EXPERIENCES OF GRADUATE-LEVEL FACULTY REGARDING INTERACTION

IN ONLINE COURSES

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A Dissertation

Presented to

The Faculty of the Department of Educational Leadership

Sam Houston State University

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In Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

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by

Weena McKenzie

December, 2019

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DEDICATION

I dedicate this endeavor to my husband and to my mother. Without their support, this would not have been possible.

ABSTRACT

McKenzie, Weena. *Experiences of graduate-level Faculty regarding interaction in online courses*. Doctor of Education (Educational Leadership), December, 2019, Sam Houston State University, Huntsville, Texas.

The purpose of this phenomenological study was to explore the experiences of instructors related to student interaction in online graduate courses. This in-depth investigation of the experiences and perceptions of online, graduate-level instructors revealed the nature of various types of interaction and some of the barriers to interaction in their courses. Utilizing Moustakas's phenomenological design, criterion sampling and reputational sampling techniques were used to nominate 12 online, graduate-level instructors to participate. Of those 12 nominees, eight instructors were available and willing to participate in individual interviews.

Three major themes emerged from the data. One of the perceived barriers to interaction in online, graduate-level courses was the lack of *training of instructors for online teaching*. Learning to teach online required taking personal initiative for these instructors. The *role of instructors as facilitators of online courses* was described as encompassing the intentional design of all aspects of the class and actively teaching the class and interacting with students. These instructors also described *the time requirements of teaching online*. They emphasized how much more time is required to teach online versus to teach face-to-face. Teaching online was also described as "invisible labor" when contrasted with teaching face-to-face.

The rich description of current practices for facilitating interaction in online, graduate-level courses gained from this study provided insight to benefit both instructors and program administrators. Instructors should allow for the extra preparation and

teaching time required by online courses. Program administrators should advocate for specialized instruction for online faculty, who need training focused on available online tools, how to create interaction in online environments, and appropriate online workloads. Program administrators should also advocate for an institutional office of online instruction that houses instructional designers to assist faculty. Program administrators must also acknowledge the "invisible labor" of online instruction and find ways to honor the additional time required to teach effective online courses. The online, graduate-level instructors in this study described competing demands for their time and a lack of training as barriers to interaction. Ultimately, these instructors invested their time and effort into designing effective courses, actively teaching those courses, and interacting with their students.

ACKNOWLEDGEMENTS

With humble gratitude I must first acknowledge my committee director and dissertation advisor, Dr. Julie Combs. Her experience with the dissertation process combined with her engagement with both the study topic and with me personally made her the finest guide I could have hoped for. Thank you, Dr. Combs, for the gift of your expertise, your time, and your support.

I also gratefully acknowledge my dissertation committee, Dr. Peggy Holzweiss and Dr. Ricardo Montelongo, who generously added their expertise of qualitative research and their enthusiasm for the topic to this study. My appreciation also goes to my other professors in the Department of Educational Leadership. I not only learned new knowledge and new skills, but I was also challenged to examine my beliefs and to focus my ability to think critically. Thank you all for teaching me the skills I needed to complete this dissertation study.

I must also acknowledge Dr. Arthur Shapiro and Sue Shapiro for guiding me to the program and university that best fit me. Arthur and Sue, as always, your advice was absolutely correct and perfectly timed. I value your wisdom and your friendship.

Additional thanks go to members of Cohort 33. You willingness to function as a team and to share information was invaluable. I am especially grateful to Dr. Deshonta Holmes and Dr. Kristin Malloy for holding me accountable, providing feedback, and supporting me through the ups and downs along the way. Thank you for being my friends.

I am also eternally grateful to my family, friends, and colleagues for their encouragement and understanding as I worked toward a doctoral degree. First, I must

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CHAPTER I

Introduction

Background of the Study

The United States is falling behind other developed countries in the proportion of students graduating from institutions of higher education. Snyder and Dillow (2011) reported that the number of bachelor's degrees conferred per 100 people in 2007 in the United States was 37, well behind the reported 61 in Australia and 63 in Iceland. Lewis (2010) reported that the United States has fallen from first to 12th in the world in the number of 25- to 34-year-olds with college degrees. And the situation will not improve with declining enrollment. Enrollment in higher education in the United States has declined every year since 2013 (NSCRC, 2017). From 2012-2015, total on-campus enrollment at all U.S. 2-year and 4-year institutions fell 3% (Allen & Seaman, 2017). Recently, overall enrollment in colleges of education declined 2.3% from Spring 2016 to Spring 2017 alone (NSCRC, 2017).

However, from 2012-2015, distance education enrollment increased 11% (Allen & Seaman, 2017). Allen and Seaman (2014) reported that more than one third of higher education students were enrolled in at least one online class, and that proportion is increasing. Furthermore, from 2012-2015, graduate level distance enrollment increased by 18.1%, outpacing the 9.6% growth of undergraduate level distance enrollment (Allen & Seaman, 2017).

Increasing enrollment in graduate level higher education programs may be particularly important in light of a predicted leadership crisis (Appadurai, 2009; Luna, 2012). Bornstein (2010) warned that the pipeline of potential higher education leaders is

decreasing and may lead to a leadership gap. It is encouraging to note that enrollment in education master's programs is recovering from earlier declines (Okahana & Zhou, 2017). The Council of Graduate Schools (2017) reported that between Fall 2015 and Fall 2016, enrollment in education programs increased 2.3% at the master's level and 3.0% at the doctoral level. Overall, online graduate level program enrollment is increasing whereas face-to-face enrollment in higher education in the United States is declining (Allen & Seaman, 2017).

Enrollment in online higher education has increased steadily for more than two decades (Parry, 2010). However, the availability of online courses does not guarantee the quality of those online learning experiences (Shackelford & Maxwell, 2012). The effectiveness of online education may be decreased due to the lack of participation of highly qualified, full-time faculty (Larreamendy-Joerns & Leinhardt, 2006). A significant challenge to distance education since its inception is that "people tend to gravitate toward those things with which they are familiar or comfortable, and traditional instruction is no exception" (Duncan, 2005, p. 403). Indeed, Allen and Seaman (2014) found that only 38% of faculty members surveyed believed that online education could be as effective as face-to-face instruction. Tastle, White, and Shackleton (2005) also noted that faculty were inhibited from participating in online education because of a perceived lack of quality and lack of academic rigor in online courses. Allen and Seaman proclaimed in 2004 that online education was mainstreamed. "However," according to Shattuck (2013), "one interpretation of mainstreaming is that it refers to demand and does not necessarily indicate an institution is adequately organized and prepared to deliver a quality educational experience for students" (p. 396).

Faculty perceptions of online education are improving. Allen and Seaman (2010) documented positive opinions about online learning reported by only 30% of responding faculty in 2009, so the positive opinion reported by 38% only four years later shows progress (Allen & Seaman, 2014). But faculty participation in online education still lags behind online enrollment (Stevenson, 2007). Faculty who have had a positive experience with online education, either as a teacher or as a student, are more likely to report a positive opinion about online learning and are more likely to participate in online education (Ulmer, Watson, & Derby, 2007). Faculty perception also improves when training is available (Simonson, Smaldina, Albright, & Zvacek, 2009).

The perception that online education is less effective than face-to-face instruction persists in spite of research indicating there is no significant difference in the modes of instruction across various measures of educational outcomes (Garrison, 2016). In a review of the literature, Bernard et al. (2009) discovered that online classes could be just as effective as face-to-face classes. As early as 1938, Dewey noted the importance of an experienced teacher to provide purpose and structure to educational transactions. Similarly, online learning requires teaching presence, or as Garrison (2016) put it, "there is an inherent need for an architect and facilitator to design, direct and inform the transaction if it is to be productive and sustainable" (p. 27). Anderson, Rourke, Garrison, and Archer (2001) defined the online teacher's role as "the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (p. 5).

Good teaching matters (Carson, 1996, 1999). In his widely-read *What the Best College Teachers Do*, Ken Bain (2004) stated that the best teachers create a learning

environment that "engages students in some higher-order intellectual activity: encouraging them to compare, apply, evaluate, analyze, and synthesize, but never only to listen and remember" (p. 102). Bain (2004) concluded that "teaching occurs only when learning takes place" and emphasized that the best college teachers "think about ways to understand students' learning" (p. 173). Similarly, Conrad and Donaldson (2004) defined *engaged learning* as "a collaborative learning process in which the instructor and learner are partners in building the knowledge base" (p. ix). Good teaching in an online course requires the instructor to develop appropriate activities that engage online students in a collaborative learning process (Conrad & Donaldson, 2004). The quality of online educational experiences depends on the effectiveness of the instructor (Fedynich, Bradley, & Bradley, 2015; Shackelford & Maxwell, 2012).

Engaging students is critical to their success (Conrad & Donaldson, 2004). In fact, "in this age of dazzling technology, there is still no substitute for interaction, and there must be opportunities for students to interact in multiple ways with their peers in an online environment" (Shackelford & Maxwell, 2012, p. 241). It is the online instructor who creates opportunities for student interaction (Bain, 2004; Conrad & Donaldson, 2004; Fedynich et al., 2015). This study's exploration of interaction has shed light on the experiences of online, graduate-level instructors (Moore, 1989, 1993; Shackelford & Maxwell, 2012).

Statement of the Problem

Much of the research about effective teaching at the college and university level has either focused on undergraduate students or has not distinguished between undergraduate students and graduate students (e.g., Acker, 2003; Onwuegbuzie et al.,

2007). This trend continues in the published research about online or distance education.

Although there are published studies on online education, most are based on samples

from undergraduate students (Holzweiss, Joyner, Fuller, Henderson, & Young, 2014).

As Holzweiss et al. (2014) pointed out, the current distance education model in higher

education is to "apply effective distance education strategies from undergraduate studies

carte blanche to graduate education" (p. 312).

  Furthermore, recent research suggests that even faculty who currently teach

online may not be designing effective online courses (Huss, Sela, & Eastep, 2015). Huss

et al.'s (2015) study is illustrative. The authors interviewed seven online instructors

within a teacher education program, and "six of the seven participants believed students

prefer *not* to interact with other students in online courses, and this is reason enough not

to do so" (Huss et al., 2015, p. 81). Additionally, Barbera, Ludmila, and Gunawardena

(2014) documented the gap between what online faculty intended versus the interaction

assignments they were actually designing into their online classes.

  As enrollment in online graduate programs increases, those programs impact

ever-increasing numbers of future educational leaders. To understand the quality of

online education, the quality of online instruction must be explored (Shackelford &

Maxwell, 2012). Interaction is an important element of online educational quality

(Moore 1989, 1993; Shackelford & Maxwell, 2012), but interaction in online graduate

level courses has been under-researched. Insights gained from this study contribute to the

body of knowledge regarding online, graduate-level education programs.

Purpose of the Study

The purpose of this phenomenological study was to explore the experiences of instructors related to student interaction in online graduate classes. An in-depth investigation of the experiences and perceptions of selected instructors revealed the nature of various types of interaction as well as some of the barriers to interaction in online graduate classes. Reflecting on types of interaction within their classes provided insight into the instructors' challenges and successes related to interaction in online graduate classes.

Educational Significance of the Study

An online course instructor often serves as both teacher and course designer (Martin, Budhrani, Kumar, & Ritzhaupt, 2019; Tallent-Runnels et al., 2006). Therefore, the online instructor establishes the course environment to include the levels and types of interaction (Tallent-Runnels et al., 2006). Online course instructors are in the position to provide insight into their experiences. These instructors are familiar with their roles as both teachers and course designers and can describe their perceptions. Understanding the meaning of the experiences of online instructors provided important information for other instructors and administrators of online graduate programs.

The findings from this study helped to create recommendations for online instructors to improve their teaching practices and, therefore, the success of their adult students. Additionally, the findings provided insight for online program administrators regarding online graduate courses and programs. Furthermore, this study responded to the need for high quality qualitative research on online graduate education. As Tallent-Runnels et al. (2006) noted in their review of 20 qualitative studies on teaching online

courses, "much of this research is lacking details defined in the historical traditions of qualitative research designs. For example, few researchers attended to detailed measures of authenticity such as researcher biases [and] member checking" (p. 95). The rich description of current practices for facilitating interaction in online courses gained from this study provides insight to benefit institutions, programs, researchers, individual instructors, and, ultimately, online graduate students.

Research Questions

This phenomenological study was guided by three qualitative research questions. These qualitative research questions guided this study's attempt to "understand. . . common experiences in order to develop practice or policies" (Creswell, 2013, p. 81). As such, the qualitative research questions were:

1. How do selected instructors in a selected College of Education describe their experiences with student-student interaction in their online, graduate-level classes?

2. How do selected instructors in a selected College of Education describe their experiences with student-content interaction in their online, graduate-level classes?

3. How do selected instructors in a selected College of Education describe their experiences with student-instructor interaction in their online, graduate-level classes?

Conceptual Framework

Moore's (1993) theory of transactional distance provided the overarching framework for this qualitative study, with a specific focus on interactions (Moore, 1989).

In 1972, Moore theorized that, "distance education is not simply a geographic separation of learners and teachers, but, more importantly, is a pedagogical concept" (Moore, 1993, p. 22). By 1993, Moore recognized that "the separation of learners and teachers. . . profoundly affects both teaching and learning" (p. 22). Although Moore (1989, 1993) theorized that transactional distance could be reduced through interaction, which he called *dialogue*, he stressed that transactional distance is "a space of potential misunderstanding" (Moore, 1993, p. 22). Moore (1989) also identified and defined three types of interaction: learner-learner (in this study referred to as *student-student),* learner-content (in this study referred to as *student-content)*, and learner-instructor (in this study referred to as *student-instructor)* interaction.

Moore (1989) described student-student interaction as interaction among individual students or among students working in small groups. Student-student interaction lowers the transactional distance those students perceive and also provides motivational support (Bernard et al., 2009; Huang, Chandra, DePaolo, & Simmons, 2016). Moore (1989) described student-content interaction as "the process of intellectually interacting with the content that results in changes in the learner's understanding, or the learner's perspective" (p. 2). Bernard et al.'s (2009) review of the literature found that student-content interaction significantly affected achievement outcomes. Moore (1989) defined student-instructor interaction as "interaction between the learner and the expert who prepared the subject material" (p. 2). Moore (1989) further delineated the instructor's role "to stimulate or at least maintain the student's interest in what is to be taught, to motivate the student to learn, [and] to enhance and maintain the learner's interest, including self-direction and self-motivation" (p. 2).

Definition of Terms

Distance education. Holmberg (1986) defined distance education as "the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students. . . but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organization" (p. 26). For the purpose of this study, distance education was considered to be the historical context from which online education has evolved.

Online education. Online education was defined by Allen and Seaman (2014) as a mode of learning in which 80% or more of the content is delivered online with no face-to-face meetings. Larreamendy-Joerns and Leinhardt (2006) noted that "online education [implies] instruction through a connection to a computer system at a venue distant from the learner's personal computer" and is therefore "a case of distance education" (p. 568).

Interaction. Interaction is generally understood to describe actions among humans. Wagner (1994) defined interaction as "reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence one another" (p. 8). For the purpose of this study, the term *interaction* represented student-student, student-content, and student-instructor interactions, as well as the more specifically positive and purposeful interactions that Moore (1973, 1993) referred to as *dialogue*.

Online interaction. As defined by Thurmond (2003), online interaction is "the learner's engagement with the course content, other learners, the instructor, and the technological medium used in the course" (p. 4). For the purpose of this study, the terms *interaction* and *online interaction* were used to denote what Moore (1993) defined as *dialogue*: a "particular kind of interaction" in which "each party . . . is a respectful and active listener; each is a contributor and builds on the contributions of the other party or parties" (p. 26).

Delimitations

To "clarify the boundaries of [this] study" (Bloomberg & Volpe, 2008, p. 78), this qualitative phenomenological study was delimited to one College of Education at one state university in Texas. The study was further delimited to only full-time faculty who taught online, graduate-level classes within the selected college in the fall semester of 2017. Another delimitation was that data were collected only from individual interviews as part of the phenomenological design.

Limitations

Onwuegbuzie and Leech (2007) suggested that the trustworthiness of qualitative research can be threatened at the research design/data collection stage, at the data analysis stage, and at the data interpretation stage, thus limiting the trustworthiness of the findings of the study.

One possible limitation of this study at the research design/data collection stage was researcher bias (Creswell, 2013; Onwuegbuzie & Leech, 2007). I acknowledge that I have inherent bias based on my own lived experiences as an online instructor. I also have inherent bias as a current graduate student. Onwuegbuzie and Leech (2007)

recommended identifying and setting aside personal bias to increase the trustworthiness of qualitative research.

In order to minimize the impact of the limitations related to my bias, I took the following steps: (a) acknowledged and documented my assumptions relevant to the study at the onset (Bloomberg & Volpe, 2008); (b) bracketed my personal opinions and expectations in a journal according to Moustakas's (1994) definition of the Epoche, whereby the researcher engages in a process of "setting aside predilections, prejudices, predispositions, and allowing things, events, and people to enter anew into consciousness, and to look and see them again, as if for the first time" (p. 85); and (c) recruited a critical debriefer (Creswell, 2013) to minimize researcher bias during the data analysis stage.

Onwuegbuzie and Leech (2007) suggested additional steps to further improve the trustworthiness of the findings. I utilized member checking (Lincoln & Guba, 1985; Miles & Huberman, 1994) to improve data accuracy and credibility. I also described findings in sufficient detail to aid potential readers in evaluating the study for degree of transferability (Lincoln & Guba, 1985).

Assumptions

I made a few assumptions in this research. I assumed that instructors understood the interview questions and provided in-depth and truthful answers to the interview questions. I assumed that I, as the researcher, accurately collected and interpreted data relevant to answering the research questions. Finally, I assumed that the emergent themes accurately reflect some aspects of various interactions within certain online, graduate-level classes.

Organization of the Study

 The purpose of this qualitative phenomenological study was to explore the experiences of instructors related to student interaction in online graduate classes. This dissertation consists of five chapters. Chapter I includes the background of the study, the statement of the problem, the purpose of the study, the educational significance of the study, the research questions, the conceptual framework, the definition of terms, the delimitations, the limitations, and the assumptions of this study. Chapter II contains a review of the literature related to the study, including a brief history of distance education, research exploring Moore's (1989, 1993) theory of transactional distance, interaction, the training of instructors to teach online, the role of the instructor in online, graduate-level course interaction, and the time required to facilitate online, graduate-level courses. Chapter III is a detailed description of the research design and method used in the study. Selection of participants, context of the study, data collection, procedures, data analysis, and trustworthiness are provided. Chapter IV presents the analysis of the date collected through individual interviews. Moustakas's (1994) procedures were used to set aside my own perceptions, "identify the invariant meaning units of the experience" (p. 122), provide thick descriptions of the experience by clustering the meaning units into themes, and synthesize the themes into a comprehensive description of the phenomenon. Chapter V is a discussion of the analysis of the data as well as the implications and recommendations for future research.

CHAPTER II

Review of the Literature

Introduction

As recommended by Boote and Beile (2005), this study began with a review of

relevant literature. Few research studies have been published on how to plan and write an

effective dissertation literature review (Boote & Beile, 2005). However, one model for

conducting an effective literature review was designed by Combs, Bustamante, and

Onwuegbuzie (2010). In this chapter, I will describe some of my early steps through the

Interactive Literature Review Process (ILRP) model as designed by Combs et al. (2010).

I will also present a review of the literature focused on interaction in online graduate

level classes. Sections included in this chapter are as follows: (a) history of distance

education, (b) Moore's (1989, 1993) theory of transactional distance, (c) interaction, and

(d) instructors and interaction.

One model for conducting an effective literature review is the ILRP framework

designed by Combs et al. (2010), which consists of nine stages:

> (a) exploring belief systems, (b) initiating the literature review process, (c)
>
> selecting a topic, (d) exploring the literature: identifying themes, (e) formulating a
>
> focus: selecting/deselecting themes, (f) analyzing/interpreting/integrating
>
> literature, (g) closing the literature search: reaching saturation, (h) writing the
>
> review of literature, and (i) evaluating the process and product. (p. 162)

I examined my belief systems throughout the coursework stage of my doctoral program,

and I realized that my worldview is predominantly social constructivist (Creswell, 2013).

This worldview influenced my research interest such that interaction with others for the

purpose of social construction of meaning is the primary focus of this study (Creswell, 2013).

My research is also influenced by pragmatism. I am interested in identifying best practices regarding the facilitation of interaction in online graduate level courses and the practical implications of those findings (Creswell, 2013; Patton, 1990). My epistemological belief is influenced by pragmatism because I believe reality can be known and studied through various types of research (Creswell, 2013). My research philosophy is grounded primarily in a qualitative, constructivist paradigm. As a result of doctoral coursework, interactions with doctoral professors, and my own reflexivity journal, I am able to identify how my beliefs may influence my research. I recognize that my own background shapes how I have designed the study, how I will conduct the study, and how I will interpret what I find (Creswell, 2013).

I initiated the literature review process from the perspective of a faculty member interested in "what works" (Patton, 1990) in graduate level instruction. Exploratory reading on characteristics of effective graduate-level teaching led to the topic of effective teaching in online classes. My experience as an English teacher gave me the knowledge I needed to conduct effective literature searches within the library's collection of databases, and my dissertation chair suggested strategies for organization and note taking. I kept notes on my method of search, and also kept a reflexivity journal throughout the early stages of the literature review process. Because of my background as an online instructor, I chose to narrow the focus of my reading to online courses at the graduate level. Further reading helped me to select the topic of how online instructors perceive the facilitation of interaction in their graduate level courses.

After a search of existing literature related to my proposed study, I believe online interaction at the graduate level is under-researched. A search in the university's databases for the period from 2011-2017 in Education Source, PsychInfo, and ERIC linked to Google Scholar, using the keyword search *graduate + online + interaction* yielded 1,004 articles, compared to a keyword search *online + interaction*, which yielded 14,228 articles. Another search of the same databases for the same period using the keyword *graduate + online + dialogue* yielded 168 articles, compared to a keyword search *online + dialogue*, which yielded 1,690 articles. In both of these exploratory searches, inclusion of a keyword that might indicate a study at the graduate level substantially reduced the returned number of scholarly articles. In pursuit of a deeper understanding of the relevant scholarship focused on interaction and the online instructor's influence on interaction, I conducted Boolean searches using various keywords in various combinations. Table 1 displays a list of keywords used and the number of peer-reviewed articles yielded from 2011-2017.

