THE CORRELATION BETWEEN TYPES OF INSTRUCTOR-STUDENT COMMUNICATION IN ONLINE GRADUATE COURSES AND STUDENT SATISFACTION LEVELS IN THE PRIVATE UNIVERSITY SETTING

A Dissertation
Presented to
The Faculty of the Education Department
Carson-Newman University

In Partial Fulfillment
Of the
Requirements for the Degree
Doctor of Education
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March 2016
Dissertation Approval

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Dissertation Title: The Correlation Between Types of Instructor-Student Communication and Student Satisfaction

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Approved by the Dissertation Committee Date: March 30, 2016
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Abstract

Students in today’s technology-driven world seek opportunities to further their education in ways that allow flexibility. Online courses allow students to take classes at their own pace and from anywhere in the world. Online learning comes with challenges, such as feelings of isolation, frustration, apathy, and attrition. The online instructor is faced with the challenge to improve student satisfaction in online courses by providing many opportunities for interaction. Instructor-student interaction enables the student and instructor to build a relationship, which fosters student success and higher levels of self-efficacy. According to Bandura’s Theory of Self-Efficacy, students experiencing higher levels of self-efficacy visualize positive outcomes, thus increasing the probability of academic success and degree completion.

Instructor-student communications come in many forms including feedback, emails, personal communications, discussion boards, chats, and teleconferencing. The purpose of this study was to examine the correlation between the modes of instructor-student communication in online graduate courses and student satisfaction in the private university setting. This study utilized a quantitative research design involving 111 students in online graduate programs at a small, private, denominationally affiliated, liberal arts university in the Southeast. Students completed the Online Communication Student Satisfaction Survey, consisting of Likert-type items, open-ended questions, and demographic information. After student surveys were analyzed, instructors were surveyed in order to determine instructor satisfaction levels with instructor-student communication in online graduate programs. Statistical analysis indicated that there was a correlation between modes of instructor-student communication and student satisfaction.
in online graduate courses. The findings also indicated that students were satisfied with most modes of instructor-student communication in online graduate courses; however, students reported satisfaction levels between satisfied and neutral for online chats, face-to-face communication, audio recordings, and telephone conversations. Additionally, there were several modes of communication that students had not experienced at all during their online graduate program. Instructors who participated in the survey indicated the highest level of satisfaction with email communication and the lowest level with online chats. This study provided data to indicate areas for improvement and professional development regarding modes of instructor-student communication in online graduate courses in the private university setting.

Keywords: student satisfaction, instructor-student communication, online learning, instructor-student communication
Acknowledgements

First, I would like to thank Dr. Julia Price. The words “thank you” are inadequate. When I began my career as a teacher, you were among the first to interview me, providing me with the most challenging interview of my lifetime thus far. While teaching under your guidance, you encouraged me to be more and do more. You were instrumental in my decision to return to graduate school to pursue my doctorate, answered many questions as my advisor and instructor, and provided me with the needed encouragement to complete my dissertation. You have shaped a large part of who I am as an educator.

To the other members of my committee, Dr. P. Mark Taylor and Dr. Cindy Lang, thank you for your support, advice, and encouragement. You have been instrumental to this process, particularly when I was emailing questions every day during spring break.

Thank you to Rachael Ripley, Dr. Kim Hawkins, Dr. Sharon Teets, and Dr. Julia Price for allowing me to serve as your graduate assistant for the past two years. I have gained many valuable experiences and learned a lot from all of you.

To my “life advisor,” Diana Gresham – you have been my sounding board, proofreader, wise advisor, traveling companion, and dear friend. I am forever grateful to you.

Thank you to my sister, Margaret, for encouraging me and supporting me through every step of the way. You are a wonderful sister and friend.

Last but not least, a huge thank you to Ross and Steve. You have both shown incredible patience during this process. Steve, I am eternally grateful to you for supporting me during graduate school and for proofreading every piece of writing during
the last three years. Thank you for putting up with my endless chatter about education and the dissertation. Thank you for making sense of statistics for me too! You are an amazing friend, counselor, and husband. Your insights make my world richer and deeper. Ross, thank you for helping me to organize my notes and use the tricks and tools of a champion debater as I wrote. My favorite part of the dissertation process was talking through it with you. I can’t tell you how proud it makes me to be able to have those academic conversations with you.
Dedication

This dissertation is dedicated to the memory of my mother, Julia Hogan, who was affectionately known as “Mrs. Hogan” to her many students. The love and respect that her former students and colleagues had for her inspired me to pursue a career in education. I have many fond memories of sitting at the kitchen table with her as a young girl playing school and averaging grades on her big calculator. When I went back to school to follow my calling as a teacher, she kept our son, gave me daily advice, cooked meals for us, and proofread many papers. Her love of reading and learning along with her strong work ethic are a large part of her legacy that continues in both my son and myself.
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CHAPTER ONE

Introduction and Background

Currently, student populations are changing rapidly. First-generation college students are a rapidly growing population and tuition costs continue to rise (Coles, 2011). This, coupled with demands of working, schedules, and family life leaves many students unable to attend traditional college classes. Colleges and universities are faced with the challenge of retaining students and ensuring that students are satisfied with their academic experience (Grossman & Rhodes, 2002). To meet these challenges, online courses are being offered more widely than ever before (Baker & Griffin, 2010). Online programs provide flexibility for students while being just as effective as traditional courses. Consequently, the number of students enrolled in online courses continues to rise (Allen & Seaman, 2011).

Offering opportunities that provide flexibility is not new to the world of academia. In fact, online courses evolved from distance education. The first distance education courses were correspondence courses. Correspondence courses involved students completing independent assignments and mailing them to instructors. The Chautauqua Literary and Scientific Circle was one of the first organizations to offer a four-year correspondence degree program (Moore & Kearsley, 2011). As television and radio emerged into American culture, radio and television courses began. Many advances in distance education occurred during the period of 1960-1980. This began with the Federal Educational Television Act, which provided government funding for the building of
television stations that provide programming for educational purposes. By 1985, stations were offering over 200 television courses (Wright, 1991). As telephone equipment became more reliable and available, instructors and students were able to communicate with one another more readily. With the emergence of videocassettes and digital video discs (DVDs) in the 1980s and 1990s, access to educational materials became even more commonplace. Online learning emerged onto the forefront in the late 1990s and early 2000s, revolutionizing the field of distance education. This new type of learning had many benefits, but also presented many challenges. Instructors were suddenly faced with outdated policies, changing course formats, and designing effective instruction (Moore & Thompson, 1997).

Administrators and instructors of online programs must be aware that attrition rates are much higher in online programs than in traditional programs (Patterson & McFadden, 2009). The demands of course loads, coupled with the demands of family and career contribute to this high rate (Gannon-Cook & Sutton, 2012). Another contributing factor can be ineffective relationships with faculty members or a sense of isolation. Often, students begin a course of study with preconceived expectations, and then eventually leave the program because these expectations are unrealized (Lowe & Cook, 2003). Opportunities for interaction within the online course are crucial to circumventing feelings of isolation and developing a sense of community in the course. Interactivity is key to academic success, degree completion, and attaining career goals (Kumar, Johnson, & Hardemon, 2013).

**Student Satisfaction**
Student satisfaction, as defined by Sweeney & Ingram (2001), is “the perception of enjoyment of accomplishment in the learning environment” (p. 57). Student satisfaction can be very difficult to measure. Previously, satisfaction was typically measured by the number of posts or emails that have been posted in a course (Kranzow, 2013). Several factors have been identified as indicators of student satisfaction including instructor knowledge, instructor facilitation of content, instructor feedback, and instructor interaction (Eom, Wen, & Ashill, 2006). When studying 553 students enrolled in online courses, Cole, Shelley, & Swartz (2014) found that 54% of students were dissatisfied with the overall program. The main reason for this was lack of interaction, with 33.2% of students reporting this to be the case.

In online academic programs, the instructor must work to ensure that students are provided with learning opportunities and that they are satisfied with the course. This includes quality feedback in a timely manner (Arbaugh & Harnick, 2006; Murphy, 2007). In this age of instant communication, students have the expectation that feedback will arrive instantly, often forgetting that instructors are frequently under pressure to teach courses, publish, advise students, serve on committees, and fulfill personal commitments.

One of the many roles an instructor plays in an online program is the role of mentor. This mentoring relationship develops over a student’s academic career and involves a series of meaningful interactions (Baker & Griffin, 2010; Kumar, Johnson, & Hardemon, 2013). This is particularly beneficial to students who are at risk of leaving the program (Vivian, 2005). When a mentoring relationship develops, the mentor provides acceptance, support, coaching, and advocacy (Kram, 1985). The mentoring relationship has also transformed in online programs. Rather than traveling to campus to
have a weekly meeting with a mentor, students can now send an email. This allows a less formal and more spontaneous relationship to occur (Coles, 2011).

Communication in online programs is crucial because students may never visit the physical campus, or meet the instructor or other students. Online communication can be divided into three categories: learner-content, learner-learner, and learner-instructor (Moore, 1989). All three types of communication are important in course design.

For the purposes of this study, specific emphasis is placed on communications that flow from the instructor to the student. According to Lorenzetti (2003), students in online programs typically base their opinion of the academic program and the college itself on interactions with the instructor. Most communication occurs in written form. Some types of communication, such as announcements on course homepages, address all students in the course (Moore, 1997). Other types, including feedback, replies to postings, emails, and discussions about personal concerns, are between the instructor and the individual student (Veseley, Bloom & Sherlock, 2007). Face-to-face meetings, telephone conversations, video conferencing, and online chats also elicit favorable student perceptions (Joyner, Fuller, Holzweiss, Henderson, & Young, 2014). Students value effective communications with instructors and often base their opinion of instructor effectiveness on them (Young, 2006).

Instructor-student communication in online programs presents unique challenges. When communicating in writing, non-verbal cues are not present, so a message can easily be misinterpreted (Rhodes, 2004). Sarcasm can also be interpreted negatively. Long lapses in communication communicate a negative message to the student and can contribute to feelings of isolation, apathy, and ultimately attrition (Saito & Sipe, 2003).
In short, communication between instructors and students is a key ingredient to student success.

**Theoretical and Conceptual Framework**

For a college student, interaction is key to building a sense of community and increasing student satisfaction in online education programs. In online higher education, effective two-way communication between an instructor and a student is crucial. In essence, the relationship has a great deal to do with how a student feels about the educational experience. The theoretical framework for this study is the Self-Efficacy Theory as proposed by Albert Bandura. The Self-Efficacy Theory refers to a person’s belief that he or she can reach performance goals by exhibiting specific behaviors (Bandura, 1977). In order to work toward self-efficacy, a student sets goals based on self-appraisals of performance and ability. Students who have high levels of self-efficacy visualize positive outcomes and set high goals for themselves. Those who have lower levels of self-efficacy tend to construct worst-case scenarios. The student continually battles self-doubt and visualizes scenarios containing obstacles to achievement. This type of attitude makes academic success difficult to achieve. In an online class setting, the student is often given tasks, readings, or assignments that must be completed independently. The successful online student sets goals and works toward attaining these goals. It is up to the student to determine how the task will be completed. Lower levels of self-efficacy contribute to student feelings of frustration and isolation, thereby reducing the overall level of satisfaction with the academic experience. This could potentially cause a student to perform poorly in class or leave the program altogether.
Therefore, effective communication between instructors and students play a key role in helping students to achieve higher levels of self-efficacy.

The conceptual framework for this study is Maslow’s Hierarchy of Needs. According to Maslow (1943), a person is continually working toward self-actualization as his or her lower-level needs are met. The need for love and belonging is second only to the need for safety and physiological needs. The instructor can fulfill the need of love and belonging with honest communication and helping the student with realistic goal setting (Baker & Griffin, 2010). In the beginning of the college experience, the student must adjust to many stimuli (Pascarella & Terenzini, 2005; Leidenfrost, Strassnig, Shutz, Carbon, & Shabmann, 2014). Students are often not knowledgeable enough about the inner workings of the program to even know what questions to ask. This is often because they are unfamiliar with the vernacular, the program, and/or the social community of the school in which they are enrolling. These questions typically multiply as the student begins courses. In the meantime, the instructor is often working with multiple students in addition to many other duties (Vanhorn, Pearson, & Child, 2008). This means that there is very little time to offer the student. In a traditional setting, students would be required to attend a regularly scheduled meeting with the instructor in order to ask questions or address concerns (Sipe, 1993). As an alternative, the student could call the faculty member and await a return phone call. Now that electronic communication is the norm, this is no longer the case. The student can simply send an email or text message and wait on an answer (Rhodes, 2004). This type of communication, when handled in a timely manner, provides a foundation for student satisfaction.
As the faculty-student relationship develops, the student becomes a stakeholder in the college community, making the student more likely to finish the program and succeed academically (Daloz, 1999). In turn, the student achieves a higher level of self-efficacy. The instructor can help to alleviate anxieties and ensure that the student completes the program. This perpetuates the student-university relationship beyond the enrollment period. This, in turn, helps the student evolve into a valued alumnus who is invested in the success of the college. It also helps the college and the instructor to establish a reputation in the community as a place where students feel valued.

