "state that there should be an ongoing conversation, so never an ongoing conversation happened." Two other students described discussion board assignments as difficult to participate in because "sometimes replying to other posts is maybe hard because there's nothing to reply to, or the information is the same in every post" and "You end up sometimes writing the same thing that you did before or start the discussion post saying the same thing. So, there's only so much you can say." Professor Vandelay similarly opined that discussion board activities are often not substantive, which is one reason he does not assign them in all of his courses. He commented, "They're kind of fluff, and not a whole lot of substantial discussions take place on there. Students kind of go through the motions for it."

Videoconferences were designed differently based on instructional purpose. Some were held in place of on-ground meetings for courses that were labeled "hybrid." Others, regularly scheduled for virtual office hours, were optional. As Professor Thomas pointed out, the institution does not allow instructors to require live attendance at videoconferences if they are advertised as fully online courses. Two students mentioned that their professors required everyone to turn off their cameras and microphones, which they believed hindered interaction.

Stella shared that she experienced both prerecorded instructional videos and live videoconference sessions, both of which were helpful. Other students expressed their desire to have had more video instruction, whether recorded or live. HJ shared, “I wish I had more lecture…. I feel like I am a visual and auditory learner, so I need to hear something from a person.” David similarly commented, “I really thought that online in my mind meant more video type classes, either synchronous or asynchronous, but at least video recorded.” Indigo experienced both live and recorded video instruction in his courses, both of which were helpful but had drawbacks: recorded videos were sometimes of poor quality and difficult to understand, and live videoconferences were often rushed and involved minimal interaction. He said that the recorded sessions could be more effective if they were accompanied by text-based versions of the material, but he still preferred the live sessions because students could ask questions. Roman also expressed his preference for being able to talk to his professors over emailing them questions and waiting for responses.

Teaching Presence Through Interaction

Another way that the CoI model’s element of teaching presence can be accomplished is through the instructor’s direct interaction with students. The ways in which the instructors in this study interacted with their students through course communication activities were generally reported the same by all student participants with relation to the types of activities. Discussion board facilitation, virtual meeting facilitation, and private communication were the most commonly mentioned.

Discussion Boards. When asked how their instructors facilitated the discussion board activities, three students reported that their instructors participated but only minimally. HJ recalled that her professor would respond to her posts with questions, asking her to expand on

what she had shared. Roland reported that one professor was highly involved in discussions, but another was "a bit absent." Stella described how differently asynchronous discussion boards were facilitated by her instructors among the three different online or hybrid courses she had taken. One instructor posted videos and questions for the students to discuss, but the instructor did not participate. Another instructor provided a discussion board for student questions and merely answered when needed. Regarding this strategy, Stella stated, "…They were not interactive. If you had a question…you could ask him, but even though it was not interactive, it was super clear and helpful." A third instructor informed students that an optional discussion board was available for students to ask and answer questions, but he would not be regularly present; therefore, Stella chose not to participate. Roland added his perspective on optional discussion boards that were not instructor-facilitated by saying, "When I'm not required to answer the question, I unfortunately may not even read it sometimes."

Eight other students reported that their instructors were not involved in required, graded discussion board activities. Generally, students were left to reply to the prompt and respond to their classmates; any ongoing dialog was among students. One student expressed surprise that there was not more instructor interaction in discussion boards than what he experienced:

> I was thinking sometimes like, "Wow, how come the teacher doesn't get in there and say, 'Hey,' you know, 'this is great!' you know, 'this is a good point you bring up,' or 'think of this or think of that.'" I don't know, I was surprised, truthfully, to see the teacher didn't get in there.... I wish personally that they would reply with their personal experience.

Another student similarly commented, stating,

> I feel like the role of the instructors, they just want to see what you're writing, and…they just tell you what to write or what to write about. And at the end, when they see what you wrote, they just grade you…. If the instructor is involved and is trying to help you and maybe can understand your struggles, I feel like that would be the best thing in the world, because at the end of the day, they need help. So, I feel like instructors being involved would be a lot better than not being involved.

Four faculty participants confirmed that they did not participate in the discussions, but each had different reasons. Professor Te stated that her Engineering students prefer to work things out on their own, especially in upper-level, theory-based courses. Professor Thomas is an adjunct instructor at multiple institutions because it is difficult to obtain a full-time faculty position in his field. He admitted that he would prefer to interact more with his students, but because he teaches so many classes at multiple institutions, it is impossible to find the time to do so. He also added that at some institutions the curriculum is designed for him, and he cannot change it; therefore, he feels like more of a "glorified grader" than facilitator of learning. Professor Vazquez prefers to interact in a different manner—privately through the feedback she gives when she grades her students' participation in the discussions. She stated:

> I've always done this, just watching from the outside and let them discuss with each other. When I give feedback, I also look for those posts where students didn't get answers from other classmates and, you know, I'll let them know, "I think your question was very interesting. Probably classmates shied away from it because it was really deep and they didn't want to think that deeply," or whatever it was, but I'll always make sure to affirm them. And I guess it's really in my grading and feedback that I participate.

Virtual Meetings. Instructors facilitated videoconference virtual meetings for various purposes: lectures, virtual office hours, and small- or large-group activities. Four student participants reported that their virtual meetings were highly interactive with instructor facilitation. Elia was pleased with the way her instructor would divide students into groups in WebEx and then join each group briefly "to give comments and see how it's going on the activity, and then she will jump out, and then she will come back again." Roland was enrolled in an online speech course in which the students presented their speeches to one another, and afterward, the instructor provided feedback. Stella was enrolled in a language course which she said was set up like a language lab in which the students were all "totally dependent on the professor." Additionally, the professor followed up with video recaps of the sessions and posted them in the learning management system.

Roland shared that a professor of a different course than the one discussed above conducted virtual lectures but asked students to mute their microphones and turn off their web cameras; therefore, most communication was unidirectional, or professor-to-students. Students did have brief opportunities to ask questions, but dialogue was limited. John and Roman did not report videoconference sessions being held in the courses in which they were enrolled, but they both expressed their desire to have been given those opportunities.

Private Communication. The most prominently reported method of instructor interaction with students was private communication in the form of assignment feedback and email. Five participants reported that their instructors provided individualized feedback on the assignments based on their performance. This feedback was private and individualized based on their performance, and most of the students described it as "inline," which is commonly achieved through annotations in the document submitted by the student. Regarding two of her instructors'

feedback, Stella explained, “Right now we get inline feedback where the professor will check or just point out what’s not correct,” and “if it’s correct, she’ll do like a spiral on it with a highlighter, or if it’s incorrect, she’ll write the correction.” She also noted the benefit that came from one professor’s feedback by saying that over time, she made fewer mistakes because of his corrections. Baye added that his instructor provided feedback whether his work contained errors or not, stating,

> When my professor [graded] my homework, he sent me a inline feedback that I could open and see in what part there’s the mistake or how to improve my writing.... Even when it’s a hundred, they write, “Excellent, good work” or something like that. Yeah, but always there’s some feedback.

Six students stated that their instructors regularly used email to interact with them. The purpose for email communication was reportedly for reminding students about assignments coming due, clarifying instructions, or answering questions about the subject matter. DW reported, “There’s something that has been continuous, which is the emails between me and my professors.” John shared the following about his experience:

> So, I have been using email a lot during my online courses, especially to discuss with my professors about what to do in that particular problem, or I have questions about my assignments, or if there are some iffy issues with the due date, and so on and so forth.