Table 1

Summary of Literature Review Search from 2011-2017

Construct or Theme	Search Terms	Database	*n* of Items Yielded	*n* of Items Selected
Graduate Online Transactional Distance				
	graduate + online + interaction	Education Source, ERIC, PsycINFO	781	xx

(continued)

graduate + online + interaction + transactional distance	Education Source, ERIC, PsycINFO	2	2
master* + online + transactional distance (continued)	Education Source, ERIC, PsycINFO	7	0
doctor* + online + transactional distance	Education Source, ERIC, PsycINFO	0	0
MBA + online + transactional distance	Education Source, ERIC, PsycINFO	2	0
postgraduate + online + transactional distance	Education Source, ERIC, PsycINFO	1	1
post baccalaureate + online + transactional distance	Education Source, ERIC, PsycINFO	0	0
graduate + distance + transactional distance	Education Source, ERIC, PsycINFO	2	0
master* + distance + transactional distance	Education Source, ERIC, PsycINFO	0	0

doctor* + distance + transactional distance	Education Source, ERIC, PsycINFO	0	0
MBA + distance + transactional distance	Education Source, ERIC, PsycINFO	0	0
postgraduate + distance + transactional distance	Education Source, ERIC, PsycINFO	1	1
post baccalaureate + distance + transactional distance	Education Source, ERIC, PsycINFO	0	0
(continued)			
graduate +e-learning + transactional distance	Education Source, ERIC, PsycINFO	0	0
master* + e-learning + transactional distance	Education Source, ERIC, PsycINFO	0	0
doctor* + e-learning + transactional distance	Education Source, ERIC, PsycINFO	0	0
MBA + e-learning + transactional distance	Education Source, ERIC, PsycINFO	0	0
postgraduate + e-learning + transactional distance	Education Source, ERIC, PsycINFO	0	0

	post baccalaureate + e-learning + transactional distance	Education Source, ERIC, PsycINFO	0	0
Online Instructor's Influence on Interaction				
	course design + online + teacher role	Education Source, ERIC, PsycINFO	14	0
	course design + online + graduate	Education Source, ERIC, PsycINFO	263	xx
	course design + online + graduate, NOT nurs*, NOT criminal (continued)	Education Source, ERIC, PsycINFO	249	xx
	course design + online + graduate + interaction + NOT nurs*, NOT criminal	Education Source, ERIC, PsycINFO	24	4
	pedagogy + online + graduate + interaction, NOT nurs*, NOT criminal	Education Source, ERIC, PsycINFO	31	1
Online Educational Quality				

educational quality + online + graduate	Education Source, ERIC, PsycINFO	174	xx
educational quality + online + graduate, NOT nurs*, NOT criminal	Education Source, ERIC, PsycINFO	112	2

History of Distance Education

Some educators may consider online education to be a relatively new phenomenon. However, distance education is nothing new. Mielke (1999) defined distance education simply as "a method of learning in which the learner is physically separated from the teacher and the institution sponsoring the instruction" (p. 2). Defined thus, distance education has arguably existed since at least the early epistles of the Bible (Blinderman, 1969).

Formal distance education in the form of correspondence schools has existed in the United States since at least 1873. One of the earliest known examples was Anna Eliot Ticknor's Society to Encourage Studies at Home (Bergmann, 2001). Ticknor recruited her well-educated friends as correspondents, and over the course of its existence, the Society enrolled more than 7,000 women (Bergmann, 2001). William Rainey Harper, the first president of the University of Chicago, established one of the first university correspondence programs (Holmberg, 1986). Courses by mail were advertised in the University of Chicago's *Official Bulletin* as early as 1892 (Mallory, 1916). Distance education through correspondence courses grew and spread across the country in the early 1900s (Holmberg, 1986).

An early form of technology was used to deliver education at a distance with the emergence of radio. William Lighty was one of the pioneers in utilizing radio to extend university correspondence programs (Watkins, 1991). Lighty and Louis Reber established a distance education program, which became a benchmark in the 1920s (Watkins, 1991). Thus, technology-delivered distance education emerged in the early 1900s.

The next wave of technology-delivered distance education arrived with television. The first educational television license was issued in 1953 to a station operated by the University of Houston (Lease & Brown, 2009). The Educational Broadcasting Facilities Act of the 1960s further expanded the use of television as an instructional technology (Lease & Brown, 2009). According to Mielke (1999), the arrival of satellite and fiber optic technology led to even more educational television.

In the 1960s, distance education pioneer Charles Wedemeyer advocated for distance education that was student-centered (Diehl, 2013). Wedemeyer's (1971) definition of *independent study* was innovative in its suggestion that a university could sanction a form of education "in which teachers and learners carry out their essential tasks. . . apart from one another" (p. 3). His early research demonstrated that distance programs designed by teams were of higher educational quality than programs produced by individuals (Black, 2013). Also beginning in the 1960s, Wedemeyer's University of Wisconsin-Madison and other pioneering universities were developing and offering professional development for distance educators (Black, 2013).

Distance education grew and developed over many years and through various technologies. However, what is known in 2018 as online education was developed by the

U.S. Department of Defense. The internet evolved in the 1990s from ARPANET, the network developed by the Advanced Research Projects Agency of the Department of Defense (Duncan, 2005). The Department of Defense, recognizing the potential for *distributed* or distance learning, held the first meeting of the Advanced Distributed Learning Initiative in 1997 (Duncan, 2005). The U.S. Army now uses computer-based, distributed learning "to bring just-in-time, anywhere, anytime learning to any student who can access a computer or personal digital assistant" (Duncan, 2005, p. 404).

With the development of the World Wide Web, the term *e-learning* became popular. Garrison (2016) used the term e-learning to represent "the utilization of electronically mediated asynchronous and synchronous communication for the purpose of thinking and learning collaboratively" (p. 2), thus focusing on the technology being used in the educational process. There is disagreement about the definitions of the terms e-learning and online learning (Saba, 2013), but Garrison (2016) emphasized that online learning is very different from previous forms of distance education. Garrison (2016) went on to argue that "today, distance has become but a relatively minor structural constraint in providing a quality collaborative thinking and learning experience" (p. 3).

Higher education institutions rushed to offer courses through the new online technology, and by fall of 2002, 1.6 million students were studying online (Allen & Seaman, 2004). Four years later, Tallent-Runnels et al. (2006) stated in their review of the research on teaching courses online that, "researchers have just begun to understand. . . online pedagogy as they ponder whether online classroom culture should be similar to or different from face-to-face classrooms. . . and propose ways that online interactions can improve or enhance learning" (p. 104). Tallent-Runnels et al. (2006) reported two

major findings. First, they found "overwhelming evidence. . . that learning in an online environment can be as effective as that in traditional classrooms" (Tallent-Runnels et al., 2006, p. 116). They also concluded that "students' learning in the online environment is affected by the quality of online instruction" (Tallent-Runnels et al., 2006, p. 116).

Moore's Theory of Transactional Distance

Moore first articulated a theory of distance education in 1972, and then refined it and called it the *theory of transactional distance* in 1973 (Moore, 1993). Moore (2013) continues to argue that "distance education has its own identity and distinguishing pedagogical characteristics" and that it is "a field worthy of study and research" (p. 67). Moore (1993, 2013) maintains that distance education is not only a physical separation, but also a psychological separation and a separation of communication space. Based on Dewey's (1938) concept of education as transactional, Moore's (1973) theory of transactional distance put forward the idea that transactional distance is a function of dialogue, course structure, and student autonomy, and that the larger the transactional distance, the less effective the distance education course will be.

Although the terms are often used synonymously, Moore (1993) distinguished between *interaction* and *dialogue*. He proposed that the term dialogue only be used in reference to those interactions that are positive, purposeful, and constructive. By his definition, dialogue in the context of educational endeavors would always help the student to gain knowledge or understanding (Moore, 1993). As early as 1993, Moore foresaw that the importance of the mode of communication might decrease, and that course design and selection and training of faculty might be recognized as important factors in the improvement of dialogue. Moore (1993) pointed out that, regardless of the

potential interactivity of the medium, a course may or may not be "highly dialogic" because it is controlled by instructors "who might. . . decide not to take advantage of its interactivity" (p. 25).

Course structure also influences the transactional distance (Moore, 1973, 1993). Moore (1993) theorized that, "appropriately structured learning materials" (p. 27) could improve the success of teaching at a distance. Moore (1993) asserted that courses with little transactional distance must be structured to include: "(a) presenting information, (b) supporting the learner's motivation, (c) stimulating analysis and criticism, (d) giving advice and counsel, (e) arranging practice, application, and evaluation, and (f) arranging for student creation of knowledge" (p. 28-29).

The third and final set of variables in Moore's theory of transactional distance is related to the autonomy of the learner (Moore, 1973, 1993). Moore (1993) defined learner autonomy as "the extent to which. . . it is the learner rather than the teacher who determines the goals, the learning experiences, and the evaluation decisions" (p. 31). Moore's (1973, 1993) early research indicated that more autonomous learners were comfortable with less dialogue and with little structure. In sum, Moore's (1973, 1993) theory of transactional distance suggests that transactional distance is a function of dialogue, course structure, and student autonomy, and that "the greater the transactional distance the more the learners have to exercise autonomy" (Moore, 2013, p. 73).

In order to operationalize and examine Moore's (1973) theory of transactional distance, Huang et al. (2016) surveyed more than 200 undergraduate and graduate online students at a university in the Midwest United States. The authors noted that few studies have attempted to test Moore's theory "in full web-based courses with the potential for

richer, more flexible means for dialogue and structure" (Huang et al., 2016, p. 735). The results supported Moore's theory of transactional distance and established that transactional distance is indeed a function of dialogue, structure, and student autonomy (Huang et al., 2016). Of note and contrary to Moore's (1993) hypothesis, Huang et al. (2016) found that dialogue was not necessarily in an inverse relationship compared to structure.

Related to dialogue and transactional distance, recent researchers (i.e., Forte, Schwandt, Swayze, Butler, & Ashcraft, 2016) suggested that "dialogue appears to be the key variable, as the degree of transactional distance is ultimately dependent upon the level of dialogue" (p. 18). In the years since Moore's (1973) articulation of the theory of transactional distance, the term *interaction* is more widely used in published research than the term dialogue. For example, an exploratory search in the university's databases Education Source, PsychInfo, and ERIC linked to Google Scholar, for the period from 2011-2017, using the keyword search *online + interaction* yielded 14,228 articles, whereas another search of the same databases for the same period using the keyword *online + dialogue* yielded only 1,690 articles. For the purpose of this study, the term interaction will be used to represent student-student, student-content, and student-instructor interactions, as well as to represent the more specifically positive and purposeful interactions that Moore (1973, 1993) referred to as dialogue.

Interaction

Several early learning theorists suggested that learning occurs through interaction (Merriam, Caffarella, & Baumgartner, 2007). In his classic *Experience and Education*, John Dewey (1938) explained the connections between learning and life experiences. He

argued that for an experience to lead to learning, the experience must exhibit both continuity and interaction. Regarding interaction, Dewey (1938) posited that "an experience is always what it is because of a transaction taking place between an individual and. . . his environment" (p. 41).

Interaction is also a key element in the learning theory of seminal psychologist Vygotsky (1978). He viewed learning as a process in which the learner constructs new meaning in interaction with others. His work was also foundational to activity theory, which "conceptualizes learning as involving a subject (the learner), an object (the task or activity) and mediating artifacts (for example, a computer. . .)" (Issroff & Scanlon, 2002, p. 77). Thus, interaction is a cornerstone to the constructivist orientation to learning.

More recently, interaction was recognized as a best practice in Chickering and Gamson's (1987) seminal *Seven Principles for Good Practice in Undergraduate Education.* Three of the seven principles, "encouraging contact between students and faculty, developing reciprocity and cooperation among students, and encouraging active learning" (Chickering & Gamson, 1987, p. 2), established that effective college learning environments facilitate various types of interaction. Learners who interact with each other, the content of their courses, and with their instructors are able to generate knowledge (Huang, 2002; Moore, 1993, 2013; Vygotsky, 1978).

Interaction between students, the content, and their instructors is generally agreed to be an important element in effective higher education (Chickering & Gamson, 1987). Interaction is also considered to be an important element of distance education (Anderson, 2003a, 2003b; Lou, Bernard, & Abrami, 2006). McIsaac, Blocher, Mahes,

and Brasidas (1999) went so far as to maintain that interaction may be the "single most important activity in a well-designed distance education experience" (p. 122).

Bernard et al. (2009) conducted a meta-analysis of interaction *treatments*. The authors specifically differentiated between the observable behavior of interaction "and the conditions or environments that are designed and arranged by teachers to encourage such behaviors" (p. 1248), or the interaction treatments. Bernard et al. (2009) concluded that intentionally creating the conditions or environments that encourage interaction between students, between students and content, and between students and instructors "positively affects student learning" (p. 1264).

Interaction has been defined by Wagner (1994) as "reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence one another" (p. 8). Thurmond (2003) focused more specifically on meeting course objectives when she described the goal of interaction as "the learner's engagement with the course content, other learners, the instructor, and the technological medium," concluding that "the goal of interaction is to increase understanding of the course content" (p. 4).

In its 2014 Higher Education Report, the Association for the Study of Higher Education (ASHE) noted that when the theory of "transactional distance is used today, the emphasis is on a gap in understanding and less on the 'distance'" (p. 34). It is widely agreed that when interaction increases, transactional distance decreases (Benson & Samarawickrema, 2009; Kearsley & Lynch, 1996; Moore, 1993). Bernard et al.'s (2009) meta-analysis of interaction treatments in distance education found that student-student, student-content, and student-instructor interactions were all important at a statistically

significant level. In other words, the gap in understanding can be overcome by "choices of instructional design" and by interaction (ASHE, 2014, p. 34).

Student-student interaction.   To Moore (1989), student-student interaction referred to interaction among individual students or among students working in small groups. Students actively engaging with other students is a cornerstone of collaborative knowledge building (Wegerif, 1998). Furthermore, students interact and construct knowledge in all types of group work (ASHE, 2014; Hew & Cheung, 2011). Huang et al. (2016) reported that requiring students to participate in either small group discussions or class discussions lowered the transactional distance those students perceived.

In addition to the cognitive purposes served, student-student interaction also provides motivational support (Bernard et al., 2009). In a study of 29 online graduate students from the U.S., Latin America, South America and Asia who were enrolled in a combined instructional design course offered as a collaboration between Purdue University and Northeastern Illinois University, Stepich and Ertmer (2003) discovered that students utilized a social discussion area to encourage each other and to support each other through challenges. Indeed, an online community can arise from the support that students share when they interact with each other (Rovai, 2001).

Student-content interaction. Moore (1989) described student-content interaction as "the process of intellectually interacting with the content that results in changes in the learner's understanding, or the learner's perspective" (p. 2). Bernard et al.'s (2009) review of the literature confirmed that student-content interaction impacted learning outcomes. In fact, Bernard et al. (2009) suggested that designing course features specifically to help students engage with the content "[made] a substantial difference in terms of achievement" (p. 1265).

Boling, Hough, Krinsky, Saleem, and Stevens (2012) also found that reliance on independent student work increased the gaps in student understanding. Boling et al. (2012) interviewed 10 students who had recently completed online undergraduate or graduate degrees as well as six online instructors. Participants represented public universities, for-profit, and not-for-profit online institutions in higher education, nursing, interior design, science education, and business programs. Boling et al. (2012) reported "an emphasis on text-based content and lecture," which participants experienced as "less helpful than those courses. . . that were more interactive" (p. 120).

Conversely, providing multiple ways to actively interact with the course content improved student success (Schilling, 2009). Schilling (2009) conducted a qualitative content analysis of a redesigned masters-level, fully online Consumer Health Informatics course at Indiana University. The course was first offered in 2007 as a primarily text-based course, and was then redesigned in 2008 to include multimedia and to improve student engagement. The redesigned course improved "students' engagement with course materials and with peers" (Schilling, 2009, p. 214).

Conrad and Donaldson (2004) developed the Phases of Engagement framework to help instructors to develop suitable activities and to "introduce them in an effective sequence" (p. 10). Based on the earlier work of Vygotsky (1978), Conrad and Donaldson's (2004) framework can assist instructors in designing activities that "help the learner across the zone of proximal development" (p. 4). Student-content interaction improves student satisfaction and student success (Bernard et al., 2009; Boling et al. 2012).

Student-instructor interaction. Moore (1989) described the instructor's role "to stimulate or at least maintain the student's interest in what is to be taught, to motivate the student to learn, [and] to enhance and maintain the learner's interest" (p. 2). According to ASHE (2014), "the instructor is critical to providing answers to the student who is confused, directions for the student who is lost, and gentle criticism when redirection is needed" (p. 39). Garrison, Anderson, and Archer's (2000) Community of Inquiry model calls this *teaching presence*. Garrison (2016) argues that the sheer volume of responses is not what is important. Instead, teaching presence involves helping students to think critically and make connections (Garrison, 2016).

Furthermore, student-instructor interaction has educational value, regardless of the medium used (Akyol & Garrison, 2009; Ke, 2010). Dennen and Wieland (2007) noted that online discussions led by a facilitative instructor were more likely to engage students in collaborative knowledge construction than were online discussions that lacked a facilitative instructor. In addition to in-class discussions, Sheer and Fung (2007) found that email also contributes to positive student-instructor relationships. Dennen, Darabi,

and Smith (2007) confirmed that student satisfaction improves when they perceive that their communication needs are being met.

Instructors and Interaction

In spite of the research on effective online instructional activities, there is still "low correspondence between the academic competencies faculty *aspire* to develop in their students and the type of interaction and instructional activities they are currently designing in their online programs" (Huss et al., 2015, p. 75). Huss et al. (2015) conducted a case study of seven online teacher education instructors. Three of the participants represented a metropolitan university in the Midwestern United States, and four of the participants represented a college of education in Israel. Data from interviews revealed two categories of interactions: student-student and student-instructor. Four of the seven participants mentioned in interviews that "the online format seems to hinder the student-instructor interaction" (Huss et al., 2015, p. 78). One participant instructor stated:

> Yes, they write me, they won't stop complaining and I keep telling them, it was you who chose to learn this in an online course. In class I can answer these questions, here I can't answer every single "I didn't understand, I didn't know." So, I don't answer. (Huss et al., 2015, p. 78)

Huss et al. (2015) also noted that "all seven participants in the study enumerated reasons *against* using student-student interactions in online courses" (p. 80). In fact, "six of the seven participants believed students prefer *not* to interact with other students in online courses, and this is reason enough not to do so" (Huss et al., 2015, p. 80). It is not surprising then that the participants in this study questioned whether online courses could

truly be effective. Huss et al. (2015) concluded that "faculty members. . . play a critical role in the process because. . . they are responsible for the course design, the manner by which the teaching is presented, and the extent of adaptability and responsiveness to students" (p. 83).

However, it is possible to design and teach online courses that are as conducive to student learning as face-to-face classes. Conrad and Donaldson (2004) declared that "the involvement of the learner in the course, whether one calls it interaction, engagement, or building community, is critical [in] an online course" (p. 6). For example, Wyatt (2005) surveyed 120 students (of whom 68% were graduate students) who had completed both online and traditional classroom coursework at a medium-sized university in the Midwestern United States. Wyatt (2005) found no statistically significant differences in levels of interaction with faculty or classmates in online classes compared to traditional classroom courses.

Templeton, Ballenger, and Thompson (2015) surveyed 52 online doctoral students and 15 of their faculty at a regional university in northeast Texas and found that opportunities for interaction are the result of intentional course design choices. All of the surveyed faculty members agreed that online learning technologies should be used to increase student-instructor interaction. Tallent-Runnels et al. (2006) affirmed the role of the instructor when they concluded that faculty efforts to promote student-student and student-instructor interactions support learners' efforts to construct knowledge.

Online instructors must design their courses strategically to offer students high-quality educational opportunities (Shackelford & Maxwell, 2012; Tallent-Runnels et al., 2006). Recent research has established the importance of the instructor in designing

interactive online courses. For example, Shackelford and Maxwell (2012) surveyed 381

online graduate students from a broad range of disciplines at a regional comprehensive

university in the south central United States to investigate different types of interaction.

Shackelford and Maxwell (2012) found that the surveyed graduate students perceived

introductions, collaborative group projects, and sharing personal experiences as important

elements of their online learning experiences (p. 238). These findings highlight the

important role that instructors play in designing opportunities for students to introduce

themselves, to work together on group projects, and to share their personal experiences.

Shackelford and Maxwell (2012) concluded that, "in this age of dazzling technology,

there is still no substitute for interaction" (p. 241).

The online instructor and course design.   Moore's (2013) theory of

transactional distance "was the first American theory to define the field [of distance

education] in *pedagogical* terms" (p. 67). Indeed, Moore (2013) has long argued that

"teaching and learning in separate locations is better understood not as an aberration from

the classroom, but as a significantly different pedagogical domain" (p. 67). Within this

context, successful student interaction is not only possible, but imperative (Anderson &

Kuskis, 2007; Falloon, 2011).

As Domine (2006) pointed out, simply posting reading materials on a course

home page may be considered "use of technology;" however, that is not the same as

using the "technology to teach" (p. 48). Domine (2006) studied eight graduate-level in-

service teachers at a mid-size university in the northeastern United States and their use of

Blackboard. Domine (2006) argued for an "authentic online pedagogy" in which "the

potential of courseware. . . lies not [in] what it contains, but rather [in] what it enables"

(p. 51). In this authentic online pedagogy, classrooms continue to be dialogic communities where students and instructors co-create knowledge.

Naidu (2013) defined *pedagogy* of the learning and teaching transaction as the instructional method, and stressed the importance of the "design architecture of the learning and teaching environment" (p. 271), which includes articulating learning outcomes, deciding what learners will do, how learning will be supported with available media and resources, how learning will be assessed, and how feedback will be provided. Naidu (2013) continued, "situated learning environments are based on constructivist learning theory" (p. 272) and argued that "learning by doing" through scenario- and problem-based learning, case study-based learning, role play-based learning, and design-based learning is "action-based" and "situated in some meaningful context" (p. 275).

Eom, Wen, and Ashill (2006) pointed out that online learning "break[s] a major assumption of objectivism that the instructor houses all necessary knowledge" (p. 219). They posited that online classes require the instructor to become a facilitator and not a lecturer. Eom et al. (2006) also noted "that an interactive teaching style. . . [is] strongly associated with high levels of user satisfaction and learning outcomes" (p. 221).