As technology has evolved and more online programs have been established, communication continues to change. Now, email gives students a chance to ask questions and instructors to provide answers at various times during the day (Rhodes, 2004). This results in a relationship that is more informal and spontaneous. Students become more comfortable with the instructor and vice-versa. There is also the added benefit that neither the instructor nor the student must travel to a campus office. Rather, these informal conversations can be conducted using email or video conferencing programs such as Skype. The time saving factor means that the instructor has more time to spend communicating with and instructing students without the constraints of time and distance.

As college courses continue to evolve from traditional brick-and-mortar courses to online courses, effective communication must remain a key element in the program. For all college students, both undergraduate and graduate, this is important to feelings of satisfaction, academic success, and successful entrance into the workforce (Lowe & Cook, 2003; Kumar, Johnson, & Hardemon, 2013). The underlying premise of online
education is that the programs exist because they are in the best interest of the students (Wunsch, 1994). Instructor-student communication in higher education, particularly in online courses, is one of the most effective ways to ensure student self-efficacy and academic success (Lorenzetti, 2003).

**Significance of the Study**

There have been several studies regarding communication and sense of community in online programs. Many studies delve into specific types of communication such as learner-learner, learner-content, and learner-teacher (Moore, 1999) in online programs. Several studies address the importance of feedback instructors provide students (Hara and King, 2001; Pickering & Pollock, 2001; Arbaugh & Hornick, 2006; Marzano, Mancuso-Murphy, 2007;). Research is also available about the types of communications that make students feel connected (Joyner, Fuller, Holzweiss, Henderson, & Young, 2004). However, there is little evidence that meaningful research has been conducted concerning the correlation of student satisfaction in terms of specific types of instructor-student communication in online graduate programs in a private university setting. The insights gained from this research will assist instructors with effective ways to communicate and offer feedback in order to maximize student satisfaction. The information gleaned will also provide a foundation for future faculty professional development. This will generate conversations to develop guidelines for providing a satisfying academic experience for graduate students. In turn, students will be more likely to complete degree programs, thus experiencing satisfaction and academic success.
Research Questions

What is the correlation between types of instructor-student communication in online graduate programs and student satisfaction in a private university setting?

Limitations/Delimitations

The primary limitation to this study was that it was only administered in one institution. This institution is a small, private, denominationally affiliated, liberal arts university. The data may not be generalizable to larger institutions.

Research on communication is plentiful. However, there is a lack of emphasis on communication between students and faculty members in the higher education setting. Due to the fact that effective communication can be the difference between a student successfully completing an academic program or dropping out, this topic is both meaningful and relevant (Baker & Griffin, 2010). Also, with increasing numbers of students enrolling in courses (Allen & Seaman, 2011), careful attention must be given to establishing relationships to increase the level of student satisfaction and retention.

Definition of Terms

Student satisfaction - Within this study, the definition of student satisfaction is “the perception of enjoyment and accomplishment in the learning environment” (Sweeney & Ingram, 2001, p. 57)

Instructor-student communication - For the purposes of this study, instructor-student communications is defined as written and oral communication between instructor and student (O’Leary & Quinlan, 2007).

Organization of the Document
This study is divided into five chapters. Chapter One provides an introduction to the study. It includes the context and background, outlines the problem, and identifies the research question. In addition, the theoretical and conceptual frameworks for the study are explained, terms are defined, and limitations for the study are outlined. The significance of the study is also discussed. Chapter Two provides a review of literature. The review of literature is an analysis of literature relating to the topics of student satisfaction and instructor-student communication. The research methodology is found in Chapter Three. This includes descriptions of the population, instruments, and research procedures used to conduct the study. A description of data analysis procedures is also included. Chapter Four describes the results of the data analysis. The final chapter provides the conclusions that are drawn as a result of the study, provides practical implications as a result of the study, and provides recommendations for future research.
CHAPTER TWO
Review of Literature

The purpose of this study is to determine the correlation between types of instructor-student communication and levels of satisfaction among students in online graduate programs in the private university setting. This review of literature will discuss the evolution of online learning, student satisfaction in online programs, the role of the instructor in online programs, and types of communication in online programs. Specific emphasis will be placed on instructor-student communications in order to provide a framework for the study.

The quality of an academic institution depends on the quality of work and learning experience of its stakeholders (Wunsch, 1994). From this perspective, the goal of a higher education program should be to maximize the quality of the educational experience for students. One crucial element of these experiences is the development of the student-instructor relationship in online courses (Baker & Griffin, 2010). The communication between instructors and students is key because learning is a social process that aids in the personal and professional development of the student.

When considering academic success and satisfaction, the changing dynamics of education must also be considered. Today’s students have needs including, but not limited to: financial, social, geographical, and physical (Schulte, 2013). Additionally, first-generation college students are a rising population and tuition costs continue to rise at a rate that is higher than inflation (Coles, 2011). These differing challenges and
populations present difficulties for faculty in order to retain students and to ensure feelings of satisfaction among student populations (Grossman & Rhodes, 2002).

In order to meet these needs, colleges and universities are replacing traditional college classrooms with online learning opportunities (Baker & Griffin, 2010). Online courses are a crucial part of higher education (Caruth & Caruth, 2012). Online programs offer increased access to instruction, flexibility, decreased costs, and effective learning for the student (Taplin, Kerr, & Brown, 2013). The number of students taking online courses is expected to rise each year (Allen & Seaman, 2011).

**Historical Context**

From a historical perspective, online learning gets its roots from the realm of distance education. Distance education was revolutionary in the field of education because teachers and students no longer had to be in the same location to engage in learning transactions (Moore & Kearsley, 2011). While online learning has only been widely available for about 20 years, distance education has been in existence for over 100 years (Schulte, 2013). Distance education was implemented as early as the 1870s, when Bishop John Vincent created the Chataugua Literary and Scientific Circle (Moore & Kearsley, 2011). Students were offered the opportunity to complete a four-year degree by mail. In 1883, the organization was granted permission from the State of New York to issue diplomas.

Around the same time, Anna Eliot Tickner, the daughter of a Harvard professor and scholar began an organization called The Society to Encourage Studies at Home in 1873 (Bergman, 2001). Anna’s father had an extensive library that Anna used as a resource to make the organization successful. This society marked the beginning of the
first official correspondence school, conducting coursework through the mail. This organization specifically targeted women who pursued studies in English, History, Science, French, German, and Art. As the course began, instructors mailed course expectations to students. Students were able to complete coursework independently and return assignments by mail. This was particularly beneficial to female students who were balancing their studies with the demands of family life. When assignments were returned, instructors could monitor student understanding and offer feedback. Exams in the courses were sent in envelopes and students were instructed not to open them until there was time to complete the exam. The exams were not graded, per se, but were used for feedback on the effectiveness of instruction. Tickner provided an education to those who were denied an education from other colleges and universities, ultimately enrolling over 7,000 people. At the time, the society provided a revolutionary service, helping to close the gender gap in higher education. While this method offered flexibility, it took quite a while for the assignments to travel to and from instructors.

During the same time period, Thomas Foster also offered correspondence courses on mine safety to workers through Collier Engineer School of Mines (Moore & Kearsley, 2011). Courses offered workers the opportunity to work toward advancement in the company and the fees were deducted systematically from paychecks. These courses were successful and quickly became popular. The school expanded rapidly and later became known as The International Correspondence School. In later years, its name would change again to Penn Foster.

When considering the history of online education, the University of Chicago was also key to its development. The first president, William Raney Harper, developed the
Department of Home-Study (Caruth & Caruth, 2012). In these courses, a student could complete up to 1/3 of their coursework by mail. This type of program reached students who would not be able to complete a traditional face-to-face course and allowed the University to expand their base well beyond the traditional student.

As technology continued to evolve, distance education continued to expand. The State University of Iowa offered courses via radio beginning in 1925 (Moore & Kearsley, 2011). During the first semester, 80 students were enrolled with two-thirds of these students completing their degree program at the University. As television appeared on the scene in 1934, The State University of Iowa (SUI) also began to incorporate television courses. By 1939, SUI offered more than 400 television courses. In 1941, the United States Army Institute began offering distance courses as well (Moore & Kearsley, 2011). By 1966, over 200 courses had been offered to nearly 500,000 students. This was the first school to use computerized grading. After World War II, other universities would begin partnering with television broadcast networks to offer courses as well. One notable example is Johns-Hopkins University and their partnership with both NBC and CBS (Wright, 1991).

As telephones became a more reliable and common way to communicate, instructors and students began using them to facilitate discussions. During the period between 1960 and 1980, many other changes in distance education occurred. In 1962, the Federal Educational Television Act was passed, granting funding for the construction of television stations that provided programming for educational purposes (Wright, 1991). This expanded television courses to the point that there were over 200 courses offered by 1985. In the 1970s and 80s, teleconferencing became prevalent in distance education.
The University of Wisconsin pioneered the first widely used program, providing continuing education for medical professionals in over 200 locations (Moore & Kearsley, 2011). At first this process involved setting up equipment such as microphones and speakers at each participant’s location. This was the first time instructors and students could speak to one another in real-time across multiple locations.

The evolution of online learning can be categorized into three phases (Matthews, 1999). These are correspondence courses, limited media courses, and fully online courses. Correspondence courses, as described above, are conducted by mail. Limited media courses combine correspondence with audio recordings and television broadcasts. Fully online courses are conducted entirely online. Limited media courses, originated in the United Kingdom in 1969, when the United Kingdom Open University was formed (Matthews, 1999). When participating in these courses students received readings, video materials, and audio recordings in the mail. Radio and television broadcasts were also incorporated. Additionally, a tutor was available to provide assistance by telephone. This approach allowed universities to reach students who could not attend traditional classes, and appealed to students with several forms of media in a way that had not been done before.

During the 1980s and 1990s, videocassette recorders (VCRs), compact discs (CDs), and digital video discs (DVD’s) became commonplace, again making instructional materials easier to access and distribute (Moore & Kearsley, 2001). In the early 2000s, this transitioned into online learning as internet access became more readily available. Online learning offered benefits including increased access, flexible schedule, and location, and increased time to think and complete course assignments (Matthews,
There were also several drawbacks including cost, lack of communication and collaboration, access to materials, authentication of assignments, and policies that did not fit the new set of circumstances involved in online learning (Matthews, 1999).

This new type of learning presented challenges for universities and their faculty. In the early years of online instruction, most courses were constructed in a similar manner to traditional courses (Kuriloff, 2001). Instructors faced the challenge of incorporating a new form of media and had to find new strategies to deliver instruction (Moore & Thompson, 1997). Students also reported benefits and challenges with online learning. Song, Singleton, and Hill (2004) conducted a survey of 76 graduate students to determine the benefits and challenges in online courses. Students mentioned benefits including course design, learner motivation, time management, and the familiarity of technology. Challenges included feelings of isolation, time management, and problems with technology. Perhaps these challenges contributed to the slowdown in the rate of growth of online students since 2009 (Allen & Seaman, 2015).

In present times, online instruction is divided primarily into the categories known as asynchronous, synchronous, or a combination of the two. According to Johnson and Aragon (2003), asynchronous online courses are very popular. This type of course does not require students to participate in the course at predetermined times. Rather, discussions are in threads, meaning that one student posts and others respond to the post at their own pace. Interaction in an asynchronous course includes active learning, communication with instructors, and the completion of meaningful tasks. Wikis, blogs, and online course management systems are also utilized (Robertson & Hardman, 2012). Typically, the number of posts a student writes or scores on assignments and quizzes has
been used to determine if there is effective communication in asynchronous online courses (Johnson & Aragon, 2003). Synchronous learning, on the other hand, occurs in real-time. Synchronous communication in an online course typically comes in the form of an online chat room that engages students in instant communication (Johnson & Aragon, 2003). This provides opportunities for spontaneous communication and didactic conversation (Wang & Newlin, 2001). Synchronous courses may also incorporate video, breakout rooms, and interactive whiteboards (Robertson & Hardman, 2012). This type of communication is spontaneous; however, there is evidence that it can be ineffective due to the rapid nature of response times (Johnson, 2006).

**Effectiveness of Online Courses**

There is research to indicate what constitutes an effective online learning experience (Zhao, Lei, Yan, Lai, & Tan, 2005). This is difficult because there is no effective gauge of course quality that is widely agreed upon (Allen & Seaman, 2015). Meyer (2003) asked students to compare face-to-face and online discussions. Within this study, higher order thinking and questions, as well as the perceptions of students, were monitored. Student perceptions indicate that online discussions take more time than face-to-face discussions. However, they also require more thought and deeper thinking. Online courses were also often compared to traditional face-to-face classes due to conflicting opinions regarding the effectiveness of online learning. This comparison was typically based on course grades and student performance on assignments (Moore & Thompson, 1997).

