8-1-2016

Best Practices In Online Pedagogy: A Pearson Correlation Analysis Between Teaching Evaluation Scores And Transactional Distance Scores In Online Graduate Courses

William Angrove
University of New England

Follow this and additional works at: http://dune.une.edu/theses

Part of the Educational Assessment, Evaluation, and Research Commons, Educational Leadership Commons, Educational Methods Commons, and the Online and Distance Education Commons

Preferred Citation

BEST PRACTICES IN ONLINE PEDAGOGY: A PEARSON CORRELATION ANALYSIS

BETWEEN TEACHING EVALUATION SCORES AND TRANSACTIONAL DISTANCE

SCORES IN ONLINE GRADUATE COURSES

By

William Angrove

BA (Western Michigan University) 1979
MPA (American Public University) 2013

A DISSERTATION

Presented to the Affiliated Faculty of

The College of Graduate and Professional Studies

at the University of New England

In Partial Fulfillment of Requirements

For the Degree of Doctor of Education

Portland & Biddeford, Maine

May, 2016

William Angrove
May 2016
Educational Leadership

BEST PRACTICES IN ONLINE PEDAGOGY: A PEARSON CORRELATION ANALYSIS

BETWEEN TEACHING EVALUATION SCORES AND TRANSACTIONAL DISTANCE

SCORES IN ONLINE GRADUATE COURSES

Abstract

The purpose of this quantitative study was to discover how four universally recognized best practices in online pedagogy affected teaching evaluation scores in online graduate courses. The four best practices in online pedagogy are: *Course Organization and Presentation, Learning Objectives and Assessments, Instructor-Student Interpersonal Interaction,* and the *Appropriate Use of Video or Multimedia.* The researcher modified these best practices from the Jaggars and Xu (2016) *Online Course Quality Rubric.* The study utilized Dr. Michael G. Moore's (1973) theory of transactional distance to understand the relationship between teaching evaluation scores and transactional distance. University instructional designers assessed and rated how well the researcher incorporated the best practices and awarded each course a transactional distance score (TDS). The researcher used a Pearson's correlation analysis to measure the strength of the relationship between teaching evaluation scores and TDS. A thorough literature review revealed a gap in research related to how best practices in online pedagogy affected teaching evaluation scores in online graduate courses. This research study added to the body of knowledge about the gap within the existing literature.

Keywords

Transactional distance, distance education, best practices in online pedagogy, *Course Organization and Presentation, Learning Objectives and Assessments, Instructor-Student Interpersonal Interaction,* the *Appropriate Use of Video or multimedia,* dialog, course structure, learner autonomy, teaching evaluations, IDEA survey scores, Transactional Distance Scores, *Online Course Quality Rubric,* student satisfaction, student motivation, instructor, instructional design, Pearson correlation analysis, and transformative leadership.

Research problem

According to research by Moore and Kearsley (2012), students' feelings of separation from the instructor in online courses increase transactional distance and may lead to confusion and misunderstanding between the instructor and student. Berk (2013); Brocato, Bonanno, & Ulbig (2015); and Morrison (2011) found that student evaluations of instructors teaching online are often lower when compared to traditional classroom teaching evaluations, which suggested better instructional strategies are needed in online courses.

Research question

The primary research question for this study asked: How does transactional distance in online pedagogy relate to student evaluation scores of online instructors at a Doctoral Research University in Texas? The hypothesis of this study posited a high correlation between the four best practices in online course design -- Course Organization and Presentation, Learning Objectives and Assessments, Instructor-Student Interpersonal Interaction, the Appropriate Use of Video or Multimedia -- and teaching evaluation scores.

Key Personnel

Twenty-two instructional designers in the office of Distance Education volunteered to evaluate 69 online graduate courses taught in the spring semester of 2015. Tenured instructors, who had taught at least one online graduate course, had taught all these volunteers.

Type of data collected

The researcher used two main data sources in this study: the IDEA survey scores, and transactional distance scores (TDS). The IDEA survey is a student rating of instruction used widely in higher education and the author administered this online at the end of the spring semester of 2015. The survey measures teaching effectiveness. The author derived the TDS score by using the modified *Online Course Quality Rubric* that Jaggars and Xu (2016) developed. Instructional designers rated the 69 online graduate courses using a five point Likert scale to determine how effectively best practices in online pedagogy were used.

Dissertation findings

The results indicated no correlation between the cumulative measures of IDEA survey scores and transactional distance scores (TDS). The best practice *Course Organization and Presentation* had a low positive correlation (0.137) between IDEA survey scores and TDS. The best practice *Learning Objectives and Assessments* had a low positive correlation (0.171) between IDEA survey scores and TDS. There was no correlation (-0.099) between IDEA survey scores and TDS for the best practice *Instructor-Student Interpersonal Interaction*. A low negative correlation (-0.124) was found between IDEA survey scores and TDS for the best practice *Appropriate Use of Video or Multimedia.*

Stakeholders

There are many stakeholders in the study: Instructors, students, instructional designers, distance education administrators, academic department chairs, deans, senior university administrators, university system administration, and Texas citizens.

Formats and Audience(s)

The researcher presented dissertation findings at distance education conferences including: the 6th Annual SHSU Online Teaching and Learning Conference, TXDLA, USDLA, and IOL. The author then posted the dissertation to DUNE, and to the SHSU Online website.

University of New England

Doctor of Education
Educational Leadership

This dissertation was presented
by
William Angrove

Best Practices in Online Pedagogy: A Pearson Correlation Analysis Between Teaching

Evaluation Scores and Transactional Distance Scores in Online Graduate Courses

It was presented on
May 31, 2016
and approved by:

Marylin Newell, PhD, Lead Advisor
University of New England

Carol Burbank, PhD, Secondary Advisor,
University of New England

Jaimie Hebert, PhD, Affiliate Committee Member

ACKNOWLEDGEMENTS

I would like to express the deepest appreciation to my dissertation committee chair Dr. Marylin Newell who guided me throughout the entire process. Without her guidance, encouragement, and persistent help this dissertation would not have been possible. I would like to thank my committee members, Dr. Carol Burbank and Dr. Jaimie Hebert whose questions, suggestions, patience, and support were invaluable. I would like to thank Dr. Shanna Smith Jaggars and Dr. Di Xu for granting me permission to modify their *Online Course Quality Rubric.* In addition, I would like to thank my assistant, Trina Strange for proof reading my dissertation. Finally, I would like to thank my wonderful wife Kay who inspired me to take this transformative journey to earn a doctoral degree.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Allen and Seaman's (2016) longitudinal research reported that enrollments for online courses have grown more rapidly than total enrollments in higher education since 2003. Nearly six million university students in America were taking more than one online course in the fall term of 2015. Over 63% of university administrators surveyed said distance education was a key strategy for enrollment growth. According to Miller (2014, p. 21), the rapid expansion of distance education continues to present challenges for instructors teaching online in higher education. They need to understand and incorporate best practices in online pedagogy with an emphasis on instructional strategies that incorporate the appropriate technologies and communication tools necessary to improve communication between themselves and their students. Consequently, there is a need for instructors to adopt best practices in online pedagogy with a focus on the quality of dialog between teachers and students (Fraile & Bosch-Morell, 2015; Shen & Tsai, 2013).

The purpose of this quantitative study was to discover how four universally recognized best practices in online pedagogy affected teaching evaluation scores. *Transactional distance*, which involves the quality of transactions between instructors and students in online courses, is one of the most influential theories in the field of distance education. In 1973, Michael G. Moore described transactional distance as a pedagogical concept where the quality of transactions focuses on more than two-way communication and are concerned with all forms of dialog, interaction, and cooperation between instructors and students.