One of the most common elements designed into online classes for the purpose of interaction is the discussion board (McRay, Goertzen, & Klaus, 2016). Recent research suggests that online discussions help reduce transactional distance (Bernard et al., 2009; Huang et al., 2016; McRay et al., 2016). But discussion activities can be effective or ineffective based on how they are designed. Gilbert and Dabbagh (2005) found that providing student facilitator guidelines and evaluation rubrics increased the levels of meaningful discourse, but limiting the length of posting and mandating reading citations

had a negative impact on meaningful discourse. Concerning facilitator guidelines, Hew

and Cheung (2011) studied 40 certificate-, undergraduate-, and graduate-level discussion

forums from three different technology in education courses from one Asia-Pacific

university and found that giving comments or opinions, showing appreciation,

encouraging people to contribute, and summarizing were the four student-facilitator

techniques that most contributed to "higher level knowledge construction in online

discussions" (p. 315).

McRay et al. (2016) described a "Module Discussant" activity that was assigned

in an online graduate-level leadership theory course at a state university in the Midwest

According to the authors, "the assignment required students not only to facilitate online

asynchronous discussions but also to design the types of activities and questions that

would be discussed" (McRay et al., 2016, p. 153). McRay et al. (2016) stated that this

discussion design resulted in increased student engagement and critical thinking and

noted that "in general, students posted earlier, more often, and were more invested in the

relationships with their classmates and instructor" (p. 154). McRay et al. (2016) included

a reflection from a student who led an online discussion, and the student affirmed:

> This experience left me with the feeling that online discussion boards have
>
> the potential to be the most beneficial learning activity in an online course. The
>
> "Module Discussant" activity created the most engaging and active learning
>
> environment I have ever experienced in an online course. (p. 156)

Trespalacios and Rand (2015) also studied which asynchronous discussion

activities were most effective in an online graduate course. Trespalacios and Rand

(2015) conducted a case study of 15 students enrolled in one master's-level instructional

design course at a public university in the northwestern United States They found that student introductions at the beginning of class, student group presentations, and student-led online discussions all gave students relevant ways to interact with their classmates. Furthermore, "students pointed out that asynchronous discussions and leading groups gave them the opportunity to understand the main concepts of the course" (Trespalacios & Rand, 2015, p. 10). The researchers recommended that online instructors, "design activities that increase the bonds among students" (Trespalacios & Rand, 2015, p. 10).

Whether online courses should be designed with both synchronous and asynchronous elements has been the subject of research. In a comparison of Elluminate Live and Adobe Professional Connect, Schullo, Hilbelink, Venable, and Barron (2007) conducted interviews with faculty members and students in a variety of online classrooms and found that synchronous online classes not only improved student attitudes and retention rates, but also facilitated more effective teaching. Synchronous elements are also supported by the research of Huang et al. (2016) and Jowallah (2014). However, Falloon (2011) conducted a study in which students' perceptions were mixed. Falloon (2011) interviewed 30 students in an online master's of education program in New Zealand. From a total of 79 coded comments on the synchronous system, 42 perceptions were positive toward synchronous course elements, 19 were negative, and 18 were neutral (Falloon, 2011). Specifically, seven students perceived the required synchronous elements as "detracting from their personal flexibility and choice, which were two of the principal reasons for [their] opting for online study" (Falloon, 2011, p. 203). Braun (2008) reported similar findings opposing synchronous elements in otherwise asynchronous online classes.

Assignment quality is another course design element that is important to students. Templeton et al. (2015) noticed in their study that the quality of assignments was important to students. Students in the study expressed disappointment with assignments that lacked rigor or activities that were mundane (Templeton et al., 2015).

Course shell consistency is also important to students. Online doctoral students who were surveyed by Templeton et al. (2015) suggested that the online platform would be more comfortable if uniform course shells were created and materials located consistently from course to course. This recommendation is consistent with a report by Herron, Holsombach-Ebner, Shomate and Szathmary (2012) in which an overall student satisfaction rate above 85% was attributed, in part, to the use of master templates for all online courses.

The online instructor and teaching. As stated previously, Moore (2013) argued that "teaching and learning in separate locations is. . . [a] pedagogical domain" (p. 67). Therefore, successful student interaction involves not only course design, but also active teaching (Martin et al., 2019).

Easton (2003) conducted an ethnographic case study to explore communication processes affecting online instructors. She investigated the interactions among six lead faculty, 18 online mentors, and their students. She found that "the online instructor's role does require a paradigm shift regarding instructional time and space. . . and the ability to engage students through virtual communication" (Easton, 2003, p. 87). Easton (2003) summed up three current models of online learning: one in which the lead instructor is primarily a course designer who passes the course shell to a facilitator to teach, a second model in which the online instructor is the facilitator who teaches a course that is already

developed, and a third model "in which the professor is both the course designer and the facilitator, and in these scenarios, a combination of roles is required" (p. 100).

Different researchers have assigned different names to various online instructor roles; however, both course design and teaching appear frequently in the literature. For example, Bigatel, Ragan, Keenan, May and Redmond (2012) explored teaching behaviors, attitudes, and beliefs in their exploratory study. Bigatel et al. (2012) surveyed 197 online educators. Among the seven online teaching tasks identified in their study were multimedia technology, technical competence, and active teaching/responsiveness.

Farmer and Ramsdale (2016) conducted a literature review to "define the features of a highly proficient online teacher" (para. 3). The authors considered 200 articles, from which six were included in their review, along with four seminal studies. Among the five roles identified in their review were instructional design and active teaching. Farmer and Ramsdale (2016) defined active teaching thusly:

> The instructor strives to create an active and participatory learning environment for students in the online classroom. Through regular student interaction, instructors keep learners on task, provide feedback, support group work, modify materials, and assess teaching strategies. Learners experience a greater sense of inclusion and connection both with their instructors, as well as with their peers. (para. 22)

Martin et al. (2019) interviewed eight award-winning online faculty to explore the roles of the online instructor. Common online teaching tasks as described by participants in this study "fell into two areas: course design or teaching" (Martin et al., 2019, p. 194). Yet, instructional design skills were also found to overlap with, and be essential to,

teaching. Martin et al. (2019) pointed out, "Knowledge of backwards course design and web accessibility regulations are needed not only to design, but also to facilitate a course" (p. 196).

In conclusion, current online education is the latest form in a long-standing tradition of education at a distance. Moore's (1993) theory of transactional distance is as relevant today as it was when he first articulated it in 1973. Interaction may indeed be the "single most important activity in a well-designed distance education experience" (McIsaac et al., 1999, p. 122). And interaction in online classes is primarily in the hands of instructors. As one award-winning instructor explained:

> My main responsibility is to be able to leverage the affordances of the technologies that I'm using to really engage the students to make the course meaningful, to make it engaging, to make it as interactive as possible. To make sure that there are meaningful learner interactions, learner-instructor interactions, you know learner-group interactions, learner-content interactions, to be able to make all these interactions happen in a meaningful way in a way that they support the learning outcomes for the course" (Martin et al., 2019, p. 192).

Summary

In this chapter, I provided a review of the literature related to interaction in online graduate level classes. Additionally, I focused on the role of the instructor in facilitating student interactions. Sections included in this chapter were (a) history of distance education, (b) Moore's (1989, 1993) theory of transactional distance, (c) interaction, and (d) instructors and interaction.

In this chapter I reviewed recent research related to Moore's (1989, 1993) theory of transactional distance. Moore (1993) used the term dialogue to refer to interactions that are positive, purposeful, and constructive. As early as 1993, Moore recognized that, regardless of the potential interactivity of the educational medium, a course may be "highly dialogic" or not because instructors "might. . . decide not to take advantage of its interactivity" (p. 25). Moore (1993) theorized, "Successful distance teaching depends on. . . the instructor providing the appropriate opportunities for dialogue" (p. 27). More recently, Forte et al. (2016) concluded that "dialogue appears to be the key variable, as the degree of transactional distance is ultimately dependent upon the level of dialogue" (p. 18).

The term interaction is now more commonly used to refer to what Moore (1993) called dialogue. In this chapter I also reviewed quantitative and qualitative studies about interaction in online classes. Based on the early work of Dewey and Bentley(1949) and the learning theory of Vygotsky (1978), interaction is a cornerstone to the constructivist orientation to learning (Issroff & Scanlon, 2002). Students who interact with each other, the content of their courses, and with their instructors become collaborators in the generation of knowledge (Huang, 2002; Moore, 2013).

Online classes are indeed spaces where misunderstanding can create "distance" (Moore, 1973). Researchers agree that student interactions can overcome this distance, and that online classes can be as effective and as rigorous as face-to-face classes (Bernard et al., 2009; Boling et al., 2012; Garrison, 2016; Shackelford & Maxwell, 2012). Online instructors play an important role in designing and facilitating classes that engage students in interactions for the co-construction of knowledge (Akyol & Garrison, 2009;

Conrad & Donaldson, 2004; Dennen et al., 2007; Dennen & Wieland, 2007; Ke, 2010).

In Chapter III, I describe the procedures that were used to conduct a qualitative research study about online graduate instructors' experiences with student interaction.

CHAPTER III

Method

The purpose of this phenomenological study was to explore the experiences of instructors related to interaction in online graduate classes. This study examined how instructors describe their experiences with interaction in their online classes as well as the perceived barriers to interaction and the supporting factors related to interaction. The following sections are addressed in this chapter: (a) research design, (b) selection of participants, (c) context of the study, (d) data collection, (e) procedures, (f) data analysis, and (g) trustworthiness.

Research Design

This study was intended to provide a deep understanding of how the phenomenon of interaction is experienced by individual online graduate-level instructors (Moustakas, 1994). Because the purpose of this study was to "understand. . . common experiences in order to develop practices" (Creswell, 2013, p. 81), a qualitative phenomenological design was utilized. This design allowed the exploration of interaction in online graduate classes through the experiences and perceptions of online graduate-level instructors.

The research questions guiding this study were as follows:

1. How do selected instructors in a selected College of Education describe their experiences with student-student interaction in their online, graduate-level classes?

2. How do selected instructors in a selected College of Education describe their experiences with student-content interaction in their online, graduate-level classes?

3. How do selected instructors in a selected College of Education describe their experiences with student-instructor interaction in their online, graduate-level classes?

Creswell (2013) noted that a phenomenological researcher "collects data from persons who have experienced the phenomenon, and develops a composite description of the essence of the experience for all of the individuals" (p. 76). The composite description, according to Moustakas (1994) consists of "what" the participants experienced and "how" they experienced it.

The phenomenon under investigation was interaction within online graduate level courses as experienced by selected full-time instructors within one College of Education. Interaction has been identified as an important element contributing to the effectiveness of online classes (Moore, 1989, 1993; Shackelford & Maxwell, 2012). The phenomenon of interaction promotes graduate student learning in online classes (Tallent-Runnels et al., 2006). Interaction also promotes graduate student satisfaction with online classes (Holzweiss et al., 2014). This phenomenological study of interaction in online graduate courses as experienced by instructors helped to "develop a deeper understanding about the features of the phenomenon" (Creswell, 2013, p. 81).

Selection of Participants

Participants in this qualitative phenomenological study had to be able to articulate their perceptions of the phenomenon under investigation (Creswell, 2013). Therefore, this study required a non-random or non-probabilistic sampling scheme (Onwuegbuzie & Collins, 2007). However, a goal for this study was that it would be internally generalizable beyond the group being studied, the setting of the study, or the context of

the study (Maxwell, 1992). Due to the importance of internal generalization in this qualitative phenomenological study, the selection of the participants increased in importance (Onwuegbuzie & Leech, 2005). Participants were selected for this study after determining (a) the appropriate sampling strategy, (b) the sample size, (c) the criteria for selecting the individuals based on the research questions, and (d) the method of selection of the participants (Creswell, 2013; Johnson & Christensen, 2014).

Sampling strategy. According to Goetz and LeCompte (1984), "criterion-based selection is the starting point for all research" (p. 73). Criterion-based sampling is the most common sampling strategy utilized in phenomenological studies (Johnson & Christensen, 2014; Miles & Huberman, 1994). After selection of criteria, participants were selected to provide a viable opportunity to explore the research questions in depth (Goetz & LeCompte, 1984).

Sample size. Within the selected College of Education, the most recent semester for which all data were available at the time of study was the fall semester of 2017. The instructors who taught in the fall 2017 semester constituted a pool of 64 possible participants. Following Creswell's (2013) advice to "select cases that show different perspectives" (p. 100), 12 full-time instructors who taught online graduate classes within the selected College of Education in the fall 2017 semester were nominated as participants. Those instructors who agreed to participate constituted the sample for study ($n = 8$).

Researchers do not agree about the number of participants to include in a phenomenological study. Creswell (2013) and Polkinghorne (1989) both suggested a minimum of five participants. Romney, Weller, and Batchelder (1986) argued that "the

higher the average competence of the sample, the smaller the sample needed" (p. 325).

According to Romney et al., (1986), as few as four participants who have sufficient experience with the phenomenon may provide sufficient data for study. The goal was to interview a sample of sufficient size such that "new categories, themes, or explanations stop emerging from the data" (Marshall, 1996, p. 523). Onwuegbuzie and Leech (2005) identified this point in the collection of data beyond which no new data emerge as *saturation*.

Criteria.   Criterion sampling (Miles & Huberman, 1994) was used to identify potential participants for this study. The participants must have had experience with the phenomena of student-student, student-content, and student-instructor interaction. Each participant had to be a full-time instructor and had to have taught at least one online class at the graduate level in the selected College of Education in the fall 2017 semester.

Reputational sampling (Goetz & LeCompte, 1984) was used to narrow the pool of 64 potential candidates. Department chairs within the selected College of Education were contacted and were asked to nominate successful instructors from their department. This reputational sampling produced a list of 12 instructors who were nominated to participate. Of those 12 nominees, eight instructors were available and willing to participate in the interview process.

Method of selection. Nominated participants were contacted via email to explain the purpose of the study and the extent of involvement required on the part of participants. Nominated participants were asked to participate in the study. Nominees who agreed to participate were provided informed consent information.

Context of the Study

The study took place at a comprehensive, regional university in southeast Texas. The university is a Carnegie-ranked Doctoral Research University, with enrollment at the time of the study of approximately 20,400 students. Historically, over 50% of students at the university are first-generation college students, and the university is ranked in the top 10 in the nation for African-American graduation rates. At the time of the study, the university offered 30 online master's degrees, eight of which were programs in the College of Education, and two online doctoral degrees, all within the College of Education.

The specific setting for this study was the College of Education at the selected university. At the time of this study the college offered eight fully-online master's degrees: Administration M.Ed., Curriculum and Instruction M.Ed., Higher Education Administration M.A., Instructional Leadership M.Ed., Instructional Systems Design and Technology M.Ed., Library Science MLS, Reading/Language Arts M.Ed., and TESOL M.Ed. At the time of this study the college also offered two fully-online doctoral programs: Developmental Education Administration Ed.D. and Instructional Systems Design and Technology Ed.D. Students in the online degree programs were typically full-time, early- or mid-career professionals. The programs were conducted 100% online via the Blackboard learning management system.

This site was selected in part based on convenience because I had developed relationships with the faculty and was provided with access to the site under investigation. The site was also selected because the college has had a level of success in online learning. For example, the Higher Education Administration M.A. program was ranked 22nd in the nation for Online Graduate Education Degree Programs by U.S. News & World Report in 2017. The program was also ranked in the top 20 by BestColleges.org in 2017. According to college faculty, several features of the online programs, including the cohort model and the interactive learning management system, were intentionally chosen to support online students' success. The selected college also provided resources to help students have an effective online educational experience, and conducting an exploration of interaction in this context provided rich data on interaction in online graduate courses.

Data Collection

Data collection in this phenomenological study drew on individual interviews with selected participants (Creswell, 2013; Moustakas, 1994). Due to the nature of the interview process, I, the researcher, served as the primary instrument through which data were collected and analyzed. My role as the researcher is contained in this section. The interview protocol and the process for data collection is also explained.

Role of the researcher. Moustakas's (1994) term *the Epoche* came from the earlier work of Husserl (1931). The Epoche or *bracketing* refers to setting aside assumptions and biases in order to take a fresh look at the phenomenon under study (Creswell, 2013; Moustakas, 1994). Acknowledging and setting aside my own assumptions and biases was essential to the phenomenological design of this study (Miles & Huberman, 1994; Moustakas, 1994).

One key assumption that I brought to this study is that some instructors are more effective than others. Over the course of my master's and doctoral studies, I have been a graduate student of two ineffective instructors. The first one is memorable for his lack of organization. I have learned from many otherwise effective instructors who were not well organized, but with this particular instructor I perceived no focus on course objectives nor any plan to achieve them. The second instructor is memorable because he taught a semester-long course on active learning without actually using any active learning strategies. I sometimes still wonder how anyone can *lecture* about active learning for an entire semester. One frustrating semester in his course led to my assumption that active learning, and interaction in particular, is an important element of adult learning. These experiences led me to assumptions about effective instruction, which were potentially a bias as I studied this topic.

I further acknowledge that I brought bias to the study (Creswell, 2013) based on my own lived experiences as an instructor and as a graduate student. Acknowledging and bracketing my opinions and expectations helped to minimize the impact of researcher bias (Bloomberg & Volpe, 2008; Creswell, 2013; Moustakas, 1994). I also kept a journal following Moustakas's (1994) definition of Epoche. To further minimize my

subjectivity, I enlisted the help of a critical debriefer (Bloomberg & Volpe, 2008; Yin, 2014). As a researcher, I wanted to separate my experiences from what the study participants actually articulated as I collected data for this study.

    Interviews. Individual interviews can "facilitate the obtaining of rich, vital, substantive descriptions of the co-researcher's [participants'] experience of the phenomenon" (Moustakas, 1994, p. 116). Qualitative interviews can include face-to-face, telephone, or email interviews (Creswell, 2013). Interviews may also be conducted one-on-one or as focus groups (Creswell, 2013). For this study I employed virtual one-on-one interviews, which allowed participant instructors to provide information that could not be directly observed (Creswell, 2014).

    One strength of interviews as a data collection technique was that probes could be used to collect in-depth data from interviewees (Johnson & Christensen, 2014). In fact, Johnson and Christensen (2014) refer to qualitative interviews as "*depth interviews*, because they can be used to obtain in-depth information about a participant's thoughts, beliefs, knowledge, reasoning, motivations, and feelings about a topic" (p. 233). One possible weakness of interviews as a data collection technique was the amount of time involved (Creswell, 2013). Individual interviews also required participants who were willing to express their ideas freely (Creswell, 2013).

    To access the thoughts and experiences of online instructors in the selected College of Education and how they describe their experiences related to interaction in their online classes, I employed interviewing as the form of data collection (Lincoln & Guba, 1985). To guide the interviews, I designed a semi-structured interview protocol, containing both closed- and open-ended questions (Lincoln & Guba, 1985). Closed-

ended questions were used to collect demographic information such as years of experience as an instructor, years of experience as an online instructor, and rank/tenure status. Open-ended questions were designed to allow participants to "tell their stories" of how they experienced interaction in their online classes (Seidman, 2013, p. 7).

Using the interview guide approach (Johnson & Christensen, 2014, pp. 233-234), I developed questions for the interviews. One seminal interviewing protocol as described by Spradley (1979) identified five types of interview questions: (a) grand tour questions, (b) mini-tour questions, (c) examples questions, (d) experience questions, and (e) native-language questions. The interview protocol incorporated one grand tour question to engage the participant in the conversation (Spradley, 1979). The interview protocol also incorporated mini-tour questions to elicit detailed descriptions of "much smaller unit[s] of experiences" (Spradley, 1979, p. 51). Examples questions and experience questions (Spradley, 1979) were used primarily as probing questions.

In order to "facilitate the obtaining of rich, vital, substantive descriptions of the co-researcher's [participants] experience of the phenomenon" (Moustakas, 1994, p. 116), broad interview questions were drafted. Questions were drafted to elicit the instructors' experiences, challenges, and successes related to interaction in online graduate classes (Moustakas, 1994). After the questions were drafted, they were submitted to my dissertation chair for analysis to ensure that wording made sense and that questions were presented in a way that encouraged thoughtful response. Leading questions were avoided.

After review and solicitation of feedback, the semi-structured interview protocol was finalized and piloted. I invited one of my colleagues who teaches online to serve as a

pilot participant. After obtaining consent, I utilized the interview protocol to conduct a pilot interview. At the conclusion of the interview, I solicited feedback on the interview questions. The interview protocol was revised based on the pilot interview. The final interview protocol is located in Appendix B.

Procedures

After my doctoral dissertation committee's approval of the proposed study, I submitted an application to the university Institutional Review Board (IRB), requesting permission to collect the necessary data needed to begin the research process as shown in Appendix A. Upon receipt of IRB approval, I contacted the dean who oversaw the selected College of Education to request permission to conduct the study and to request access to contact potential participants. Potential participants were initially contacted via email to explain the study and request their participation. Follow up discussions were conducted by phone or email according to the potential participants' preferences. Prior to engaging in the first interview, I explained and obtained verbal informed consent from each faculty member who agreed to participate in the study. The selected instructors were interviewed. Interviews were recorded and transcribed. Interview transcripts were coded for analysis.

Data Analysis

Interviews were recorded using a Sony digital recorder as the primary recording device and an iPhone 7 as the secondary recording device. I transcribed the interviews into MS Word files. Transcripts were returned to each participant for member checking (Creswell, 2013) to confirm and edit the interview transcripts prior to data analysis.

Transcripts were first read for patterns and units of meaning (Saldaña, 2016). Transcripts were initially coded manually (Saldaña, 2016). Transcript excerpts and their corresponding codes were then entered into Excel for organization as the analysis progressed through rounds of first cycle and second cycle coding (Saldaña, 2016). A codebook was developed and maintained separately from the database of codes (Saldaña, 2016). The codebook provided a place to articulate and organize data and codes as the analysis progressed (Saldaña, 2016, pp. 27-28).

Adapting Moustakas's (1994) processes of Epoche, phenomenological reduction, imaginative variation, and synthesis, following are the steps I followed to analyze the data:

1. Set aside my own perceptions of the phenomenon to allow seeing it anew, the Epoche.

2. Use interview transcripts to record relevant statements made by each participant.

3. Identify the invariant meaning units of the experience. Include verbatim examples.

4. "Cluster the invariant meaning units into themes" (Moustakas, 1994, p. 122). Include verbatim examples.

5. "Synthesize the invariant meaning units and themes into *a description of the textures of the experience* [emphasis in original]" (Moustakas, 1994, p. 122).

6. "Construct a *composite textural-structural description of the meanings and essences of the experience* [emphasis in original]" (Moustakas, 1994, p. 122).