Means, Toyama, Murphy, Bakia, & Jones (2009), as cited in Nash (2011), found that learning outcomes in online courses were higher for students in online courses than
those students who were taking the same class in a traditional setting. In another study, when exam scores were analyzed, students in online and face-to-face classes had similar achievement levels, yet when satisfaction was considered, they differed greatly (Allen & Seaman, 2011). The satisfaction tended to be lower in online courses. Mentzer, Cryan, & Teclehaimanot (2007) found that instructors were rated higher on end-of-course surveys among traditional students than among online students. In the study of 36 undergraduates, students in traditional courses also had higher average scores on exams within courses. In a study of 38 graduate students, Summers, Waigant, and Whitaker (2005), found that student satisfaction levels in traditional courses were higher than levels in online courses, but exam scores show no significant difference.

**Student Satisfaction**

Student satisfaction is defined as, “the perception of enjoyment of accomplishment in the learning environment” (Sweeney & Ingram, 2001, p.5). Within online courses, this can be difficult to measure. Often, student satisfaction is measured in quantifiable terms such as the number of emails that a student has sent or the number of posts or assignments completed (Kranszow, 2013). However, this is not an effective measure. In an online course, if students experience a sense of satisfaction, they are more likely to complete the course in which they are enrolled (Kranzow, 2013).

Eom, Wen, and Ashill (2006) describe several indicators of student satisfaction. In a study involving 397 students in asynchronous learning, indicators such as instructor knowledge of content, instructor facilitation of learning in the course, feedback from instructors, the amount of interaction in the course, and self-motivation were identified as essential to student satisfaction.
Cole, Shelley & Swartz (2014), used an online survey to determine the level of satisfaction in online courses among 553 students. Fifty-nine percent of students were either extremely satisfied or satisfied overall. Fifty-four percent of the students surveyed were found to be either dissatisfied or extremely dissatisfied. Convenience, course structure, and communication were the most prevalent answers for those students who identified themselves as satisfied. Among students who were dissatisfied, 33.2% indicate that lack of interaction was the main source of dissatisfaction. Course structure, facilitation of the online course, and incompatibility with the instructor were also identified as reasons students were dissatisfied. However, Arbaugh (2004) found that perceptions of satisfaction tend to increase as the number of courses and familiarity increases among students in a four-year MBA program. Based on this research, communication and interactivity are key components to student satisfaction.

**Sense of Community**

In the college setting, students who are beginning a program face many challenges (Leidenfrost, Strassnig, Shutz, Carbon, & Shabmann, 2014). Students must organize their schedules, adjust to university teaching and learning styles, and build new friendships (Pascarella & Terenzini, 2005). This can be a daunting task. Some students, once they realize that their initial expectations of the college experience are misguided, end up abandoning their course of study (Lowe & Cook, 2003). For those who stay the course, students may face times of self-doubt, frustration, and unfulfilled expectations (Hicks, 2002). Therefore, colleges must be focused on helping students feel a sense of connection to the campus community in order to ensure student success (Community College Survey of Student Engagement, 2009). Students who are able to readily
communicate with the instructor and other students feel a greater sense of community (Drouin, 2008).

Establishing a sense of community in an online course can be challenging. A high level of interactivity is linked to increases in both satisfaction and persistence (Kranzow, 2013). Stratchota (2003) conducted a study of student satisfaction in distance courses. She found that learner-content interaction was the most predictive indicator of student satisfaction, closely followed by learner-instructor and learner-technology interaction. However, interaction between students was found to have minimal impact. In a ten-year study regarding instructional design and interaction, Kleinman (2005) found that higher levels of engagement and support assisted students in understanding the instructors’ expectations. This led to a higher perceived level of student satisfaction.

**Social Presence**

When designing an online course, instructors must consider the level of interactivity carefully so that students feel a social presence. This type of interactivity is a key component of course design in order to achieve student satisfaction (Swan, 2011). Social presence in an online course is realized when students feel a sense of community and belonging through online interaction (Lowenthal, 2010). This includes those communication behaviors in the online community that engage learners in ways that they develop a sense of closeness to other members of the course (Cui et al., 2012). Arbaugh (2000) conducted a study on the relationship between communications and online learning in an online MBA course. He found that instructor emphasis on interaction, ease of interaction, and the dynamics of the course were essential factors to learning. Sun, Tsai, Finger, Chen, and Yeh (2008) found that course quality, interactivity in the course,
and meaningful, relevant materials are also key to satisfaction. Increasing the social presence within a course directly affects the level of student satisfaction. In essence, research supports the premise that opportunities for interaction must be present for an online course to be effective.

**Attrition Rates**

Instruction in online programs is considered more effective than traditional courses (USDE, 2009). Even so, attrition rates are high in online programs. In fact, dropout rates are 6-7 times higher in online programs than in traditional face-to-face programs (Patterson & McFadden, 2009). Many factors can contribute to these high attrition rates in online programs. Students often seek out online degree programs due to flexibility and convenience. This flexibility and convenience may help to circumvent factors that would inhibit a student from attending traditional classes. The same reasons that make online programs appealing for students can also present difficulties (Gannon-Cook & Sutton, 2012). These factors include course load, work, finances, family life, and self-motivation. Any one of these factors may contribute to student attrition. Among graduate students, challenges include working while taking classes and ineffective relationships with faculty as contributors to attrition (Elkins, Nesheim, Guentze, Gansemer-Topf, Ewing Ross, and Turrentine, 2006). Financial aid is also an inhibiting factor for degree completion. Students may lose their financial aid package due to many circumstances or may be unable to take on more debt. Ampaw and Jaeger (2012) found that graduate students who were awarded research assistantships were more likely to complete the degree program. These opportunities offer financial assistance along with a sense of connection to the campus.
Lovitts and Nelson (2010) found that almost half of enrolled graduate students did not complete their degree program. They found the primary reason for attrition is the lack of a sense of community during the academic experience. This means that developing communication between instructors and students is essential for student retention. Armstrong (2011) found that when students did not perceive that the instructor was an active participant in the course, the student was more likely to develop apathy for the course or withdraw. Further, a positive relationship with instructors, both in and out of the classroom, contributes to academic success (Pascarella and Trenzini, 2005). In online doctoral programs, students who have a positive relationship with their dissertation chair are also more likely to complete their degree (Gittings, 2010).

**Conceptual and Theoretical Frameworks**

When discussing student satisfaction, consideration must be given to Bandura’s Self-Efficacy Theory (1977). This theory refers to a person’s belief that he or she can reach performance goals by exhibiting specific behaviors. In essence, students set academic and personal goals based on their own self-appraisals. Students who have high levels of self-efficacy visualize positive outcomes and set high goals for themselves. Those who have lower levels of self-efficacy continually fight self-doubt and visualize scenarios containing obstacles to achievement and even failure. These feelings may lead to frustration and possibly attrition for the student (Hicks, 2002). Communication between student and instructor plays a key role in helping students to achieve higher levels of self-efficacy.

As students move through their academic career, their needs are key motivating factors. Student satisfaction in an online course relates to feelings of enjoyment and
accomplishment (Sweeney & Ingram, 2001). In terms of a student’s academic career, interactivity and sense of belonging formed during the experience are a key factor in academic success, degree completion, and the realization of career goals (Kumar, Johnson, & Hardemon, 2013). According to Abraham Maslow (1943), a person’s need for belonging and relationships falls just behind safety and physiological needs. Abraham Maslow’s Hierarchy of Needs (1943) provides a conceptual framework for communication in online courses. While this work is from the mid-20th Century, it is still very relevant to online learning. Maslow’s work focused on how motivation affects a person. In an educational setting, his framework is used to analyze the impact that motivational factors have on learning. In his Hierarchy of Needs, needs are grouped into five categories, from basic to complex. The most basic level of needs is physiological needs. These are things that all humans need to exist such as food, water, and air. Safety needs are the second level, and include the need for shelter and an environment free of harm. The third level is the need to belong, consisting of close relationships with family and friends. The fourth level, esteem needs, includes the need to achieve goals and the need for recognition. The highest level of need is known as self-actualization. This is when a person is fully self-aware and follows his or her innermost desires. In order to move from the lowest level upward, the needs in each category must be met. For example, a person cannot fully be self-actualized unless physiological, safety, belonging, and esteem needs are realized. A person can also fluctuate between levels at different points in life.

Milheim (2001) relates the hierarchies to the online educational setting by discussing how needs are met at different levels during an online course. Physiological
needs include tools for working through an online course. For example, the student
would need books, a computer, and an internet connection. Instructors can help students
meet these needs. Milheim suggests that instructors can assist students with safety needs
by ensuring that the student feels comfortable interacting within the class, and allowing
an initial grace period for students to get used to navigating the course software platform.
The need for belonging is met as students interact with the course materials, with each
other, and with the instructor. As part of course design, instructors must ensure that
opportunities for interaction occur frequently and effectively. Anderson (2008) suggests
that the professor begin the course by having students post an introduction, with the
instructor giving feedback on each post. This simple activity creates a sense of
community in the course from the very start. Self-esteem needs, the fourth level of the
hierarchy, are fulfilled through positive interactions and reinforcement in the course
(Curtis & Lawson, 2001). Students who are struggling in an online course may
experience less confidence (Lynch, 2001). This can be circumvented with opportunities
for positive reinforcement. Milheim (2012) suggests that to help students become fully
self-actualized; instructors should provide opportunities for students to seek their own
knowledge, personalize the learning experience, and provide opportunities for reflection.
Careful planning and implementation of the online course will ensure that this occurs.

Role of the Instructor in Online Learning

Due to the increasing demand for online courses, higher education faculty face
increasing pressure to teach online courses (Nash, 2011). Approximately one-third of all
full time college faculty members have taught an online course (Allen & Seaman, 2010).
After teaching traditional courses for many years, some instructors found that techniques
that work in the classroom did not automatically work online. Wolcott (1993) indicated that instructors have been trained in strategies and techniques for teaching traditional courses, but training for online courses is limited. When leading online courses, instructors face challenges such as relaying information effectively, course delivery, and communication. Wu and Hilz (2004) found, in a study of 116 students, that student satisfaction resulted in a higher level of learning. The instructor is key to this process. The most important role that an instructor plays is to provide the best possible learning opportunities for students. Instructor-student communication contributes to student perceptions of instructional quality (Song & Kidd, 2005). For example, instructors must communicate their expectations to students clearly and often (Vanhorn, Pearson, & Child, 2008). This ensures that students understand the steps they must take to maximize learning opportunities and achieve success in the course.

As students navigate the online course, the instructor provides feedback. Wolsey (2008, p. 312) defines feedback as, “what the instructor writes on and about student work products.” Instructors must ensure that feedback is beneficial. Mancuso-Murphy (2007) identifies quality feedback as essential to student satisfaction. Feedback should also be given in a timely manner. Hara and Kling (2001), in their qualitative study of online courses, report that students expressed frustration when there is a perception of lack of feedback, lack of response to e-mails, and unclear directions. Receiving timely feedback is also an indicator of student satisfaction (Arbaugh & Hornick, 2006).

Wolsey (2008) analyzed feedback in four masters-level courses at Walden University. Feedback was divided into five categories: complex affirmations, editorial function, instructor stance, learning goals versus targets, and location of feedback.
Students ranked instructor feedback within the assignment, instructor criteria, a respectful tone of the instructor, editorial suggestions, and complex affirmations as very useful. According to Marzano, Pickering, and Pollock (2001), whether in a traditional or online format, feedback is one of the most vital teaching strategies that an instructor can utilize.

Feedback, from the perspective of the professor, also comes with certain challenges. Tuition rates are rising at a rapid pace (Baker & Griffin, 2010). Additionally, the digital age produces students who expect instant answers and information. When these two factors are combined, students often expect instant answers from instructors. Instant feedback is often a positive aspect; however, when students expect it, this can foster a sense of dependency (Coles, 2011). Students may expect instantaneous answers to every question and task, which is taxing for instructors.

Undoubtedly, instructor contact and feedback is key to satisfaction for students (Vivian, 2005). However, instant feedback is often difficult for mentors who are under pressure to publish research, teach courses, advise students, serve as mentors, and fulfill a myriad of other roles both on and off campus.

The attitude of the instructor in an online course also relates directly to student satisfaction (Baker, 2010). Sun, Tsai, Finger, Chen, and Yeh (2008), in a study of 300 students enrolled in online courses found that when instructor attitudes toward technology are positive, the level of student satisfaction is higher. A positive attitude is sometimes difficult to project due to the many challenges of course facilitation. In a study of 360 online communication instructors, instructors identified challenges in these categories: course, time management and workload, technology, students, communication, support, and teacher motivation (Vanhorn, Pearson & Child, 2008). The
greatest challenge, reported by 146 instructors, was taking a traditional course and turning it into an online course. Instructors commented that components of a traditional course, such as role-play and group work were more difficult in the online format.