Jaggars and Xu's (2016, pp. 271-272) research built on Moore's theory of transactional distance (2013, p. 80) and assessed the use of best practices in the design of online courses to

understand how they might impact student learning outcomes. They rated 23 online courses at two community colleges using their *Online Course Quality Rubric,* which they adapted from several nationally recognized online quality rubrics. Their four best practices in online course design included: (1) course organization and presentation, (2) learning objectives and assessments, (3) interpersonal interaction, and (4) use of technology. They found that only the area of instructor-student interpersonal interaction was a predictor of improved grades in the online courses. Consequently, there is a need for instructors to adopt best practices in online pedagogy with a focus on the quality of dialog between teachers and students (Fraile & Bosch-Morell, 2015; Shen & Tsai, 2013).

Brocato et al. (2015) suggested that student evaluations of instructors teaching online courses are considerably lower than their evaluations in face-to-face classes. Student evaluations of instructors teaching are an important component of instructors' annual performance appraisals and in tenure and promotion decisions (Annan, Tratnack, Rubenstein, Metzler-Sawin, & Hulton, 2013). Young (2006) suggested that students evaluated instructors' teaching as more effective when instructors organized their course well, when they engaged with their students, if they were flexible to what students needed, and they created an environment that encouraged collaboration (p. 73). However, further research was necessary to understand how best practices in online pedagogy affected instructors' evaluation scores.

This chapter includes a discussion of the circumstances regarding the problem, the problem statement, the purpose of the study, and the research question. Furthermore, the researcher presents the conceptual framework that guided this study. The researcher also discusses the assumptions, limitations, and scope of the study, along with the significance of the

study and a definition of the terms. A summation of the key points of the study completes this chapter.

Problem Statement

According to Moore and Kearsley (2012), students' feelings of separation from the instructor in online courses increase transactional distance and may lead to confusion and misunderstanding between the instructor and student. Berk (2013); Brocato et al. (2015); and Morrison (2011) found that student evaluations of instructors teaching online are often lower when compared to traditional classroom teaching evaluations. Brocato et al. (2015) research suggested that instructors' teaching styles and student interactions are not easily transferable from the classroom to the online environment, which suggested that online courses need better student engagement strategies.

Stein, Wanstreet, Calvin, Overtoom, and Wheaton (2005) explored student satisfaction in online courses as related to how the courses were structured, the types of interactions involved, and the technical skills needed to succeed. They based their research on Moore's theory to discover how instructors structured courses, and how designing communication between instructors and students into the course had considerable influence on student satisfaction (p. 114).

Moore (1997) suggested that the types of transactions that occur between instructors and students in distance education should consider three factors: Dialog, course structure, and learner autonomy. First, he posited that it is not the frequency of dialog, but how effective the quality of dialog is in solving the distance learner's problems, that is most important. He suggested that the geographic separation between the instructors and students was less important than the separation between the instructors and students' interpersonal relationship, which the quality of

their dialog could improve. The second factor he referred to is how the course is structured, and that depended on how rigid or flexible the course is. This includes course learning objectives, the pedagogy used to teach the course, the types of assessments, and how well the course accommodates student needs. Moore described the third factor as learner autonomy meaning the student's ability of self-direction and motivation to learn the material at a distance. Both can be seriously affected by the dialog, how rigid or flexible the course is, and by the ability of the student to master the material with little or no interaction with the instructor. Moore argued that learning improved and student satisfaction increased as transactional distance decreased.

Jaggars and Xu (2016) found that instructors who used a high level of interaction with students by asking for regular feedback helped students connect with them. Instructors that used multiple communication technologies were able to reduce transactional distance by holding regular office hours, telephone conferences, and chat sessions; thus helping struggling students feel like they were important to the instructor. The sense that the instructor cared about the students made them feel connected to the instructor and the course and positively influenced students' assessment of the instructor's teaching (p. 278).

Paul, Swart, Zhang, & MacLeod (2015) measured transactional distance between students and teachers (TDST) by surveying student perceptions. They also measured transactional distance between student and content (TDSC) as well as transactional distance between students and students (TDSS). Their research suggested the model of transactional distance is still significant, but theorists should update the measurement tools regularly. They suggested that transactional distance changes over time as new technology and societal norms evolve (p. 16).

Similarly, the purpose of Vealé's (2009) qualitative study was to explore the impact of course structure on student perceptions of transactional distance. Vealé found that a course that was not well organized frustrated students. Stein et al. (2005) explored student satisfaction as it related to course structure, communication, and technology proficiency. Their research focused on Moore's theory and discovered that course structure, and the way instructors designed collaborations in the course, had considerable influence on student satisfaction.

Closing transactional distance in online courses is important because it may facilitate instructor-student engagement, student motivation, student satisfaction, successful learning outcomes, and improved teaching evaluations.

Background of the Problem

Theorists have studied distance education extensively over the past 50 years. According to Anderson and Simpson (2012, p. 2), thinking about distance education evolving over three generations is helpful in understanding its history. Nipper (1989) suggested the idea of three generations as a framework and described them as production, distribution, and computer conferencing. Nipper later labeled the three generations: correspondence, broadcast, and computer mediated instruction (p. 63). Moore and Kearsley (2012) described distance education as an integrated system that begins with an institutional commitment from the university administration. They recommended that distance education should have a well-defined organization, a clear policy process, faculty incentives and involvement in course development, a focus on best practices in online instruction, an emphasis on student success, a reliable technology infrastructure, an integrated instructional design team, and a viable financial model.

Throughout its history, many authors on the subject of distance education thought it was an unproven instructional delivery methodology. However, several leading researchers in the

field believed that the technology used to deliver a course at a distance was rarely the deciding factor in the educational outcomes. They believed student satisfaction and improved understanding of concepts could occur (Russell, 1999), and that a strong sense of community could be established in distance education settings (Rovai, 2001). Moore and Thompson (1990), and Verduin and Clark (1991) advised that instruction at a distance could be just as good as classroom instruction provided: (1) the technology is appropriate to the learning objectives and outcomes, (2) there is interaction between students, and (3) there is prompt feedback from the instructors (Rovai & Barnum, 2003, p. 58).

Instructors have used many new technologies for educational purpose, as and when they emerged over the three generations. Distance education has used every imaginable technology including mail, telephone, radio, television, satellite broadcasting, fax machines, video conferencing, audio tapes, video tapes, CD's, and the Internet (Matthews, 1999). Chang and Hannafin (2015) explored the use of collaborative technologies in distance education and found that while many instructors encourage student engagement through group work, its effectiveness depended on how well they accommodated multiple learning styles (pp. 78-79). They found that it was not the type of collaborative technology that improved learning; it was the quality of the collaborative process itself that mattered.

Bolliger and Wasilik (2009) suggested that instructors' satisfaction is critical in the creation of quality online courses. In order to create quality content for distance education, instructors need assistance and professional development to use software and technology. The researchers found that instructors wanted to create positive outcomes for their students, and to be recognized for teaching online. According to Guri-Rosenblit (2009), many instructors need to

understand when to be present in their online courses. They need to understand how and when to communicate with their students, and they need to learn what technologies to use and which ones to avoid.