The results of the data analysis steps are presented in Chapter IV. The resultant description of the phenomenon under study are described in the findings section of Chapter V.

Trustworthiness

Establishing trustworthiness is the qualitative research equivalent of ensuring reliability and validity in quantitative research (Johnson & Christensen, 2014). Lincoln and Guba (1985) posited that trustworthiness can be attained through a qualitative research process that is *credible*, *dependable*, *confirmable*, and *transferable*. The following techniques increased the trustworthiness of this qualitative study:

Credibility.   According to Lincoln and Guba (1985), credibility is the qualitative research equivalent of internal validity. I took steps to increase the credibility of the findings from the perspective of the researcher and the participants. To enhance the credibility of this study, I collected data from different participants through individual interviews. I also used the validation strategy of member checking. Interview transcripts were given to participants to be sure their words were reported accurately and to ask if anything was missing (Creswell, 2013, p. 252).

Dependability.   Dependability was enhanced by maintaining databases and by establishing and maintaining an audit trail (Lincoln & Guba, 1985). One element of the audit trail was my reflexive journal (Merriam, 1988). This journal provided a place to record process notes (Lincoln & Guba, 1985). Another element of the audit trail was analytic memos created during the data coding process (Saldaña, 2016). A specific, documented process was followed for the phenomenological study design (Moustakas, 1994) and for the data coding and data analysis (Saldaña, 2016). These documented processes and records helped to establish the dependability of the study findings (Lincoln & Guba, 1985).

Confirmability. The purpose of establishing confirmability in a qualitative study is to reduce the effect that researcher bias has on the study findings (Lincoln & Guba, 1985). To increase the confirmability of this study, I recruited a critical debriefer (Bloomberg & Volpe, 2008; Yin, 2014). I participated in debriefings with my dissertation chair to clarify my research biases and to increase my awareness of my influence on the data. I also shared my audit trail with my chair at several points throughout the process of data collection and data analysis. The audit trail, and specifically the reflexivity journal, helped to enhance confirmability of the study findings (Lincoln & Guba, 1985; Merriam, 1988).

Transferability. Thick description of the findings should assist future readers in deciding if the findings of this study can be transferred to a similar context (Bloomberg & Volpe, 2008; Lincoln & Guba, 1985). Therefore, the degree of transferability will rest on how well I have provided clear, rich descriptions of "what" the instructors experienced related to interaction in their online classes. Furthermore, the degree of transferability will rest on how well I have provided thick descriptions of how these online instructors perceived interaction in their online classes (Moustakas, 1994).

Summary

In summary, this chapter contained a description of the research methods that were utilized to carry out this study. A qualitative phenomenological study design was used to explore the experiences of instructors related to interaction in online graduate classes. Data were collected through individual interviews.

Multiple rounds of coding were conducted following Saldaña's (2016) coding techniques. Following coding, data were analyzed following steps adapted from

Moustakas (1994). Moore's (1993) theory of transactional distance along with Moore's

(1989) definitions of three types of interaction helped to focus the analysis. Findings that

emerged from this qualitative phenomenological study are discussed in Chapter IV.

CHAPTER IV

Presentation and Analysis of Data

Overview

The purpose of this phenomenological study was to explore the experiences of instructors related to student interaction in online graduate classes. An in-depth investigation of the experiences and perceptions of selected instructors revealed some of the facilitating factors and barriers to interaction in online graduate classes. Reflecting on types of interaction within their online classes provided insight into the instructors' challenges and successes related to interaction in online graduate classes.

Three research questions guided this study and were as follows:

1. How do selected instructors in a selected College of Education describe their experiences with student-student interaction in their online, graduate-level classes?

2. How do selected instructors in a selected College of Education describe their experiences with student-content interaction in their online, graduate-level classes?

3. How do selected instructors in a selected College of Education describe their experiences with student-instructor interaction in their online, graduate-level classes?

Instructors within the selected College of Education who taught online graduate-level courses were initially contacted via email to explain the study and request their participation. Prior to engaging in the first interview, I explained and obtained informed

consent from each faculty member who agreed to participate in the study. Eight

instructors were interviewed.

Chapter IV begins with Step 1 of the data analysis process as adapted from

Moustakas (1994), the Epoche. Step 2 was accomplished by recording and transcribing

the interviews. Step 3, identifying the invariant meaning units of the experience, began

with my own transcription of the interviews. Step 3 continued with reading and

rereading the transcripts, flagging key quotes. I identified 353 invariant meaning units

from the interview transcripts. The data from Steps 2 and 3 are presented in participants'

responses to the interview questions. Long quotes and quotes from multiple participants

are included to add context to the participants' experiences and perceptions regarding

interaction in their online, graduate-level classes. Step 4, "cluster the invariant meaning

units into themes" (Moustakas, 1994, p. 122), was accomplished using Saldaña's (2016)

coding techniques. Coding the data helped me to examine key statements and contexts

across all participants' accounts, what Moustakas (1994) referred to as *horizonalization*.

The last part of this chapter presents the themes that emerged as a result of Step 4. This

chapter also addresses Step 5, providing "a description of the textures of the experience"

(Moustakas, 1994, p. 122). Moustakas's (1994) Step 6, "constructing a composite . . .

description of the meanings and essences of the experience," (p. 122) will be presented in

Chapter V.

The Epoche

I began the data analysis process by bracketing my personal opinions and

expectations in a journal according to Moustakas's (1994) definition of the Epoche,

whereby the researcher engages in a process of "setting aside predilections, prejudices,

predispositions, and allowing things, events, and people to enter anew into consciousness, and to look and see them again, as if for the first time" (p. 85). Setting aside my experiences and opinions required an intentional approach because of my personal experiences as an online educator and as a graduate student. I incorporated reflexivity to help me distinguish the information originating from the participants from the information emanating from me as the researcher. My reflective journal helped to reduce the influence of my bias on the analysis of the data (Wall, Glenn, Mitchinson, & Poole, 2004; Williams & Morrow, 2009). I documented in my journal my opinions about online learning and about graduate-level classes, as well as my reactions to participant statements. This reflexivity helped to identify specific areas where my bias might affect my analysis of the data.

My reflective journal allowed me to set aside my experiences and opinions related to student-student interaction. Having taught online undergraduate classes for 10 years at the time of this study, I frequently noted in my journal both the similarities and differences between my own experiences and those of the study participants. One area of difficulty for me was the praise of synchronous meetings by several participants. Personally, I have resisted using synchronous elements in my classes due to the global enrollment and time zone differences of my students. Reviewing my journal increased my awareness of my own bias so that I could focus on my analysis of participant statements related to student-student interaction.

Furthermore, my reflective journal allowed me to set aside my experiences and opinions related to student-content interaction. As a graduate student in both a master of arts program and at the time of this study, a doctor of education program, I hold strong

opinions about how I prefer to interact with the content of a course. Participant comments indicating intentionality in course design fit my own experiences, and I noted this in my journal. The journal served as a useful tool to recognize this bias while analyzing participant statements related to student-content interaction.

Finally, my journal entries allowed me to set aside my experiences and opinions related to student-instructor interaction. Having been both a student and an instructor for many years, this area was the most difficult for me to "see for the first time" (Moustakas, 1994, p. 85). Using an interview protocol proved helpful in overcoming this bias, as I was able to follow the protocol and resist the temptation to ask leading follow-up questions during the interviews. Participant comments related to student-instructor interaction offered numerous opportunities to practice setting aside my own "understandings, judgments, and knowings" (Moustakas, 1994, p. 85).

I enjoyed learning about the experiences of online, graduate-level faculty. Several participants articulated the similarities and differences between online teaching and face-to-face teaching in ways I had not previously considered. For example, one participant described online teaching as "invisible labor" as opposed to walking to a classroom at a set time every week. I believe this is an important distinction, and I appreciated the opportunity to learn from the study participants.

In sum, my experiences as both an online instructor and as a graduate student might have influenced my study. I attempted to remain aware of my bias and to set aside my own opinions. With the help of a critical debriefer, I analyzed the data first using descriptive coding and then a second time using structural coding (Saldaña, 2016). The findings in this chapter were established after two cycles of coding.

Individual Interviews

Criterion sampling (Miles & Huberman, 1994) was used to identify potential participants for this study. Within the selected College of Education, the most recent semester for which all data were available was the fall semester of 2017. The participants had to have experience with the phenomena of student-student, student-content, and student-instructor interaction. Each participant was a full-time instructor and had taught at least one online class at the graduate level in the selected College of Education in the fall 2017 semester. Reputational sampling (Goetz & LeCompte, 1984) produced a list of 12 instructors who were nominated to participate. Of those 12, eight agreed to participate.

I contacted each participant via email to discuss the study, to provide informed consent information, and to answer any questions. Participants were interviewed over the phone or by videoconference between June 27, 2018, and July 18, 2018. The list of participants' pseudonyms who participated in the interviews is displayed in Table 2.

Table 2

Interview Participants

Rank	Participant Pseudonym	n years teaching graduate	n years teaching online	Dept.	Gender
Associate	Perez	8	8	Lang & Lit	F
Professor	Blanco	25	11	Ed Leadership	F
Assistant	Martinez	4	13	Ed Leadership	M
Assistant	Smith	10	10	Ed Leadership	M
Associate	Stuckey	13	13	Library Science	F

(continued)

Assistant	Kelly	7	7	Curriculum Instr	F
Associate	Antonio	28	6	Curriculum Instr	M
Associate	Clark	6	6	Curriculum Instr	F

Interview Question 1. The first question was a grand tour question intended to engage the participant in a conversation (Spradley, 1979). I asked participants how they would describe *interaction* in their online graduate-level classes. Participants responded in different ways. For example, Associate Professor Antonio mentioned instructor facilitation and course design decisions in this excerpt from his comments:

> My classes are about integrating technology in teaching and learning. An assignment, I call it *personal wiki*, they tell the class about themselves. Every other student can see this wiki. They put pictures if they want. They tell about their hobbies, they tell about their professional achievements, their challenges as a teacher. Whatever they want to share with the class. So in this case, every single student sees information about other students. This is what they often do not have when working online – including teachers – they can see their children, their pets, what they did last summer, many interesting things.

Professor Blanco also mentioned instructor facilitation and course design decisions when she said:

> I had a gallery, so when people responded to, say, a graphic organizer that I put up there, they got collected in what I call a *gallery*, so they can go through it and they can be selective of what they see, as if they're walking through

something, and then giving them options to respond to what resonates with them the most, and giving them some parameters, like, please respond to at least 3 people. What I found is that by giving those options, I mean options in terms of what resonated with them, and then giving them options about who they wanted to respond to and a number, made it so that lots of people would engage, and much more than expected sometimes.

Another excerpt from Professor Blanco's comments illustrates her relationship with Blackboard:

The LMS is more controlled for folders and content, but the actual interaction seems to be, students seem to engage more if they have those more informal means of interacting. Because I think, I know that they interact a lot more outside of the LMS with each other. Sometimes we're privy and sometimes we're not, so it kind of seems important. And I'm not that good at initiating and setting up those links and feeds [outside the LMS]. . . I'm a good online instructor, but I'm better with the LMS than all of those outside social media links. I don't know if I feel comfortable with that. I have concerns about boundaries with that.

Another participant, Assistant Professor Martinez, also focused on Blackboard in this example from his response:

I also see interaction in, to have students actually interact with their learning space, which is the computer in front of them. So interacting with the content, but also interacting with the computer and then eventually interacting

with the students. But since it's an online class that happens less frequently than the interacting with the actual computer.

Assistant Professor Kelly also mentioned instructor facilitation and course design decisions in her response:

I have my students do FlipGrid.com which is making videos, like they record themselves, and then they post it, and then they respond to each other. I think it's important for them to have some kind of interaction where they are putting a name to the face.

Associate Professor Perez also mentioned instructor facilitation and the time it takes in her responses:

I think that one of the reasons why the discussions are so active is that I also participate. In other words, it is obvious that I am reading them, and that I am making comments, and that I'm grading them, which takes an incredible amount of time. It really does. . . It's a graduate level class, but it's an incredible amount of work if you want to have that level of interaction I believe.

Associate Professor Stuckey stressed the intentionality of course design when she said, "I feel like a lot of it has to be well thought out and planned ahead for the interaction to occur. They like it, but it's not natural for everyone yet." Associate Professor Stuckey continued:

I guess interaction sometimes with online classes has to be kind of "forced". We have to make sure that we put those kinds of activities in place that requires them to interact with each other or else they are content to stay in their own little world. So when you have discussion boards, you definitely have open-

ended discussion questions, scenario-based questions that force them to have answers that are only, generally, going to be different from each other. "You need to post, but you also need to respond to three of your classmates." Because if you don't do that, there again, sometimes they will want to just do their response and then mark that box off and say they've done that task.

Assistant Professor Smith was alone among participants in pointing out the variability of the phenomenon of interaction in online, graduate-level classes when he answered the first interview question:

I think it's a little bit complicated because the interaction, I think, really varies depending on how you set up the course. And sometimes even the students in the course. . . I think interaction for me is a very, I don't know if *volatile* is the right word? Maybe *dynamic* is a better way to describe it. It's constantly changing, sometimes even in a semester. When I'm thinking about interaction, I even see the ebbs and flows of that interaction even through the course of the semester. Sometimes interaction tapers off during times where lots of assignments or projects tend to be due, or we get close to holidays or things like that. So it's a very dynamic thing. That has been my experience.

A summary of how participants described interaction in their online, graduate-level courses is displayed in Table 3.

Table 3

How Participants Described Interaction in their Online, Graduate-Level Courses

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Instructor facilitation	Instructor decisions about how to design/teach the course	"You don't want to have discussion board answers where everybody's going to be able to say, 'Exactly what Amy said.'"
Blackboard	Instructor decisions about when to use the institution's learning management system	"It seems like students now days, to truly interact, need to be outside of the LMS." (continued)
Variability	Interaction is dynamic	"Even if I set up the course the exact same way, the students taking the course may have a very different background than a previous section or something like that."

Interview Question 2. The second question was informed by Moore's (1993) theory of transactional distance. I asked participants how they would describe student-student interaction in their online graduate-level courses. Participants shared a lot of information in response to this question. Interview Question 2 generated 70 significant statements or "invariant meaning units" (Moustakas, 1994, p. 122), almost 20% of the total dataset. Most of the responses to this question focused on instructor facilitation, instructors' use of Blackboard, and instructors' use of technology tools outside of the learning management system.

Six of the eight participants described the ways in which they design for student-student interaction in their online, graduate-level courses. For example, Associate Professor Clark explained, "Deadlines work to facilitate the interactive activities, especially because they're in different time zones." As part of Assistant Professor

Kelly's answer to the second question, she explained, "Inside Blackboard are the discussion boards. I create what are called modules." Assistant Professor Martinez described one way he designs for interaction thusly: "I try to at least have one discussion board where I tell students to role play a position on campus or even a history, so I do that to try to have students interact." Similarly, Associate Professor Stuckey described one discussion board she includes for interaction when she explained:

> I have set up a "virtual lounge" area for them to go to chit chat with each other and things that they know that I'm not even going to be on there. It clearly says that I will not visit this space. . . So I do create a space just for them to go and have their own conversations that they don't have to think about me looking at.

> Associate Professor Perez explained her perception of student motivation to interact with their fellow students in her response to Interview Question 2. She said, "I think students, at least initially, are very reticent to participate. So having those questions where they can really shine and demonstrate the knowledge base that they have, at least initially, can be very beneficial."

Assistant Professor Smith differentiated between the decisions an instructor makes to facilitate student-student interaction and the technology utilized in an online class when he explained:

> I don't know that the technology facilitates student-to-student interaction. I mean, I know it's a vehicle to do that. Like if we have a live meeting and we do it via Zoom, then obviously that's facilitating getting together. But I'm not sure the technology is the driver of that as much as the structure of the course and the assignments and the activities, which can be done in any number of ways.

Six of the eight participants mentioned technology in their descriptions of student-student interaction in their online, graduate-level courses. Associate Professor Antonio said he uses Google Docs™, Professor Blanco said she has experimented with Google Hangout™ and Facebook™, and Assistant Professor Kelly uses Screencastify™ and Flipgrid™. Associate Professor Stuckey said she has used Flipgrid™ and Remind™. Similarly, Assistant Professor Martinez said he has used a Google Community™ board "where pictures and videos can be posted by the students to kind of talk to each other via a social media platform." Professor Blanco, Assistant Professor Martinez, and Assistant Professor Smith all mentioned that they use Zoom™ for synchronous videoconferences in which students can interact with other students as well as with the professor.

In response to Interview Question 2, Assistant Professor Smith described how he allows students to choose the technology tools they use to interact with each other. He said, in part:

> For recording podcasts, while there are tools like Kaltura in Blackboard, and some students use that, I don't even require or even dictate that they use one approach over another because they kind of all have their advantages. So sometimes people are using YouTube™, sometimes people are using Screen-Cast-O-Matic™, people are using a lot of different technologies.

Six of the eight participants mentioned Blackboard in their description of student-student interaction in their online, graduate-level courses. Associate Professor Stuckey expressed a common perception when she said, "[Technology] outside Blackboard are more natural for interaction." Assistant Professor Smith was even more descriptive in this excerpt from his response:

I know we have videoconferencing capabilities within Blackboard. I don't find

the current technology available through Blackboard to be the most conducive to

engaging students, and feeling a little bit, it feels more like a webinar than it does

a live conference, if that makes sense.

Assistant Professor Martinez described Blackboard as, "It's kind of clunky and you have to go through a lot of steps." Assistant Professor Kelly explained two reasons for using tools outside of Blackboard. Her first reason was "because I generally work with pre-service and in-service teachers, and I want them to learn other kinds of technology that they can use in their own courses. If I use Blackboard tools, they're not necessarily going to have those." Assistant Professor Kelly's second reason was "Blackboard is not boring, but they're used to it. FlipGrid is like social media. . . it's more like social media, so it's exciting. It's engaging."

Finally, Professor Blanco expressed her frustration with Blackboard when she said:

Our LMS is a barrier. Our Blackboard. I mean I'm really accustomed to using it, I

know how to navigate it, but I think it's become clunky. There's a lot of "open

this folder and then open this folder." It's too slow and it's almost like a bunch of

folders. I actually think it thwarts interaction.

A summary of how participants described student-student interaction in their online, graduate-level courses is displayed in Table 4.

Table 4

How Participants Described Student-Student Interaction in their Courses

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Instructor facilitation	Instructor decisions about how to design/teach the course	"I think the way you set up assignments and activities can be barriers as much as they can be tools so [students] can be successful. I can set up a course that's very asynchronous and not very engaging and it's not technology's fault – it's the way I designed the course."
Blackboard	Instructor decisions about when to use the institution's learning management system	"I try to look at my course topic that I'm teaching and if something like visuals, pictures, images, even audio or video can help students understand the material better, then I tend to use the Google Community™ board because Blackboard can be a little clunky with those added elements."
Technology	Instructors' use of tools outside the learning management system	"I do think some technologies make [interaction] easier than others. For example, why do I use Zoom and don't use Blackboard Collaborate? There is an example of how, even if I know I want to have a live, synchronous meeting, yes, some technologies are more conducive to that environment than others."

Interview Question 3.   The third question was also informed by Moore's (1993) theory of transactional distance. I asked participants to describe student-content interaction in their online graduate-level courses. In response to this question, participants shared a lot of information about how they design their online courses. Interview Question 3 generated 69 significant statements or "invariant meaning units" (Moustakas, 1994. p. 122), or 19.5% of the total dataset. Several of the responses to this question mentioned the amount of time instructors invest in designing their online graduate-level courses. For example, Professor Blanco described her experiences with facilitating student-content interaction in her online courses:

> People don't see it necessarily, because you are interacting with lots of students at different times, so it doesn't feel like that labor is visible, unlike maybe in face-to-face classes where you're actually scheduled to be in a class at a certain time, or office hours, or conferencing with students, advising students. I see that as a barrier because I think we get exhausted, but others don't value it. Administration, or other people, don't get it. There's a lot of invisible labor that becomes a barrier and I'm not sure that they're even thinking about how does one capture that, I mean to show how hard many of us work that are online, who teach online.

However, most of the responses to this question focused on instructor facilitation in the context of course design and on requiring students to apply theoretical concepts in practical ways.

All eight participants described the ways in which they design their online, graduate-level courses to facilitate student interaction with the course content. In fact, six

of the eight participants described intentionally designing their courses to facilitate practical application of the course material. For example, Associate Professor Antonio explained, "All the content I build for the course, I try to build it based on the practical implementation so it's beneficial to them in the future. This is my main focus when I build the content." Professor Blanco also described designing course elements for practical application when she said, "I also try to make, as much as I can, connections to their real work or real life things where they've got to maybe do a community engagement project, and then create something in multimedia to report back." Assistant Professor Kelly explained, "[Students] have, for example, readings that they have to do. But then they actually have to apply it. They have an activity or something where they have to apply what they've learned, like creating an assessment plan." Associate Professor Stuckey echoed that idea when she said, "A lot of our assignments in our program are practical in nature. They are project-based, preparing them for things they're actually going to do with students when they get into the schools." Associate Professor Clark also described designing course elements for practical application:

> [Students] also have, in all my classes, they have practical assignments. So they actually learn about instructional coaching, and then one of their assignments is to go in and coach a teacher. So it's a practical side of the content. They learn about the content and then they go in and physically use the content. They go into a classroom or any kind of education setting. . . A lot of them are providing professional training. So they go out and they do coaching of a teacher or an educator or a coworker.

Assistant Professor Martinez mentioned using case studies as discussion board topics. He also described another approach to practical application: "I try to have students interact with the content by having some of my colleagues in the field provide problems that the students can work on."

Three of the eight participants provided descriptions of how they specifically set up aspects of their online classrooms. Assistant Professor Martinez pointed out that "Students say that how we [instructors] organize and format our courses online can be very significantly different." Assistant Professor Martinez continued:

> The way I do the design I usually have an overview section: OK, this is what we're going to cover for the next week. And then I place the lesson in another section: OK, here's what we're learning about. And then I put the activities, which can be the assignment, the assignment submission box, the discussion boards in another section. So when students go into my classes each week they'll see not everything all thrown at them, but there's a spot where, OK, this is what we're going to be covering. Once you read that, go into the lesson. Once you're done with the lesson, go do the assignments.

Assistant Professor Smith also mentioned the use of modules in his online courses:

> You can decide how you structure. There's lots of flexibility in Blackboard (I'm not saying it's all good.) There's a difference whether you use modules, or you just put information out there and people can access it in whatever sequence they want. Those things direct flow of the course. Continuity in the way you're setting up modules can direct the interaction I think. You can't perfectly control those

things, but I do think intentionality in how you set up each module and how people are able to access that information changes how they engage with it. I think that's important.