John also added that, if an email conversation between him and his professors was significant and could possibly benefit other students, the professors would post summaries of those emails in announcements to the whole class in the learning management system.

Participants stated that emails with professors were generally student-initiated. Professor Manning explained that communication is up to his students, and he reminds them that they are

not alone in the course unless they choose to be. Similarly, Professor Thomas cited student responsibility, saying, "Is the student proactively going to email me, and then respond to my email afterwards to keep the discussion going?" Professor Te expressed concern that students often reach out to her with questions too close to assignment deadlines, which is too late to get help. Conversely, Stella reported that one of her professors made it a common practice to send supportive emails, telling her that she was doing a great job or encouraging her to do her best. She added, "She'll cheer you on spontaneously, not in response to any specific submissions."

Regarding matters other than inquiries or clarifications, David expressed the desire to engage with his instructors in more conversation, and although he attempted to do so by reaching out via email, it rarely happened. He added, "Once they send the email for the activity instruction, normally that's where it stops." Roman also pointed out a similar problem with email communication that is initiated by him as a student:

> When I have questions, I want to like talk to my teacher. It's so hard because when I send her emails, she answers me back four days later…. Sometimes I need like a response, like right away…because four days later, the assignment deadline may have passed.

Social Presence

The level of social presence—another element of the CoI model—generally appeared to be quite low among the participants' online and hybrid course experiences. Although most of the courses were designed to include ample opportunity for communication, student and faculty descriptions of those activities showed that many were too formal in nature and did not build community among participants. Courses that incorporated synchronous video conferenced sessions appeared to be more conducive to social presence than those that did not. Regarding getting to know his classmates via discussion boards, David commented, "So you get to know

some of them and what they do sometimes. You don't really get to know them." John similarly reported about discussion board assignments, "I feel that there's an obligation to do it, so I don't see any natural interaction." Indigo also reported a lack of interaction in discussion boards by stating, "Typically, I don't interact with people there either because everyone is just trying to kind of get the grade in those." Some participants did, however, share that they felt comfortable with their classmates and felt that everyone respected one another.

Cultural and language differences among classmates surfaced as either having an impact on or being impacted by social presence in the participants' online or hybrid courses. When asked if he learns from other students in his online courses, Baye pointed out that he was not sure if he learned about the subject matter from others, but he did believe he learned more about their culture. Cece similarly reported the following:

> I'm learning a lot because everyone is from a different country. You kind of have more empathy, because you learn the differences and understand how their world is pretty different from yours. I learn a lot about culture, how they deal with people and emotions. It's like Psychology, so I'm always observing people. But I'm learning a lot. It's fascinating.

In a follow-up email from DW after his interview, he disclosed a noteworthy concern regarding cultural differences that could affect how an international student shares their responses in online discussions. He wrote:

> I talked about the strain resulting from the difference in culture and gave my English class, which is concerned with social movements, as an example. I explained that despite my absolute support and sincere respect for all human beings despite race, sex, and gender, I fear unintentionally offending any person under the academic umbrella.

> Although it is very touchy, the difference in culture issue is not limited to this class alone. For instance, in one discussion about the American Revolution, I had genuinely supported the British—one minimal example of how cultural misunderstanding may result in a controversial argument. Of course, even American students may present contentious views, but surely non-American academics are more prone to slip into this undesired path.

Regarding language differences, DW also had this to say, "I certainly don't practice [English] every day, and I find the difficulties to express certain ideas or just use the language." Elia shared that even when she felt uncomfortable participating in online discussions, she was motivated because she knew it would help her to improve her English. Similarly, Roman explained that the amount of writing that is required in online courses has helped him improve his grammar and word choice.

Cognitive Presence

The international student participants had an overall positive view of how the communication activities affected their academic performance. As mentioned in the social presence section, several students believed the communication activities helped to improve their English language skills and/or increased their knowledge of other cultures. The results in this section are more directly related to the academic subject matter being taught in the students' respective courses.

Eight student participants specifically listed at least one cognitive benefit of the communication activities. Elia, Roland, Cece, and Roman stressed the importance of learning from others by experiencing other points of view, which in turn spark curiosity. Roland expanded on the idea with the following:

> They have sometimes challenged me to have an opinion in certain matters and to, you know, have points or reasons why to hold that opinion. And also, it has helped because when I read the classmate's opinion or classmate's point on a certain thing, then, you know, sometimes, provoking when you read it. So, it makes me think, "…What is my backup to disagree or to agree with this person?"…I think that's been very helpful and rewarding for my learning experience.

Peer reviews of one another's work was considered especially helpful to learning, according to three participants. When required to share their work with their classmates via discussion board activities or video conferencing, these students found that they learned from each other. HJ's accounting course involved sharing homework problems where students checked each other's results and corrected them when necessary. Roman's history course involved sharing essays via discussion board activities, which he reported to have helped him with his own essays. Stella's language course incorporated peer modeling in videoconference practice sessions so that everyone improved their speaking skills in the foreign language they were studying. Similarly, HJ reported that discussion activities had a positive effect on her ability to correctly apply industry-specific jargon.

Two faculty participants specifically mentioned observing the cognitive benefits of communication activities. Professor Manning stated the importance of discussing the course content, saying, "I think their social relationships help—as long as they are at least, in part, talking about the subject matter of the class, I think that is helpful." Professor Vandelay also explained the use of collaboration in groups:

> I love telling them they're going to learn more from each other than they are from me… They're building something together that they can all share and benefit from… I can

> explain something 10 times, but if I'm not using the same type of language that they're used to using in their day-to-day communication with their peers, it may not hit the same neurons. Whereas if somebody, one of their peers, explains the same concept but expresses it using different terminology, even just different inflection, it registers different.

Less formal interaction via social media applications, such as GroupMe and WhatsApp, outside of the learning management system was reportedly highly beneficial to the learning of some. Roman reported, "In [the learning management system], it's mostly you talking with your professors, but in GroupMe, it's like your classroom outside of class. It's where you communicate with your classmates." John shared that he would prefer to collaborate using social media because the discussion boards were in his words, "preventing me from asking questions that naturally because of that formality stuff." He also explained that solving problems together in the social media app helped him get his work completed in a timelier manner.

Five student participants, however, expressed uncertainty about the cognitive effectiveness of the communication activities that they experienced. David, as explained in a previous section, wished that there was more interaction, especially with the instructor in his courses. He expressed concern that the lack of interaction meant the only learning that took place was from reading the textbook. He ended that particular conversation by asking, "Why do I need a class to read a book?" HJ admitted that the communication activities had more of a positive effect on her English-speaking skills than on learning the content in the course. Stella likewise explained that the videoconference language class sessions motivated her to perform better but did not directly increase her knowledge. She added, "Not particularly that I learned something from them, but they kind of raised the standards."

International Student Attributes

A great deal of data regarding international students in general developed organically through the stories students shared, and that data was both confirmed by and supplemented with the perspectives of their instructors. These findings include the challenges that they face as international students, the strengths that their instructors perceive about international students, and their communication preferences.