The literature suggested that professional development for instructors teaching online is a critical factor in student success and satisfaction. Consequently, student evaluations of instructors teaching are an important component of their annual performance appraisal and in tenure and promotion decisions. Students evaluate instructors' teaching at the end of each semester using the *IDEA survey*. The IDEA survey is a national evaluation instrument that focuses on student learning objectives, the quality of instruction, and the quality of the course. The survey provides summative and formative feedback regarding the instructors teaching effectiveness. The survey also provides comparisons of instructors teaching effectiveness across a national database to disciplines and to the university as a whole (IDEA Center, 2016a).

It can be detrimental to instructors' careers if they are not well prepared to teach online. Fortunately, instructional designers, who use a rubric that incorporates best practices in distance education course design and pedagogy, assist many instructors. According to Jaggars and Xu (2016, p. 272), there are four primary educational organizations that used research literature from the field of distance education to develop quality course design rubrics for use in the assessment of online courses. Each rubric is very similar in its description of the attributes that constitute a quality online course. The Institute for Higher Education Quality (Merisotis & Phipps, 2000) developed 24 quality standards assembled in seven groupings to assess the quality of online courses. The Council of Regional Accrediting Commissions established a rubric around five quality measures for online programs (Middle States Commission on Higher Education, 2002). The Sloan Consortium also established the Five Pillars of quality necessary in online courses

(Moore & Kearsley, 2005). The most well-known and utilized rubric in online course assessment is Quality Matters, established by Maryland Online (Quality Matters Program, 2014). This rubric is comprised of eight general quality standards and 41 specific measures designed by faculty to evaluate online courses and improve learning outcomes in online education.

Throughout the literature, researchers have had different ideas and understanding of the important features that are necessary to ensure course quality. However, in general, most researchers agree there are four components of quality. The first is concerned with how well the course is organized and how easy it is to navigate. The second is concerned with how clear the learning objectives and student performance requirements are. The third is concerned with incorporating meaningful instructor-student interaction. The fourth is concerned with how effectively technology is utilized. For the purpose of this study, the researcher focused on the first three best practices of quality as Jaggars and Xu (2016) described in their *Online Course Quality Rubric* (p. 275): *Course Organization and Presentation*, *Learning Objectives and Assessments*, and *Instructor-Student Interpersonal Interaction*. The researcher did not analyze the effective use of technology; however, the author did measure the *Appropriate Use of Video or Multimedia* as the fourth element of quality, thereby modifying the *Online Course Quality Rubric*.

Purpose of the Study

The purpose of this study was to measure the strength of the relationship between four universally recognized best practices in online course design and teaching evaluation scores. The best practices are: 1) course organization and navigation, 2) learning objectives and assessments, 3) instructor-student interpersonal interaction, and 4) the appropriate use of video or multimedia. The study attempted to understand how these four best practices in online pedagogy affected

students' feelings of transactional distance as reflected in instructor teaching evaluation scores. University instructional designers assessed how well these four best practices were integrated into the design of online courses and awarded each course a transactional distance score (TDS). The study adds to the body of knowledge in the field of distance education by helping instructors, students, and university administrators understand the importance of incorporating these four best practices into online courses. The researcher used a correlation analysis to measure the strength of the relationship between TDS and teaching evaluation scores. The sample size was 69 online graduate courses taught by tenured instructors in the spring semester of 2015.

Research Question

How does transactional distance in online pedagogy relate to student evaluation scores of online instructors at a Doctoral Research University in Texas? The hypothesis of this study posited a high correlation between the four best practices in online course design -- course organization and presentation, learning objectives and assessments, instructor-student interpersonal interaction, the appropriate use of video or multimedia -- and teaching evaluation scores.

Conceptual Framework

This study built on Moore and Kearsley's (1996) research and analyzed distance education through the lens of Michael G. Moore's theory of transactional distance. Moore's theory suggested that in distance education the separation in space and time between the instructor and student could lead to communication problems, confusion, and feelings of isolation between the students and the instructor (p. 200). In theory, these problems and

misunderstandings reduce student satisfaction, increase transactional distance, and may lead to lower teaching evaluation scores.

Moore (1997) suggested that the types of transactions that occur between instructors and students in online education should consider three factors: Dialog, course structure, and learner autonomy. Moore (1997) pointed out that it is not how often communication occurs, but the quality and the degree to which it helps solve the problems a student may be having that is important. Moore (1997) described course structure as how rigid or flexible the course is. Course structure included the learning objectives, the instructional pedagogy used in the course, the types of assessments, and how well the course accommodated student needs. Learner autonomy, according to Moore's theory, depended on the previous two, in that it involved the student's ability of self-direction and motivation which can be seriously affected by the dialog, how rigid or flexible the course design is, and the student's ability to understand the material in relative isolation from the instructor. Figure 1 shows the conceptual framework for the study.

Course Structure	Dialog
Flexibility	Email
Interaction	Synchronous discussion
Activities	Chat room
Syllabus	Blackboard Collaborate
Instructions	Telephone
Evaluation	Asynchronous discussion
Video/Multimedia	Wiki-Blog-Podcast

Learner Autonomy

Interaction

Presentation

Motivation

Critical thinking

Evaluation

Learner support
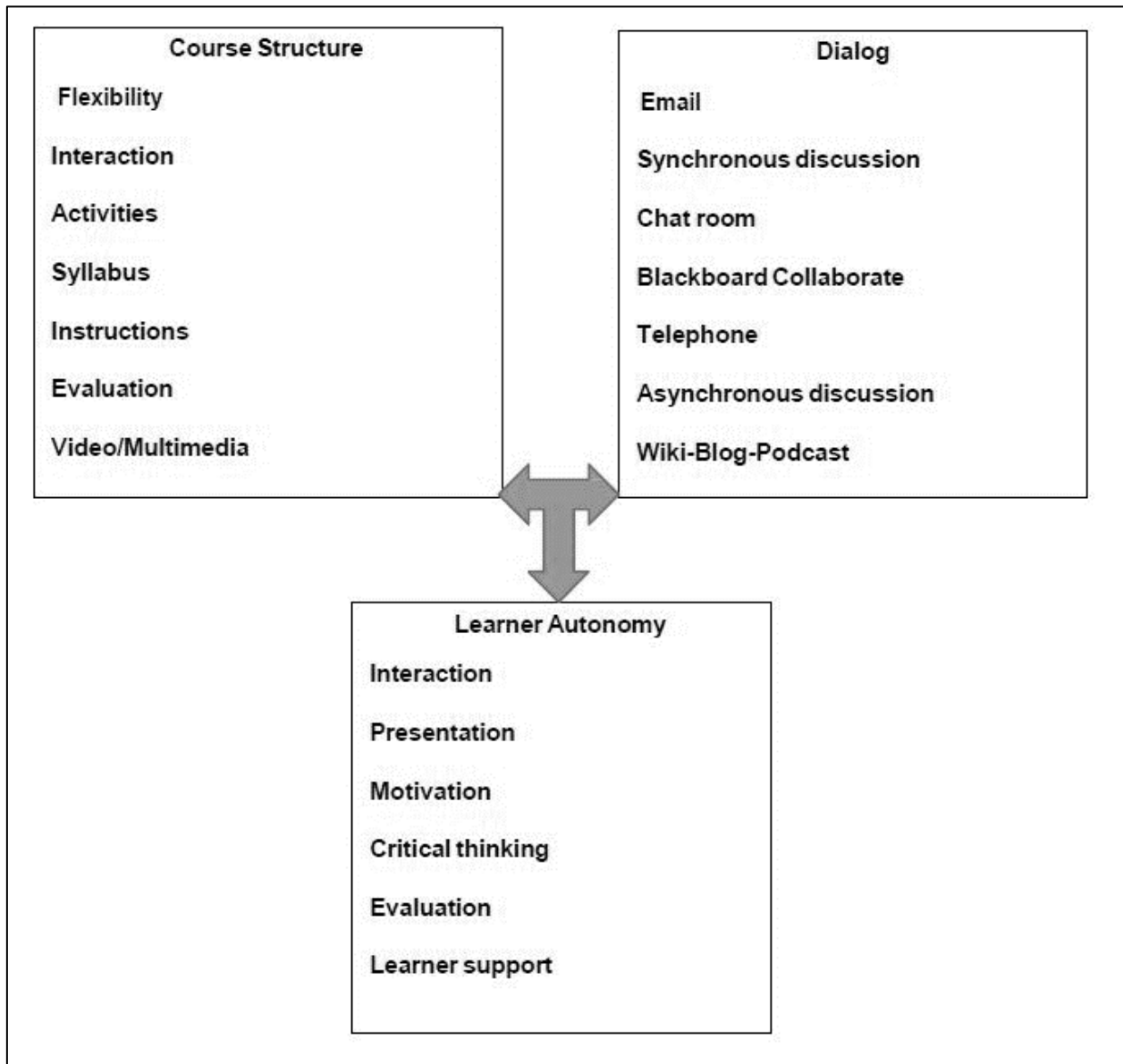
Figure 1. Modified from Vealé and Watts (2006) (as cited in Vealé, 2009). "Model of