**Instructor as Mentor**

In online programs, the instructor is often the main or only personal contact that a student has with the institution. As the instructor and student communicate, the instructor becomes a mentor. There is overwhelming research to suggest that an effective mentor can provide a college student with an enriched experience during his or her academic career (Kumar, Johnson, & Hardemon, 2013). Mentorship requires a student and faculty member to engage in an ongoing series of meaningful interactions (Baker & Griffin, 2010). Online mentoring can be described as a relationship between a mentor and mentee that benefits both parties and is aided by the computer (Bierema and Merriam, 2002). This relationship includes components present in traditional mentoring, such as modeling, advising, and encouraging. Perhaps the most crucial element is developing a mutual trust and establishing clear expectations and goals (Schichtel, 2010). As the instructor mentors the student, there is an emotional commitment that begins with the mentor caring about the student’s development, both personally and professionally. As part of this relationship, there must be honest communication and realistic goals on the part of both the mentor and student.

From a historical perspective, the roots of mentoring are found in the historical Greek work, *Homer's Odyssey* (Edlind & Heansley, 1985). Mentor was Ulysses’ wise old friend who shepherded Ulysses’ son through adolescence and into adulthood. In present day, there is no set definition of mentoring (Kumar, Johnson, & Hardemon,
In fact, there are over 50 definitions of mentoring in current research (Coles, 2011). However, it is widely accepted that mentoring is a relationship between a person who is experienced and a person who is not as experienced. Mentoring also encompasses mental and emotional support (Russell & Russell, 2011). Kram (1985) defines mentoring as a process involving emotional aspects including acceptance and support and instrumental functions, such as information, coaching, and advocacy (Kram, 1985). Over time, this relationship develops and becomes deeper and more impactful (Grossman & Rhodes, 2002).

Mentoring relationships can be categorized as formal or informal (Zachary, 2000). An informal relationship is one that is not structured. Rather, it occurs naturally and is typically characterized by relationships with older and more experienced individuals (Coles, 2011). A formal relationship is guided by the goals and structure of a more formal mentoring program (Zachary, 2000). In this type of relationship, the mentee is typically assigned to the mentor. In a formal relationship, meetings with a mentor occur at a regularly scheduled time and place (Sipe, 1993). In an online program, these communications are typically more informal, with communication occurring as the need arises.

Students who are at-risk benefit a great deal from a college mentor (Vivian, 2005). These are students who may not be prepared socially, academically, or financially. Often, at-risk students are reluctant, or even unwilling to seek help. There is little research to support strategies for working with at-risk students. Hicks (2002), points out that at-risk students, including first-generation college students in particular, struggle because they feel that they are “entering an alien culture.” The mentor must
guide students through this transition. Daloz (1999) characterizes a mentor as a guide who: engenders trust, gives the student a voice, emphasizes positive movement, and keeps an eye on the relationship. Baker and Griffin (2010), point out that sometimes a student needs a nudge and someone to acknowledge their potential. Mentors can provide this stimulus. With high attrition rates in online programs, the instructor serves as an ambassador for the college. In the mentoring role, an instructor is very aware when feelings of isolation arise and ensures that the student feels connected to the college community.

While there are many positive effects of the mentoring relationship in higher education, there are several instances where the relationship can be detrimental (Ehrich, Hansford, & Tennent, 2004). Limitations include a lack of time, poor planning, and dependency by mentees (Trask, Marotz-Baden, Settles, Gentry, and Berke, 2009). Faculty members are often asked to serve in many roles (Little, 1990). These challenges make it very difficult to mentor several students at one time. A student may not have the opportunity to get to know a faculty member. When this occurs, it is often due to the lack of support and training necessary in order for faculty members to become more effective mentors (Vivian, 2005). Student motivation to be mentored must also be considered. Sometimes, students are reluctant to seek out assistance. At other times, students may become dependent on the mentor, which may also be detrimental. These factors may cause the mentor-mentee relationship to shift to a more advisory role that is less personal.

Over the last few years, enrollments in online programs have grown at a higher rate than overall education enrollments (Allen & Seaman, 2011). In order to meet the needs of online students, mentors must aid the student in preparation for a professional
career (Rose, 2003). Instructors must accomplish this while adapting to the elements of online programs that are most appealing to students. These include flexibility of time and the ability to participate in coursework from any location. This flexibility also means that the mentor-mentee relationship must be considered carefully. Particularly in online doctoral programs, the relationship and communication between the mentor and student is crucial to academic success (Ives & Rowley, 2005). The goal is to shepherd the student from beginning researcher to an accomplished and independent researcher and writer (Johnson, Lee & Green, 2000). This is a difficult process, particularly in an online format, due to unfamiliarity with the process and feelings of isolation (Kumar, Johnson, & Hardeman, 2013).

As an online mentor, the faculty member has a very complex role (Kumar, Johnson, &Hardemon, 2013). Within this role, the mentor must practice seven competencies: online, social, cognitive, teaching, communication, managerial, and online technical (Schichtel, 2010). Online developmental competencies require online learning in the areas of educational, professional, and psychosocial development. Social competencies require the mentor to facilitate social presence in the online format and to help students overcome challenges related to the online learning community. Within cognitive competence, the instructor facilitates interaction in the online course to promote critical analysis and reflective practice. Teaching competence facilitates reflective learning and professional development. Communication competence promotes communication across various forms of media. In order to meet expectations for activities and administration, managerial competence is required. Online technical
competence requires the use of virtual environments in order to mentor the student. Each of these competencies ensures a positive online course experience for the student.

With an effective mentoring relationship, online graduate students have reported many benefits (Noonan, Ballinger, & Black, 2007). These include job placement, research skills, and collaborative publications. Other benefits include improved achievement and degree completion. As a result of mentoring, students have reported greater self-confidence and satisfaction in their graduate programs (Rose, 2003).

Online mentoring, or e-mentoring, has many advantages. One advantage is geography (Rhodes, 2004). Mentors no longer have to physically travel to meet with a mentee, and vice-versa. Since there is no travel time, this frees the mentor and the mentee to focus on the issues at hand. Additionally, the online format of e-mentoring allows the mentee to have a wider array of mentors. Time is also an advantage. Professors are under increasing time constraints with pressures to fulfill obligations (Vivian, 2005). Not having a regular weekly mentoring meeting leaves the mentor with more time to advise and get to know the student (Rhodes, 2004). This allows the spontaneous communication of informal mentoring (Coles, 2011). This builds both intimacy and trust in the mentoring relationship.

**Types of Communication**

Communication in online programs is crucial because the student may never visit the physical campus (Betts, 2009). Moore (1989), in his theory of interaction, identifies three types of interaction: learner-learner, learner-content, learner-teacher.

Learner-learner interaction is often the focus when discussing collaboration in online courses and when developing a sense of community. As mentioned previously,
the goal is to create active participation in discussion. This is important so that students learn from one another (Wilson, Ludwig-Hardeman, Thornam, and Dunlap, 2004). Establishing sense of community and active participation, as previously discussed, ensure that students do not feel isolated or leave the course entirely. Teamwork and collaboration may increase the student satisfaction with a course, and stimulate critical thinking. However, instructors must take care to find balance. Some students have reported feelings of frustration with group work due to lack of face-to-face interactions (Thurmond, Wambauch, Connors, & Frey, 2002).

Learner-content interaction involves students reviewing course materials in order to complete course activities (Moore & Kearsley, 1996). This can be accomplished through readings, online discussions, and group discussions (Leasure, Davis, & Thievon, 2006). Learner-content knowledge is the primary form of interaction in online courses because students work independently on tasks throughout the course. This makes course design crucial. Students must be able to navigate the course and be aware of instructor expectations in order to succeed. Effective learner-content interaction can contribute to learner retention and academic success (Zimmerman, 2012). In a study of 139 students in a management course, Zimmerman (2010) correlated the amount of time students spent reviewing course content to their grades. The study shows that there is a higher frequency of passing grades among students who spent more time reviewing materials prior to the quiz. As a result, online course design should include many opportunities for students to interact with content in order to achieve academic success.

Instructor-student communication in online courses occurs in many forms. Some communications, such as an announcement on the course home page and instructor
expectations, are shared between an instructor and all the students in the course (Moore & Kearsley, 2011). However, communication between instructors and individual students is also present in an online course. According to Lorenzetti (2003), students in online programs base their overall opinion of the university on the instructor. Most communications between instructors and students in online courses are in written form (Betts, 2009). Instructors provide responsive communication in the form of feedback, replies to postings, and discussions of personal concerns (Veseley, Bloom & Sherlock, 2007). Young (2006), in a study of student comments, found that students view an instructor as effective if they show concern for students, are flexible, establish trust, and provide structure. Instructors who do not communicate effectively increase feelings of frustration among students.

Email communications tend to be the primary avenue for instructor-student communication. Email communication is often advantageous because it provides an instant written record of the conversation; so, further documentation is unnecessary (Rhodes, 2004). Email communications between the student and mentor allow instant communication (Rhodes, 2004). This is much less frustrating for both parties than waiting for an appointment time, or waiting on a return call. In this mode of communication, social cues are removed as well. This means that the mentor and mentee, regardless of background, level of shyness, etc., can focus on building a relationship based on commonalities. At risk students, who are often reluctant or unaware that they can ask for help, are sometimes more willing to communicate in this way (Vivian, 2005).
According to Rhodes (2004), email communications between instructor and student can also present other challenges. One example is lack of emotion in communication. Because the non-verbal cues in the conversation are not present, misinterpretation of a message can sometimes occur. Additionally, sarcasm may sometimes be interpreted as a negative message. When an instructor neglects to return emails during long lapses, this also communicates a negative message to the student (Saito & Sipe, 2003). These challenges make the instructor’s role more difficult and can have an impact on student satisfaction levels.

In a study of 86 graduate students, Joyner, Fuller, Holzweiss, Henderson, and Young (2014) collected responses from students indicating what types of communication made them feel connected to their instructors. Researchers found that there were four categories: connections through interactions within the classroom, connections through technology and assignments, connections through feedback, and overall connections. Students shared 88 comments, with the majority of the responses focused on email messages. Students responded positively to effective messages that were also personal. Students also responded positively to communications via face-to-face meetings, phone, video conferencing, and online chats. Seventy-eight comments related to technology and assignments, with 24 comments shedding positive light on online discussions as a means for connecting with instructors. Twenty-two students commented that audio/video technologies such as podcasts and teleconferences were a positive way to build connections with instructors. Eight participants mentioned that the course homepage created a connection because students know what to expect, and enjoy ongoing course
announcements. However, some students felt no connection with the professor at all, as illustrated in 14 comments.

Discussion boards are another mode of communication between instructors and students. Discussion boards are often planned and designed to enhance instruction (Vanhorn, Pearson & Child, 2008). At times, however, students may not make meaningful contributions. The instructor must provide feedback and guidance in order to counteract this. The instructor may participate in the discussion board in order to further the sense of community in the course.

Online instant chats are available in most course delivery systems. However, many instructors avoid this mode of communication (Picciano, 2012). An advantage to chat rooms is that a natural conversation occurs, giving students a sense of connection. However, the communications are instant in chat rooms, so there is a risk that answers will be hasty and illustrate a lack of thought. Additionally, the conversation can veer off course very easily. Instead, instructors tend to use discussion and replies, even though the lack of instant communication in discussion boards could potentially cause students to feel a sense of isolation.

**Conclusion**

The purpose of this study was to examine the correlation between instructor-student communication in online graduate programs and student levels of satisfaction. This review of literature examined the contextual background of online learning by discussing the historical background, trends, challenges, benefits, and efficacy of online instruction. The literature revealed that while online instruction is relatively new, other forms of distance education have been in existence for many years (Moore & Kearsley,
Distance and online education were shown to be effective in terms of academic success and student satisfaction (Nash, 2011; Allen & Seaman, 2011). Enrollment in online courses is expected to continue to rise due to the flexibility with geography and time (Allen & Seaman, 2015).

This review of literature also defined student satisfaction. The literature provided evidence that, along with other factors, a sense of community contributed to student satisfaction levels (Community College Survey of Student Engagement, 2002; Drouin, 2008; Kranzow, 2013). Satisfaction levels, in turn, have had a direct effect on attrition and retention rates, which were high in online programs (Pascarella & Trenzini, 2005; Lovitts & Nelson, 2010). By increasing student satisfaction, students are more likely to experience academic success and feelings of satisfaction, thereby increasing the likelihood of degree completion (Kleinman, 2005).