Challenges. Language and cultural differences, along with the indirect results of those differences were the most frequently mentioned challenges that the international student participants and their instructors reported. Professors Manning and Vazquez both commented about how timed online tests often cause problems for students with language differences because it takes more time for them to process the questions and formulate their answers. Professor Thomas pointed out that every one of his students "knows English, but language isn't just about knowing vocabulary; it's also about knowing…slang and idioms and colloquialisms and pop culture references and things like this. But all of those are very much attached to American culture." Likewise, DW stressed that for him, what is considered adequate English writing skills depends on the context: "I'm probably good at writing English, but it's only academic. I don't know how the everyday conversation—or not formal style—goes." Elia also explained the extra time it took her to do her coursework: "I don't know if it's because of the classes are pretty heavy or because, you know, since English is not my first language, it may [require] more time for me to understand." Meanwhile, Stella, who learned English as a second language at a young age shared a slightly different perspective:

> I'm an international student, but I was not an ESL student here in the U.S. I just tested out of English, and I just started with my actual classes for my program… I can't imagine

> how it works for someone that gets here with no English and they have to go through ESL because…if I wanted to do college in Japanese right now, I don't know how long it would take me, like 12 years… I don't see when I would be ready to do college in that foreign language that I didn't start learning as a child, but as an adult.

As stated in a previous section regarding discussion board activities, DW expressed concern about being misunderstood by others due to his cultural background. Additionally, John described his viewpoint in this way:

> Oh, I am different from them. Maybe I do something that they don't understand, or maybe I shouldn't ask that question because it's too normal for them. So, it's just that the international student should just find a way to forget that, "Oh, I'm not any different from them. I'm just the same to them." It's just me from another country; it doesn't mean that I'm entirely a different human being or something like that. So, it's just a thing that international students should find a way around, in my opinion.

Roman, though he did not experience the cultural differences himself in college, sympathized with what he imagined it would be like for those who do:

> I was able to come here with a great family who supported me and gave me a lot of things in order to succeed. But for other students, I feel like they might not be in the same situation…like just learning a new language and having to accommodate to another culture and another way of learning.

Another challenge reported by participants was the feeling of isolation and/or boredom due to (a) social distancing policies resulting from the COVID-19 pandemic, (b) being far from home and family, and (c) the employment restrictions placed on international students in the United States. Professor Manning recalled, "Lots of times international students will develop

kind of a little group of self-support or supporters who may also be international students, and they'll help one another, but that's far harder during a pandemic; all of us are so isolated." Baye shared that Spring 2021 was his first semester living in the United States. He was living with his aunt, and because of the pandemic, he was unable to socialize. He explained:

> I think I'm a really friendly guy. Like, in Peru, I used to hang out with my friends, like couple of times per week, every Friday and every Saturday with them. So here with online classes, I'm like really bored. I don't socialize like really much… It's my first semester, is my first online class, is my first everything. So, I'm not used to that, but it is the best option I have right now because of COVID and all that stuff. I can't go out and look for friends or whatever. I'm here. Just, this is my third month. So, I don't have friends… I, this is kind of weird in my mouth to say this, but I feel I'm happy to have my classes. I enjoy really much Monday, Tuesday, Wednesday, and Thursday, even more than the weekends.

Although he was much younger when he came to the United States, Roman still recalled what it felt like: "When you move to a new country, I mean, you feel by yourself. You feel alone; you feel like you have no one to talk to." Elia also shared that, even though she is accustomed to being away from her family, "It's, I mean, still difficult. Sometimes you need your family next by your side. But thankful we have internet; we can do video calls. So, we see each other very often."

Both David and Elia commented on the fact that being an international student in the United States meant they were not allowed to be employed and they were required to attend college full-time. While David felt that this prevented him from having much free time, Elia described it in a different manner by stating, "I don't know, even being an international student

and having this first experience doing an online course, it's been pretty easy for me. I don't know why [laughing]… Since I'm not allowed to have a job, all my time is dedicated to my studies, so that helps." Furthermore, Professor Vandelay shared, "I've had international students that have wanted to pursue internship opportunities or employment opportunities and have been unable to, and that's been really heartbreaking."

Faculty participants cited other challenges faced by international students: shyness or the tendency to refrain from asking for assistance, technical issues due to hardware and software differences relative to their native languages, and government regulations that prevent them from participating in some grant-funded programs. Professor Te participates in many federally funded grant programs, and she expressed concern for her international students because non-citizens of the United States are often not allowed to participate. Although they can only assist with projects and never be formally recognized, many of them still do so that they can gain the experience. She shared one positive story, however:

> So, I have a group of non-citizens came to me and I was already quite busy. I had a lot of things on my plate already, but they're like, "We really need to do this because other opportunities we can all be part of it"…. This particular time, because it's a competition, does allow international students. So, I was like, you know, "Well, we have to do it." So, we did it. And then the group of students—six of them, five of them are non-citizen… And they did great! They won third place in the nation. It was really cool.

Strengths. Although many of the challenges previously listed may have been considered hindrances to communication in the online classroom, most faculty participants did not view them as problematic. For example, Professor Vasquez reported that she had often observed

students whose first language is not English submit higher quality written assignments than those who were native English speakers. She explained:

> I think it's because the international students, maybe through their orientations that are at my colleges have been made aware of all the resources there are for their writing. They tend to find those resources. They might write things in their original language, put it through a translation machine, go to a writing seminar, go to the writing lab on campus and get everything so that it's perfect American English before they submit it. That may be the case there. I'm not sure, but I'm always very impressed by how well they write in English when American students struggled with it so much.

Professor Thomas similarly commented, "a student who is struggling with language difficulties may still have good writing, or they may have spent twice as long on the writing to make sure that it's good."

Two faculty participants also reported on their perceptions of the work ethic they had observed in their international students. Professor Manning said, "There are many students who—well, I can't say 'many' because the sample size is small—worked very hard, and they feel that it's a privilege to be here, and they work as hard as they can." Professor Te added, "International students—especially some of them are from Asian countries—I sometimes notice that they also have like really strong background in terms of their studying habits…. They care about their grades more." She later mentioned that her international students are very courteous in their emails.

Communication Preferences. Eight of the 11 international student participants are non-native English speakers who had not been speaking English for long. All eight expressed that they preferred text-based modes of communication with professors and classmates over in-

person speaking or audio/video formats. DW explained that using video is more difficult than writing because he does not practice speaking English as often, so it takes more time to formulate the correct words. He went on to add that this is the reason he preferred to take online courses: “Since it’s online, there’s more writing instead of class participation. There’s discussion posts, which are making my experience easier.” Roland similarly reported, “If I write it down, I would perhaps avoid possible mistakes or be less likely to have been misunderstood. I think I could be clearer, at least personally, if I put it down.” John also preferred text communication, but he did not specifically cite language differences as the reason: “I’m a little bit uncomfortable to talk for some reason. I don’t know why, but I feel like it’s better for me to express my personal opinion when I text people more than when I talk.”

Three of the faculty participants reported similar conclusions. Professor Vazquez shared, “Most of the time, the ones who you could tell were a little less comfortable with their English abilities, they choose to type it. I don’t know if they’re self-conscious about accents or what.” Professor Manning, having previously studied three other languages, concluded that it is easier to read than speak a second language, which is why he believes international students preferred the written word. He also added, “I think they might pay more attention to the actual material because they’re forced to in order to translate it.”

Data Validity

Throughout the analysis phase of this study, I utilized several strategies for increasing the data’s trustworthiness. By analyzing as I collected data and performing multiple coding passes and carefully reviewing the data to find noteworthy evidence and anecdotes, I was highly engaged with the data over a period of four months. Additionally, I solicited verification of the accuracy of the interview transcripts from all participants and received confirmation from all but

one, an instructor who did not respond. I also verified the students' reports of course communication experiences by finding similar faculty accounts and by examining their respective online course documents, namely syllabi, announcements, assessment instructions, discussion board posts, and assignment feedback.