Transactional Distance" built on Moore's Theory of Transactional Distance.

Theoretical Framework

A review of the literature suggested that instructor and student interaction were vitally

important to student satisfaction in online courses. Moore (1993) described interaction as dialog

with a positive purpose where instructor and student respected each other, listened to each other,

and contributed to improved understanding of the course material by the student (p. 24). Moore and Kearsley (1996) noted that fewer transactions or dialog between the instructor and student in a course created a greater distance in their interpersonal relationship (p. 201). In their research on improving student satisfaction in online courses, Gould and Padavano (2006) found that frequent interaction between the instructor and student made the student feel more satisfied with the course.

The author used the theoretical lens or epistemological construct of social constructionism in the study. Bloomberg and Volpe (2012, pp. 28-29) suggested that people construct reality through their experiences. Their interactions with the realities in the world develop truth, understanding, or meaning. The researcher attempts to understand the subject's interpretations of reality resulting from their social interactions and interpersonal relationships. Different people construct meaning in different ways, even in relation to the same set of circumstances and experiences. Accordingly, Shin (2006) measured online students' perceptions of positive instructor interaction, and their level of skill, as well as the challenge of the course material, and described the students' perceptions as "flow" experiences. Shin surveyed 525 online students regarding their perceived control over learning, the energy involved in the interaction, the curiosity involved in the interaction, and the interest derived from the interaction. The notable findings of the study were the wide range in individual differences that affected the amount of flow. The highest flow score in the low-flow group of online students was 53. This score was still much lower than the lowest flow score of 79 in the high-flow group (p. 716). This finding indicated that the online students constructed meaning about their experience in many different ways. Additionally, the study found that the gender of the students did not affect flow.

Shin suggested that flow was a strong indicator of student satisfaction, and assumed that higher flow equaled greater satisfaction (p. 719).

<center>**Assumptions, Limitations, Scope**</center>

The researcher held the underlying assumptions that best practices in online pedagogy could be measured and correlated between teaching evaluation scores and transactional distance scores. Specifically, the combined measures of *Course Organization and Presentation*, *Learning Objectives and Assessments*, *Instructor-Student Interpersonal Interaction*, and the *Appropriate Use of Video or Multimedia* could be correlated to measure the strength of the relationship between teaching evaluation scores and transactional distance scores. The researcher also assumed, for the purposes of this study, that the students provided forthright and honest answers to the IDEA survey questions, and that the instructional designers understood how to assess and rate transactional distance in online courses.

A limitation is an issue that the researcher cannot control that could possibly influence the outcome of a study, and this study has several potential limitations. The researcher's bias could have affected the study. In order to prevent bias, the researcher carried-out a thorough review of the current and seminal literature related to the topic. Bias may also be inherent in the IDEA survey scores. The researcher asked students to give anonymous answers regarding the overall quality of instruction, the quality of the course, and progress made on relevant learning objectives. Students may underrate instructors because they may have received a low grade in the course. To mitigate bias, the IDEA survey uses an adjusted mean score measuring progress on relevant objectives, the overall impression of the instructor, and the overall impression of the course. According to Benton and Li (2015), university administrators are responsible for the validity of the IDEA survey scores and how they are used to evaluate instructors. Therefore,

IDEA recommends the survey scores never count for more than 50% of an instructors teaching evaluation (p. 1). The instructional designers also may have bias in their assessment of transactional distance or because of their relationship with an instructor. In order to mitigate bias, the instructional designers were trained to assess TDS and only rated courses and instructors with whom they had never worked. Other limitations were that all of the courses in the study were online courses taught in a 15-week semester format, the number of students enrolled in the courses were outside the control of the researcher, as were the number of students who completed the IDEA survey.

A delimitation is a reason why the researcher deliberately restricts the size of the study to make it manageable. The researcher delimited the study to 69 online graduate courses taught by tenured professors with terminal degrees in the spring semester of 2015. The two data sets used in the study are the IDEA survey scores derived from the student evaluations of instructors' teaching and the transactional distance score derived from the instructional designers using Jaggars and Xu's (2016, p. 275) online course quality rubric course. The author used a Pearson's correlation analysis to measure the differences and similarities between the IDEA survey scores and TDS. There was no student or instructor demographic information used in the study, thereby limiting the generalizability of the study's findings.

Significance

The significance of the study was that distance education has become increasingly popular among undergraduate and graduate students in recent years. Presently, students generate 20 % of their credit hours online at the university (Texas Higher Education Coordinating Board, 2016a). This fact warranted the need to appropriately study best practices in online pedagogy and to measure the correlation between teaching evaluation scores and transactional distance scores

in online graduate courses. Other theorists may use the findings of this study to inform instructors about the benefits of incorporating the four universally recognized best practices in online pedagogy: Course Organization and Presentation, Learning Objectives and Assessments, Instructor-Student Interpersonal Interaction, the Appropriate Use of Video or Multimedia and their relationship to teaching evaluation scores. Insights from this study may aid distance education practitioners in the implementation of strategies that reduce transactional distance and may improve student learning outcomes.

Definition of Terms

This section summarizes the definitions of key terminology used in distance education and in this study:

Distance Education: The term used to describe electronically delivered education online or through teleconferencing (Darabi, Liang, Suryavanshi, & Yurekli, 2013).

Transactional Distance: The separation of the student from the instructor in terms of their relationship instead of by geographic distance (Moore, 1997).

Transactional Distance Score (TDS): The numerical measure obtained by instructional designers evaluating the effectiveness of course activities and learner interaction that reduce transactional distance.

Online Course Quality Rubric: The rubric that describes the best practice of creating online courses with four key categories of focus including 1) organization, 2) objectives, 3) interaction, and 4) technology (Jaggars & Xu, 2016).

IDEA survey: A national evaluation instrument that students use to evaluate their instructors teaching by assessing the quality of the instructor, the quality of the course, and whether, or not, it met the stated learning objectives. The survey provides summative and

formative feedback and comparisons across the national database to other academic disciplines. The university administration uses the IDEA survey scores in tenure and promotion decisions (IDEA Center, 2016b).