Furthermore, Associate Professor Perez described how she intentionally designs the discussion boards in her online graduate-level courses. She recommended "being able to design the questions in such a way that they're not narrowly focused on [one specific] context . . . Write discussion questions in such a way that they afford participation from individuals in very diverse contexts."

A summary of how participants described student-content interaction in their online, graduate-level courses is displayed in Table 5.

Table 5

How Participants Described Student-Content Interaction in their Courses

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Instructor facilitation	Instructor decisions about how to design/teach the course	"In the Blackboard course I try to embed everything they need within that course. I never know if their browser will open the links and things like that. So if I have a video for them to watch or an article .pdf for them to read, I embed it because Blackboard allows you to embed using html code."
Practical application	Instructors' use of assignments that require students to apply theoretical concepts in practical wys	"When [my students] develop a use of technology, then I have them implement it with their students. I also have them collect some data, for example, a pre-assessment and a post-assessment, and compare to see what worked, what did not work, and modify, so on."

Instructor time	Behaviors or class elements that require instructor time	"[Teaching online] is very, very time consuming. I think that sometimes you end up working really long days because students are kind of online all day and all night. So maybe that's a barrier for the instructor. I think we get kind of burned out."

Interview Question 4. The fourth question was also informed by Moore's (1993) theory of transactional distance. I asked participants to describe student-instructor interaction in their online graduate-level courses. In response to this question, participants described how they build relationships with their online students. Six of the eight participants described student-instructor bonds, how instructors facilitated those bonds, and the amount of instructor time required to build those bonds. For example, Assistant Professor Kelly described how she provides feedback on assignments:

I will watch their videos, and I will often respond, "That was very thought provoking. Have you thought about this?" So I give them feedback, so we interact in that way. I don't just say "Good job." I really engage in conversations with their assignments or their videos. It's very time consuming with so many students in class. (I have 22 students in an online class.) I really try to make time for each student. That takes a lot of time to make sure that everyone is having a personalized learning experience. So that makes it kind of difficult when you've got 22.

Both pre-recorded videos and synchronous video conferences were mentioned as ways these instructors facilitate student-instructor bonds. For example, Assistant Professor Martinez described his use of videos:

Even though I'm not interacting with them in real time, we do interact through video. I use a lot of video. In fact, before this interview, I made introduction videos for the week. And so in addition to the students seeing a written summary of what this upcoming week's going to be about, they see my face on video and I tell them, "this is what we're going to talk about." I try to put a face to the modules. Either the interaction occurs in real time, or I consider our viewing of each other as interaction.

On the other hand, Professor Blanco explained, "I think the most effective way for the instructor to interact with students is synchronous meetings, video conferencing online." Assistant Professor Smith also stated, "I try to engage with people in more live ways. Sometimes that's synchronous meetings, or having 'live' office hours, so to speak."

Associate Professor Perez described her email response time as one way she builds connections with students:

I'm an emailing fiend. My email comes to my phone, so if they email me on a question, I try to get back to them, it's always less than 24 hours. It's usually within a couple of hours they have a response. It takes an incredible amount of time, and I'm dreading the day that they up our enrollment numbers in courses.

A summary of how participants described student-instructor interaction in their online, graduate-level courses is displayed in Table 6.

Table 6

How Participants Described Student-Instructor Interaction in their Courses

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Instructor facilitation	Instructor decisions about how to design/teach the course	"Office hours is the wrong way to describe my availability. For graduate students, and particularly for working students, I can't just say, 'I'm only available from 2-4 on Wednesdays.' That just doesn't work. And it's not just phone, I'll do the same thing, like, 'Hey, can you hope on a video conference right now? I'll just send you the link.' And we can talk. I try to encourage students more and more, office hours is the wrong way to describe that."
Student-instructor bonds	Instructor behaviors that form community with students	"Students know that even though this is an online class, I'm just an email away, or even a video conference, just a video conference away."
Instructor time	Behaviors or class elements that require instructor time	"I feel like online learning is 24 hours a day, whereas in my face-to-face classes, students know they're going to have me Tuesday at 4:40. So it's structured, so sometimes they just hold their questions. They know they have a captive audience at this time, so they can ask their questions. I feel like in online learning it's just harder. . . I want to be available because that keeps people engaged. But at the same time too, it's never ending. It's amazing sometimes the amount of email traffic that's being generated between the hours of 10pm and midnight. But that's when people are on, after their kids have gone to bed."

Interview Question 5. Question 5 concerned challenges the instructors perceived related to interaction in their online graduate-level courses. Seven of the eight participants described challenges related to feedback and course design decisions and the differences between online versus face-to-face courses. Five of the eight participants also described how their challenges related to time demands impacted interaction in their courses.

Only Associate Professor Perez pointed out a positive aspect of time in contrasting online versus face-to-face courses. She explained, "If the student is an English Language Learner, online instruction can work to their benefit because they can have a lot more time to compose their responses." Conversely, half of the participants perceived time as a challenge. Associate Professor Antonio stated, "For me the biggest challenge is the time. It takes more time. . . Just time. I enjoy working with them." Assistant Professor Kelly pointed out, "Another challenge, it's time. Showing directions takes longer, so that can be a challenge. I'm not able to clear up any questions right away. So I really take the time to make the directions really clear." Professor Blanco elaborated on one aspect of this challenge:

> I think one of the challenges is when you don't JUST teach online, and you do
>
> lots of other stuff. Like I have colleagues who do nothing but teach online. When
>
> you're teaching online but you're also doing other things like advising
>
> dissertations, teaching face-to-face, trying to do research, doing administration,
>
> you're not sitting at the computer all the time, and it's really hard to juggle all that
>
> and that affects my ability to interact as effectively. Not because I don't want to,

but because I don't have the time or the energy or the space to do it sometimes. Because I do so many other things.

Assistant Professor Smith shared his experience with online workload calculators when he contrasted online versus face-to-face classes through the lens of instructor decisions regarding course design:

Someone introduced me to a couple of calculators for online workload. So, here's the activity, here's what I want them to do, and this is how many hours it translates to online. One of the calculators is from Rice University. When I first used it, I thought, "They're giving me way too much credit for this." But there's probably a lot of truth to this. But I think some faculty will literally go record 3 hours of lecture and put that, because now they know they've got guaranteed 3 contact hours online. But the reality is when you start thinking about how much time someone spends navigating your course, going here, downloading that, getting into discussion boards, thinking about writing that, it's a lot of time. It seems like I'm not doing as much because I could have this really in-depth conversation in a lecture hall and I'm going to be more intentional in an online space. But the time it takes to be intentional is substantial. What does 3 contact hours look like online?

A summary of how participants described challenges related to interaction in their online, graduate-level courses is displayed in Table 7.

Table 7

How Participants Described Challenges Related to Interaction in their Courses

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Instructor facilitation	Instructor decisions about how to provide feedback	"I think the challenge is being able to provide students with timely feedback because of the sheer numbers of students."
Online vs. face-to-face	Graduate students interact in different ways online than they do in face-to-face classes	"The challenge is I can't help a student if I don't know if something's up. . . When I teach face-to-face, it's just my teaching style where students feel comfortable, and I say, "Hey, talk to me after class." Teaching online, I can't have that. . . That's a challenge when I teach online. I want to ask, "What's up? Why are you missing a discussion board?" And I send emails, and I don't hear from the students."
Instructor time	Behaviors or class elements that require instructor time	"The amount of time required is a barrier. Yeah, the enrollment numbers are getting really high."

Interview Question 6.   Interview Question 6 concerned successes the instructors perceived related to interaction in their online graduate-level courses. One participant chose to skip this question. Of the seven participants who answered this question, five described successes related to their intentional facilitation strategies. The majority of participants in this study described the importance of course design and feedback strategies that they perceived contributed to successful interaction in their courses. (Of note, the instructors' role in feedback and course design decisions were two of the areas in which seven of the eight study participants described challenges related to interaction in Question 5.) Three of the seven participants who answered this question described how their successes related to student sharing impacted interaction in their courses. Two participants also described successes related to their use of video.

In their responses to this question, participants described their course design decisions. For example, Assistant Professor Smith explained, "I think the success has been moving to projects and having students share and be a part of that teaching process. When I try not to be the one responsible for learning is when I'm usually most successful." Similarly, Professor Blanco described an "Expert Presentation" assignment in which students present information on their own unique areas of expertise:

> I also try to do expert presentations so I'm not the only expert. Other people . . .
> provide that information and those are really helpful to get to hear from
> colleagues on in-depth things like instructional technology in higher education, or
> dealing with Title IX issues, or something that someone in the class might have
> expertise on . . . Those are some interactions that are content related that I've
> gotten really positive feedback over the years.

Associate Professor Clark described her use of practical assignments as a success related to student-content interaction in her courses:

> [Students] love all the practical assignments. The practical assignments, I have them put them on their resume right away. That way they can show prospective employers that they have provided training to professional educators. . . That's one of the biggest successes that I hear back from them, "Oh thank you. I got a job. Thank you for making us do a portfolio because I was able to show that to the interviewer." So the practical assignments really have been outstanding.

Associate Professor Stuckey and Assistant Professor Martinez both described the use of video as a success related to interaction in their courses. For example, Associate Professor Stuckey explained her use of synchronous videoconferencing:

> My biggest success, the thing I get the most positive comments about, are the hands-on type screencast videos where I'm talking and showing them at the same time how to manipulate or do something that we are going to be required to do. That's the thing that gets the most feedback.

Assistant Professor Martinez described one success in his courses when he said:

> The one thing that [students point out] immediately is "We like that you put a face to the class" and I emphasize the word *face* because I do lots of videos. I don't want my online class to be an anonymous class. So that's why every week my students will see an introduction video.

Assistant Professor Kelly was the only participant to specifically address the feedback element of instructor facilitation in her responses to Question 6. First, she mentioned reaching out to students when she said, "I often reach out to check in with

them. You know, 'Just wanted to check in with you. Do you have any questions?' I think that's a big issue for online classes for professors is communication." She went on to describe providing assignment feedback, "I try to get back to them pretty timely. I know they want their assignments; don't wait until the end of the semester. So I try to make the feedback pretty timely."

Assistant Professor Kelly also made a distinction between success in a face-to-face class and success in an online class when she explained:

I'll say sometimes if you've got online classes and face-to-face classes, sometimes the face-to-face classes may take precedence because you have to prepare for class. Sometimes the online classes can take a back burner. . . The face-to-face classes take precedence because you have to prepare to be there in person. Online classes tend to wait. So I try to make my online classes a priority.

A summary of how participants described successes related to interaction in their online, graduate-level courses is displayed in Table 8.

Table 8

How Participants Described Successes Related to Interaction in their Courses

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Instructor facilitation	Instructor decisions about how to design/teach the course	"I have students sharing something throughout the semester, and I usually try to put the stronger students earlier in that process as a form of role modeling. I don't think they see it as mentoring, but it's intentional. It's peer mentoring."

(continued)

Student sharing	Students creating knowledge with other students	"Students get ideas from other students that they implement, and they come back and tell those students that they tried it at their institution."
Video	Instructor use of video technology	"Every now and then if I have time, instead of just posting a number grade, I give a little 2-3 minute video, even if I say, "Hey, Bobby, good job" and a thumbs up and that's it."

Interview Question 7. For Question 7, I asked participants what advice they would give to a new instructor related to facilitating interaction in online graduate-level courses. In their responses, seven of the eight participants emphasized that instructor behaviors affect interaction. In their advice to new instructors, participants mentioned seeking out training opportunities, making intentional course design decisions, and allowing the additional time required to facilitate interaction in online graduate-level courses.

Both Associate Professor Antonio and Professor Blanco mentioned training in their replies to Question 7. Associate Professor Antonio's advice regarded training to teach online:

Learn Blackboard. It might be impossible to learn the entire tool set it offers, but learn the basic tools. I would recommend getting access to other courses, other instructors' courses. It's probably good to talk to the instructional designers and talk to them about best course designs.

Professor Blanco had similar recommendations:

I think it's important to learn to use different modalities, different tools, within LMS but also external to LMS. Probably get some training. Talk to some folks

who have a good reputation for being good online instructors and see if you can

look at some different ways that people set up their classes.

Six of the eight participants described instructor facilitation in their replies to

Question 7. For example, Associate Professor Clark recommended intentionality in

assignment design:

Be very, very organized and detailed up front. That will save you a lot of

heartache or time later on. Write out your assignment guidelines. . . In face-to-

face, when you give an assignment, they can ask questions and you can respond to

all 30 students. Write it out. That way you can remember what you told them to

do with spacing in Assignment 3. Think through your assignments. Have an

assignment guidelines page. When I grade each assignment, I have the assignment

guidelines out, and if I see a pattern of something that the students were doing that

I didn't think they would do, then I know the guidelines weren't clear. So I write

on the guidelines to clarify for next semester.

Assistant Professor Smith gave this advice:

There's a lot of intentionality to it. . . The technology is always being updated. I

think there's a lot more intentionality and thought process that goes into [online].

I think you have to be willing to change and be adaptable more so than in a face-

to-face course.

Assistant Professor Martinez also described instructor course design decisions in

his advice:

Don't be afraid to be creative. I get my colleagues, my network that are not

faculty, and I say, "Hey, I have this class on leadership. You're a VP of Academic

Affairs. Is there something they can work on?" And often they say, "Yeah, I have this issue. I wouldn't mind them thinking about it and giving me their thoughts." These provide real world case studies. Be creative.

Associate Professor Perez was alone among participants in emphasizing the amount of time required to facilitate interaction in online, graduate-level courses in her advice to a new professor:

It means an incredible amount of work. If you were to ask me, I find my online classes to be much more challenging than my face-to-face classes because that activeness is absolutely necessary for that interaction to take place. I mean challenging because it's a lot more work. When you're teaching a face-to-face class, you have that interaction that happens in the classroom, and then you leave that classroom with maybe an assignment every couple weeks that you've got to grade. When it's online, I need to be active in that class *all* the time. *All* week. I have to be in there, and that is really challenging. From a time perspective, if you want the interaction to happen, it takes a lot of time on the professor's part.

A summary of advice participants would give to a new professor related to interaction in their online, graduate-level courses is displayed in Table 9.

Table 9

Advice Participants Would Give to a New Professor Related to Interaction

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Instructor facilitation	Instructor decisions about how to design/teach the course	"I think it's important to use lots of visuals, pictures, and design the course so it's appealing. I know that some of my colleagues don't do that, but I always do that. I learned that fast. Design the course so that it's appealing."
Instructor training	Preparation to teach online	"Learn some recent research on what helps students learn and engage so you can incorporate some of those strategies. . . Get advice on interaction. What kind of parameters – don't make it like a boring correspondence course."
Instructor time	Behaviors or class elements that require instructor time	"I always feel like my personality really comes through in a face-to-face classroom, and it takes a lot more time, I think, for my personality to come through in an online environment."

Interview Question 8.   Interview Question 8 was intended to collect demographic-type background information. I asked participants how long they had been teaching at the graduate level. The information from the participant responses was used to create the *Interview Participants* Table (Table 2).

Interview Question 9.   Interview Question 9 was intended to collect demographic-type background information. I asked participants how long they had been teaching online. The information from the participant responses was used to create the *Interview Participants* Table (Table 2).

Interview Question 10.   For Interview Question 10, I asked participants how they learned to teach online. An unexpected outcome of Question 10 was the depth of description regarding the training the participants received (or did not receive) to teach online. Participants primarily described either the formal training they received from the institution, or, more often, their own experiential learning through trial and error.

Only three of the eight participants reported receiving formal training from their institution on how to teach online. Associate Professor Antonio said:

I worked with an instructional designer here at the university. I also attended workshops that the [university] center provided, for example how to build a discussion. They provided some workshops for that. And I took an online class as well from the [university] center.

Assistant Professor Kelly also reported receiving formal training: "At my old university, I was chosen to go to like an online academy, where we spent a week on how to teach effectively online. So they taught us how to create interactive modules and

strategies." Finally, Assistant Professor Martinez benefitted from the formal training he received:

> Our institution's online support folks are amazing. It was very self-directed. If I
> don't know something, I'm not afraid to ask someone, "How do you do this?" Or
> even, "I have this idea. Who can help me with this?" Our institution is *blessed*, I
> use that word intentionally, is blessed to have really good online support folks. If
> they don't know how to do it, they'll work with you to try to figure out how to do
> it. I used them. I went to a lot of workshops.

On the other hand, five of the eight participants reported learning to teach online primarily through trial and error. Associate Professor Clark summed it up, "Our university has some virtual training classes, but they were not beneficial to me at all." Associate Professor Perez explained, "I received training from a colleague in my program area who had done it [taught online] before and had done a lot of online instruction. So I really depended completely on her." Associate Professor Stuckey said, "I just started. I didn't go to any special training or anything. I just started teaching online."

Professor Blanco, Associate Professor Perez, and Assistant Professor Smith also contrasted learning to *teach* with learning to teach *online*. Professor Blanco explained her perceptions:

> We didn't have much training, or role models, or anything then. We didn't have
> any office that helped us. I think I just learned experientially by doing it. It
> helped to know how to teach first, though. Because I think what I observed to be a
> big challenge, say like a chemistry professor or something, is that they don't have

curriculum and instruction like many of us in education do, so they're not only struggling with how to teach, but also how to do it online.

Associate Professor Perez described the problem with the training she received: I just got the certification that they're requiring us to go through, and some of it was, well, the importance of knowing what your objective is when you plan your activities. I've been teaching for a long time and I've been doing that. You don't need to teach me how to write objectives. There was another whole day on multiple forms of assessment, well, I already knew that.

Assistant Professor Smith elaborated: "There is no teaching for [how to teach online]. I never received teaching. We don't offer teaching in our own programs. I'm not aware, there's certainly no broad based training in education for faculty for how to teach online."

A summary of how participants described how they learned to teach online is displayed in Table 10.

Table 10

Summary of How Participants Described How They Learned to Teach Online

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Instructor training – Formal	Formal preparation to teach online	"At my old university, I was chosen to go to like an online academy, where we spent a week on how to teach effectively online. So they taught us how to create interactive modules and strategies."

(continued)

| Instructor training - Informal | Informal preparation to teach online | "To be quite honest a lot of trial and error. To this day, every now and then, I still go back to my first online courses and I'm like, "Good lord, what was I thinking." But I do that just to remind myself that somethings work and somethings don't work. And I think if you teach online you've got to be ready to find out. It's probably more likely that things don't work and you repeat the things that work and just enhance them as you move along." |

Interview Question 11. Interview Question 11 concerned participants' perceptions of how online teaching compares and contrasts with teaching face-to-face. I asked participants if they preferred to teach face-to-face or online. Participants responded in different ways.

Professor Blanco, Assistant Professor Kelly, and Associate Professor Stuckey all mentioned their preference for face-to-face interactions with students. Associate Professor Stuckey summed it up when she said, "In the face-to-face classes, you don't have to struggle so much to build that classroom community." However, Associate Professor Stuckey also acknowledged a benefit of online teaching when she said, "I love the convenience of online because it allows more students to participate. Being online allows us to reach people from all over the state, so that's definitely a plus."

Associate Professor Antonio differentiated between undergraduate, for which he would prefer face-to-face, and graduate, for which he would prefer hybrid. He elaborated:

Advantage of hybrid for graduate students: Once you become a student at the university level, it is very important to collaborate with the professor. Usually the professor is someone you would like to learn from. At a professional level you

need to communicate and share ideas. It's not just about the course that the professor is teaching. It's about the subject area. It's about research perhaps. Face-to-face is important.

In contrast, Assistant Professor Martinez reported his preference for online teaching. He explained:

I like online for the opportunity to be very creative. . . I approach my classes like, what kind of cool graphics can I put here. What cool activity can I do? I'm thinking about what could they do differently in an online course [vs. face-to-face course] for this final project.

Finally, Professor Blanco and Assistant Professor Smith contrasted how much more time it takes to teach an online versus a face-to-face class. Professor Blanco admitted, "I think that I would enjoy [teaching online] more if it was the main thing that I did, not in addition to all the other things that I do." Assistant Professor Smith elaborated:

Online teaching has become harder, not easier. Even with more tools. I don't mind the challenge, but even after doing this now for almost 10 years, I have not found that it has ever gotten easier. I feel like my face-to-face courses have gotten easier over time. I feel really comfortable with the content I'm delivering in my face-to-face courses. I walk in and I know what I'm talking about. There's no course prep. I'm comfortable in that space. My ability in face-to-face courses has improved, so I'm spending less time and the courses have improved. But I'm constantly learning new technologies. The time for online courses never seems to diminish. I think that's challenging from a faculty perspective. Most people don't

want new course preps. You try to avoid giving people new course preps. . . But I

still feel like there's an element of course prep to it that I just don't have in face-

to-face courses. So it's a lot more time.

A summary of participants preferences to teach online or face-to-face is displayed

in Table 11.

Table 11

Summary of Participants' Preferences to Teach Online or Face-to-Face

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Prefer face-to-face	Instructor preference for facilitating interaction face-to-face	"I like to be able to see people's faces [in the classroom] and gauge whether they're getting stuff. That still is good."
Prefer online	Instructor preference for facilitating interaction online	"In a live course, it's like live TV – I can't do a retake. But in online instruction, if I screw up a video, I can go back and re-think the strategy and how I'm unfolding the steps or how I'm explaining the process. I have more control over the flow, the speed in which it's delivered, and all those things. That's harder to do in a face-to-face course."
Instructor time	Behaviors or class elements that require instructor time	"For just the amount of work it takes, it's a lot easier to teach face-to-face."

Interview Question 12.   Interview Question 12 was intended to collect demographic-type background information. I asked participants their comfort level with technology. All participants expressed comfort with technology.

Interview Question 13.   Interview Question 13 was intended to collect demographic-type background information. I asked participants their rank regarding tenure. The information from the participant responses was used to create the *Interview Participants* Table (Table 2).

Interview Question 14.   To conclude the interview, I asked if the participants had any closing comments. Six of the eight participants took the opportunity to emphasize specific aspects of their experiences with online teaching: three participants shared their ideas about facilitation and course design, and four participants offered closing comments that contrasted teaching online with teaching face-to-face.