Summary

Analysis of the data collected for this study resulted in three main themes found to be directly related to the research questions. First, as both questions' foci were international students' use of online communication activities, it was crucial to collect information regarding the types of activities that were provided in the students' online or hybrid courses. Participant interviews revealed similar opportunities across all courses for communication among students and instructors, namely instructor announcements, asynchronous discussion boards, email, social media, assignment feedback, instructor-created media, virtual office hours, syllabi, and videoconferencing.

Secondly, both research questions emphasized the cognitive and social needs of international students; therefore, the collection of data was fashioned around the CoI model, which incorporates both cognitive and social presence, along with teacher presence. Data analysis resulted in a pattern of subthemes related to each element of the CoI model. Evidence of teaching presence was collected based on course design and teacher interaction with students. Participant interviews and examination of the courses' learning environments revealed similar patterns in both areas. Reported course design elements included (a) how the learning environment was laid out, which affected navigation and usability; (b) written assignment instructions; (c) discussion board prompts and parameters; and (d) the various uses of videoconferencing for instruction. Teacher interaction was also reported through participant

interviews and confirmed by observation of course documents. Definite patterns arose showing similar ways in which faculty participated in discussion boards, facilitated virtual meetings, and communicated privately with students via assignment feedback and email.

Social and cognitive presence, the second and third elements of the CoI model, were reported by participants through interviews and confirmed through an examination of course documents. The data revealed general similarities in the way communication activities supported community-building, learning, and performance. Stemming from that data were additional information about the effects of outside factors, such as cultural and language differences, others' viewpoints, extrinsic motivation, and social media.

Lastly, because the research questions were dedicated to international students, data regarding that population was collected. Many similarities surfaced from participant interviews, and they fell into three categories: the challenges that international students face, the strengths they possess regarding the quality of their work and their work ethic, and their communication preferences.

In Chapter 5, I delineate how the findings in this study relate to previous studies—how they align with, where they differ from, and how they add to the literature. Subsequently, I discuss implications of the findings and use them to make recommendations for higher education institutions, faculty, and instructional designers that will hopefully provide improved experiences for international students in online courses. Finally, I outline additional study recommendations for researchers with similar objectives.

Chapter 5: Discussion, Implications, and Recommendations

Enhancing student performance and assisting students in accomplishing their academic goals is what institutions of higher education strive for; therefore, it is imperative that they understand the needs of every student. Challenges faced by international students, in particular, must be considered, as this population has become a large portion of college students studying in the United States. Online learning often adds another set of challenges due to the different ways that communication occurs at a distance. The purpose of this study was to examine undergraduate international students' online course communication behaviors and their academic performance to inform effective instructional design and delivery practices.

The study method involved a qualitative case study of 11 international students at a very large community college in the southwest United States. Data were collected via semistructured interviews and validated by interviews with five of the participants' instructors, as well as observation in their online classrooms. Throughout the course of the study, limitations were presented due to unanticipated participant demographics and effects of the COVID-19 pandemic.

The results of the study were categorized under three main themes: the communication activities experienced by student participants in their online or hybrid courses, the three elements of the CoI model (teaching presence, social presence, and cognitive presence), and international student attributes (challenges, strengths, and communication preferences). Noteworthy patterns emerged from responses showing similar online course communication experiences and preferences, as well as the effects of those experiences on their learning.

This chapter begins with a discussion of conclusions drawn from the findings, followed by a description of the study's limitations, the implications that the findings have for online

learning design and delivery, and recommendations for higher education practitioners and researchers.

Discussion

Generally speaking, the findings from this study strongly assert the importance of communication among peers and instructors in the online learning environment, specifically for international students. While all participants reported having been provided plentiful opportunities for communication in their online or hybrid courses, the use and effectiveness of those opportunities in supporting cognitive and/or social needs often fell short of their potential. The reasons for these shortcomings fall under two general categories: student attributes and instructional strategies. Each is herein explained further by way of application to the two research questions that guided this study:

RQ1: How do communication activities in online courses support the cognitive and social needs of international undergraduate students?

RQ2: How do undergraduate international students utilize online course communication to support their cognitive and social needs?

Research Question 1 Findings: Activity Support

The varied features of the communication opportunities provided in the participants' online or hybrid courses ranged from one-way to multidirectional, private to whole-group, and text-based to multimedia-based. While these opportunities often fell short of their potential, faculty and students alike reported some benefits in supporting the students' social and cognitive needs.

Announcements and Emails. Instructor-posted announcements and emails were used extensively for informational purposes as well as supplementing instruction. Faculty believed it

was important to be proactive in presenting their students with the necessary resources for succeeding in the course, for sending reminders of upcoming tasks and due dates, and for sharing with the whole class any helpful information that arose during a private conversation. Students appreciated being informed and encouraged. Students also valued the ability to privately ask questions and receive timely responses.

Discussions. Discussion board assignments were included in all participants' courses. Some discussion activities were optional and either provided a forum in which students could ask and answer one another's questions or served as informal ways of getting to know one another. Discussions that were not required or assessed were found to be less effective in meeting the students' social and cognitive needs as originally intended because the students had little motivation to participate. This aligns well with research that shows students only participate if they believe a discussion is worthwhile (Swan et al., 2000).

Formal, graded discussion activities, on the other hand, provided the motivation needed for students to participate, and the students all successfully met the requirements. Those activities, however, were found to only slightly support the international students' social needs. The formal nature of the discussions hindered students' ability to get to know one another on a more personal level; thus, the discussions did not contribute to a feeling of community or belongingness. The students felt that the discussions were merely one of several ways to earn a grade rather than converse naturally, and, therefore, they often participated as minimally as possible without losing points. Depending on the discussion prompts, students experienced some social benefits, such as feelings of respect and exposure to different cultures, which aligns with Garrison's (2009) research on how finding trust in the community facilitates social presence progress . However, those reports by participants in this study were few and inconsistent. The

reason discussion activities often failed to support internationals students' social needs was that instructors generally did not guide the discussions. With the exception of a few who responded to students' posts for clarification or to answer questions, instructors left the conversations up to the students and gave feedback only when they graded students' responses. An overwhelming majority of international student participants expressed their desire for instructors to interact with them and share their experiences with them. This aligns with the literature regarding differences between the PDI of international students and their American professors (Zhang, 2013). In American classrooms, power distance is low, so students are expected to actively contribute; however, most of the participants in this study originate from countries with significantly higher power distance indices, namely, Brazil, China, El Salvador, Lebanon, Mexico, Spain, South Korea, and Vietnam. Students from those countries could find it difficult to participate without more guidance from their instructors (Hofstede Insights, 2021).

Students' cognitive needs were more positively affected by the discussion activities. Students reported that reading different viewpoints and sharing their work with one another allowed them to learn from one another. They were intrigued and challenged by others' points of view, which served as motivation to research topics further. Moreover, when they shared their work with their peers, they were more diligent to find information that substantiated their positions. Prior research on the CoI model aligns with this finding, as Garrison et al. (2001) found that triggering events such as these facilitate cognitive presence. Faculty, too, observed the benefits of students learning from their peers because they can often explain concepts in terms to which their peers can better relate; however, they also understood that they should nevertheless remain involved to correct any misinformation that might be shared.