Instructional Design: The practice of creating instructional materials for online courses that make the learning experience more organized, efficient, effective, and appealing. The online environment includes four elements: 1) technology, 2) course content, 3) instructors, students, and support staff, and 4) well-designed learning tasks and outcomes (Chen, 2007, p. 75).

Conclusion

This study is important because it measured the strength of the relationship between Course Organization and Presentation, Learning Objectives and Assessments, Instructor-Student Interpersonal Interaction, the Appropriate Use of Video or Multimedia, and teaching evaluation scores. This study is unique in that it incorporates a rating by instructional designers who created a transactional distance score (TDS) for the online courses. Rao, Edelen-Smith, and Wailehua (2015) surveyed online students who indicated that weekly synchronous class meetings via web-conferencing facilitated a strong connection between the instructor and students. Students believed these regular meetings to be inspirational and supportive. The students also appreciated regular and detailed feedback from the instructor that motivated them to persist in the online course (p. 49).

This study is significant because research has shown reducing transactional distance improves student perceptions of their relationship with the instructor, increases student motivation, improves student success, and may lead to higher teaching evaluation scores (Gould & Padavano, 2006; Jaggars & Xu, 2016; Shin, 2006; Vealé, 2009). The university faculty

evaluation system rewards instructors for excellence in teaching. Excellent teaching evaluation

scores positively affect administrative decisions regarding annual performance appraisals, merit

raises, and in tenure and promotion decisions for instructors. The importance of making teaching

evaluations scores transparent in higher education is evidenced by Texas House Bill 2504 being

enacted into law in 2009 (Texas Legislature, 2009).

CHAPTER 2

REVIEW OF RELATED LITERATURE

In this literature review, the researcher offered increased context to the research problem. The first section reviews the literature around the theoretical framework of the study. The second section focuses on the faculty. The third section revolves around instructors and online pedagogy. The fourth section discusses student satisfaction, student motivation, and the benefits of online education for students. The fifth section discusses distance education and the detractors of distance education. The sixth section discusses best practices in distance education including the importance of instructional designers and technical support staff. The seventh section discusses the appropriate use of video and multimedia in distance education. The eighth section involves instructor teaching evaluations. The chapter ends with a summary and conclusion of the literature review

Many universities have attempted to expand their online presence to offset the troubling trends of increasing tuition, competitive admission requirements, technological impediments, and challenging tenure requirements (Cowen & Tararrok, 2014; Harbin & Humphrey, 2013; Raffo, Gerbing, & Mehta, 2014; Simon, Jackson, & Maxwell, 2013). Since 2003, enrollments in online courses have expanded faster than on-campus enrollments, as distance education has become a more viable alternative (Cowen & Tararrok, 2014; Harbin & Humphrey, 2013; Liang & Chen, 2012; Mayer & Sung, 2012; Mueller, Mandernach, & Sanderson, 2013; Raffo et al., 2014). However, due to the distance between instructor and student, online programs have a more difficult challenge when trying to administer traditional course and faculty evaluations (Adams & Umbach, 2012; Stowell, Addison, & Smith, 2012). These evaluations have proven essential for administrative decisions of tenure, retention, promotion, salary, course offerings, and class

planning (Beleche, Farris, & Marks, 2012; Ewing, 2012; Kuzmanovic, Savic, Gusavac, Makajic-Nikolic, & Panic, 2013; Stowell et al., 2012; Wright & Jenkins-Guarnieri, 2012). Frequently, administrative online course evaluations accumulated a poor response rate from enrolled students (Adams & Umbach, 2012; Brocato et al., 2015; Stowell et al., 2012). Typically, online evaluations tended to rank lower than those given in traditional classes (Adams & Umbach, 2012; Brocato et al., 2015; Stowell et al., 2012). Therefore, the general problem studied is that student evaluations of faculty within online courses are often lower when compared to traditional classroom teaching evaluations (Beleche et al., 2012; Berk, 2013; Brocato et al., 2015). The specific problem studied is in what ways do transactional distance in online pedagogy affect student evaluation scores of online instructors that could have consequences regarding course design, communication between instructors and students, student satisfaction, faculty salary increases, and in tenure and promotion decisions (Annan et al., 2013; Beleche et al., 2012; Stowell at al., 2012).

Addressing this gap will further the understanding of the topic by providing empirically based evidence of how reducing transactional distance by improving dialog and communication between instructors and students' increases student satisfaction and improves instructor evaluation scores. Identification of these communication problems can help determine the variables that lower teaching evaluations. Therefore, this research expands the investigation of best practices in online pedagogy while minimizing the gap within the existing literature. The purpose of this quantitative study is to determine how course organization, clear learning objectives, the quality of dialog between instructors and students, and the appropriate use of video or multi-media in online courses affects teaching evaluation scores.

The accumulation of existing literature to compose the review came from the following online databases and search engines: ProQuest, ERIC, and Google Scholar. The key search terms entered into the databases included the following: transactional distance, online education, faculty, instructor, tenure, student, satisfaction, perceptions, surveys, teaching evaluations, distance education, best practices, principals, student engagement, video, multimedia, engagement, and communication. The researcher gathered relevant studies from the above-mentioned database searches using these significant terms both individually and in combination. Those considered pertinent to the study were included in the literature review.

Most of the literature collected dated between 2012 and 2016. Since distance education is a relatively new phenomenon, it was important to examine the latest research studies to determine where the gaps were located. It is important to know how the latest pedagogical trends in online instruction advance understanding of the topic. While the author found seminal articles for Moore's theory of transactional distance, the literature review relied on current studies that utilized the theoretical framework.

Theoretical Framework

The author based this research study upon the work of Moore's theory of *transactional distance* (TTD). Moore (1973) proposed that when geographic time and distance separate the educational process, difficulties concerning communication and behavior might arise between the student and instructor. Moore's theory gained increased attention as online education continued its rapid development over the last decade (Dron & Anderson, 2014; Ekwunife-Orakwue & Teng, 2014; Goel, Zhang, & Templeton, 2012; Koslow & Pina, 2015).

Moore established TTD in 1973, and built this theory upon research conducted by Dewey and Bentley in 1949 (as cited in Koslow & Pina, 2015). Dewey and Bentley sought to establish

transaction as a sequence of behavior that exists in a person's immediate environment. They

posited that any portion of an event can be fragmented and disconnected through a selection of

variables, but the event as a whole must be considered through broad deliberation (Koslow &

Pina, 2015, p. 63). Dewey and Bentley expanded upon the logic of this phenomenon by

explaining that individuals and events within the proximate location can determine or modify an

individual's behavior (Koslow & Pina, 2015). Researchers Boyd and Apps (as cited in Koslow &

Pina, 2015) developed upon Dewey and Bentley's research by asserting that transaction implies

interaction between the environment, individuals, and their behavioral patterns.

Moore advanced the findings of Dewey and Bentley and Boyd and Apps by employing

transaction within the field of distance education (Koslow & Pina, 2015). Moore presumed that

the distance between the student and instructor shaped successful learning (Koslow & Pina,

2015). A geographical distance could create cognitive and psychological separation between the

student and instructor; thereby, producing situational difficulties that negatively influence

educational results (Dron & Anderson, 2014; Ekwunife-Orakwue & Teng, 2014; Goel et al.,

2012; Koslow & Pina, 2015). Moore defined transaction as when the interaction among

separated students and instructors creates the need for altered teaching and learning systems

(Dron & Anderson, 2014; Ekwunife-Orakwue & Teng, 2014; Goel et al., 2012; Koslow & Pina,

2015).