The role of the instructor within the online course is crucial to the efficacy of online programs (Wu & Hilz, 2004; Song & Kidd, 2005). The instructor must serve as facilitator and teacher, ensuring that effective learning and interaction are taking place in the course (Vanhorn, Pearson & Child, 2008; Lowenthal, 2010; Swan, 2011). The instructor also serves as a mentor, helping students to navigate the waters of the online degree program (Rose, 2003; Schichtel, 2010; Kumar, Johnson & Hardemon, 2013).)

Three types of interaction were discussed, including: learner-learner, learner-content, and learner-instructor (Moore, 1989). While all of these types of communication are important to student satisfaction and sense of community, this study specifically analyzed instructor-student communication. Research shows that there is a direct relationship between instructor-student communication and levels of student satisfaction
(Young, 2006; Vesley, Bloom, & Sherlock, 2007; Lorenzetti, 2013; Joyner, Fuller, Holzweiss, Henderson, & Young, 2014). When these communications are effective, students can experience self-efficacy and self-actualization (Curtis & Lawson, 2001; Milheim, 2012). The research did not provide sufficient evidence as to what specific modes of instructor-student communication provide satisfaction or dissatisfaction. Additionally, there was little research relating instructor-student communication to levels of student satisfaction among graduate students. This study addressed that correlation.
CHAPTER THREE

Methods and Procedures

The purpose of this study was to determine the correlation between the types of instructor-student communication in online graduate courses and the levels of student satisfaction in a private university setting. The research question was:

What is the correlation between the types of instructor-student communication in online graduate courses and student satisfaction levels in the private university setting?

This chapter describes the population and sample, and provides a description of the instruments used for this study. Research procedures are also outlined. Finally, data analysis methods are identified as a means to answer the research question.

Research Design

The purpose of this study was to examine the correlation between types of instructor-student communication and student satisfaction in online graduate programs in the private university setting. In order to explore this relationship, a quantitative study was conducted. Quantitative studies are used when collecting and analyzing data using mathematical methods to explain phenomena (Aliaga & Gunderson, 2000).

Research Participants and Setting for the Study

Population

The population sample for this study was selected from graduate students at University A, a code name. The survey was administered to 351 students who were
enrolled in graduate level online courses in education at a small, denominationally affiliated, liberal arts, private university. Participants were selected once permission to survey had been attained by the university Institutional Review Board (IRB) (Appendix F). The sample was chosen using convenience sampling. Convenience samples, as defined by Dornyei (2007) are used with a population based on practical reasons, which include geographical location, willingness to volunteer, and availability. For this study, convenience sampling was used in order to maximize the number of respondents.

Setting

University A (code name) is a private, denominationally affiliated, liberal arts college in the southeastern United States. The university offers opportunities for students to study on-campus, off-campus, and in online programs. The total student enrollment is approximately 2,300. There are approximately 700 students enrolled in graduate programs. Fifty undergraduate degrees and 11 graduate degrees are offered. Additionally, University A students have the opportunity to participate in an honors program, study abroad opportunities, and internships. University A has 70 campus organizations, 18 varsity sports, and an expansive intramural program offered as extracurricular activities.

Description of Instruments

Data were collected using a survey created specifically for this study. The survey was developed based on a review of professional literature concerning instructor-student communication in online courses. The survey was quantitative in nature. The quantitative survey consisted of ten statements that were rated on a Likert-like Scale. A quantitative survey was chosen because the intent of the study was to generalize the
results from the sample to the larger population (Creswell, 2003). A Likert Scale measures the degree of agreement with a statement on an ordinal scale (Bowling, 1997). The Likert scale listed types of communication frequently used in online courses by instructors to communicate with students. Subjects ranked items on a scale as follows: (1) very satisfied, (2) satisfied, (3) neutral, (4) dissatisfied, (5) very dissatisfied, (6) Not Applicable. An odd-numbered scale (with the addition of “not applicable”) was used in order to prevent the respondents from feeling forced to adopt a certain position, thus reducing response errors where a student feels pressure to choose one answer over another (Fernandez & Randall, 1991). The researcher created a research-based instrument entitled Online Communication Student Satisfaction Survey (See Appendix A) for this study. Each statement on the survey had a foundation in the professional literature.

The second portion of the study consisted of two open-ended questions to assess the level of student satisfaction with the program as a whole. The purpose for the open-ended questions was to elicit a narrative response. These responses provided a context for the study as a whole. This added depth to the data and provided guidance for further avenues of study.

After the survey and open-ended questions were administered, and the results were analyzed, the researcher modified the survey and sent it to 11 online graduate instructors in order to provide supporting data (Appendix B). The survey provided supplemental data to support the conclusions drawn from the data. The combination of the quantitative survey, open-ended questions, and instructor surveys provided a degree
of triangulation to the data. According to Glaser and Strauss (1965), triangulation provides reliability and gives the researcher an opportunity to crosscheck for consistency.

**Pilot Study**

DeVaus (1993) provided the sage advice, “Don’t take the risk. Pilot first” (p. 54). Following this advice, the researcher conducted a pilot study to provide insights as to whether or not the study would succeed, whether protocols were clear, and whether the survey statements were understandable (Baker, 1994). The purpose of a pilot study is to provide a “small scale version, or trial run, done in preparation for the major study” (Polit, Beck, & Hungler, 2001, p. 467). Pilot studies can also indicate when respondents provide several answers to the same survey question or write notes in the margin, which may indicate that the instrument needs to be revised (Fink & Kosekoff, 1985). Pilot testing the instrument allows the researcher to determine sources of error within an instrument, and revise the instrument in order to minimize measurement error, thus providing instrument validity and reliability (Kimberlin & Winterstein, 2008).

The sample size of this study was 351. The sample size for the pilot study was 12 participants. When selecting a population for the pilot study, research indicated that 10-30 participants were necessary (Isaac & Michael, 1995; Hill, 1998). Other research indicated that a sample of 12 participants is typical (van Belle, 2005; Julious, 2012). Since the participants of this study were students in online graduate-level college courses, the pilot study participants used were graduate students who were currently in the dissertation phase of the doctoral program. Participants in the pilot study were not included in the population for the final study. Additionally, four instructors who taught in the online graduate programs reviewed the survey. These steps provided the
researcher with opportunities to review and revise as needed, in order to increase the validity and reliability of the survey instrument (Kimberlin & Winterstein, 2008).

**Data Collection Procedures**

Once the researcher obtained approval from the college IRB board, the department chair emailed online instructors and asked them to forward a link to the online survey to students (Appendix B). When students select the link, they are taken to the survey that was administered using the Survey Monkey Website. The introductory page displayed informed students that all answers are anonymous and provided informed consent (Appendix A). The second page of the survey explained procedures, provided context, and defined student satisfaction for respondents. As students completed the survey, data from the Survey Monkey website was exported to Excel so that statistical analysis could be performed.

**Proposed Data Analysis**

The data were collected and exported into an Excel spreadsheet for statistical analysis. Data collected was from a list of Likert-type items with the following intervals: (1) very satisfied, (2) satisfied, (3) neutral, (4) dissatisfied, (5) very dissatisfied, and (6) neutral. Once collected, a descriptive analysis was performed in order to determine the average score in each category. A frequency distribution was conducted in order to determine whether scores were entered correctly. Descriptive measures, such as statistical mean were used in order to determine differences between subgroups in the population. Data were then disaggregated into further subgroups.

A one-way analysis of variance (ANOVA) was performed on the data to determine whether there was a correlation between modes of communication and student
satisfaction. A one-way ANOVA “is used to determine whether there are any significant differences between the means of two or more independent groups” (Laerd Statistics, 2013). Prior to conducting the ANOVA, the Kolmogorov-Smirnov Test for normality was used in order to determine that sample data were normally distributed (Laerd Statistics, 2013). The data were also checked for homogeneity by use of Hartley’s F-max Test. Since the ANOVA showed statistically significant differences in the means of the groups, Scheffé post hoc analysis was conducted. Scheffé post hoc analysis is widely used when groups are of unequal size (Laerd, 2013). Because the “not applicable” responses were removed when performing statistical analysis, there were ten groups of unequal sizes. A Scheffé post hoc test is one of the most flexible and most conservative post hoc tests, as it reduces the likelihood of Type-I error (Laerd, 2013).

Since open-ended questions asked for modes of communication that were either effective or ineffective, responses named specific modes of communication. The researcher tallied responses by mode of communication.

After students completed the survey, 11 instructors were invited to respond to the same anonymous survey. The survey was re-worded in order to address instructor satisfaction with communication in online graduate courses they have taught. Data were analyzed using the same methods used for student data. The instructor survey provided supplementary data for the study and provided triangulation.
CHAPTER FOUR

Analysis of Data

The purpose of this study was to determine the correlation between the types of instructor-student communication and the levels of student satisfaction in online graduate courses in the private university setting. Online graduate students at a small, denominationally affiliated, liberal arts college in the Southeast completed an online survey that was administered through Survey Monkey. The *Online Communication Student Satisfaction Survey* (Appendix A) was designed by the researcher, based on empirical research, in order to ascertain student satisfaction levels with modes of instructor-student communication. Students responded to a survey with ten Likert-type items. The Likert-type items were followed by two open-ended questions in order to provide depth to the study. In addition, respondents were asked to provide demographic information including age, number of online graduate courses completed, degree program in which they were enrolled, and number of years employed in education.

After students completed the survey, eight instructors completed the same survey that was re-worded to measure student satisfaction with communication in courses that they have taught. This provides supplementary data and triangulation for the study.

As described in Chapter Three, several statistical measures were used to analyze the data in order to answer the research question guiding this study. Descriptive measures, as well as a one-way ANOVA, were used to determine correlation. The research question was:
What is the correlation between the types of instructor-student communication in online graduate courses and student satisfaction levels in the private university setting?

This chapter presents the findings of the study. Results are reported in both text and table form.

**Demographic Data**

Graduate students enrolled in online courses in education at University A (code name) in January 2016 were invited to participate in the study. Of the 351 students who were enrolled in these courses, 112 chose to participate in the study. This is a relatively high response rate of 31.9%. One respondent did not answer questions in a usable format, so this response was eliminated for reliability purposes. Data analysis was conducted on the sample of 111 students.

As Table 4.1 illustrates, 59 students (53%) were in Masters-level programs, 12 students (11%) were in the Education Specialist (Ed.S.) Program, and 40 (36%) students were enrolled in the Doctor of Education (Ed.D.) Program.

<table>
<thead>
<tr>
<th>Program</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>59</td>
<td>53</td>
</tr>
<tr>
<td>Ed.S.</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Ed.D.</td>
<td>40</td>
<td>36</td>
</tr>
</tbody>
</table>

When considering the age range of participants, as illustrated in Table 4.2, 33 (30%) participants were between the ages of 22-29, 39 (36%) participants were between the ages of 30-39, 28 (26%) participants were between the ages of 40-49, 8 (7%)
participants were between the ages of 50-59, and one (1%) participant was in the 60+ age range. The age of participants ranged from 24 to 68 with a mean of 36.29 (SD=8.99).

Table 4.2

<table>
<thead>
<tr>
<th>Age</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-29</td>
<td>33</td>
<td>30</td>
</tr>
<tr>
<td>30-39</td>
<td>39</td>
<td>36</td>
</tr>
<tr>
<td>40-49</td>
<td>28</td>
<td>26</td>
</tr>
<tr>
<td>50-59</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>60+</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Respondents were asked how many online courses had been completed in the course of the program in which they were currently enrolled. Of the respondents, 51 (47%) had completed 1-5 online courses, 42 (39%) had completed between 6-10 online courses, 12 (11%) had completed between 11-15 online courses, and 3 (3%) respondents had completed more than 15 online courses (See Table 4.3). The number of online courses completed ranged from 1-21 with a mean of 6.26 (SD = 4.47).

Table 4.3

<table>
<thead>
<tr>
<th>Courses Taken</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>51</td>
<td>47</td>
</tr>
<tr>
<td>6-10</td>
<td>42</td>
<td>39</td>
</tr>
<tr>
<td>11-15</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>16+</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

As a final demographic question, participants were asked how many years of employment they had completed in education. Of the participants, 26 (23.5%) had been employed five or fewer years, 41 (37%) participants had been employed 6-10 years, 18 (16.5%) participants had been employed for 11-15 years, 20 (18%) had been employed 16-20 years, 3 (3%) had been employed 21-25 years, and 2 (2%) had been employed 26
or more years (See Table 4.4). The range of years employed in education was between 0 and 27 with a mean of 10.06 years (SD = 6.07).