Videoconferences. Videoconferences were used for two general purposes: (a) as optional tutoring sessions or virtual office hours, or (b) as required instructional time. While most international student participants expressed their desire to see and hear from their instructors, they did not attend videoconference sessions if they were not required. Faculty confirmed that their students would request or sign up to attend virtual sessions, but they would inevitably not show up. On the other hand, the international student participants cited the required videoconference sessions in hybrid courses as extremely beneficial, both socially and cognitively. They felt that seeing and interacting with their classmates and instructors on a regular basis increased their sense of belongingness and often facilitated deeper learning. Moreover, virtual group work, speech presentations, and lab exercises with high degrees of instructor interaction assisted in solidifying students' knowledge and skills.

Research Question 2 Findings: Student Use

There is no question that communication opportunities existed in the international student participants' online or hybrid courses, and it is evident that these activities supported both social and cognitive needs to varied degrees; however, the second research question asks how international students actually utilize course communication for those purposes. In this study, the international student participants engaged in all communication activities as required, and according to the scores they earned and feedback they received, they performed well. Although they succeeded in their academic performance, it did not always come easy. They were frequently faced with challenges related to language and cultural differences or with instructional factors that did not meet their expectations or preferences; however, they persisted in finding ways to adapt and overcome obstacles.

Adapting to Language and Cultural Challenges. The international student participants who were less fluent in English frequently stated that they preferred to communicate in writing, especially when they were being assessed. As research explains, international students often lack confidence in their ability to speak English and/or listen to it well enough to effectively interact with others (Ferris, 1998); therefore, they need more time to process the material being discussed, choose how to contribute, research what they will say, and practice saying it (Han, 2007). Thus, the current study's participants felt that asynchronous, text-based assignments such as discussion board activities allowed them time to process what they read in the instructions or in others' posts and to formulate a response that is properly worded, grammatically correct, etc. Written communication was also cited as a way to improve English skills, due to the sheer amount of practice that text-heavy assignments require and the constructive feedback that instructors provide.

The students did not completely shy away from speaking, though. They quite enjoyed videoconference sessions with their instructors and classmates and found them to be useful for both social and cognitive needs, but they preferred them as methods of instruction rather than assessment. If given choices for assessment deliverables (text or audio/video), several said they would choose to submit in writing. Furthermore, instructors perceived that their international students' writing was of better quality than many of their domestic students, believing that they likely took more time and used support services, such as writing centers and tutoring. If so, this aligns with previous research that reported student support services increases student satisfaction and/or persistence in online courses (Lee, 2010; Lee & Choi, 2011; Stewart et al., 2013).

International student participants who were not familiar with the cultures represented by classmates and instructors in their U.S. online courses showed significant ability to adapt.

Although past research reported that minority students feel misunderstood because of their language and cultural differences (Kumi-Yeboah, 2018; Kumi-Yeboah et al., 2017), the participants in this study were scarcely affected by this. While several shared concerns about possibly offending others in class discussions, they did not let this deter their use of those activities as intended. One student overcame this fear by reasoning that, although he is from a different country, he still shares many other similarities with his classmates.

Adapting to Instructional Factors. Many international student participants had expectations about how instruction would occur in their online courses, and in some cases, those expectations were not met. The students either anticipated or would have preferred direct instruction and more interaction with their professors. Self-directed learning came as a surprise to them, as they expected to be guided through the learning experience through dialogue in discussions and video instruction—whether synchronous or asynchronous, it mattered not. Research purports that students new to online learning are often unprepared for the high degree of self-directed learning it requires (Bawa, 2016; Karkar-Esperat, 2018; Kumi-Yeboah & Smith, 2016; Nash, 2005; Rostaminezhad et al., 2013). Further, the participants preferred additional methods of social learning than what was offered through the restrictive and formal nature of discussion boards. In order to adapt, participants often became involved in collaborative activities outside of the official online classroom via social media applications. These experiences varied among participants by platforms used, instructor involvement, and purpose; however, they all appealed to the students' desire for community while serving to enhance learning.

Limitations

Going into the study, I anticipated possible limitations: researcher bias and transferability of findings. I was able to minimize researcher bias throughout data collection and analysis by intentionally adhering to only the facts as presented and by confirming with higher education colleagues that I had interpreted them accurately. To maximize the transferability of findings, I was able to recruit and retain a group of 11 international students who were enrolled in different online or hybrid courses in the same community college system but on different campuses. It was my intention to narrow the population to undergraduates who had not already become accustomed to postsecondary education in the United States. Additionally, as previous studies involved more graduates than undergraduate international students, this would allow me to add to the literature with an emphasis on undergraduates. I also attempted to narrow the sample to include only international students who were newcomers to the United States so that they had similar experiences with learning the culture and educational philosophies. As the study progressed, however, certain factors arose that further complicated my minimization of these limitations. First, while all the international students were considered undergraduates because of their official classifications at the community college where the study took place, four of them reported having earned postsecondary degrees from institutions in their home countries. This meant that they had experience in college and possessed at least some of the attributes proven by prior research to increase student success: aptitude, past academic performance, previous online learning experience, time management skills, computer proficiencies, ability to handle multiple responsibilities at one time, resilience, and motivation (Bawa, 2016; Nash, 2005; Shea & Bidjerano, 2014). Secondly, three of the participants reported having lived in the United States for several years prior to the study, so they had already assimilated into the culture and become

quite fluent in English. They were, therefore, not as closely representative of the targeted population as the others. Additionally, language and cultural differences were significant factors under examination in this study, as they substantially affect communication.

One unanticipated limitation that arose during the study involved the effects from the COVID-19 pandemic. One international student participant was not allowed to travel to the United States, so he was forced to take online courses from his home country. The other international students who participated in the study were allowed to reside in the United States, but the college was only offering online and hybrid courses at the time of the study. This was considered a limitation because the population may not have truly represented international students who specifically choose to take online courses. Their expectations may have been different from those who made the decision on their own to learn online. Although research states that unrealized expectations can negatively affect retention for online learners (Bawa, 2016), it was not the case for the students in this study, as their overall performance indicated.

Another effect of the pandemic that potentially limited the study was the amount of time participants had to focus on their studies. As research has shown, commitments to work, family, and friends increase the chances a student will withdraw from or fail online courses (Layne et al., 2013; Lee & Choi, 2011; & Milman et al., 2015). Social distancing caused students to stay at their places of residence more often than they likely would have if the pandemic had not occurred. Some participants reported that because they were not socializing, they had more time to spend on their coursework. While this is a positive consequence to an otherwise adverse situation, some students may have had different experiences if their social lives had been more normal.

Implications

A high degree of substantive communication among students and instructors is important in online and hybrid courses where teaching and learning occur at a distance, and for international students, this study showed that they expect and/or prefer multiple means of engagement with their professors. According to the CoI model, effective communication designed and facilitated by the instructor (termed *teaching presence*) maximizes social and cognitive presence, thereby increasing overall academic performance. This study's findings are important for higher education online learning in the United Staes because there is a large and growing population of international students whose social and cognitive needs can better be met by applying a few simple instructional design and delivery strategies. These strategies fall under three areas: direct instruction with multimedia, teacher-student interaction, and informal communication.