Moore's TTD can be broken down into three separate sections: dialog, course structure,

and learner autonomy (Dron & Anderson, 2014; Ekwunife-Orakwue & Teng, 2014; Goel et al.,

2012; Koslow & Pina, 2015). Moore noted that dialog has a synergistic trait referring to when

problems are resolved between the student and instructor through communication and

interactions (Koslow & Pina, 2015). Moore observed that the quality of the dialog is usually

more important than the frequency (Dron & Anderson, 2014; Koslow & Pina, 2015). The second attribute is course structure and describes how rigid or flexible the course is. This includes the learning objectives, the pedagogy used to teach the course, the types of assessment, and how well the course accommodates student needs. The final attribute is learner autonomy, which is how the student independently reads assigned materials, writes papers, prepares study plans, and uses self-direction (Dron & Anderson, 2014; Ekwunife-Orakwue & Teng, 2014; Goel et al., 2012; Koslow & Pina, 2015).

Goel et al. (2012) sought to create empirical support for TTD within online learning. The researchers examined core themes of the theory and displayed them consistently to assist in the creation of updated guidelines (Goel et al., 2012). They found that an ease-of-use learner interface could help solve difficulties situated within the online learning process (Goel et al., 2012). The results indicated that learner autonomy was a strong indicator of the success of an online student, stating that instructors should consider different teaching styles and techniques to help those not suited for distance education (Goel et al., 2012). The researchers found that dialog is best absorbed when the students did not simply regurgitate lesson plans, but, instead, took part in activities and group projects (Goel et al., 2012).

Dron and Anderson (2014) argued that transactional distance has changed over time. The social aspect of online behavior, as well as the myriad of educational options available, have transformed the transactional distance theory into a statistical measure of distance between multiple dimensions and social outlets (Dron & Anderson, 2014).

Faculty

Traditional and online universities depend on faculty to provide students with the best education possible. Additionally, the faculty does not just influence a student's success, but the

reputation of the school as well (Meyer, 2012). Online instruction is offering new opportunities for faculty to expand their curriculum and reputation (Cowen & Tararrok, 2014; Meyer, 2012). Online education allows top instructors to reach and teach more students (Cowen & Tararrok, 2015; Meyer, 2012). However, online instruction comes with its own share of difficulties (Betts, 2014; Cowen & Tarrok, 2014). Challenges of motivation and incentive to adopt new technology and teach online remain (Betts, 2014; Cowen & Tararrok, 2014). Meyer (2012) noted that adjusting to this new way of teaching is difficult for instructors; however, by offering some incentives administrators hope to increase efficiency and productivity through distance education models (p. 39).

Instructors and Online Pedagogy

Universities are gradually requiring faculty to adapt to online instruction, even though some are not familiar with the required technology and do not understand online pedagogy (Betts, 2014; Cicco, 2013; Crawford-Ferre & Wiest, 2012; Lloyd, Byrne, & McCoy, 2012). This technical gap has made it difficult for instructors when they move their courses online (Betts, 2014; Cicco, 2013; Lloyd et al., 2012; Meyer, 2012). Teaching a successful online course takes more than an understanding of unfamiliar software as online instructors must transform their teaching methodology (Cicco, 2013; Crawford-Ferre & Wiest, 2012; Lloyd et al., 2012). This can include creating new assessments, updating their syllabus, and rethinking student engagement strategies (Betts, 2014; Cicco, 2013; Crawford-Ferre & Wiest, 2012; Lloyd et al., 2012; Mandernach, Hudson, & Wise, 2013; Meyer, 2012). This time-consuming process can reduce the number of face-to-face courses faculty teach, lead to decreased student interaction, and less motivation for faculty to teach online (Lloyd et al., 2012; Mandernach et al., 2013).

Universities should offer extensive and appropriate professional development in technology and online pedagogy to instructors and even administrators (Betts, 2014; Cicco, 2013; Crawford-Ferre & Wiest, 2012; Lloyd et al., 2012). Some researchers have recognized peer mentoring in assisting faculty members with the use of new technology (Lloyd et al., 2012). Lloyd et al. (2012) found that age and gender are strong indicators of how well instructors adapt to technological upgrades and requirements (Lloyd et al., 2012). Younger faculty, and male instructors in particular, have demonstrated the greatest success when moving from the classroom to the online environment (Lloyd et al., 2012).

Another critical factor is how instructors adapt to the change in communication strategies needed to effectively communicate with their students online. Sher (2009) found that both student-to-instructor interaction and student-to-student interaction contributed significantly to student satisfaction. The effective use of communication tools and strategies brought instructors and students together, which created a sense of community and supported the idea that interaction is vital to student learning outcomes (p. 114).

Student Satisfaction

Theorists have found that faculty engagement with students has enhanced online education (Kuo, Walker, Shcroder, & Belland, 2014). Studies have suggested a connection between the level of enthusiasm, preparedness, and accessibility an instructor has for online communication, and student success and satisfaction (Cicco, 2013; Kuo et al., 2014). It is important to emphasize professional development in technology and online pedagogy so courses are designed with frequent communication activities that can improve student learning outcomes (Betts, 2014; Cicco, 2013; Kuo et al., 2014; Lloyd et al., 2012; Mueller et al., 2012). However, Perritt (2013) found only a slight difference in student success and satisfaction between

instructors who teach the same course online and in the classroom. The most important aspect of interaction is how available the instructor is when the student needs them (Perritt, 2013). Online instruction requires a new model of communication between the instructors and students. Jaggars and Xu (2016) noted that almost every online course quality rubric emphasized instructor and student interaction as being critically important for student success (p. 273).

Universities offering online programs provide a variety of new learning options. In Kuo, Walker, Belland, & Schroder's (2013) study, the researchers observed how students reacted to different online learning styles. The purpose was to help construct better teaching approaches. Online education allows the student the unique ability to be somewhat autonomous throughout the learning process (Kuo et al., 2013). However, the diversity of autonomy does not necessarily translate to a student's success or satisfaction (Kuo et al., 2013). Students who connected with their instructor, interacted with the content, and who were technology savvy, were more satisfied with their online education (Kuo et al., 2013). Conversely, courses designed with more learner-to-learner interaction made students more autonomous, which led to reduced student satisfaction with online courses (Kuo et al., 2013). Kuo et al. (2013) found that the strongest indicator of student success was the content of the course. The key was student engagement with the material in addition to the instructor teaching it (Kuo et al., 2013). The final factor that Kuo et al. (2013) found was a correlation between the amount of time spent online per class and the efficiency with which they accessed the course material. Both were strong indicators of student satisfaction (Kuo et al., 2013).

Student satisfaction with online programs remains inconsistent and often depends on many variables (Fish & Snodgrass, 2014). Experienced students believed that online education

was comparable to what they had previously experienced, while those just beginning the educational online process found it difficult to meet their needs (Fish & Snodgrass, 2014).

Student Motivation

Students attend online classes for a variety reasons. This prevented the creation of a primary reason for student motivation for registering for online courses (Fish & Snodgrass, 2014; Harbin & Humphrey, 2013; Smith, Synowka, & Smith, 2015). Non-traditional students are motivated to participate in distance education due to its convenient scheduling and self-paced learning (Fish & Snodgrass, 2014; Harbin & Humphrey, 2013; Smith et al., 2015). This helps students who might not have found the time to pursue a degree traditionally due to the obligations of work and family (Fish & Snodgrass, 2014; Harbin & Humphrey, 2013; Smith et al., 2015). Students who require a high level of autonomy when learning are highly satisfied with online education (Fish & Snodgrass, 2014). The often impersonal nature of online education and assessment remains appealing to a multitude of students (Fish & Snodgrass, 2014).