Professor Blanco spoke broadly about intentional course design decisions when she said, "There are important considerations for looking at ways to help to stimulate learning and interaction. We know that learning comes from interaction. How do we get folks to interact more and feel comfortable with it?" Associate Professor Antonio explained that he believes there are two keys to effective online courses: designing courses with good content and appropriate tools, and effective communication:

> Online learning is a learning that students already feel disconnected on a personal level, and on the professional level as well. When you have good communication with them, they feel comfortable, they do better, they ask more questions. It helps me if they ask questions. . . It's a sign of their interest. If they're asking questions, then they are taking action so learning can occur.

Assistant Professor Martinez described the importance of course design in this excerpt from his closing comments:

The personalization part. Because when you teach online, it is very easy to just make it a correspondence course. You even have the option of not even putting pictures in your online course modules. I'm very against that. If an online class is approached as a correspondence course, that's why online education gets a bad rep.

Four of the participants compared and contrasted teaching online with teaching face-to-face in their responses to Interview Question 14. Assistant Professor Martinez pointed out that there are many junior faculty members who are teaching online, as opposed to senior faculty members. Associate Professor Stuckey addressed a common myth in her response:

Online teaching doesn't necessarily mean that it's easier for the student. Because I do think that could be a perception. People say, "Oh, it's a totally online degree." Well it's not a cake walk. It's not a correspondence course. Just because it's an online course it's still rigorous.

Associate Professor Clark contrasted the way her students perceive her in an online class versus the way her students perceive her in a face-to-face class:

They don't get to know me [online] so they don't get the opportunity to know that I really know what I'm talking about. . . But face-to-face I think they would be more open to asking more questions, to dig deeper. I would say [online] is more surface level, but it's not their fault. They don't have the opportunity to say, "What you just said, tell me more about that." So it's absolutely much more

challenging to get my personality out there. . .   I can get the same information

out, but they can't hear the excitement in my voice. They just can't.

Associate Professor Perez offered the following closing comments:

I do consider myself a very active online instructor and I put a lot into it. And I

don't want to be put in a situation where it becomes a diploma mill. Because for

me, the personal element is part of what makes me who I am as a teacher and it is

my profession. I think that one of the keys is a lot of interaction. I understand

increasing enrollment, I understand increased productivity, I also understand that

there are in fact online instructors who really do very little in their classes. So I

get that. But I'm afraid of increasing numbers so that you cannot get the kind of

interaction that you need.

A summary of participants' closing comments about interaction in their online,

graduate-level courses is displayed in Table 12.

Table 12

Summary of Closing Comments about Interaction in Online, Graduate-Level Courses

Invariant Meaning Units	Description of Experience	Examples of Significant Statements
Instructor facilitation	Instructor decisions about how to design/teach the course	"Beneficial content for the students, and use of advanced technology tools is a key, and communication is another key."
Online vs. face-to-face	Differences in interaction between online and face-to-face classes	"I think [interaction] is absolutely more challenging online vs. face-to-face."

Emergent Themes

After setting aside my own perceptions in the Epoche, the data from Steps 2 and 3

were presented in the preceding section of this chapter (steps adapted from Moustakas,

1994, p. 122). As stated previously, Step 4, "cluster the invariant meaning units into themes" (Moustakas, 1994, p. 122), was accomplished using Saldaña's (2016) coding techniques. Horizonalization was accomplished by examining key statements and contexts across all participants' accounts (Moustakas, 1994). From the process of horizonalization arose *Horizons*, "the textural meanings and invariant constituents of the phenomenon" (Moustakas, 1994, p. 97). Those Horizons were clustered into themes.

Three major themes emerged from the data. The themes were (a) the training of instructors for online teaching, (b) the role of instructors as facilitators of online courses, and (c) the time requirements of teaching online. In addition to the three major themes, subthemes also emerged related to the role of instructors as facilitators; I will discuss those subthemes in the section below. A summary of emergent themes is displayed in Table 13.

Table 13

Summary of Emergent Themes

Emergent Themes	Description of Themes	Examples of Significant Statements
Training	Preparation to teach online	"I know the institutional online office has offered tools to help people become more proficient in online teaching and I think those are helpful. I think it can be a little overwhelming sometimes. I can easily consume another 15, 20, 30 hours of training trying to go and learn how to do all that, and sometimes it's hard to squeeze in."

(continued)

Instructor facilitation	Instructor decisions about how to design/teach the course	"I think the way you set up assignments and activities can be barriers as much as they can be tools so students can be successful. I can set up a course that's very asynchronous and not very engaging and it's not technology's fault – it's the way I designed the course."
Instructor time	Behaviors or class elements that require instructor time	"When I'm teaching online, I need to be active in that class *all* the time. *All* week. I have to be in there, and that is really challenging. From a time perspective, if you want the interaction to happen, it takes a lot of time on the professor's part."

Training. Learning to teach online required taking personal initiative for the participants. Of the three participants who reported benefitting from institutional training, two described it, as Assistant Professor Martinez said, as "very self-directed." Even though he has availed himself of the online support office, Assistant Professor Martinez also admitted there was "a lot of trial and error" involved in his process of learning how to teach online.

Two of the participants acknowledged their own advantage as online instructors based on their experiences as professional educators. Professor Blanco pointed out that, unlike a colleague in the chemistry department, for example, she did not have to learn the basics of curriculum and instruction. She explained, "I'm familiar with curriculum, so then doing that online didn't seem that challenging other than learning what the technical tools were." Assistant Professor Smith similarly observed, "Education as a field is at least talking about how to teach. But if you're a biology professor, your PhD is in biology. It's not about teaching."

Six of the eight participants described learning to teach online through a combination of asking colleagues in their departments and through their own trial and error. Most of the participants did not receive adequate formal training before beginning to teach online. As Associate Professor Stuckey summed up, "I just started."

Instructor Facilitation. All of the participants commented on their roles as instructors and how they facilitate interaction in their online, graduate-level courses. Assistant Professor Smith explained, "How do you create engagement? I think it's how the instructor sets up the activities and assignments more than the technology itself." Four subthemes emerged as important aspects of instructor facilitation: (a) using discussion boards effectively, (b) providing feedback in a timely manner, (c) designing courses intentionally, and (d) designing assignments for practical application.

Five of the eight participants specifically mentioned discussion boards as one way they facilitate interaction in their courses. Associate Professor Perez noted the importance of "having those questions where they can really shine and demonstrate the knowledge base that they have, at least initially," as one way to get students engaged in online discussions. Associate Professor Clark described her participation in the discussion boards, "I ask them questions that I probably know the answer to, but I'll throw out something to get them talking more with each other."

Six of the eight participants stressed the importance of feedback in encouraging interaction. Accessible office hours allow students to receive answers to their questions. For example, Associate Professor Perez explained, "I'll sign into Skype, especially when I'm doing grading on Blackboard or something, I'll sign into Skype so that people can

contact me." Associate Professor Stuckey uses text messages to ensure students "are

getting their question answered or their issue listened to in a timely manner."

All of the participants explained designing their courses in ways that facilitate

interaction. This subtheme appeared in 42 significant statements or "invariant meaning

units" (Moustakas, 1994, p. 122), almost 12% of the total dataset. As Assistant Professor

Smith summed up, "The interaction, I think, really varies depending on how you set up

the course." Elements of course design comprised at least part of the participant

responses to Interview Question 1 (describe interaction), Interview Question 2 (describe

student-student interaction), and Interview Question 3 (describe student-content

interaction). A list of course design elements specifically mentioned by the participants

is displayed in Table 14.

Table 14

List of Intentional Course Design Elements

Course Design Elements	Description of Element	Significant Statements Providing Rationale
Informational Survey	Students answer questions about their experience, what they expect from the course, topics of interest, etc.	"I can suggest who can work in groups."
Personal Wiki	All students can see all wikis. Students tell the class about themselves, their hobbies, personal/professional achievements, etc.	"This is what they often do not have when working online – they can see their children, their pets, what they did last summer, many interesting things. "

(continued)

Modifiable Calendar	Assignment due dates have some flexibility designed in	"I try to consider individual needs."
Synchronous Meetings	Live meetings (often via Zoom)	"Allow students and instructors to see each other."
Modules	Structuring course material into groups rather than presenting all semester material at once	"I just have students focus on that week. I try to make use of the interface to think about, OK, what do I want my students to focus on? How can I help my students not get lost within Blackboard?"
Embed, Not Link	Embedding course resources via HTML code rather than inserting links	"In the Blackboard course I try to embed everything they need within that course. I never know if their browser will open the links and things like that. So if I have a video for them to watch or an article .pdf for them to read, I embed it. So they can view everything they need within Blackboard because Blackboard allows you to embed using html code. You can embed YouTube videos, or they can fill out a Google form right there. So I try to embed everything I can."
Gallery	More visual than a typical discussion board, a display of student responses to a graphic organizer assignment	"When people responded to, say, a graphic organizer that I put up there, they got collected in what I call a gallery, so they can go through it and they can be selective of what they see, as if they're walking through an art gallery, and then giving them options to respond to what resonates with them the most, and giving them some parameters, like, please respond to at least 3 people. What I found is that by giving those options, made it so that lots of people would engage, and much more than expected sometimes."
Small Groups	Intentionally dividing a class into smaller groups	"I will randomly regroup them into smaller groups, like 3-4 people, so that it's not these long, lengthy discussion boards. And they kind of get to know each other a little better in those spaces."

Content-Based Discussion Boards	Creative and intentional discussion board prompts	"I like to give options for students to respond to the content in lots of different ways, to integrate readings, to give them different kinds of thinking prompts for good discussions. So they're not just engaging in the discussion without engaging with the content as well."
Virtual Lounge	A discussion board area for students only	"I have set up a "virtual lounge" area for them to go to chit chat with each other and things that they know that I'm not even going to be on there. It clearly says that I will not visit this space... So I do create a space just for them to go and have their own conversations that they don't have to think about me looking at."
Virtual Office	A discussion board area for student questions	"If they have a question for me, it goes in my virtual office."
Expert Presentations	Students or outside guests present their areas of expertise	"I also try to [assign and/or invite] expert presentations so I'm not the only expert."
Manuals and/or Study Guides	Using textbooks and resources	"I've been fortunate because the majority of courses I teach online have kind of like a manual by the author, more of a study guide – not at all for graduate courses, but for teachers and educators to kind of do a book study. So I've used a lot of the study guide manuals with class projects. So I take those ideas and try to figure out how can we present this project to faculty, how can they do it virtually."
Detailed Assignment Guides	Provide written, specific assignment instructions and requirements	"Be very, very organized and detailed up front. Write out your assignment guidelines. . . In face-to-face, when you give an assignment, they can ask questions and you can respond to all 30 students. Write it out."
Flipgrid™	Flipgrid.com provides a platform for student videos	"I think it's important for them to have some kind of interaction where they are putting a name to the face."

Case Studies	Students analyze real world situations related to course content	"Use case studies, don't make it a 'here's some paper, here's an exam' try to use something that's real life."
Outside Evaluators	Final presentation made to outside guests as well as classmates and instructor	"In one of my classes the students did a case study group work, and instead of me being the sole grader, I had colleagues serve as judges."
Role Playing	Students analyze real world situations and think through how they might respond	"I tell the students to role play either their current position or their preferred position."
Peer Mentoring	Scheduling stronger student presentations first	"I have students sharing something throughout the semester, and I usually try to put the stronger students earlier in that process as a form of role modeling. I don't think they see it as mentoring, but it's intentional. It's peer mentoring."
Flipped Classroom	Learning occurs outside of class; application occurs within class	"That's the way it mostly is now: they read the theory, and then we talk about how they then apply their learning."

It became evident from the data on instructor facilitation related to course design that many of these participants strive to design assignments that provide students with opportunities for practical application of course concepts and course content. Associate Professor Perez summed up the perceptions of many when she explained the importance of, "making sure that you also get to the practical and that you don't necessarily just leave it as a purely theoretical discussion. They have to see how the research relates to their practice." For example, Associate Professor Antonio said of his technology course:

When [my students] develop a use of technology, then I have them implement it with their students. I also have them collect some data, for example, a pre-assessment and a post-assessment, and compare to see what worked, what did not work, and modify, so on.

Assistant Professor Martinez described his leadership class:

I get my colleagues, my network that are not faculty, and I say, "Hey, I have this class on leadership. You're a VP of academic affairs. Is there something they can work on?" And often they say, "Yeah, I have this issue. I wouldn't mind them thinking about it and giving me their thoughts."

Assistant Professor Smith also noted, "I'm increasingly moving to more project-based learning. Because I think the projects tend to be more effective at engaging others and putting some of the content into practice, which is always what people want to do anyway."

A summary of subthemes associated with the theme of instructor facilitation is displayed in Table 15.

Table 15

Summary of Subthemes Associated with Instructor Facilitation

Emergent Subthemes	Description of Subthemes	Examples of Significant Statements
Discussion Boards	Instructor decisions about how to set up and participate in discussion boards affect interaction	"You definitely have open-ended discussion questions, scenario-based questions that force them to have answers that are generally going to be different from each other. . . I feel like a lot of it has to be well thought-out and planned ahead for the interaction to occur."
Feedback	Timeliness of grades and replies to questions affects interaction	"Students really need and like more immediate feedback. And I think that also stimulates the engagement. If they're engaging but you're not, then they'll stop."

(continued)

Course Design	Instructor decisions about how to set up the virtual classroom affect interaction	"The interaction, I think, really varies depending on how you set up the course."
Practical Application	Instructors design opportunities for students to apply course material in practical ways	"Don't necessarily just leave it as a purely theoretical discussion. They have to see how the research relates to their practice."

Instructor Time. Six of the eight participants emphasized how much more time is required to teach online versus to teach face-to-face. Assistant Professor Smith contrasted online teaching with face-to-face teaching when he said:

I feel like online learning is 24 hours a day, whereas in my face-to-face classes, students know they're going to have me Tuesday at 4:40. So it's structured, so sometimes they just hold their questions. They know they have a captive audience at that time, so they can ask their questions in class. I feel like in online learning it's just harder. I'm still struggling with how to best do that well. I want to be available because that keeps people engaged. But at the same time too, it's never ending. It's amazing sometimes the amount of email traffic that's being generated between the hours of 10pm and midnight. But that's when people are online, after their kids have gone to bed.

Associate Professor Perez also contrasted online teaching with face-to-face teaching when she explained her experiences:

I find my online classes to be much more challenging than my face-to-face classes because that activeness is absolutely necessary for that interaction to take place. I mean challenging because it's a lot more work. When you're teaching a face-to-face class, you have that interaction that happens in the classroom, and then you

leave that classroom with maybe an assignment every couple weeks that you've got to grade. When it's online, I need to be active in that class ALL the time. ALL week. I have to be in there, and that is really challenging. From a time perspective, if you want the interaction to happen, it takes a lot of time on the professor's part.

Professor Blanco explained the time-consuming nature of teaching online as "invisible labor" when she said:

It's very, very time consuming. I think that sometimes you end up working really long days because they're kind of online all day and all night. So maybe that's a barrier for the instructor. I think we get kind of burned out. People don't see it necessarily, because you are interacting with lots of students at different times, so it doesn't feel like it's visible, that labor is visible, like maybe in face-to-face classes where you're actually scheduled to be in a class at a certain time, or office hours, or conferencing with students, advising students. I see that as a barrier because I think we get exhausted, but others don't value it. Administration, or people don't get it. There's a lot of invisible labor that becomes a barrier and I'm not sure that they're even thinking about how does one capture that, I mean to show how hard many of us work that are online, who teach online.

Several participants also mentioned some of their own behaviors related to interaction. Some of these behaviors require a great deal of time on the instructors' parts. For example, Assistant Professor Kelly explained, "Showing directions takes longer, so that can be a challenge. I'm not able to clear up any questions right away. So I really take

the time to make the directions really clear." Associate Professor Antonio explained the time he invests in synchronous meetings:

> I also conduct an additional Zoom conference for students who cannot attend this meeting when we do it. For instance this semester I held four additional meetings: I did them individually for students who could not attend, as well as the one for the class.

Similarly, although Assistant Professor Martinez values the use of videos, he lamented, "Unfortunately as I'm getting more research on my plate, I haven't created feedback videos as much as I did when I first started teaching."

Summary

Chapter IV presented the analysis of the data according to Moustakas's (1994) procedures as outlined in Chapter III. I first bracketed my own experiences and biases in the Epoche in an attempt to look at the phenomenon anew. As Moustakas (1994) suggested, interviews were recorded and transcribed to capture relevant participant statements. Identifying the invariant meaning units of the experience and "clustering the invariant meaning units into themes" (Moustakas, 1994, p. 122) were accomplished using Saldaña's (2016) coding techniques. This chapter concluded with thick descriptions of interaction in online graduate-level classes derived from the synthesis of the relevant participant statements and the themes that emerged.

The data collected and analyzed for this study provided instructor descriptions of the phenomenon of interaction in online graduate-level courses. Instructor descriptions of their experiences led to three emergent themes: instructor training, instructor facilitation, and instructor time. The themes and subthemes emerged to answer the research questions

regarding instructor experiences with student-student interaction, student-content interaction, and student-instructor interaction in their online graduate-level courses. Chapter V will synthesize the themes into a comprehensive description of the phenomenon as well as discuss the implications and recommendations for future research.

CHAPTER V

Discussion, Implications, and Recommendations

Overview

The purpose of this phenomenological study was to explore the experiences of instructors related to student interaction in online graduate courses. As described in Chapters III and IV, this study examined how instructors describe their experiences with interaction in their online, graduate-level courses. Eight instructors from a selected College of Education were interviewed to gather data about their experiences.

I chose to study this topic because of my own experiences as an online educator and as a graduate student. Regarding student-student interaction, I was curious to learn about possible similarities and differences between my own experiences at the undergraduate level versus the experiences of instructors at the graduate level. Regarding student-content interaction, I wanted to know whether these instructors were designing their online courses themselves or in partnership with instructional designers. Regarding student-instructor interaction, I was interested to learn what strategies these instructors used to interact with their students. Thus, Moore's (1989, 1993) theory of transactional distance provided a framework within which interaction in online courses could be studied.

In this chapter I will synthesize the findings from Chapter IV into a comprehensive description of the phenomenon as well as discuss the implications and recommendations for future research. The following sections are addressed in this chapter: (a) discussion of the findings in relation to the research questions, (b) discussion of the findings in relation to the literature review, (c) trustworthiness of the findings, (d)

recommendations for future research, (e) recommendations for practice, and (f)

conclusion.

Discussion of the Findings in Relation to the Research Questions

Research Question 1. The first research question asked, "How do online

instructors describe their experiences with student-student interaction in their graduate

classes?" The perceptions of the participants about their experiences with student-student

interaction focused on the second and third emergent themes. The topics of those themes

were (a) the role of instructors as facilitators of online courses, and (b) the time

requirements of teaching online.

An important perception shared by online instructors was the significance of their

role as facilitators of online courses. Study participants perceived student-student

interaction in terms of their own course design decisions. These online instructors

described in great detail their course design experiences. For example, regarding

discussion boards, these instructors worked diligently to design questions that would

allow students to demonstrate their knowledge, while also avoiding questions that could

be answered, "What Amy said." Several participants also perceived the importance of

allowing students to interact with each other in real time using video conferencing

technology. Assistant Professor Smith summed up the perceptions of many participants

when he explained:

> I think the way you set up assignments and activities can be barriers as much as
>
> they can be tools so [students] can be successful. I can set up a course that's very
>
> asynchronous and not very engaging and it's not technology's fault – it's the way
>
> I designed the course.

Several of the participants echoed this distinction between the decisions an instructor makes to facilitate student-student interaction and the technology utilized to do so.

Regarding technology, these graduate-level instructors also perceived student-student interaction as impacted by the technology they the instructors-as-course-designers chose. The learning management system utilized at the selected institution was Blackboard, but Blackboard was primarily used to house the course modules and, in some cases, discussion boards. These instructors chose to use many additional technology tools, including Google Docs™, Google Hangout™, Google Community™, Facebook™, Screencastify™, Flipgrid™, Remind™. and Zoom™, to name a few. In sum, these instructors perceived student-student interaction as directly related to their efforts as facilitators of online courses.

The time required to facilitate student-student interaction was another common experience of these instructors. Several participants contrasted their experiences with online courses versus their experiences with face-to-face courses. For example, some participants mentioned the amount of time they spend on creating effective discussion questions for their online courses, versus the freedom they have to guide class discussions in real time in their face-to-face courses. Other participants perceived student participation in discussion boards as dependent on their own participation, both in modeling discussion board responses and in encouraging deeper, follow-up responses. Associate Professor Perez expressed the perceptions of many participants when she explained:

I think that one of the reasons why the discussions are so active is that I also participate. In other words, it is obvious that I am reading them, and that I am making comments. . . which takes an incredible amount of time.

Another reason that facilitating student-student interaction in online courses required more time than face-to-face courses was the aforementioned technology. In order to choose the tools best suited to student-student interaction, instructors first had to familiarize themselves with many technology options. Again, these instructors perceived student-student interaction as dependent on the time they invested to facilitate that interaction.

These findings are consistent with existing literature. As early as 1993, Moore foresaw that course design might be recognized as an important factor in the improvement of dialogue (interaction). Moore (1993) pointed out that, regardless of the potential interactivity of the medium, a course may or may not be "highly dialogic" because it is controlled by instructors "who might. . . decide not to take advantage of its interactivity" (p. 25). Additionally, Moore (1993) theorized that, "appropriately structured learning materials" (p. 27) could improve the success of teaching at a distance.

Furthermore, Bernard et al. (2009) conducted a meta-analysis of interaction *treatments*. The authors specifically differentiated between the observable behavior of interaction "and the conditions or environments that are designed and arranged by teachers to encourage such behaviors" (Bernard et al., 2009, p. 1248), or the interaction treatments. Bernard et al. (2009) concluded that intentionally creating the conditions or environments that encourage interaction between students "positively affects student learning" (p. 1264). McIsaac et al. (1999) went so far as to maintain that interaction may

be the "single most important activity in a well-designed distance education experience" (p. 122). Similarly, Shackelford and Maxwell (2012) concluded that, "in this age of dazzling technology, there is still no substitute for interaction" (p. 241).

Research Question 2. The second research question asked, "How do online instructors describe their experiences with student-content interaction in their graduate classes?" The perceptions of the participants about their experiences with student-content interaction focused on the first two emergent themes. The topics of those themes were (a) the training of instructors for online teaching, and (b) the role of instructors as facilitators of online courses.