Direct Instruction With Multimedia

As the study indicated, international students prefer their professors provide direct instruction using audio/video tools in either synchronous or asynchronous modes of delivery. They prefer to hear from their instructors, see their faces, and get to know them on a more personal level, but more importantly, videoconferences, prerecorded video explanations, and video chats would minimize international students' feelings that they are left to merely consume knowledge and develop understanding on their own. Adding these additional resources would increase students' interaction with the content as well as with the instructor. The literature says, "information is not learning" (Schank, 1998, as cited in Swan, 2003); therefore, reading it is not the same as interacting with it. Further, self-directed learning is new to some, and while they may still adapt as did the participants in this study, it is imperative that the instructor be

continuously present to ensure students are exposed to the right information and taught how to use their resources wisely.

Teacher-Student Interaction

The study also indicated that international students expect and prefer more interaction with their instructors in the asynchronous discussions that are so often utilized in online and hybrid courses. If the instructor more closely guided discussions and shared real-world application of concepts, all three elements of CoI (teaching presence, social presence, and cognitive presence) would exist, and deeper learning would occur. Asynchronous discussions would turn from mere assessments to engaging learning activities if professors joined the conversations, soliciting additional commentary, correcting misinformation, sharing professional experiences or expertise, etc. Literature confirms that students prefer their instructors facilitate discussions in order to keep everyone on topic and pick up the momentum when dialogue begins to diminish (Hew, 2015; Phirangee et al., 2016). After all, the CoI model supports instructor facilitation as the tool that makes discourse contribute to learning (Rourke et al., 1999).

Informal Communication

As Berry (2019) concluded, educators should encourage social connections outside the online classroom and incorporate the latest technologies to engage students. They must be aware that students find ways to meet their social and cognitive needs, whether opportunities are designed into the online curriculum or not. International student participants, as well as faculty, revealed communication tools that students use to learn from one another outside of the online learning environment, and they prefer to use them because they are not being formally assessed there. Communication activities in those spaces are used extensively because they are convenient and because they are more relaxed. International students do not have to concern themselves

with correct execution of the English language or fear that they are not applying knowledge of the Western culture when collaborating with their classmates on homework. As prior research concluded, students benefit when they are able to concentrate less on the "how" of interacting and more on the content of the interaction (Daft & Lengel, 1986). They can ask and answer questions or solve problems together more naturally, as they would if they were sitting in a classmate's living room for a study session. While some faculty may initiate or join these informal communication sessions, the implication for educators here is to find a way to harness this technology and think outside the typical learning management system online classroom mentality.

Recommendations

Considering the study's findings and the implications identified, the following recommendations for practitioners and researchers are offered below.

Recommendations for Practitioners

Higher education instructional designers and faculty are encouraged to employ the following strategies to increase the effectiveness of communication activities in their online and hybrid courses.

- Incorporate audio and video into the curriculum in multiple places. Record short clips of varying content, from a self-introduction to an explanation of difficult topics, and post them as announcements and/or within the course content. As institutions allow, schedule regular video-conferenced instructional sessions that incorporate learning activities and low-stakes assessment at the same time to provide the necessary motivation to attend. Record the sessions and provide special accommodations for students attending from a different time zone. Set up the videoconferences so that all participants can be involved.

- Design asynchronous discussion activities so that they encourage deep dialogue among students beyond the typical initial post and two or three responses. Compose discussion prompts that do not have one correct answer but instead will result in a wide range of responses and that invite further inquiry. For instructors, if discussions are designed in a way that they anticipate students will require guidance, actively facilitate those discussions by (a) asking students to expand on what they posted and/or ask questions that spark further research, (b) correcting misinformation, and (c) applying the concepts being taught to real-world scenarios, including their own experiences as well as those from around the globe. Furthermore, to proactively meet the needs of non-native English-speaking students, model proper use of the English language and clarify where colloquialisms and jargon are used.
- Stay abreast of the ways in which students use social media and other technologies to meet, collaborate, and learn from one another outside of the typical online classroom and insert yourselves into them where appropriate. Proactively arrange these opportunities before the course begins and invite students to participate. Hold regularly scheduled tutoring or question-answer sessions and post tips for success often. At the time this study was performed, apps such as GroupMe, WhatsApp, Discord, Remind, FlipGrid, Slack, and Trello were discussed; however, as new tools and new technologies are developed quickly, it is necessary to research them and attend professional development events where these technologies are presented.

Recommendations for Researchers

Due to limitations that arose during this study and new information that was discovered, several recommendations for further research can be made. First, this study should be repeated at

a time and place where international student participants are not experiencing the many effects that a pandemic has on educational offerings. Had the community college not been forced to limit its course offerings to online and hybrid format, the population from which this study's participants originated may have been very different. Further, the participants' personal circumstances would have been more typical of international students living in the United States and taking courses at a community college.

It is also recommended that a similar study be conducted with international students who were true undergraduates with no prior postsecondary education experience, especially who had not earned a degree, whether from their home countries or in the United States. Self-directed learning, work ethic, time management, amount and quality of contributions, socialization, motivation factors, etc. would possibly be more similar among cases and yield more transferable results.

Researchers could also perform a single-case study that examines how the international students interact with their classmates and instructor in one online or hybrid course. This study could yield useful findings from participants' reflections on the interactions they had and their preferences for different types and depths of interaction.

A mixed-methods study would benefit researchers who are interested in examining more closely how course communication affects the academic performance of international students in online and hybrid courses. Alongside a qualitative case study similar to this one, a quantitative analysis of assessment data related to the course or program's communication outcomes would provide a more holistic view of learning and performance.

Lastly, as alluded to in the findings regarding international students' use of social media applications to supplement and enhance the learning experience, a similar study that focuses on

that one type of communication method is recommended. Having learned that international students are comfortable with these technologies and actually desire to participate in collaboration with classmates using them, a healthy sample of the population could be achieved and new data collected that could add a new dimension to existing literature.

Summary

Today's international student population enters college in the United States intellectually ready and highly motivated to achieve their academic goals. However, they face numerous challenges with the potential for hindering performance, satisfaction, and fulfillment, especially when they participate in online learning. Language and cultural differences affect communication, and communication affects learning. The CoI model has been used for over 20 years to explore communication and its effectiveness in online courses. This model emphasizes the need for teaching presence, social presence, and cognitive presence all exist in online course communication experiences (Garrison et al., 2000), which the findings of this study confirmed yet again.

Support for international students is normally provided by higher education institutions both outside and within the classroom. The focus of this study was on the ways that international students are supported socially and cognitively through teacher presence within the online classroom. Course design and delivery, therefore, is where the study began and ended. From extensive research of the target population, online learning, and the theoretical framework, to interviews of international students in online courses, analysis of findings, and inferring implications and making recommendations, the goal remained to directly enhance instructional design and delivery of online courses and indirectly improve international student success.

The conclusions drawn from this study answered questions regarding how communication activities were designed and implemented by instructors for the support of international students and how those students utilized the activities—or better yet, *if* they were utilized, to what extent, and for what purpose. The method chosen for this type of research was a qualitative case study that gathered the self-reported experiences of international students taking online courses. Those experiences proved to be diverse in some respects but contained several common threads that proved to be noteworthy and valuable in making recommendations for practice. Students expressed desires for a higher degree of teaching presence than what most experienced, and, therefore it is recommended that instructional designers and professors design and facilitate communication activities with more multimedia and higher levels of interaction at every turn. Although new technologies were considered and recommended for unconventional learning spaces, the recommendations still aligned well with prior research.