In a study that Betss (2014) conducted at George Washington University, the researcher found that the leading motivators for students using distance education programs included not having to attend classes in person, an opportunity to increase knowledge, potential job promotions, and to challenge themselves intellectually. Personal reasons and seeking to improve job skills and pay were additionally cited (Betts, 2014). Conversely, O'Neill and Sai (2014) found that students who elected not to participate in online courses believed that face-to-face education enabled them to earn better grades and created future networking opportunities (O'Neill & Sai, 2014). These students felt that classmate networking and mentorship opportunities would not happen over a computer (O'Neill & Sai, 2014).

Instructor and Student Engagement

Jaggars and Xu (2016) found that online courses with high levels of instructor and student interaction increased student satisfaction and were a predictor of higher grades in the course. Conversely, in courses with limited instructor interaction students expressed more dissatisfaction with the course and earned lower grades (p. 278). Through the utilization of email and discussion boards, students can communicate comfortably with their peers (Ch & Popuri, 2013; Cowen & Tararrok, 2014; Fish & Snodgrass, 2014). This helps build self-esteem, confidence, and academic motivation (Ch & Popuri, 2013; Cowen & Tararrok, 2014; Fish & Snodgrass, 2014). Communication is an important aspect of a successful online program. Mayer and Sung (2012) and Fish and Snodgrass (2014) found that social respect, timely communications, and relationship building contribute to student satisfaction. Communication in online classes allows for new ways of receiving constructive criticism (Fish & Sondgrass, 2014; Mayer and Sung, 2012). Online education permits those with introverted personalities to grow a social identity and establish personal relationships between classmates and instructors (Fish & Sondgrass, 2014; Mayer and Sung, 2012). Researchers have found these qualities to encourage a student's performance and increase course satisfaction (Fish & Sondgrass, 2014; Mayer and Sung, 2012).

Similarly, Sher (2009) found that instructor and student interaction is the most important factor in student satisfaction in distance education courses. Sher pointed out that instructors and students must find ways to provide regular feedback. Students must be able to communicate their confusion to the instructor if they are confused. Technologies such as email, web conferencing, chat, discussion boards, announcements, and virtual office hours can facilitate interaction. The findings of the study recommended the instructor and students engage in regular discussions. The

instructor should provide timely feedback, treat the students as individuals, share their knowledge and experience, and work to build a sense of community in the course. The student responded to open ended survey questions and confirmed the importance of instructor and student interaction (p. 116).

Acceptance of Distance Education

Traditional universities confront a changing educational landscape including increased cost, new competition, and problems growing enrollments (Cowen & Tararrok, 2014; Harbin & Humphrey, 2013; Raffo et al., 2014; Simon et al., 2013). Online education has developed into a viable alternative to traditional universities as it utilizes existing technology to increase enrollment and control costs (Cowen & Tararrok, 2014; Harbin & Humphrey, 2013; Mayer & Sung, 2012; Mueller et al., 2012; Raffo et al., 2014). Online education has increased in popularity within the last decade (Harbin & Humphrey, 2013). According to Allen and Seaman (2016), over 2.8 million college students were taking all of their courses online. That represented 14% of all students in higher education. Over 28% of college students were enrolled in at least one online course (p. 11-12). Allen and Seaman (2016) reported that even with the continued growth in distance education nationally, faculty acceptance remains weak. Approximately 32 % of university administrators agreed that faculty attitudes were a significant obstacle to the growth of distance education at their institution (p. 27). While online education has its advantages, research has shown that there are still numerous complications.

Detractors of Distance Education

Distance education still has many detractors. In a qualitative case study, utilizing previously established research, Linardopoulos(2012) found that employers perceived online degrees less favorably than those obtained through the traditional on-campus programs; however,

it should be mentioned that a portion of these employers were not familiar with the online degree process (Linardopoulous, 2012). This created a need to change the perception of what constitutes online education (Linardopoulous, 2012). Veren (2013) argued that online education does not count as traditional education since it tends to rely on the regurgitation of information rather than critical thinking. The author goes on to state that online classes need more thorough instruction and proctoring to protect the academic integrity of education found in traditional brick-and-mortar universities (Veren, 2013). Karl and Peluchette (2013) found that 90% of Advanced Collegiate Schools of Business declined to hire anyone with a degree earned online for a tenure-track position. This comes from the opinion that online doctorates display a lack of credibility and have originated from institutions of poor quality and minimal accreditation (Karl & Peluchette, 2013). Educational employers felt that programs with little face-to-face time lacked the critical questioning and mentoring that is required for a doctoral degree (Karl & Peluchette, 2013).

Like other classes, online courses do not always revolve around student and instructor interaction. Students have demonstrated difficulty learning online if there is a focus on lessons using group activities rather than those taught by the faculty (Boling, Hough, Krinsky, Salee, & Stevens, 2012; Fish & Snodgrass, 2014; Kuo et al., 2014). That does not mean that online interactions should only be between the student and the instructor without group activities (Boling et al., 2012; Fish & Snodgrass, 2014). The worst courses are those that focused on text alone, which created poor student satisfaction and lower grades (Boling et al., 2012; Fish & Snodgrass, 2014).

Perceptions of online education vary greatly between employers, faculty, and students (Fish & Snodgrass, 2014). Mueller et al. (2012), and Fish and Snodgrass (2014), found that

students were more satisfied with online courses than on-campus courses due to an average of higher grades. Unfortunately, grade inflation is a common criticism when obtaining a degree online (Linardopoulous, 2012; Karl & Peluchette, 2013; Veren, 2013). Thus, instructors must use best practices in online pedagogy to counteract negative perceptions of online education.

Best Practices

Faculty should not be solely responsible for online course design (Betts & Heaston, 2014; Hoyt & Oviatt, 2013; Mueller et al., 2012). There is a noticeable difference between traditional course preparation and online course development (Betts & Heaston, 2014; Hoyt & Oviatt, 2013; Mueller et al., 2012). Online course creation should rely on three central aspects of standard course design (Mueller et al., 2012). The first standard was to include supplemental course material. This includes the development of handouts and reference materials. While typically handed-out physically in classes, these resources should be accessible to the students at the appropriate time online (Mueller et al., 2012). The second standard was interaction with students which means promptly returned emails and messages between instructor and student (Berk, 2013; Cicco, 2013; Fish & Snodgrass, 2014; Mayer & Sung, 2012; Mueller et al., 2012). The third standard was the nature of the instructor's response. Tone and context can often be lost in online communication making it important to communicate clearly and concisely (Berk, 2013; Cicco, 2013; Mueller et al., 2012).

How the student interacts with the content was a fundamental indicator of a student's satisfaction with online courses (Kuo et al., 2013). While instructors occasionally integrate group activities into their course work in traditional settings, the benefits and determents of online group projects remain undetermined (Boling et al., 2012; Fish & Snodgrass, 2014; Goel et al., 2013; Kuo et al., 2014). However, Kuo et al. (2013) noted that undergraduates responded better

to group exercises and the learner-learner method of teaching than traditional teacher-learner methods. This example demonstrates that different teaching methodologies may apply to students studying in different degree programs (Boling et al., 2012; Fish & Snodgrass, 2014; Kuo et al., 2013).

After an institution has laid out its vision and guidelines for online education, they must recognize potential barriers that prevent instructors and students from being successful online (Betts & Heaston, 2014). Post-course student evaluations remain a critical method in obtaining feedback of what did and did not work throughout the course (Betts & Heaston, 2014). Appropriate and continual evaluations of online courses should be necessary to help improve online instruction (Betts & Heaston, 2014). When universities offer an online class for the first time, students should give evaluations throughout the course period so that proper adjustments can be made as the course progresses (Betts & Heaston, 2014).