It was the perception of most of these instructors that they had not received adequate training to teach online before being asked to do so. In order for students to interact with course content, these online instructors first had to design and build the online course through which the content would be delivered. However, most of these instructors received no formal training for how to teach online. The majority of these online instructors reported learning to teach online primarily through trial and error. Three of these online instructors also contrasted learning to *teach* with learning to teach *online*. For example, Associate Professor Perez explained her frustration with the institutional training she had recently been required to attend, "I've been teaching for a long time. . . You don't need to teach me how to write objectives."

Technology was a specific element in which these online instructors perceived that better training might have helped them to facilitate student-content interaction. Professor Blanco described the experiences of many of these participants when she said that, as an experienced teacher, the challenge to her was "learning technically: what the

technical tools were and then how to use them and where to click and how to set things up." But training that simply demonstrated a tool was not enough. As Associate Professor Perez explained, "I want to know how I can use this tool effectively in my class for a pedagogical purpose." These online instructors perceived student-content interaction as related to formal training, informal training, and how much trial and error was involved in designing their online, graduate-level courses.

Regarding their role as the facilitators of student-content interaction in their graduate-level, online courses, these instructors were intentional about designing assignments that required students to apply theoretical concepts in practical ways. For example, Associate Professor Antonio explained, "All the content I build for the course, I try to build it based on the practical implementation so it's beneficial to them in the future. This is my main focus when I build the content." These eight online instructors used the word *practical* 11 times to describe their experiences with student-content interaction in their courses.

These online instructors specifically described 15 different techniques they used to help students interact with the content in their graduate-level courses. Furthermore, they described eight different software programs or applications, in addition to Blackboard, that they designed into their graduate-level courses. These instructors worked diligently to design effective online spaces in which students could interact successfully with course content. These instructors perceived the importance of their role as facilitators and the impact their decisions had on how students interacted with the content in their courses.

These findings are consistent with existing literature. Relevant to his theory of transactional distance, Moore (2013) argued that "distance education has its own identity and distinguishing pedagogical characteristics" (p. 67). Moore (1993) also predicted that training of faculty might be recognized as an important factor in the improvement of distance education. A synthesis of Sloan Consortium findings revealed that "faculty preparation for teaching online measurably improves learning effectiveness and satisfaction" (Moore, 2009, p. 90). Unfortunately, Allen and Seaman (2011) reported that 6% of the 2,500 colleges and universities surveyed nationwide that offered online courses still reported having no training or professional development programs for their online faculty.

The online instructors in this study were intentional about designing assignments that required students to apply course content in practical ways. This student-content interaction is also consistent with existing literature. In their meta-analysis of interaction treatments, Bernard et al. (2009) concluded that intentionally creating the conditions or environments that encourage interaction between students and content "positively affects student learning" (p. 1264). Naidu (2013) argued that "learning by doing" through scenario- and problem-based learning, case study-based learning, role play-based learning, and design-based learning is "action-based" and "situated in some meaningful context" (p. 275). Similarly, Eom et al. (2006) posited that online classes require the instructor to become a facilitator and not a lecturer. Eom et al. (2006) also noted "that an interactive teaching style. . . [is] strongly associated with high levels of user satisfaction and learning outcomes" (p. 221). Furthermore, Templeton et al. (2015) found that opportunities for interaction are the result of intentional course design choices.

Research Question 3. The third research question asked, "How do online instructors describe their experiences with student-instructor interaction in their graduate classes?" The perceptions of these online instructors focused on time. These online, graduate-level instructors reported not only how much they enjoy working with students, but also how much time it requires to do so.

Several of these online instructors interact with their students through video conferencing. Professor Blanco stated, "I think the most effective way for the instructor to interact with students is synchronous meetings," and Assistant Professor Smith explained, "I try to engage with people in more live ways." But video conferencing can be quite time consuming. In an effort to allow all of his students the benefits of a video conference, Associate Professor Antonio described how, at the beginning of a recent class, he held one synchronous meeting for the class, and then scheduled four more individual video conferences at times convenient for the four students who could not attend the class meeting. In order to facilitate the student-instructor interaction that would have occurred in one typical face-to-face class meeting, he invested his time in five separate video class meetings.

Additionally, all of these online, graduate-level instructors interact with their students through email. But replying to emails can also require an incredible amount of time. Associate Professor Perez described the experiences of many participants:

> I'm an emailing fiend. My email comes to my phone, so if they email me on a question, I try to get back to them. It's always less than 24 hours. It's usually within a couple of hours they have a response. It takes an incredible amount of time.

These online instructors also facilitate student-instructor interaction through office hours. But office hours for an online, graduate-level instructor require more time than traditional office hours. As Assistant Professor Smith explained, "For graduate students, and particularly for working students, I can't just say, 'I'm only available from 2-4 on Wednesdays.' That just doesn't work."

Many of these online, graduate-level instructors described how much more time their online courses required when compared to their face-to-face courses. Students in face-to-face courses know they will see the instructor at a set time and place, so many of them hold their questions until that appointed time. Without an appointed class time, these instructors described online learning as 24 hours a day. And, as Assistant Professor Smith explained, "I want to be available because that keeps people engaged. But at the same time too, it's never ending." In sum, these graduate-level instructors perceived student-instructor interaction in their online courses as requiring far more time than their face-to-face courses.

Research exists to support the perception that teaching online requires more time than teaching face-to-face. Cavanaugh (2005) conducted a case study to compare the time required to teach a traditional course and the time required to teach the same course online. He found that the online format required additional time for increased student contact and individualized instruction. Cavanaugh (2005) concluded that instructor time requirements could be predicted based on the number of students in online classes and that online course quality is affected by instructor time on task. Tomei (2006) also conducted a case study to compare the time required to teach online versus face-to-face classes. Tomei (2006) used the differences in time required to compute ideal class sizes.

Tomei's (2006) research "found that online teaching demanded a minimum of 14% more time than traditional instruction" (p. 531). Based on the common university faculty requirements of teaching, research, and service, Tomei (2006) concluded that the ideal face-to-face class size is 17 students, and the ideal online class size is 12 students.

Recommendations for Future Research

In his theory of transactional distance, Moore (2013) argued that "distance education has its own identity and distinguishing pedagogical characteristics" and that it is "a field worthy of study and research" (p. 67). The purpose of this phenomenological study was to explore the experiences of instructors related to student interaction in online graduate courses. This study was conducted at one College of Education at one state university in Texas. At the time of this study, the College of Education offered eight fully-online master's programs and three fully-online doctoral programs. According to college faculty, the cohort model and the interactive learning management system were intentionally chosen to support online students' success. Eight online instructors were interviewed in June and July of 2018. Only full-time faculty who taught online, graduate-level courses within the selected college in the fall semester of 2017 were interviewed.   Data were collected only from individual interviews as part of the phenomenological design. The delimitations of this study and the findings from this study open possibilities for future research about interaction in online graduate courses. Opportunities for future research include:

1. Future researchers could conduct a phenomenological study with students from the same College of Education in this study to explore their experiences related to interaction in their online graduate classes. Guided by Moore's

(1993) theory of transactional distance, a researcher could ask (a) how do students describe their experiences interacting with other students in their classes, (b) how do students describe their experiences interacting with the content in their classes, and (c) how do students describe their experiences interacting with the instructor in their classes. Students could also describe why they chose an online program versus a face-to-face program.

2. A delimitation of my research was that reputational sampling (Goetz & LeCompte, 1984) was used to nominate for participation those instructors who were considered to have a level of success. All online, graduate-level instructors are not equally successful at facilitating interaction. The experiences of less-successful instructors might reveal different findings related to interaction in online graduate courses. More research is needed to understand the different perspectives of online, graduate-level instructors.

3. Another suggestion for future research is a replication study. Other state universities in Texas offer online master's and doctoral programs in their colleges of education. Because these colleges offer the same online master's and doctoral degrees under the same state guidelines, a replication of the current study could be conducted in another university to understand the experiences, challenges, and successes of online graduate instructors at other universities. Results of these studies could be compared to gain a better understanding of the experiences of online graduate instructors related to interaction in their courses.

4. Some of the participants mentioned the "clunkiness" of the learning management system. Another recommendation for future research is an exploration of various learning management systems related to interaction in online, graduate-level courses. A mixed methods design would be useful in that both qualitative and quantitative data could be examined. For example, students and instructors could be interviewed to understand their experiences with different learning management systems. Quantitative variables such as amount of time spent accessing class materials and number of technical problems could be examined. More information is needed about the usability of current learning management systems.

5. The instructors in this study disclosed their struggles with the additional time requirements of teaching online. Easton (2003) summed up three current models of online learning: one in which the lead instructor is primarily a course designer who passes the course shell to a facilitator to teach, a second model in which the online instructor is the facilitator who teaches a course that is already developed, and a third model "in which the professor is both the course designer and the facilitator, and in these scenarios, a combination of roles is required" (p. 100). These online instructors served as both course designers and teachers of their courses. Research is needed to explore instructors' time requirements within each of the three common models of online instruction. Multiple case studies could explore the amount of time spent on specific tasks in each of the three models.

Admittedly, research related to online education presents unique challenges. As a relatively new field, there is not a large body of existing research upon which to rely. Research related to online education really began in the eighties (Fedynich et al., 2015). The necessary technology and growth of the Internet ushered in the expansion of online education in the nineties (Jowallah, 2014), and the availability of learning management systems really only developed since the year 2000 (Braun, 2008). The lack of existing research, coupled with the rapidly changing technology in which this field of study is embedded, offers both challenges and opportunities for further study.

Recommendations for Practice

The rich description of current practices for facilitating interaction in online, graduate-level courses gained from this study provides insight to benefit both instructors and program administrators. I will offer suggestions for instructors of online, graduate-level courses based on the themes of instructor facilitation and instructor time. Additionally, I offer recommendations for administrators of online programs related to the themes of training and instructor time.

Recommendations for instructors. As stated in Chapter I, an online course instructor often serves as both teacher and course designer (Martin et al., 2019; Tallent-Runnels et al., 2006). Therefore, the online instructor establishes the course environment, to include the levels and types of interaction (Tallent-Runnels et al., 2006). The importance of instructor facilitation was a theme that emerged from the data. Five of the eight instructors in this study specifically mentioned discussion boards as one way they facilitate interaction in their online, graduate-level courses. Instructors should design early-semester discussion board questions that allow students to demonstrate the knowledge and/or experience they already have as a way to get students engaged in online discussions. Instructors should also design discussion board questions that encourage meaningful interaction with other students as well as with course content.

Six of the eight instructors in this study stressed the importance of feedback in encouraging interaction. Instructors should provide timely comments and marks for all student work submitted for the class. Instructors should establish accessible office hours at times and in modes that are convenient for online students. Instructors should also respond to student questions in a timely manner. The participants in this study reported that the level of interaction of the instructor directly impacts the level of interaction of the students.

All of the instructors in this study explained ways in which they intentionally designed their courses to facilitate interaction. Instructors should investigate the tools available to them both within their learning management system and outside their learning management system for elements they can use to create opportunities for interaction. Small group work, case studies, and role playing are just a few examples of

elements these instructors intentionally designed into their online courses to increase student-student and student-content interaction.

Additionally, all of the instructors in this study intentionally designed assignments to provide students with opportunities for practical application of course concepts. Rather than simply theoretical assignments, instructors could have students implement something they have learned in class. Alternately, instructors could have students provide analysis of a real-world, real-time problem. Many of the instructors in this study emphasized the importance of project-based learning as a way to increase students' interaction with course content.

The amount of time required to teach online was another theme that emerged from the data. Six of the eight instructors in this study described how much more time they devote to interacting in their online classes in contrast to interacting in their face-to-face classes. Instructors should allow for the extra preparation time required to design online classes. Instructors should also allow for the extra teaching time required by online classes. Instructors should also consider that time invested in the preparation stage (e.g., in creating detailed assignment instructions) may ultimately save time in the active teaching stage (e.g., in answering assignment questions). Finally, instructors should establish reasonable expectations with their students at the start of the semester. Although timely feedback is important, instructors cannot be expected to provide 24/7 customer service.

Recommendations for administrators.   Online course instructors are in the position to provide insight into their experiences. Understanding the meaning of the experiences of online instructors provided important information for administrators of online graduate programs. Learning to teach online was a theme that emerged from the data. The participants in this study described the amount of personal initiative they exerted in order to learn how to teach online effectively. Only three of the eight participants in this study reported benefitting from institutional training, and two of them described the training as "very self-directed."

Program administrators should advocate for institutional-level differentiated instruction. Workshops on basic teaching techniques such as meeting course objectives or creating rubrics might be of benefit to some online and face-to-face instructors. However, experienced faculty who are asked to teach online courses deserve training that is customized to their needs. Participants in this study mentioned the need for training that focused on the available online tools, how to create interaction in an online environment, and how to measure online workload.

Program administrators should also advocate for an institutional office of online instruction that houses instructional designers to assist online faculty. If teaching is not the priority at a university, professors cannot afford to invest time into face-to-face class preparation. How can they be expected to put additional time into online class preparation? A partnership between the professor as the subject matter expert and a professional technical designer might produce the highest-quality online courses.

Time was another theme that emerged from the data. Six of the eight participants in this study emphasized how much more time is required to teach online versus to teach

face-to-face. Program administrators must also acknowledge the "invisible labor" of online instruction. The online instructors in this study invested time interacting with their students at all hours of the day and on every day of the week. These hours may not appear on official clock hour schedules or on room schedules or even as official office hours. However, program administrators should find ways to account for the time required to effectively teach online. Program administrators should find ways to modify course loads to honor the additional time required to teach effective online courses. Additionally, program administrators should strive to determine the enrollment numbers that produce the highest levels of student success and satisfaction.

Conclusion

The purpose of this phenomenological study was to explore the experiences of instructors related to student interaction in online graduate courses. This in-depth investigation of the experiences and perceptions of online, graduate-level instructors revealed the nature of various types of interaction as well as some of the barriers to interaction in their courses. Reflecting on types of interaction within their courses provided insight into the instructors' challenges and successes related to interaction in online graduate courses. The findings from this study helped to create recommendations for online instructors to improve their teaching practices. Additionally, the findings provided insight for online program administrators regarding online graduate courses and programs. Furthermore, this study responded to the need for high quality qualitative research on online graduate education.

One of the problems addressed in this study was that much of the research about effective teaching at the college and university level has either focused on the

undergraduate level or has not distinguished between the undergraduate and graduate

levels (e.g., Acker, 2003; Onwuegbuzie et al., 2007). However, in research focused on

the graduate level, it becomes apparent that graduate students have different abilities and

expectations. For example, online class discussions at the graduate level may be more

effective when they are led by students as opposed to discussions led by instructors

(McRay et al., 2016; Trespalacios & Rand, 2015). But teaching students how to lead

discussions and providing clear instructions and guidelines requires more preparation

time on the part of the instructor (McRay et al., 2016; Trespalacios & Rand, 2015).

Likewise, the experiences of the graduate-level instructors in this study suggest that

teaching online at the graduate level requires a great deal of time to both prepare courses

and to actively teach courses.

Another problem addressed in this study was that recent research suggests that

some faculty who currently teach online may not be designing effective online courses

(Barbera et al., 2014; Huss, et al., 2015). The experiences of the graduate-level

instructors in this study suggest that designing effective online courses requires a great

deal of time and intentionality. Indeed, opportunities for interaction are the result of

intentional course design choices (Shackelford & Maxwell, 2012; Tallent-Runnels et al.,

2006; Templeton et al., 2015)

Another problem addressed in this study was the lack of high quality qualitative

research on online graduate education. As Tallent-Runnels et al. (2006) noted in their

review of 20 qualitative studies on teaching online courses, "much of this research is

lacking details defined in the historical traditions of qualitative research designs. For

example, few researchers attended to detailed measures of authenticity such as researcher

biases [and] member checking" (p. 95). The rich description of current practices for facilitating interaction in online courses gained from this study provides insight to benefit instructors, program administrators, and ultimately online graduate students.

As enrollment in online graduate programs increases, those programs impact ever-increasing numbers of future educational leaders. To understand the quality of online education, the quality of online instruction must be explored (Shackelford & Maxwell, 2012). Online courses are indeed spaces where misunderstanding can create "distance" (Moore, 1973). Researchers agree that student interactions can overcome this distance, and that online courses can be as effective and as rigorous as face-to-face courses (Bernard et al., 2009; Boling et al., 2012; Garrison, 2016; Shackelford & Maxwell, 2012). Online instructors play an important role in designing and facilitating courses that engage students in interactions for the co-construction of knowledge (Akyol & Garrison, 2009; Conrad & Donaldson, 2004; Dennen et al., 2007; Dennen & Wieland, 2007; Ke, 2010). The online, graduate-level instructors in this study described competing demands for their time and a lack of training as barriers to interaction in their online, graduate-level courses. But ultimately, these instructors invest their time and effort into designing effective courses, actively teaching those courses, and interacting with their students.

REFERENCES

Acker, J. R. (2003). Class acts: Outstanding college teachers and the difference they make. *Criminal Justice Review, 28*(2), 215-231. doi:10.1177/073401680302800202

Akyol, Z., & Garrison, D. R. (2009). Community of inquiry in adult online learning: Collaborative-constructivist approaches. In T. T. Kidd (Ed.), *Adult learning in the digital age: Perspectives on online technologies and outcomes* (p. 52-66). Hershey, PA: IGI Global.

Allen, I. E., & Seaman, J. (2004). *Entering the mainstream: The quality and extent of online education in the United States, 2003 and 2004.* Online Learning Consortium/TheSloan Consortium. Retrieved from https://secure.onlinelearningconsortium.org/publications/survey/entering_the_mainstream2004

Allen, I. E., & Seaman, J. (2010). *Learning on demand: Online education in the United States, 2009.* Retrieved from http://www.sloanc.org/publications/survey/pdf/learningondemand.pdf

Allen, I. E., & Seaman, J. (2011). *Going the distance: Online Education in the United States.* Newburyport, MA: Sloan Consortium.

Allen, I. E., & Seaman, J. (2014). *Grade change: Tracking online education in the United States.* Babson Park, MA: Babson Survey Research Group. Retrieved from https://www.onlinelearningsurvey.com/reports/gradechange.pdf

Allen, I. E., & Seaman, J. (2017). *Digital learning compass: Distance education enrollment report 2017.* Oakland, CA: Babson Survey Research Group, e-

Literate, & WCET (WICHE Cooperative for Educational Technologies).

Retrieved from

https://onlinelearningsurvey.com/reports/digtiallearningcompassenrollment2017.p
df

Anderson, T. (2003a). Getting the mix right again: An updated and theoretical rationale
for interaction. *International Review of Research in Open and Distance Learning,
4*(2), 9-14. doi:10.10173/irrodl.v4i2.149

Anderson, T. (2003b). Modes of interaction in distance education: Recent developments
and research questions. In M. G. Moore (Ed.) *Handbook of Distance Education*
(pp. 129-144). Mahway, NJ: Lawrence Erlbaum.

Anderson, T., & Kuskis, A. (2007). Modes of interaction. In M. G. Moore (Ed.)
Handbook of Distance Education (2nd ed., pp. 295-309). Mahwah, NJ: Erlbaum.

Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001). Assessing teacher
presence in a computer conferencing context. *Journal of Asynchronous Learning
Networks, 5*(2), 1-17.

Appadurai, A. (2009). Higher education's coming leadership crisis. *Chronicle of Higher
Education, 55*(31).

Association for the Study of Higher Education. (2014). Student engagement online
(Higher Education Report). Wiley Online Library: wileyonlinelibrary.com.
doi:10.1002/aehe.20018

Bain, K. (2004). *What the best college teachers do*. Cambridge, MA: Harvard University
Press.

Barbera, E., Ludmila, L., & Gunawardena, C. (2014). Designing online interaction to

    address disciplinary competencies: A cross-country comparison of faculty

    perspectives. *The International Review of Research in Open and Distance*

    Learning, 15(2), 142-169. doi:10.19173/irrodl.v15i2.1418

Benson, R., & Samarawickrema, G. (2009). Addressing the context of e-learning: Using

    transactional distance theory to inform design. *Distance Education, 30*(1), 5-21.

    doi:10.1080/01587910902845972

Bergmann, H. F. (2001). "The silent university": The Society to Encourage Studies at

    Home, 1873-1897. *New England Quarterly, 74*(3), 447-477.

Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, C. A., Tamim, R. M., Surkes, M.

    A., & Bethel, E. C. (2009). A meta-analysis of three types of interaction

    treatments in distance education. *Review of Educational Research, 79*(3), 1243-

    1289. doi:10.3102/0034654309333844

Bigatel, P. M., Ragan, L. C., Kennan, S., May, J., & Redmond, B. F. (2012). The

    identification of competencies for online teaching success. *Journal of*

    Asynchronous Learning Networks, 16(1), 59-77.

Black, L. M. (2013). A history of scholarship. In M.G. Moore (Ed.), *Handbook of*

    Distance Education (3rd ed.). (pp. 3-20). New York, NY: Routledge.

Blinderman, A. (1969). Medieval correspondence education: The response of the

    Gaonate. *History of Education Quarterly, 9*(4), 471-474.

Bloomberg, L. D., & Volpe, M. (2008). *Completing your qualitative dissertation: A*

    roadmap from beginning to end. Thousand Oaks, CA: Sage.

Boling, E. C., Hough, M., Krinsky, H., Saleem, H., & Stevens, M. (2012). Cutting the

distance in distance education: Perspectives on what promotes positive, online

learning experiences. *Internet and Higher Education, 15,* 118-126.

Boote, D. N., & Beile, P. (2005). Scholars before researchers: On the centrality of the

dissertation literature in research preparation. *Educational Researcher, 34*(6), 3-

15. doi:10.3102/0013189x034006003

Bornstein, R. (2010). Succession planning: The time has come. *Trusteeship, 18*(5), 28-33.

Braun, T. (2008). Making a choice: The perceptions and attitudes of online graduate

students. *Journal of Technology and Teacher Education, 16*(1), 63-92.

Carson, B. H. (1996). Thirty years of stories: The professor's place in student memories.

Change, 28(6), 10-17.

Carson, B. H. (1999). Bad news in the service of good teaching: Students remember

ineffective professors. *Journal on Excellence in College Teaching, 10*(1), 91-105.

Cavanaugh, J. (2005). Teaching Online – A Time Comparison. *Online Journal of

Distance Learning Administration, VIII*(1). Retrieved from

https://www.westga.edu/~distance/ojdla/spring81/cavanaugh81.htm

Chickering, A. W. & Gamson, Z. F. (1987). Seven principles for good practice in

undergraduate education. *AAHE Bulletin, March,* 3-7.