Table 4.4

<table>
<thead>
<tr>
<th>Number of Years Employed in Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years</td>
</tr>
<tr>
<td>0-5 years</td>
</tr>
<tr>
<td>6-10 years</td>
</tr>
<tr>
<td>11-15 years</td>
</tr>
<tr>
<td>16-20 years</td>
</tr>
<tr>
<td>21-25 years</td>
</tr>
<tr>
<td>26+</td>
</tr>
</tbody>
</table>

**Student Satisfaction Data**

As part of the survey, respondents were asked to rate their overall satisfaction level in regard to the modes of communication that instructors used to communicate in online graduate courses. Respondents were asked to complete the survey with a holistic view of the online program, rather than focusing on an individual class or instructor. The survey provided 10 types of communication that instructors use in the scope of online instruction. Respondents were asked to rate each mode of communication using a Likert-type scale as follows: 1) Very Satisfied, 2) Satisfied, 3) Neutral, 4) Dissatisfied, 5) Very Dissatisfied, and 6) N/A (Not Applicable).

As illustrated in Table 4.5, the responses indicated that 94.64% (105) students were either satisfied or highly satisfied with announcements on the course homepage. The mean satisfaction score for announcements was 1.63 (SD=.59), indicating an overall level of satisfaction.
Table 4.5

*Online Graduate Student Satisfaction Survey*

<table>
<thead>
<tr>
<th>Mode of Communication</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Neutral</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course homepage announcements</td>
<td>41.96%</td>
<td>52.68%</td>
<td>5.36%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Discussion board posts</td>
<td>40.18%</td>
<td>42.86%</td>
<td>7.14%</td>
<td>8.04%</td>
<td>0.89%</td>
<td>0.89%</td>
</tr>
<tr>
<td>Video conference</td>
<td>10.71%</td>
<td>17.86%</td>
<td>20.54%</td>
<td>4.46%</td>
<td>1.79%</td>
<td>44.64%</td>
</tr>
<tr>
<td>Audio Recording</td>
<td>17.86%</td>
<td>30.36%</td>
<td>20.54%</td>
<td>3.57%</td>
<td>0.89%</td>
<td>25.00%</td>
</tr>
<tr>
<td>Assignment instructions and expectations</td>
<td>27.68%</td>
<td>58.04%</td>
<td>4.46%</td>
<td>8.04%</td>
<td>1.79%</td>
<td>0%</td>
</tr>
<tr>
<td>Online chats</td>
<td>10.81%</td>
<td>19.82%</td>
<td>15.32%</td>
<td>.90%</td>
<td>1.80%</td>
<td>51.35%</td>
</tr>
<tr>
<td>Email communications</td>
<td>45.54%</td>
<td>44.64%</td>
<td>2.68%</td>
<td>5.36%</td>
<td>0.89%</td>
<td>0.89%</td>
</tr>
<tr>
<td>Face to face conversations</td>
<td>7.27%</td>
<td>9.09%</td>
<td>14.55%</td>
<td>.91%</td>
<td>0%</td>
<td>68.17%</td>
</tr>
<tr>
<td>Telephone conversations</td>
<td>12.50%</td>
<td>16.96%</td>
<td>13.39%</td>
<td>.89%</td>
<td>2.68%</td>
<td>53.57%</td>
</tr>
<tr>
<td>Feedback on assignments</td>
<td>35.71%</td>
<td>44.64%</td>
<td>8.93%</td>
<td>6.25%</td>
<td>4.46%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Note.* n=112.
When considering discussion board posts and replies, 83% of students were either highly satisfied or satisfied. The mean satisfaction level in this category was 1.89 (SD=1.0), which indicated that most students were satisfied, but not highly satisfied.

In regard to video conferencing, 27.68% (31) of respondents reported being highly satisfied and 58.04% (65) respondents reported being satisfied. The mean satisfaction level was 1.98 (SD=.9), which indicated that most students were satisfied with assignment instructions and expectations. While most respondents were satisfied, 11 (9.83%) indicated that they were either dissatisfied or very dissatisfied.

The majority of respondents, 51.35% (57), had not experienced online chats. When the 57 responses indicating that online chats were not applicable were removed from the sample, the population was reduced to 55 respondents. The mean satisfaction level for this sample was 2.24 (SD=.95), which was between satisfied and neutral.

Most respondents, 101 out of 112 (91%), were either satisfied or highly satisfied with email correspondence. The mean satisfaction level was 1.74 (SD=.92), indicating that student satisfaction levels were between highly satisfied and satisfied.

In response to instructor feedback and responses, 90 students (80.35%) were either satisfied or highly satisfied (See table 4.6). 12 respondents (10.71%) reported being either dissatisfied or very dissatisfied with instructor feedback on assignments, while 10 (8.93%) were neutral. The mean satisfaction level was 1.99, showing an overall level of satisfaction.

Concerning video conferencing, 50 (45%) respondents had not experienced this mode of communication during their online graduate program. Of the remaining 61 students, 29% (32) students were either satisfied or highly satisfied. Among the sample
of 61 respondents, the mean satisfaction level was 2.44 (SD=1). This indicates, that on average, students experienced a satisfaction level between satisfied and neutral.

Nearly half (48%) of the respondents reported being either satisfied or highly satisfied with instructor audio recordings; however, 25% (28) respondents had not experienced this mode of communication. When the 28 respondents with no audio recording experience were removed from the sample, the sample was reduced from 111 to 83. Of these 83 respondents, the mean satisfaction level was 2.24 (SD=.99), indicating that students that have experienced audio recordings felt a level of satisfaction between satisfied and neutral.

Face-to-face conversations were not widely experienced by respondents. 68.17% (75) students reported no experience with face-to-face interactions. When these 75 respondents were removed from the sample, the sample size was reduced to 36. Of these 36 respondents, the mean satisfaction level was 2.29 (SD=.99), which indicated that student satisfaction levels with face-to-face interactions fell between satisfied and neutral.

Many respondents (53.57%) reported no experience with telephone communications. When the 60 respondents who had not experienced telephone communication with their instructor were removed from the sample, the sample was reduced to 51. The mean satisfaction level of the 51 respondents who had experienced telephone communication was 2.06 (SD=1.06). This indicated that students who had experienced telephone communications were satisfied overall.

**One-Way Analysis of Variance**

A One-Way Analysis of Variance (ANOVA) was used to examine whether there was a correlation between modes of instructor-student communication and student
satisfaction in online graduate courses. The independent variable represented ten modes of communication that instructors use to communicate with students in online graduate courses: 1) Announcements on course homepage, 2) discussion board posts and replies, 3) video conferencing, 4) audio recordings, 5) assignment expectations and instructions, 6) online chats, 7) email communications, 8) face-to-face communications, 9) telephone conversations, 10) feedback on assignments. The dependent variable was student satisfaction level. See Table 4.6 for the mean and standard deviation for the ten groups.

Table 4.6

<table>
<thead>
<tr>
<th>Mode of Communication</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Announcements on course homepage</td>
<td>111</td>
<td>1.63</td>
<td>.59</td>
</tr>
<tr>
<td>Discussion board posts</td>
<td>110</td>
<td>1.85</td>
<td>.94</td>
</tr>
<tr>
<td>Video conferencing</td>
<td>60</td>
<td>2.43</td>
<td>.98</td>
</tr>
<tr>
<td>Audio recording</td>
<td>83</td>
<td>2.22</td>
<td>.98</td>
</tr>
<tr>
<td>Assignment expectations and instructions</td>
<td>111</td>
<td>1.99</td>
<td>.90</td>
</tr>
<tr>
<td>Online chats</td>
<td>53</td>
<td>2.23</td>
<td>.95</td>
</tr>
<tr>
<td>Email communications</td>
<td>110</td>
<td>1.71</td>
<td>.84</td>
</tr>
<tr>
<td>Face-to-face communications</td>
<td>34</td>
<td>2.29</td>
<td>.87</td>
</tr>
<tr>
<td>Telephone conversations</td>
<td>51</td>
<td>2.20</td>
<td>1.04</td>
</tr>
<tr>
<td>Feedback on assignments</td>
<td>111</td>
<td>1.99</td>
<td>1.06</td>
</tr>
</tbody>
</table>

An alpha level of .05 was used for all analyses. The Kolmogorov-Smirnov Test for normality showed no evidence against normality. This indicated that the underlying assumption of normality was met for ANOVA. Hartley’s F-max testing indicated that the data was homogenous ($F_{\text{Max}} = 3.25$). The one-way ANOVA of student satisfaction (See Table 4.7) revealed a statistically significant difference between modes of communication [$F(9,824) = 6.61, p < .05$]. This indicated that not all modes of communication result in the same level of student satisfaction. Therefore, the null
hypothesis was rejected. The Omega ($\Omega^2 = .06$) indicated that 6% of the variation in student satisfaction levels was attributed to differences in the mode of communication.

Table 4.7

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>49.32</td>
<td>9</td>
<td>5.48</td>
<td>6.61</td>
<td>6.78E-9</td>
</tr>
<tr>
<td>Within groups</td>
<td>683.41</td>
<td>824</td>
<td>0.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>732.73</td>
<td></td>
<td>732.73</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As indicated previously, the One-Way ANOVA indicated at least one significant difference among the means. Scheffé post hoc comparisons showed three areas of significant difference, p < .05. Student satisfaction was, 1) significantly higher in the email communications group ($M = 1.71$) than in instructor video conferencing ($M = 2.43$), 2) significantly lower in the video conferencing group ($M = 2.43$) than the announcements on course homepage group ($M = 1.63$), and 3) significantly higher in the homepage announcements ($M = 1.63$) group than in the instructor audio recordings ($M = 2.22$).

**Graduate Degree Program and Online Student Satisfaction**

The majority of respondents were in the process of completing a Masters Degree (See Table 4.1). Master’s-level students accounted for 53% of the total responses. As previously mentioned, 11% of respondents were enrolled in the Ed.S. Program; 36% were enrolled in the Ed.D. Program. The mean score for each mode of communication was calculated based on the degree program students were enrolled in, in order to determine the overall level of satisfaction (Table 4.7). Within the responses for each
mode of communication, responses which indicated “N/A” were removed from the sample so that these scores did not skew the mean. This reduced the sample size for some modes of communication. The mean in each degree program indicated that students in all degree programs fell within the range of satisfied or highly satisfied.

Table 4.8

<table>
<thead>
<tr>
<th>Mode of Communication</th>
<th>Masters</th>
<th>Ed.S.</th>
<th>Ed.D.</th>
<th>Entire Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Announcements on course homepage</td>
<td>1.63</td>
<td>1.67</td>
<td>1.63</td>
<td>1.64</td>
</tr>
<tr>
<td>Discussion board posts</td>
<td>1.97</td>
<td>2.08</td>
<td>1.75</td>
<td>1.90</td>
</tr>
<tr>
<td>Video Conferencing</td>
<td>2.75</td>
<td>2.33</td>
<td>2.04</td>
<td>2.41</td>
</tr>
<tr>
<td>Audio Recordings</td>
<td>2.55</td>
<td>1.75</td>
<td>2.08</td>
<td>2.21</td>
</tr>
<tr>
<td>Assignment Instructions and Expectations</td>
<td>2.07</td>
<td>2.33</td>
<td>1.75</td>
<td>1.98</td>
</tr>
<tr>
<td>Online chats</td>
<td>2.31</td>
<td>1.75</td>
<td>2.18</td>
<td>2.23</td>
</tr>
<tr>
<td>Email Communications</td>
<td>1.78</td>
<td>1.75</td>
<td>1.54</td>
<td>1.75</td>
</tr>
<tr>
<td>Face-to-face communication</td>
<td>2.35</td>
<td>1.6</td>
<td>2.56</td>
<td>2.3</td>
</tr>
<tr>
<td>Telephone communication</td>
<td>2.36</td>
<td>2.14</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Feedback on assignments</td>
<td>2.09</td>
<td>1.92</td>
<td>1.88</td>
<td>1.99</td>
</tr>
</tbody>
</table>

For this study, the sample consisted of 111 respondents. There were several modes of communication that had not been experienced by a significant portion of the population. There were 50 responses of “not applicable” which indicated that nearly half of the sample had never experienced communicating with instructors via video conferencing. Additionally, there were 28 respondents who indicated that they had not experienced audio recordings as a form of communication from the instructor. Fifty-seven students had not experienced online chats while 75 students had not communicated with an instructor in person. Sixty students had not spoken with an instructor by phone. Email communication and discussion board posts each received one “not applicable” answer.

Number of Courses Taken and Online Student Satisfaction
For analysis of the relationship between number of online courses taken and student satisfaction, the sample was divided into four categories. These categories were the number of courses completed: 1-5, 6-10, 11-15, and 16 or more. The largest percentage of respondents (52) had completed 5 or fewer online graduate courses. This was followed by 43 students who had completed between 6 and 10 courses, 12 who had completed between 11-15, and 3 who had taken 16 or more online graduate courses. Respondents who indicated “not applicable” within any mode of communication were removed from the population for that mode of communication. Means in each category indicated that most students were satisfied with each mode of communication (Table 4.9). However, satisfaction levels with video conferencing, audio recordings, face-to-face interaction, and telephone conversations were between satisfied and neutral.