Earlier studies emphasized that online students in general were at risk of failing or withdrawing because of the lack of interaction and other support mechanisms that are absent in the online classroom; however, the participants in this study proved that online students could succeed by adapting to those deficiencies and finding other ways to meet their social and cognitive needs. Let the reader imagine, then, how effective the online classroom would be for international as well as domestic students if these recommendations are implemented. Furthermore, as similar future studies are performed as recommended, more current and relevant data would serve to inform educators in this ever-changing educational landscape.

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Appendix A: Reprint Permission

D. Randy Garrison Inbox - ACU November 24, 2020 at 10:03 PM

Re: Permission to Use CoI Diagram in Dissertation

To: Christie Smith

Christie,
You have my permission to use the CoI diagram.
All the best with your research.
DRG

Sent from my iPad

> On Nov 24, 2020, at 7:45 PM, Christie Smith [redacted] wrote:
>
> [△EXTERNAL]
>
> Dr. Garrison,
>
> I am a doctoral candidate at Abilene Christian University in Texas, and I am using the CoI framework in my dissertation entitled "Online Communication and International Student Performance." I begin my study in January 2021, and your model proves to be invaluable to my research!
>
> I have requested membership to the CoI community via email to [redacted] but I also respectfully request written permission to use the original CoI diagram found in the 2000 article cited below in my dissertation.
>
> Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. The Internet and Higher Education, 2(2), 87-105. http://doi.org/10.1016/S1096-7516(00)00016-6
>
> Thank you in advance for your assistance. I look forward to hearing from you soon.
>
> Christie Smith
> ACU EdD Candidate
> [redacted]

Appendix B: Demographic Survey

International Student Demographic Survey

Fake Name (Pseudonym): _____ Date: _____

1. How do you currently describe your gender identity?

   ☐ Please specify: _____

   ☐ I prefer not to answer.

2. What is your age in years?

   ☐ Please specify: _____

   ☐ I prefer not to answer.

3. What is your country of residence?

   ☐ Please specify: _____

   ☐ I prefer not to answer.

4. In what country will you be residing for the majority of the time you are taking the online course(s) for this study?

   ☐ Please specify: _____

   ☐ I prefer not to answer.

5. Besides your academic status at this U.S. institution, what other post-secondary education [college, vocational, optional practical training (OPT), etc.] have you obtained?

   ☐ Please specify post-secondary education obtained **in** the U.S.:
   _____

   ☐ Please specify post-secondary education obtained **outside** of the U.S.:
   _____

   ☐ I prefer not to answer.

6. Have you established English Language Proficiency at this institution? How did you establish English Language Proficiency at this institution?

   ☐ Yes

- ☐ No
- ☐ I prefer not to answer.

If you answered "Yes," explain how you established English proficiency.
_____

7. What program of study are you pursuing at this institution?
   - ☐ Please specify: _____
   - ☐ I have not decided.
8. What is your goal after you complete your program requirements at this institution?
   - ☐ Please specify:
     _____

     _____
   - ☐ I have not decided.

Appendix C: Communication Activity Evaluation Guide

Content

1. What is the prompt?
2. Are students expected to respond to one another, the instructor, or both?
3. How are students expected to respond?
4. Are students expected to continue dialog for a certain period of time?
5. Are students given guided response instructions?
6. What learning outcome is aligned with this activity?
7. Are there other assessments in the course that are connected to this activity?
8. Does the activity require research or opinion or both?

Behavior

1. Did the student satisfactorily meet the intended outcome according to the instructor's evaluation and/or feedback?
2. How did the student engage with other participants?
3. Did the student apply knowledge of concepts to their posts?
4. Is there evidence of social learning?
5. Are the student's posts substantive?
6. Did the student cite research in their posts?

Quality Matters™ Standards

General Standard 5: Learning Activities and Learner Interaction
Learning activities facilitate and support learner interaction and engagement.
Overview Statement: Course components that promote active learning contribute to the learning process and to learner persistence.

- **Standard 5.1:** The learning activities promote the achievement of the stated learning objectives or competencies.
- **Standard 5.2:** Learning activities provide opportunities for interaction that support active learning.
- **Standard 5.3:** The instructor's plan for interacting with learners during the course is clearly stated.
- **Standard 5.4:** The requirements for learner interaction are clearly stated.

Source: The Quality Matters Higher Education Rubric, Sixth Edition.
https://www.qualitymatters.org/

Appendix D: Student Participant Interview Protocol

Introduction

Hello, [Pseudonym]. I am Christie Smith. Before we go further, I would like to record this interview. The recording will only be viewed by me and serves only to ensure that I have the correct information in my records. Is it okay to record? [If no, conclude the interview. If yes, click the Record button.]

Today is [Date], and it is [Time]. I am speaking with [Pseudonym].

Thank you for meeting with me and for agreeing to participate in this study. I have just a few introductory items to take care of first, and then we will get started.

First, just so you remember the purpose of this study, I am a doctoral candidate at Abilene Christian University. I have been teaching online courses for over 20 years, and many of my students have been international students like you. I have always wanted to know more about how to support my international students in the classroom, especially since the online classroom is much different than the on-ground classroom. Obviously, this study is way overdue for me! The purpose of this particular study is to determine how international students' learning needs are supported through communication activities in online courses. Studies show that communication in the online classroom is a significant factor for student success, which is why it is the focus for this study.

[Share the signed informed consent document on screen.] On the screen I am showing the informed consent document that you signed. Before we proceed, I want to make sure you remember what you consented to. [Read the main points aloud.] Do you have any questions about the document? Do you still agree to these permissions? [If no, conclude the interview. If yes, proceed.]

I anticipate this interview to last no more than an hour. Are you still available for that length of time? [If no, conclude the interview and ask to reschedule. If yes, proceed.]

You may notice throughout the interview that I am taking notes. This is just in case the recording fails or in case I think of some follow-up questions to ask. Don't let this stop you from talking. It's my way of being an active listener.

If, at any time during this interview, you feel uncomfortable or unable to answer a question, that is perfectly fine. Just let me know, and we will move on to another topic.

Interview Guide

Adapted from the Community of Inquiry (CoI) Survey Instrument (draft v14) with permission under Creative Commons license.

The discussion points that I have for this interview are specifically about the communication activities that you have been involved in throughout the course. I would like for you to think about how they helped you socially and how they helped you learn. I will ask basic questions and then let you talk, but if you don't understand the question, let me know, and I will ask it a different way.

1. Tell me about some of the communication activities that you experienced in the course. These could include discussion boards, group projects, video conferences, chat sessions, or even emails between you and your professor and classmates.
2. Tell me how the communication activities were designed and/or organized.
    a. Follow-up/Clarifying Questions:
        i. How were important topics, goals, instructions, how to participate, due dates, etc. communicated?
        ii. If negative response: How did you work around it?
3. Tell me how the instructor guided the communication activities.
    a. Follow-up/Clarifying Questions:
        i. How did they handle agreement and disagreement?
        ii. How did they keep the conversation productive and engaging?
        iii. How did they encourage you to think about new concepts?
        iv. How did they develop a sense of community?
        v. How did they provide feedback during and after the activity?
4. Tell me how the communication activities affected you socially.
    a. Clarifying prompts:
        i. Level of belongingness and familiarity with others
        ii. Perception of online communication
        iii. Comfort level with online interactions
        iv. Group cohesion (trust, disagreement, viewpoints, collaboration)
5. Tell me how the communication activities affected your learning.
    a. Follow-up/Clarifying Questions:
        i. Did anything about them trigger your interest, curiosity, or motivation?
        ii. Did you brainstorm with others?
        iii. Did you hear others' perspectives?
        iv. Did anything new come up that raised more questions?
        v. Did the activities cause you to apply your knowledge in new ways?
6. Is there anything else about the communication experiences in this course that you feel would benefit this study?