Combs, J. P., Bustamante, R. M., & Onwuegbuzie, A. J. (2010). An interactive model for

facilitating development of literature reviews. *International Journal of Multiple

Research Approaches, 4*(2), 159-182. doi:10.5172/mra.2010.4.2.159

Conrad, R-M. & Donaldson, J. A. (2004). *Engaging the online learner: Activities and

resources for creative instruction.* San Francisco, CA: Jossey-Bass.

Council of Graduate Schools. (2017). Healthy growth in master's enrollment continues at U.S. Graduate Schools. *Author.* Retrieved from http://cgsnet.org/healthy-growth-master's-enrollment-continues-us-graduate-schools

Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.) Thousand Oaks, CA: Sage.

Dennen, V. P., Darabi, A. A., & Smith, L. J. (2007). Instructor-learner interaction in online courses: The relative perceived importance of particular instructor actions on performance and satisfaction. *Distance Education, 28*(1), 65-79. doi:10.1080/01587910701305319

Dennen, V. P., & Wieland, K. (2007). From interaction to intersubjectivity: Facilitating online group discourse processes. *Distance Education, 28*(3), 281-297.

Dewey, J. (1938). *Experience and education*. New York, NY: Collier Books.

Dewey, J. & Bentley, A. F. (1949). *Knowing and the known*. Boston, MA: Beacon Press.

Diehl, W. C. (2013). Charles A. Wedemeyer: Visionary pioneer of distance education. In M.G. Moore (Ed.), *Handbook of Distance Education* (3rd ed.). (pp. 38-48). New York, NY: Routledge.

Domine, V. (2006). Online pedagogy: beyond digital "chalk and talk". *Academic Exchange Quarterly 10*(1), 48+.

Duncan, S. (2005). The U.S. Army's impact on the history of distance education. *The Quarterly Review of Distance Education, 6*(4), 397-404.

Easton, S. S. (2003). Clarifying the instructor's role in online distance learning.

    Communication Education, 52(2), 87-105.

Eom, S. B., Wen, H. J., & Ashill, N. (2006). The determinants of students' perceived

    learning outcomes and satisfaction in university online education: An empirical

    investigation. *Decision Sciences Journal of Innovative Education, 4*(2), 215-235.

Falloon, G. (2011). Making the connection: Moore's theory of transactional distance and

    its relevance to the use of a virtual classroom in postgraduate online teacher

    education. *Journal of Research on Technology in Education, 43*(3), 187-209.

    doi:10.1080/15391523.2011.10782569

Farmer, H. M., & Ramsdale, J. (2016). Teaching competencies for the online

    environment. *Canadian Journal of Learning and Technology, 42*(3).

Fedynich, L., Bradley, K. S., & Bradley, J. (2015). Graduate students' perceptions of

    online learning. *Research in Higher Education Journal 27*. Retrieved from

    http://www.aabri.com/manuscripts/142108.pdf

Forte, G. J., Schwandt, D. R., Swayze, S., Butler, J., & Ashcraft, M. (2016). Distance

    education in the U.S.: A paradox. *Turkish Online Journal of Distance Education-*

    TOJDE, 17(3), 16-30.

Garrison, D. R. (2016). *E-Learning in the 21st century: A community of inquiry*

    framework for research and practice (3rd ed.). Taylor & Francis Group.

    Retrieved from https://ebookcentral.proquest.com

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. doi:10.1016/s1096-7516(00)00016-6

Gilbert, P. K., & Dabbagh, N. (2005). How to structure online discussions for meaningful discourse: A case study. *British Journal of Educational Technology, 36*(1). 5-18. doi:10.1111/j.1467-8535.2005.00434.x

Goetz, J. P., & LeCompte, M. D. (1984). *Ethnography and qualitative design in educational research.* Orlando, FL: Academic Press.

Herron, R. I., Holsombach-Ebner, C., Shomate, A. K., & Szathmary, K. J. (2012). Large scale quality engineering in distance learning programs. *Journal of Asynchronous Learning Networks, 16*(5), 19-35. doi:10.24059/olj.v16i5.289

Hew, K. F., & Cheung, W. S. (2011). Higher-level knowledge construction in asynchronous online discussions: An analysis of group size, duration of online discussion, and student facilitation techniques. *Instructional Science 39*, 303-319. doi:10.1007/s11251-010-9129-2

Holmberg, B. (1986). *Growth and structure of distance education*. Beckenham, UK: Croom Helm.

Holzweiss, P. C., Joyner, S. A., Fuller, M. B., Henderson, S., & Young, R. (2014). Online graduate students' perceptions of best learning experiences. *Distance Education 35*(3), 311-323. doi:10.1080/01587919.2015.955262

Huang, H-M. (2002). Toward constructivism for adult learners in online learning environments. *British Journal of Educational Technology 33*(1), 27-37. doi:10.1111/1467-8535.00236

Huang, X., Chandra, A., DePaolo, C. A., & Simmons, L. L. (2016). Understanding transactional distance in web-based learning environments: An empirical

study. *British Journal of Educational Technology, 47*(4), 734-747.

doi:10.1111/bjet.12269

Huss, J. A., Sela, O., & Eastep, S. (2015). A case study of online instructors and their

quest for greater interactivity in their courses: Overcoming the distance in

distance education. *Australian Journal of Teacher Education, 40*(4), 72-86.

doi:10.14221/ajte.2015v40n4.5

Husserl, E. (1931). *Ideas: General introduction to pure phenomenology* (D. Carr, Trans.)

Evanston, IL: Northwestern University Press.

Issroff, K., & Scanlon, E. (2002). Using technology in higher education: An activity

theory perspective. *Journal of Computer Assisted Learning, 18,* 77-83.

Johnson, R. B., & Christensen, L. (2014). *Educational research: Quantitative,*

qualitative, and mixed approaches (4th ed.). Los Angeles, CA: Sage.

Jowallah, R. (2014). An investigation into the management of online teaching and

learning spaces: A case study involving graduate research students. *International*

Review of Research in Open & Distance Learning 15(4), 186-198.

doi:10.19173/irrodl.v15i4.1585

Ke, F. (2010). Examining online teaching, cognitive, and social presence for adult

students, *Computers & Education, 55*(2), 808-820.

doi:10.1016/j.compedu.2010.03.013

Kearsley, G., & Lynch, W. (1996). Structural issues in distance education. *Journal of*

Education for Business, 71(4), 191-195.

Larreamendy-Joerns, J., & Leinhardt, G. (2006). Going the distance with online

education. *Review of Educational Research, 76*(4), 567-605.

Lease, A. J., & Brown, T. A. (2009). Distance learning: Past, present and future. *International Journal of Instructional Media, 36*(4), 415-426.

Lewis, T. (2010). Once a leader, U.S. lags in college degrees. *New York Times,* A11. Retrieved from http://www.nytimes.com/2010/07/23/education/23college.html?_r=1

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry.* Beverly Hills, CA: Sage.

Lou, Y., Bernard, R. M., & Abrami, P. C. (2006). Media and pedagogy in undergraduate distance education: A theory-based meta-analysis of empirical literature. *Educational Technology Research & Development, 5*(2), 141-176. doi:10.1007/s11423-006-8252-x

Luna, G. (2012). Planning for an American higher education leadership crisis: The succession issue for administrators. *International Leadership Journal, 4*(1), 56-79.

Mallory, H. F. (1916). Correspondence-study teaching in the University of Chicago. In *Proceedings of the Annual Conference of the National University Extension Association* (pp. 41-49). Boston, MA: Wright & Potter.

Marshall, M. M. (1996). Sampling for qualitative research. *Family Practice, 13*, 522-525. doi:10.1093/fampra/13.6.522

Martin, F., Budhrani, K., Kumar, S., & Ritzhaupt, A. (2019). Award-winning faculty online teaching practices: Roles and competencies. *Online Learning Journal 23*(1), 184-205. doi:10.24059/olj.v23i1.1329

Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Educational Review, 62*, 279-299.

McIsaac, M. S., Blocher, J. M., Mahes, V., & Brasidas, C. (1999). Student and teacher perception of interaction in online computer-mediated communication. *Educational Media International, 36*, 121-131. doi:10.1080/0952398990360206

McRay, J., Goertzen, B., & Klaus, K. (2016). Student-moderated discussion boards in a graduate online course. *Journal of Leadership Education*, *15*(1), 150-160. doi:1012806/V15/I1/A14

Merriam, S. B. (1988). *Case study research in education: A qualitative approach.* San Francisco, CA: Jossey Bass.

Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). *Learning in adulthood: A comprehensive guide* (3rd ed.). San Francisco, CA: Jossey-Bass.

Mielke, D. (1999). Effective teaching in distance education. *ERIC Digest*. Washington, DC: ERIC Clearinghouse on Teaching and Teaching Education. (ERIC Identifier ED436528).

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: A sourcebook of new methods* (2nd ed.). Thousand Oaks, CA: Sage.

Moore, J. A. (2009). A Synthesis of Sloan-C Effective Practices. *Journal of Asynchronous Learning Networks, 13*(4), 73-94.

Moore, M. G. (1973). Toward a theory of independent learning and teaching. *Journal of Higher Education, 44*, 661-679.

Moore, M. G. (1989). Three types of interaction. *American Journal of Distance Education, 3*(2), 1-6.

Moore, M. G. (1993). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical principles of distance education* (Vol. 1, pp. 22-38). New York, NY: Routledge.

Moore, M. G. (2013). The theory of transactional distance. In M.G. Moore (Ed.),

    Handbook of Distance Education (3rd ed.). (pp. 66-85). New York, NY:

    Routledge.

Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

Naidu, S. (2013). Instructional design models for optimal learning. In M.G. Moore (Ed.),

    Handbook of Distance Education (3rd ed.). (pp. 268-281). New York, NY:

    Routledge.

National Student Clearinghouse Research Center. (2017). *Higher education enrollment*

    by the numbers. Retrieved from https://nscnews.org/higher-education-enrollment-

    by-the-numbers/

Okahana, H. & Zhou, E. (2017). Data sources: Four out of five: A closer look into

    master's degrees. *Council of Graduate Schools.* Retrieved from

    http://cgsnet.org/data-sources-four-out-five-closer-look-master's-degrees

Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A typology of mixed methods sampling

    designs in social science research. *The Qualitative Report, 12*, 281-316.

Onwuegbuzie, A. J., & Leech, N. L. (2005). The role of sampling in qualitative research.

    Academic Exchange Quarterly, 9, 280-284.

Onwuegbuzie, A. J., & Leech, N. L. (2007). Validity and qualitative research: An

    oxymoron? *Quality and Quantity, 41,* 233-249. doi:10.1007/s111135-006-9000-3

Onwuegbuzie, A. J., Witcher, A. E., Collins, K. M. T., Filer, J. D., Wiedmaier, C. D., &

    Moore, C. W. (2007). Students' perceptions of characteristics of effective college

    teachers: A validity study of a teaching evaluation form using a mixed-methods

    analysis. *American Educational Research Journal*, *44*(1), 113-160.

Parry, M. (2010, January 26). *Wired campus: Colleges see 17 percent increase in online enrollment* [Web log post]. Retrieved from http://chronicle.com/blogs/wiredcampus/colleges-see-17-percent-increase-in-online-enrollment/20820

Patton, M. Q. (1990). *Qualitative evaluation and research methods.* Newbury Park, CA: Sage.

Polkinghorne, D. E. (1989). Phenomenological research methods. In R. S. Valle & S. Halling (Eds.), *Existential-phenomenological perspectives in psychology* (pp. 41-60). New York, NY: Plenum Press.

Romney, A. K., Weller, S. C., & Batchelder, W. H. (1986). Culture as consensus: A theory of culture and informant accuracy. *American Anthropologist, 88*, 313-338. doi:10.1108/09654280910984816

Rovai, A. P. (2001). Building classroom community at a distance: A case study. *Educational Technology Research and Development, 49*(4), 33-48. doi:10.1007/bf02504946

Saba, F. (2013). Building the future: A theoretical perspective. In M.G. Moore (Ed.), *Handbook of Distance Education* (3rd ed.). (pp. 49-65). New York, NY: Routledge.

Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Thousand Oaks, CA: Sage.

Schilling, K. (2009). The impact of multimedia course enhancements on student learning outcomes. *Journal of Education for Library and Information Science, 50*(4), 214-225.

Schullo, S., Hilbelink, A., Venable, M., & Barron, A. (2007). Selecting a virtual

    classroom system: Elluminate Live vs Macromedia Breeze (Adobe Connect

    Professional). *Journal of Online Learning and Teaching, 3*(4), 331-345.

Seidman, I. (2013). *Interviewing as qualitative research: A guide for researchers in

    education & the social sciences* (4th ed.). New York, NY: Teachers College

    Press.

Shackelford, J. L. & Maxwell, M. (2012). Sense of community in graduate online

    education: Contribution of learner to learner interaction. *The International Review

    of Research in Open and Distance Learning, 13*(4), 228-249.

    doi:10.19173/irrodl.v13i4.1339

Shattuck, K. (2013). Faculty participation in online distance education. In M.G. Moore

    (Ed.), *Handbook of Distance Education* (3rd ed.). (pp. 390-402). New York:

    Routledge.

Sheer, V. C., & Fung, T. K. (2007). Can email communication enhance professor-student

    relationship and student evaluation of professor?: Some empirical evidence.

    Journal of Educational Computing Research, 37(3), 289-306.

    doi:10.2190/ec.37.3.d

Simonson, M., Smaldina, S., Albright, M., & Zvacek, S. (2009). *Teaching and learning

    at a distance: Foundations of distance education* (4th ed.). Boston, MA: Allyn &

    Bacon.

Snyder, T.D., & Dillow, S. A. (2011). *Digest of educational statistics 2010* (NCES 2011-

    015). Washington, DC: National Center for Education Statistics, Institute of

    Education Sciences, U.S. Department of Education.

Spradley, J. P. (1979). *The ethnographic interview.* Belmont, CA: Wadsworth.

Stepich, D. A., & Ertmer, P. A. (2003). Building community as a critical element of online course design. *Educational Technology, 43*(5), 33-43.

Stevenson, K. N. (2007). *Motivating and inhibiting factors affecting faculty participation in online distance education* (Unpublished doctoral dissertation). East Carolina University, NC.

Tallent-Runnels, M. K., Thomas, J. A., Lan, W. Y., Cooper, S., Ahern, T. C., Shaw, S. M., & Liu, X. (2006). Teaching courses online: A review of the research. *Review of Educational Research, 76*(1), 93-135.

Tastle, W. J., White, B. A., & Shackleton, P. (2005). E-Learning in higher education: The challenge, effort, and return on investment. *International Journal of E-Learning, 4*(2), 241-251.

Templeton, N. R., Ballenger, J. N., & Thompson, J. R. (2015). Examining the elements of online learning quality in a fully online doctoral program. *Online Journal of Distance Learning Administration, Volume XVIII*(4).

Thurmond, V. A. (2003). *Examination of interaction variables as predictors of students' satisfaction and willingness to enroll in future web-based courses while controlling for student characteristics*. (Order No. 3111497). Available from ProQuest Dissertations & Theses Global (305317558).

Tomei, L. A. (2006). The impact of online teaching on faculty load: Computing the ideal class size for online courses. *Journal of Technology and Teacher Education, 14*(3), 531-541.

Trespalacios, J & Rand, J. (2015). Using asynchronous activities to promote sense of community and learning in an online course. *International Journal of Online Pedagogy and Course Design, 5*(4), 1-13. doi:10.4018/ijopcd.2015100101

Ulmer, L. W., Watson, L. W., & Derby, D. (2007). Perceptions of higher education faculty members on the value of distance education. *The Quarterly Review of Distance Education, 8*(1), 59-70.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wagner, E. D. (1994). In support of a functional definition of interaction. *The American Journal of Distance Education, 8*(2), 6-29. doi:10.1080/08923649409526852

Wall, C., Glenn, S., Mitchinson, S., & Poole, H. (2004). Using a reflective diary to develop bracketing skills during a phenomenological investigation. *Nurse Researcher, 11*(4), 20-29.

Watkins, B. L. (1991). A quite radical idea: The invention and elaboration of collegiate correspondence study. In B. L. Watkins & S. J. Wright (Eds.), *The foundations of American distance education: A century of collegiate correspondence study* (pp. 1-37). Dubuque, IO: Kendall/Hunt Publishing.

Wedemeyer, C. (1971). Independent study. In L.C. Deighton (Ed.), *The Encyclopedia of Education* (Vol. 4, pp. 548-557). New York, NY: Free Press.

Wegerif, R. (1998). The social dimension of asynchronous learning networks. *Journal of Asynchronous Learning Networks, 2*(1), 34-49.

Williams, E. N., & Morrow, S. L. (2009). Achieving trustworthiness in qualitative

 research: A pan-paradigmatic perspective. *Psychotherapy Research*, 19, 576-582.

 doi:10.1080/10503300802702113

Wyatt, G. (2005). Satisfaction, academic rigor and interaction: Perceptions of online

 instruction. *Education, 125*(3), 460-469.

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks,

 CA: Sage.

APPENDIX A

IRB Approval Notice

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 DATE:
TO:
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SUBMISSION TYPE:
ACTION:
APPROVAL DATE: June 16, 2018 Weena Mckenzie [Faculty Sponsor: Dr. Julie Combs] Sam Houston State University (SHSU) IRB *Experiences of Graduate-level Faculty Regarding Interaction in Online Courses [T/D]* 2018-05-40451 I_N_I_T_I_A_L_ R_E_V_I_E_W_— R_E_S_P_O_N_S_E_ T_O_ _M_O_D_I_F_I_C_A_T_I_O_N_S_ _APPROVED June 14, 2018

EXPIRATION DATE:
REVIEW TYPE:
REVIEW CATEGORIES: **June 14, 2019** EXPEDITED 7

APPENDIX B

Interview Protocol

Participant Pseudonym:

Date:Time:

1. How would you describe *interaction* in your online graduate-level class?

2. In what ways do students interact with other students in your online graduate-level class?

    (Possible probes: What specific course design or pedagogical decisions related to student-student interaction do you make in your online class?

    Which course elements facilitate student-student interaction in your online class?

    What are the barriers to student-student interaction in your online class?)

3. In what ways do students interact with the content in your online graduate-level class?

    (Possible probes: What specific course design or pedagogical decisions related to student-content interaction do you make in your online class?

    Which course elements facilitate student-content interaction in your online class?

    What are the barriers to student-content interaction in your online class?)

4. In what ways do students interact with you in your online graduate-level class?

    (Possible probes: What specific course design or pedagogical decisions related to student-instructor interaction do you make in your online class?

    Which course elements facilitate student-instructor interaction in your online class?

What are the barriers to student-instructor interaction in your online class?)

5. Describe a challenge you've had related to interaction in your online graduate-level class.

6. Describe a success you've had related to interaction in your online graduate-level class.

7. What advice would you give to a new professor related to facilitating interaction in online graduate-level classes?

8. When did you start as a graduate-level instructor?

9. When did you start as an online instructor?

10. How did you learn to teach online? (Did you receive training or professional development to teach online?)

11. Do you prefer to teach face-to-face or online? Why?

12. How would you characterize your comfort level with technology?

13. Are you tenured/what is your rank?

VITA

Weena McKenzie

Education

Doctor of Education in Educational Leadership, Sam Houston State University, Huntsville, TX, December 2019

Master of Arts in English – Rhetoric & Comp., University of Colorado, Denver, August 2002

Bachelor of Science in Liberal Studies, Excelsior University, New York, 1990

Experience

2008-current Embry-Riddle Aeronautical University Worldwide, Online English Instructor

2013-2018   Lone Star College, Adjunct English Instructor

2017-2017   Sam Houston State University, Educational Leadership Graduate Co-instructor

2015-2016   Lone Star College System, University Park Campus, Evening and Weekend Manager

2010-2013   Embry-Riddle Aeronautical University, Daytona Beach Campus, Full-time English Instructor

2005-2008   Hillsborough Community College, Full-time English Instructor

2004-2005   Southeastern University, Associate Professor of English

2003-2004   Hillsborough Community College, Adjunct English Instructor

1999-2002   Falcon High School, High School English Teacher

Publications

McKenzie, W., & Slate, J. R. (2017). Differences in graduation and persistence rates at Texas community colleges as a function of developmental education enrollment. *Global Journal of Human Research-Social Science: Sociology 17*(4).

Stine, L. J., & McKenzie, W. (2008) *Classroom resources for instructors using Foundations First* (3rd ed.). Boston, MA: Bedford/St. Martin.

Presentations

McKenzie, W. & Combs, J. P. (2019, February). *Qualitative Data Analysis: Lessons Learned*. Workshop presented at the annual conference of the Southwest Educational Research Association, San Antonio, TX.

McKenzie, W., & Bustamante, R. (2017, November). *Key attributes of a campus TRIO program in supporting student success.* Roundtable presented at the annual conference of the Association for the Study of Higher Education, Houston, TX.

Mahler, K., Smith, C. K., Lue King, K. A., Catalla, P. C., McKenzie, W. & Combs, J. P. (2017, February). *Doctoral students who persist in the dissertation phase: Barriers and facilitating factors to completion*. Paper presented at the annual conference of the Southwest Educational Research Association, San Antonio, TX.

McKenzie, W. (2016, November). *Do developmental education programs at Texas community colleges serve the public good?* Roundtable presented at the annual conference of the Association for the Study of Higher Education, Columbus, OH.

McKenzie, W. (2016, February). *Definitions of success in developmental education research: Research in progress*. Paper presented at the annual conference of the Southwest Educational Research Association, New Orleans, LA.

Skidmore, S., Combs, J. P., McKenzie, W., Coleman, S., & Edmonson, S. (2015, November). *Research curricula and the preparation of future educational leaders: Does the doctoral degree type matter?* Paper presented at the annual conference of the University Council for Educational Administration, San Diego, CA.

McKenzie, W. (2007, August). *Developmental vs. ELL students*. Professional development session created and presented for Faculty In-Service Day at Hillsborough Community College, Tampa, FL.

Program Evaluation

McKenzie, W., & Bustamante, R. M. (2017, May). *TRIO program evaluation report*. Program evaluation report prepared for TRIO program administrators at Sam Houston State University, Huntsville, TX.

Award

New Leadership Development Award, National Council of Teachers of English (NCTE), 2000

Memberships

Textbook & Academic Authors Association (TAA), 2016-present
Southwest Educational Research Association (SERA), 2015-present
Association for the Study of Higher Education (ASHE), 2016-2018
National Association of Developmental Educators (NADE), 2005-2015

National Council of Teachers of English (NCTE), 1998-2009
Florida Developmental Educators Association, 2005-2008
Association for Supervision and Curriculum Development, 1999-2002