Table 4.9

<table>
<thead>
<tr>
<th>Number of Courses Taken</th>
<th>0-5</th>
<th>6-10</th>
<th>11-15</th>
<th>16+</th>
<th>Entire Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Announcements on course homepage</td>
<td>1.61</td>
<td>1.53</td>
<td>2</td>
<td>2</td>
<td>1.63</td>
</tr>
<tr>
<td>Discussion board posts</td>
<td>1.98</td>
<td>1.65</td>
<td>2.3</td>
<td>2.67</td>
<td>1.89</td>
</tr>
<tr>
<td>Video Conferencing</td>
<td>2.33</td>
<td>2.44</td>
<td>2.6</td>
<td>2.33</td>
<td>2.41</td>
</tr>
<tr>
<td>Audio Recordings</td>
<td>2.38</td>
<td>2.11</td>
<td>2.27</td>
<td>1.67</td>
<td>2.22</td>
</tr>
<tr>
<td>Assignment Instructions and Expectations</td>
<td>1.96</td>
<td>1.90</td>
<td>2.5</td>
<td>2</td>
<td>1.98</td>
</tr>
<tr>
<td>Online chats</td>
<td>2.2</td>
<td>2.23</td>
<td>2.75</td>
<td>1.5</td>
<td>2.23</td>
</tr>
<tr>
<td>Email Communications</td>
<td>1.76</td>
<td>1.84</td>
<td>1.56</td>
<td>2.08</td>
<td>1.71</td>
</tr>
<tr>
<td>Face-to-face communication</td>
<td>2.4</td>
<td>2.09</td>
<td>2.67</td>
<td>1.5</td>
<td>2.29</td>
</tr>
<tr>
<td>Telephone communication</td>
<td>2.36</td>
<td>1.9</td>
<td>2.75</td>
<td>1.33</td>
<td>2.18</td>
</tr>
<tr>
<td>Feedback on assignments</td>
<td>1.98</td>
<td>1.84</td>
<td>2.83</td>
<td>1.67</td>
<td>1.99</td>
</tr>
</tbody>
</table>
Age and employment

Respondents were asked to provide age and number of years employed in education. This information was used to disaggregate student satisfaction data. For the purposes of this study, there was no significant variance in the means between age group categories or number of years employed.

Open-ended questions

At the end of the survey, students were asked to respond to two open-ended questions in order to provide depth to the survey (Appendix E). These questions were 1)”Which types of instructor communication do you feel are most effective in online graduate courses? Why?” and 2)”Which types of communication in online graduate courses need improvement?”

The first question addressed the mode of communication that students felt was the most effective in online graduate courses. Of the 111 students who responded to this question, the majority (60) mentioned email as the most effective communication in online graduate courses. Two of the reasons indicated were convenience and individualized communication (Appendix D). Several responses (22) indicated that students felt that feedback on assignments was an effective mode of communication. Individualization of feedback and to provide clarity for instructor expectations and student performance were two of the most noted responses.

The second question addressed modes of instructor-student communication in online courses that need improvement. Several responses (17) indicate that assignment instructions and expectations need improvement. Students indicated that expectations for
course assignments and instructions were sometimes confusing or unclear. Students also indicated that using rubrics more frequently for assignments could provide clarity. Regarding feedback on assignments, 15 students indicate that feedback on assignments was an area that needs refinement.

**Online Communication Instructor Satisfaction Survey**

As mentioned in Chapter 3, a survey was sent out to 11 online graduate instructors in order to collect supplementary data. 8 instructors chose to participate. The results of the instructor survey are illustrated in Table 4.10. In order to calculate the mean of each satisfaction level, the “N/A” answers were removed.

<table>
<thead>
<tr>
<th>Mode of Communication</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td>Announcements on course homepage</td>
<td>7</td>
<td>1.75</td>
<td>.38</td>
</tr>
<tr>
<td>Discussion board posts</td>
<td>8</td>
<td>1.5</td>
<td>.53</td>
</tr>
<tr>
<td>Video conferencing</td>
<td>7</td>
<td>1.71</td>
<td>.95</td>
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<tr>
<td>Audio recording</td>
<td>8</td>
<td>1.88</td>
<td>.35</td>
</tr>
<tr>
<td>Assignment expectations and instructions</td>
<td>8</td>
<td>1.25</td>
<td>.46</td>
</tr>
<tr>
<td>Online chats</td>
<td>4</td>
<td>2.75</td>
<td>.5</td>
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<tr>
<td>Email communications</td>
<td>8</td>
<td>1.13</td>
<td>.35</td>
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<tr>
<td>Face-to-face communications</td>
<td>7</td>
<td>1.86</td>
<td>.90</td>
</tr>
<tr>
<td>Telephone conversations</td>
<td>8</td>
<td>1.88</td>
<td>.84</td>
</tr>
<tr>
<td>Feedback on assignments</td>
<td>8</td>
<td>1.38</td>
<td>.51</td>
</tr>
</tbody>
</table>

Instructors reported that they had not experienced the following modes of communication while instructing online graduate courses: online chats (4), announcements on course homepage (1), videoconferencing (1), and face-to-face communications (1).
An alpha level of .05 was used for all analyses. The Kolmogorov-Smirnov Test for normality showed no evidence against normality. This indicated that the underlying assumption of normality was met for ANOVA. Hartley’s F-max testing indicated that the data was not homogenous ($F_{\text{Max}} = 7.24$); therefore the assumptions were not met in order to conduct ANOVA.

When asked the open-ended questions, 6 of the 8 instructors surveyed indicated that email was the most effective mode of communication. One instructor reported that discussion boards were the most effective. The remaining instructor said, “All types are productive and helpful. I think that is entirely dependent on the student and the type of information being communicated.” The second question related to which modes of communication needed improvement. Two respondents indicated video conferencing. Other answers included video recordings, online chats and, “The programs will improve with experience from the students and the instructors.”

**Conclusion**

This study examined the correlation between modes of instructor communication and student satisfaction levels in online graduate programs. In this study, data were collected from students enrolled in online graduate courses during the spring 2016 semester at a small, denominationally affiliated, private liberal arts college in the Southeast. The research question was: What is the correlation between instructor-student communication in online graduate courses and student satisfaction levels in the private university setting? All data were derived from an online survey with 111 responses. Data were also collected from instructors of online programs in order to gather supplementary data and provide triangulation.
This chapter presented descriptive statistics including demographic information and survey responses. This chapter provided data relating to ten modes of instructor communication and student satisfaction levels within each mode. Additionally, this chapter presented findings of the data disaggregated by demographic information. The statistical mean for each subgroup was provided. Answers to open-ended questions regarding student satisfaction with modes of communication were also presented.

Chapter 5 provides a summary of the study, a discussion of the research findings, and recommendations for future research.
CHAPTER FIVE

Conclusions, Implications, and Recommendations

The purpose of this study was to investigate the correlation between instructor-student communication in online graduate courses and student satisfaction levels in the private university setting. This study investigated overall satisfaction with instructor-student communication in online graduate courses. Students enrolled in online graduate courses in a private, denominationally affiliated, liberal arts university in the southeastern United States completed an online survey (See Appendix A) consisting of Likert-type items, open-ended questions, and demographic information. The data were analyzed with procedures including descriptive measures, a one-way ANOVA, and Scheffé’s post hoc comparison. The research question guiding this study was:

What is the correlation between modes of instructor-student communication in online graduate courses and student satisfaction in the private university setting?

This chapter provides a summary of the findings, conclusions, implications, and recommendations for further study.

Summary

The population for this study included all online graduate students in education at University A in January 2016. Of the 351 students enrolled, 111 students chose to participate in the study. Students were enrolled in one of three programs: Master’s (59), Ed.S. (12), or Ed.D (40). The mean age of participants was 36.29, with the largest number of participants falling between the ages of 22 and 29. The majority of
participants (47) had completed 5 or fewer online graduate courses at the time of the study. When asked the number of years employed in education, the mean was 10.06 years.

Conclusions

1. A one-way ANOVA provided a correlation between modes of instructor-student communication and student satisfaction in online courses \[F(9, 824) = 6.61, p<.05\]. This indicated that not all modes of communication result in the same level of satisfaction.

2. The findings illustrated that most students were satisfied overall with communication in online graduate courses. The highest levels of satisfaction were seen regarding announcements on course homepage and email communications. Most (90%) students were either satisfied or highly satisfied with announcements on the course homepage (M = 1.63). Additionally, 90% of students were either highly satisfied or satisfied with email correspondence with instructors (M=1.71). Students also reported satisfaction with discussion board posts (82%), assignment expectations and instructions (88%), and instructor feedback on assignments (80%).

3. The findings indicated that satisfaction levels for several modes of communication were in the range between satisfied (2) and neutral (3). These included online chats (M=2.23), face-to-face communication (M = 2.29), audio recordings (M=2.22), and telephone conversations (M=2.20).

4. A large number of students had not experienced several modes of communication. 68.17% of respondents had never experienced a face-to-face conversation with an instructor. Slightly more than half of the respondents had not
experienced telephone communications (53.57%) and online chats (51.35%). Additionally, 44.64% of students had not experienced video conferencing and 25% of the sample had not experienced audio recordings.

5. The findings showed that instructors had the highest satisfaction levels with email communications (M=1.13) and assignment expectations and instructions (M=1.25). Instructors found the least satisfaction with online chats (M=2.75). Four instructors indicated no experience with online chats. Video conferencing, face-to-face communication, and announcements on course home page each had one “not applicable” response.

**Implications**

The findings indicated a correlation between modes of instructor communication and student satisfaction. The study of online instructor communication is crucial because students value effective communications with instructors and often base their opinion of instructor effectiveness on them (Young, 2006).

Even though most students indicated the highest overall levels of satisfaction with announcements on course homepage and email correspondence, there is room for improvement. When responding to open-ended questions, students mention that email is timely, quick, effective, and personal. Email provides the opportunity to communicate at different times during the day (Rhodes, 2004). In order to maintain high levels of satisfaction, email communication from all instructors to all students must be consistent, timely, and high quality. This provides the opportunity for the student to develop a connection with the instructor (Joyner, Fuller, Holzweiss, Henderson, & Young, 2014). Survey responses indicate that instructors were also satisfied with email communication
Additionally, 6 of the 8 instructors responded that email was the most effective mode of communicating with students.

Instructors should continue to use announcements on course homepages as a way to communicate information to the students in the course in a timely manner. This helps students know what to expect and feel a connection to the instructor (Young, 2014). When looking to demographic information, the satisfaction level for announcements on the course homepage was lower for those students who had taken 11 or more online graduate courses. This may suggest that courses taken later in the course rotation do not utilize course announcements as effectively as introductory courses. Additionally, one instructor reported no experience with announcements on the course homepage. The mean satisfaction level among the other instructors was 1.75, which indicated that there is some room to improve instructor satisfaction as well.

Satisfaction levels for email correspondence were lowest among students who have completed between 11-15 courses. This could be addressed by ensuring that all students receive timely and effective responses, even if they are several semesters into the program (Saito & Sipe, 2003; Young, 2014).

The findings also indicated that between 80-90% of students were satisfied with discussion board posts (M=1.85), assignment expectations and instructions (M=1.99), and instructor feedback on assignments (M=1.99). The mean score for each of these modes of communication was very close to “2,” indicating that students were satisfied, but not highly satisfied with these types of communication. Interestingly, when considering degree program, respondents in the Ed.S. Program report lower levels of satisfaction than other students when responding to questions about discussion board
posts and assignment expectations and instructions. Instructor data indicated that overall, instructors were satisfied with discussion boards (M=1.5) and assignment instructions and expectations (M=1.25). One instructor indicated that discussion boards were the most effective means of communication with students. This mode of communication is often planned and designed in order to enhance instruction and provide opportunities for interaction (Vanhorn, Pelt, & Child, 2008). While both students and instructors were satisfied with discussion board posts, this mode of communication could be used more often, which would increase satisfaction levels. Instructors should also ensure that assignment expectations are clear and easy to understand, thus increasing satisfaction levels for students.