Conclusion

[Pseudonym], thank you again for taking the time to talk with me today. I have learned so much from you already, and I am anxious to combine what you have taught me with what I learned from the other participants.

Once I have transcribed the recording and combined it with my written notes, I would like for you to look over everything, just to make sure I interpreted everything correctly. Would you mind doing that?

I will now conclude this interview and let you get on with your day. Thanks again!

Appendix E: Faculty Participant Interview Protocol

Introduction

Hello, [Pseudonym]. I am Christie Smith. Before we go further, I would like to record this interview. The recording will only be viewed by me and serves only to ensure that I have the correct information in my records. Is it okay to record? [If no, conclude the interview. If yes, click the Record button.]

Today is [Date], and it is [Time]. I am speaking with [Pseudonym].

Thank you for meeting with me and for agreeing to participate in this study. I have just a few introductory items to take care of first, and then we will get started.

First, just so you remember the purpose of this study, I am a doctoral candidate at Abilene Christian University. I have been teaching online courses for over 20 years, and many of my students have been international students like you. I have always wanted to know more about how to support my international students in the classroom, especially since the online classroom is much different than the on-ground classroom. Obviously, this study is way overdue for me! The purpose of this particular study is to determine how international students' learning needs are supported through communication activities in online courses. Studies show that communication in the online classroom is a significant factor for student success, which is why it is the focus for this study.

[Share the signed informed consent document on screen.] On the screen I am showing the informed consent document that you signed. Before we proceed, I want to make sure you remember what you consented to. [Read the main points aloud.] Do you have any questions about the document? Do you still agree to these permissions? [If no, conclude the interview. If yes, proceed.]

I anticipate this interview to last no more than 30 minutes. Are you still available for that length of time? [If no, conclude the interview and ask to reschedule. If yes, proceed.]

You may notice throughout the interview that I am taking notes. This is just in case the recording fails or in case I think of some follow-up questions to ask. Don't let this stop you from talking. It's my way of being an active listener.

If, at any time during this interview, you feel uncomfortable or unable to answer a question, that is perfectly fine. Just let me know, and we will move on to another topic.

Interview Guide

The discussion points that I have for this interview are about communication in the online environment in general, as well as communication with and among international students.

The first set of topics pertain to your international students and the observations I made while interviewing them and observing them in their online courses.

1. What challenges do you see international students experiencing?
    a. Examples to consider: language, culture, education background, writing skills, socialization/isolation
    b. Does the online classroom make it difficult to observe some of these?
    c. Are these specific to international students, or are they also experienced by the typical online undergraduate student?
2. What strengths do you see international students have compared to domestic students?
    a. How does their work ethic differ?
    b. Does the online classroom make it difficult to observe some of these?
3. How do your international students approach you as the instructor vs. their classmates?
    a. Do they utilize office hours or other instructor-provided tools to ask for additional help from you or just socialize with you?
    b. Do they utilize other means of communication to ask for help from classmates or just socialize with them?
4. How are you made aware that you have an international student in your course?
    a. Do you look at their advising profile?
    b. Are you contacted by International Student Services personnel?
    c. Do the students self-disclose in a formal way, or do they bring it up in essays, discussions, etc.?

The second section of topics is based on a model called, "Community of Inquiry," which looks at online communication in three ways: social presence, cognitive presence, and teacher presence. Teacher presence includes not only your interaction with students but also the way you design communication activities.

1. Tell me about the types of communication that occur online with and among your students. Include specific tools and/or software applications used.
    a. Follow-up/Clarifying Points:
        i. Examples of communication types to consider: feedback, email, instructional videos, announcements, discussion boards, group projects, video conferences, chat sessions.
        ii. Examples of technologies to consider: LMS, WebEx/Zoom, WhatsApp, GroupMe, Discord, Remind, publisher/proprietary tools.
2. Tell me how you design or organize online communication activities.
    a. Follow-up/Clarifying Questions:
        i. Are the purposes for these activities for assessment, learning, or social benefits?

        ii. How do you communicate important topics, goals, instructions, how to participate, due dates, etc.?
3. Explain your role in those communication activities.
    a. Follow-up/Clarifying Questions:
        i. How do you handle agreement and disagreement?
        ii. How do you keep the conversation productive and engaging?
        iii. How do you encourage you to think about new concepts?
        iv. How do you develop a sense of community?
        v. How do you provide feedback during and after the activity?
4. Tell me how the communication activities affect your students socially.
    a. Clarifying prompts:
        i. Level of belongingness and familiarity with others
        ii. Perception of online communication
        iii. Comfort level with online interactions
        iv. Group cohesion (trust, disagreement, viewpoints, collaboration)
5. Tell me how the communication activities affect your students' learning.
    a. Clarifying Prompts:
        i. Trigger interest, curiosity, or motivation
        ii. Brainstorming with others
        iii. Learn others' perspectives
        iv. Raise more questions
        v. Apply knowledge in new ways?

Is there anything else that we did not discuss that you feel would benefit this study?

Appendix F: Abilene Christian University IRB Approval Letter

ABILENE CHRISTIAN UNIVERSITY
Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885

January 4, 2021

Christie Smith
Department of Graduate and Professional Studies
Abilene Christian University

Dear Christie,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "Online Course Communication and International Student Academic Performance",

was approved by expedited review (Category 6 & 7) on 1/4/2021 (IRB # 20-213). Upon completion of this study, please submit the Inactivation Request Form within 30 days of study completion.

If you wish to make any changes to this study, including but not limited to changes in study personnel, number of participants recruited, changes to the consent form or process, and/or changes in overall methodology, please complete the Study Amendment Request Form.

If any problems develop with the study, including any unanticipated events that may change the risk profile of your study or if there were any unapproved changes in your protocol, please inform the Office of Research and Sponsored Programs and the IRB promptly using the Unanticipated Events/Noncompliance Form.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D.
Director of Research and Sponsored Programs

Appendix G: Case Study Site Institution IRB Approval Letter

[redacted]

Institutional
Review Board

January 7, 2021

Christie Smith
IRB Protocol 2021050

Dear Mrs. Smith:

The research project application for your protocol titled, Online Course Communication and International Student Academic Performance," has been reviewed by the [redacted] Institutional Review Board ("IRB"). The outcome of the review is as indicated below.

Approved: Expedited 45 CFR 46.102 (2)(i)

This approval will be valid for 12 months after the date of this letter. If the study extends beyond this period, it will be subject to continuing review and will require the submission of a supplemental application at that time.

Please note that any changes to the protocol or procedures for this project after the initial review must be promptly submitted to the [redacted] IRB for review. Also, any adverse events should be reported to the [redacted] IRB Office as soon as possible.

The [redacted] IRB requests that you share the results of this research project with the IRB office when you have completed it. The data from your study could be beneficial to grant writers and others in the [redacted] System. You will be given full credit for its authorship.

This letter constitutes the official written response of the [redacted] Institutional Review Board.
Thank you and best of luck in your study!

[redacted]
Administrator, Institutional Review Board

[redacted]