Respondents indicated in the open-ended questions that “specific feedback from instructors is most effective” and “without guidance from the instructor on how to improve writing/content knowledge, a student can’t really be prepared for their field.” This is a reflection of the importance of high-quality, timely feedback in online instruction (Murphy, 2007). Open-ended questions also indicated that assignment instructions and expectations were sometimes not as effective as they could be. Students suggested that there could be “more rubrics to base my assignments on” and that sometimes expectations are “unrealistic.” Additionally, students indicated that syllabi include “non-essential information.” Students also reported that “sometimes the course assignments get mixed up and confusing.” Instructors could target these areas in order to improve student satisfaction by ensuring that expectations and instructions are clear and feedback is timely and effective (Arbaugh & Harnick, 2006; Murphy 2007).
Several modes of communication had a mean satisfaction level that ranged between satisfied and neutral. These areas should be addressed, because effective communication can be the difference between a student successfully completing an academic program or dropping out; consequently, communication is crucial (Baker & Griffin, 2010). Modes of online communication that were between satisfied and neutral include online chats, face-to-face communication, audio recordings, and telephone conversations. One interesting fact illustrated by the demographic data is that satisfaction levels in each of these modes of communication were below the overall satisfaction mean among students who have taken between 11-15 online graduate courses, which indicated that these students were not as satisfied as the overall population. Ed.D. students had the lowest satisfaction level with face-to-face communication, while Masters students had the lowest level of satisfaction with online chats, audio recordings, and telephone communication. Instructors report the lowest levels of satisfaction with these four modes of communication, as well. In order to improve student and instructor satisfaction, professional development could be implemented in these areas to ensure that the online platform is being utilized to its full potential. For example, both students and instructors reported lower levels of satisfaction with online chats. Research indicates that online chats provide an opportunity for students to feel connected to instructors, ask questions, and provide opportunities for didactic conversation (Wang & Newlin, 2001). If instructors were more comfortable with this mode of communication and utilized it more often, satisfaction levels in both groups could improve. Instructors could improve student satisfaction in all four of these areas of communication in the same manner.
The findings reported a large number of students had not experienced telephone conversations, face-to-face interactions, online chats, audio recordings, and video conferencing. Instructors indicated overall satisfaction with face-to-face communication (M=1.86), and only one instructor reported no experience with this type of communication. Face-to-face communications are very difficult to incorporate into online graduate courses, because these students typically never travel to the physical campus (Betts, 2009). However, this opportunity could be offered to students who are within a certain radius of the campus.

The remaining modes of communication could be incorporated into online graduate courses more often. Some students find that an audio recording of an instructor describing assignment expectations makes the assignment clearer and easier to understand. Additionally, 44.54% of students indicated that they had not experienced video conferencing and 51.35% had not experienced online chats. Instructors also indicate a satisfaction level that is close to neutral for online chats (M=2.75) and near satisfied for videoconferencing (M=1.71). Online chats and video conferencing are readily available and free through various websites and could be incorporated into online graduate courses as a small group or individual activity. These modes of communication elicit positive student perceptions (Joyner, Fuller, Holzweiss, Henderson, & Young, 2014). These types of communication would also be an excellent area to target during professional development opportunities for instructors.

**Recommendations**
Future study should include a larger population of respondents. This study was conducted at a small, private, denominationally affiliated, liberal arts university. The study could be repeated at other colleges and universities of varying populations. Future research could include students in online graduate programs in other disciplines, rather than one area of study. Future research could be conducted as a longitudinal study by comparing student satisfaction over time. Future research could be conducted after widespread exposure to modes of communication that had not been experienced by students in these programs.

Qualitative and quantitative studies could be conducted with faculty members to further explore the modes of communication used in online graduate instruction. Qualitative studies, such as personal interviews or focus groups, would provide a deeper understanding of student satisfaction with online instructor communication.

Future research could explore professional development opportunities for online instructors in various modes of communication.

**Conclusion**

This study addressed the correlation between types of instructor-student communication in online graduate programs and student satisfaction in the private university setting. The study concluded that there is a statistically significant difference in student satisfaction levels in regard to modes of instructor-student communication. The data indicate that most students have an overall sense of satisfaction with instructor-student communication in online graduate courses. However, there is room for improvement. The study found that students were satisfied, but not highly satisfied, with
email and announcements on course homepages. Students were the least satisfied with online chats, face-to-face communications, audio recordings, and telephone conversations. These are target areas for improvement. Additionally, large numbers of respondents had not experienced face-to-face communication, telephone conversations, online chats, video conferencing, or audio recordings. These areas could be targeted for professional development and implementation. There are also many avenues for further research relating to instructor-student communication in online graduate courses and student satisfaction.
References


Gittings, G. A. (2010). The effect of student attributes and program characteristics on doctoral degree completion (Doctoral dissertation) Western Kentucky University, Bowling Green, KY. Retrieved from: http://ir.library.louisville.edu/cgi/viewcontent.cgi?article=1501&context=etd


Moore, M. G. (1989). Three types of interaction. *American Journal of Distance Education*


Online Journal of Distance Learning Administration, 12(2). Retrieved from http://www.westga.edu/~distance/ojdra


Wolsey, T.D. (2008). Efficacy of instructor feedback on written work in an online


Appendices
Appendix A

Online Communication Student Satisfaction Survey
This is a survey designed to examine your satisfaction level with instructor communication in online graduate courses. When answering the questions below, please answer the questions to the best of your ability in regard to the courses you have experienced. As you answer the questions, please keep in mind that this is a holistic approach. Therefore, consider your experience with all graduate online courses, rather than a specific course.

There is no risk to this survey that will affect participants. Your responses will enhance instructor communication with students in online programs.

Your responses will be completely anonymous and will only be used for this study. The researcher will store the data for the study and will be the only person with access to the data.

If you have questions about the study or procedures, you may contact the researcher, Christy Walker at cwalker@cn.edu.

Your participation in this study is voluntary, and you may decline to participate without penalty. Providing answers to the survey constitutes your consent to participate. If you wish to participate, please begin the survey.

Thank you. Your participation is very much appreciated.
Online Communication Student Satisfaction Survey

The following survey is an analysis of your level of satisfaction with instructor-student communication in all online graduate courses that you have taken as part of the degree program in which you are enrolled. As you select your response, please keep in mind that the survey assesses your level of satisfaction in a general manner in regard to the courses you have experienced throughout your program rather than a specific course.

Student satisfaction is defined by Sweeney & Ingram (2001) as, “the perception of enjoyment of accomplishment in the learning environment” (p. 57).

1. Based on the following scale, please select the answer that most clearly indicates your level of satisfaction regarding the types of instructor communication you have experienced in your online graduate courses: very satisfied, satisfied, neutral, dissatisfied, very dissatisfied, N/A (did not experience in any course).

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<thead>
<tr>
<th></th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Neutral</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>N/A</th>
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<tbody>
<tr>
<td>announcements on course home page</td>
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<td>instructor posts and replies on discussion boards</td>
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<td>instructor videoconferencing (i.e. Skype) or video recordings</td>
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<td>instructor audio recordings</td>
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<td>assignment instructions and expectations</td>
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<td>online chat</td>
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<td>feedback on assignments</td>
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</tbody>
</table>
2. Which types of instructor communications do you feel are most effective in online graduate courses? Why?

3. Which types of communication in online graduate courses need improvement?

4. Demographic Information

   Age

   How many online graduate courses have you completed in your current program?

   How many years have you been employed in education?

5. Select the program in which you are enrolled.
Appendix B

Initial Email to Instructors
Colleagues,

Please copy and paste the message below and send to your online classes. You can email your entire class from the course home screen in e360. Thanks for your time.

Christy Walker, a graduate student, is completing a study leading to the completion of her doctoral dissertation regarding student satisfaction with instructor communication in online graduate courses. You are invited to participate in the study by completing a survey, which will take approximately 5 minutes. Please be assured that your answers will remain anonymous as you will not be asked any identifying information. This study has been approved by the University Institutional Review Board, and there is more information on the first page of the link. Providing answers to the survey is your consent to participate in the study. Thank you for your time and honesty. Please click the following link to continue: https://www.surveymonkey.com/r/73ZH9LP
Appendix C

Online Communication Student Satisfaction Survey
Online Student Satisfaction Survey

This is a survey designed to examine your satisfaction level with instructor-student communication in online graduate courses. When answering the questions below, please answer the questions to the best of your ability in regard to the courses you have taught. As you answer the questions, please keep in mind that this is a holistic approach. Therefore, consider your experience with all graduate online courses taught, rather than a specific course.

There is no risk to this survey that will affect participants. Your responses will enhance instructor communication with students in online programs.

Your responses will be completely anonymous and will only be used for this study. The researcher will store the data for the study and will be the only person with access to the data.

If you have questions about the study or procedures, you may contact the researcher, Christy Walker at cwalker@cn.edu.

Your participation in this study is voluntary, and you may decline to participate without penalty. Providing answers to the survey constitutes your consent to participate. If you wish to participate, please begin the survey.

Thank you. Your participation is very much appreciated.
Online Communication Satisfaction Survey

The following survey is an analysis of your level of satisfaction with instructor-student communication in all online graduate courses that you have taught. As you select your responses, please keep in mind that the survey assesses your level of satisfaction in a general manner regarding the courses you have taught rather than a specific course.

Student satisfaction is defined by Sweeney & Ingram (2001) as, "the perception of enjoyment of accomplishment in the learning environment" (p. 57).

1. Based on the following scale, please select the answer that most clearly indicates your level of satisfaction regarding the types of instructor communication you have incorporated into your online graduate courses: very satisfied, satisfied, neutral, dissatisfied, very dissatisfied, N/A (did not experience in any course).

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<thead>
<tr>
<th></th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Neutral</th>
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<td>posts and replies on discussion boards</td>
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2. Which types of instructor-student communications do you feel are most effective in online graduate courses? Why?

[Blank space for answer]
3. Which types of communication in online graduate courses need improvement?

4. Demographic Information
   Approximately how many different online graduate courses have you taught?
Appendix D

Email to Instructors
I am currently completing a study leading to the completion of my doctoral dissertation regarding student satisfaction with instructor communication in online graduate courses. In order to provide supplementary data, I am gathering data regarding instructor satisfaction with communication in online graduate courses. You are invited to participate in the study by completing a survey, which will take approximately 5 minutes. Please be assured that your answers will remain anonymous as you will not be asked any identifying information. This study has been approved by the Institutional Review Board, and there is more information on the first page of the link. Providing answers to the survey is your consent to participate in the study. Thank you for your time and honesty. Please click the following link to continue: https://www.surveymonkey.com/r/H6HKS5W
Appendix E

Sample of Answers for Open-Ended Questions
Question One: Which types of instructor communication do you feel are most effective in online graduate courses? Why?

Email

“Emailing and immediate feedback on assignments. The quick and timely response is effective for the student.”

“Email because it can be received at any time anywhere with internet access.”

“Email is most effective. Because it is a quick, easy way to get questions answered and any clarification on assignments.”

“Email and feedback on assignments. Because it lets me know if I am on the right track of meeting the expectations of the assignment and if I was correct in how a situation was handled.”

“Email.....I felt it was instant feedback and I could print off all the suggestions of changes I needed to make.”

“Email, communication boards. They go over the full subject and what is needed for the course or assignment.”

“Email - It is the most convenient form of communication as we are not required to establish a meeting/speaking time.”

Feedback on assignments

“Specific feedback on assignments is most effective. This is important due to the online format.”

“Without guidance from the instructor on how to improve writing/content knowledge, a student can't really be prepared for their field.”
“Instructor feedback on dropbox assignments and discussion board assignments. The instructors I have had thus far, have left detailed information about my assignments.”

“Feedback on assignments. Often we receive a score, maybe a rubric, but this cannot replace individualized feedback.”

“Assignment feedback is the most important to me so that I can successfully complete my degree program and professionally develop at the same time.”

“I believe feedback on assignments is the most effective, as this enables me to affirm if I am on the right track and allows further confidence on future assignments.”

**Question Two: Which types of communication in online graduate courses need improvement?**

**Assignment instructions and expectations**

“The majority syllabus will have way too much non-essential information. Tell me what you are requiring and when you want it submitted.”

“Sometimes the course assignments get mixed up and are confusing.”

“Expectations are unclear at times and so is feedback on assignments. This makes it difficult to move forward in a course.”

“I think there is an expectation from professors that is unrealistic for students. To often the feedback is ‘You are in graduate level course, figure it out.’ I think professors forget 1. We are not in a classroom setting so we do not have as much communication. 2. Yes we are graduate students, but that is like saying on day one to a fifth grader ‘well you are in fifth grade now so you should be able to do double digit division with no problem’.”

“Assignment instructions. I wish there were more rubrics to base my assignments on.”
Some of the responses are indicated below:

**Instructor feedback on assignments**

“The only communication issue I have experienced was just my curiosity on grades. I have always received high grades but I rarely receive feedback on what I missed or the particulars why a point was taken. Since my grades are high it is not a big deal, but I always want to improve and need specific feedback in order to do so.”

“Assignment posted feedback, all feedback needs to be given prior to posting next assignment.”

“Feedback on assignments. In my experience this type of communication is quite limited or non-existent beyond a grade.”

“Feedback on assignments needs to be more individualized. It is sometimes obvious that the response is used more than once.”

“Feedback probably. The feedback in some courses is extremely helpful, and in others, it seems like the professors do not want to put so much effort into actually critiquing assignments to better the students.”
Appendix F

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Signature: Christy H. Walker

Date: March 30, 2014