Through the examination of feedback, universities should create and update guidelines to maximize the long-term sustainability of online courses and programs (Betts & Heaston, 2014). Feedback can include more than just post-course faculty evaluations (Betts & Heaston, 2014). When examining survey results, Betts and Heaston (2014) wrote that it is important to account for the institutional commitment towards online education. Pre-existing ideas or negative perceptions of online education might have harmful consequences (Betts & Heaston, 2014; Linardopoulos, 2012; Veren, 2013). Pre-and post-course student evaluations help to identify significant components of good online instruction (Betts & Heaston, 2014; Beleche et al., 2012; Wright & Jenkins-Guarnieri; 2012).

Instructional Design

Benson and Samarawickrema (2009) focused on the design of online courses in the context of Moore's theory of transactional distance. They considered how transactional distance was the psychological distance between the instructor and student. Consequently, they focused on increasing communication between the instructor and student as a major component of instructional design (pp. 7-8). Moore (1993) noted that high levels of course structure and dialog could reduce transactional distance. Benson and Samarawickrema (2009) found that in cases where transactional distance is high, as in distance education, a high level of dialog and structure are important to bridge the transactional distance gap (p. 13). These researchers suggested that instructional design strategies include numerous opportunities for dialog be built in to the structure of the course. Their instructional design plan included structured online assignments that facilitated dialog between the instructor and student on a regular schedule. They suggested that the level of dialog should be ongoing and enough to support the student (p. 16). Benson and Samarawickrema (2009) posited that student support can be managed by designing the appropriate level of dialog and structure into online courses with the goal of reducing transactional distance (p. 17).

Video and Multimedia

Lee and Choi (2011) suggested that it was important to develop a welcome page where the instructor used a video to introduce to themselves, the course content, and explain the important assignments due in the first week of the course (as cited in Stott and Mozer, 2016, p. 153). Additionally, Marchionini (2003) recommended that the use of video in distance education should be broken up in short segments that can be indexed and embedded in the course. All of

the video should be organized in the course by the specific content area so it is easy to find as cited in (Zhang et al., 2006, p. 17).

Mahmood (2016) studied students in an online psychology course offered over several semesters and found students felt more engaged with the instructor because of the use of multimedia, videos, PowerPoint presentations, e-mail, and synchronous chat sessions (as cited in Mandernach, 2009, p. 10). Bledsoe (2013) found that students gave positive qualitative and quantitative feedback in the teaching evaluation after the course, which indicated that multimedia and instructor-student interaction improved student engagement and created a better online learning experience (p. 2). Bledsoe (2013) also noted that the use of text, pictures, video, social media and multimedia content enabled students to absorb important concepts in the course. They concluded that multimedia helped stimulate students to learn and it improved the online learning experience (pp. 8-9).

Evaluations

Evaluations endure as an important part of a university's ability to evaluate instructor performance. They are important as they influence decisions of tenure, retention, promotion, and salary for the faculty (Beleche et al., 2012; Ewing, 2012; Kuzmanovic et al., 2013; Stowell et al., 2012; Wright & Jenkins-Guarnieri, 2012). Universities may also use them to assess a student's interest in a course or subject (Beleche et al., 2012; Ewing, 2012; Kuzmanovic et al., 2013; Stowell et al., 2012). However, unlike traditional universities, online universities have dismissed the traditional means of paper and pencil instructor evaluations (Adams & Umbach, 2012; Stowell et al., 2012). Minimal oversight and the geographic separation of online students result in a poor response rate of self-administered evaluations (Adams & Umbach, 2012; Brocato et al., 2015; Stowell et al., 2012). More research needs to be conducted regarding online evaluations,

leaving questions of their influence and effectiveness on faculty retention, student satisfaction, and validity (Adams & Umbach, 2012; Beleche et al., 2012; Brockx, Roy, & Mortelmans, 2012; Ewing, 2012; Galbraith, Merrill, & Klein, 2012, Stowell et al., 2012; Wright & Jenkins-Guarnieri, 2012).

Stowell et al. (2012) performed a comparative study of online and in-class evaluations. The researchers examined universities that offered both traditional surveys administrated in person at the end of the course as well as online evaluations. They found that the surveys did not yield different results about the course; however, there was a significantly smaller response rate in online evaluations (Stowell et al., 2012). Galbraith et al. (2012) argued that there is little validity in how student evaluations influence learning or teaching effectiveness. They believed that surveys were a tool of the administration to make employment judgments and that faculty rarely changed course instruction based on student feedback (Galbraith et al., 2012). On the contrary, Beleche et al. (2012), and Wright and Jenkins-Guarnieri (2012), found faculty to be responsive to the student remarks and that faculty modified their instruction in accordance to evaluation results (Beleche et al., 2012; Wright & Jenkins-Guarneir, 2012).

Galbraith et al.'s (2012) research suggested that the most effective instructors had middle ratings while those with the highest, or lowest scores, correlated with high and low student achievement. The researchers suggested that those on either end of the grading curve tended to be the most vocal (Galbraith et al., 2012). Brockx et al. (2012) found that 70% of students wrote comments on instructor evaluations. These comments tended to be mostly positive, and often imitated the questions found within the survey (Brockx et al., 2012). Independently written comments rarely strayed from the previously given answers, making their relevance questionable (Brockx et al., 2012). Nowell, Gale, and Kerkvliet (2014) acknowledged that sample and impact

bias might exist among students. Preconceived course notions and the instructor's reputation may already sway an instructor's rating even before the course takes place, which can result in an unfair instructor evaluation (Grimes, Medway, Foos, & Goatman, 2015; Nowell et al., 2014).

Course evaluations sometimes directly correlate with the student's expected grade leaving the question of whether teachers offer higher grades to increase their evaluation scores (Ewing, 2012). Through a quantitative study at the University of Washington, Ewing (2012) found that there is an incentive for faculty to grade higher in expectation of better survey results. Ewing (2012) noted that this comes from departmental culture and academic hierarchy. Outcomes of the study tended to differ between subjects (Ewing, 2012). Mixed feelings of instructor evaluations of teaching are common, as instructors believe that the results are biased because of grades and student grudges (Brockx et al., 2012; Galbraith et al., 2012; Nowell et al., 2014). Lewisson, Hellgren, and Johansson (2013) suggested that a cross-departmental evaluation could increase the quality of surveys and help frame instructor evaluations.

It is difficult to address the validity of evaluation results because there are limited measures of good teaching (Beleche et al., 2012). Powell, Ruebenstein, Sawin, & Annan, (2014) found that evaluations of teaching, although commonplace, remain divisive. Students do not totally understand the purpose of evaluations, creating questions of their validity (Powell et al., 2014). The interpretation of survey questions can create different results, depending on the reviewer (Kuzmanovic et al., 2013). It is important to communicate for what the survey is (Powell et al., 2014). Variables that may influence surveys are the instructor-student relationship, class sizes, confidence levels, and margin of error (Zumrawi, Bates, & Schroeder, 2015).

Surveys, both online and in-class, may be inadequate as student apathy and incomplete surveys minimize the data gathered (Yukselturk, Ozekes, & Turel, 2014). This general

unwillingness to participate can influence a university's graduation rates and a faculty member's career success (Yukselturk et al., 2014). It prevents teachers from enhancing lesson plans; thereby, reducing student satisfaction, and forcing the administration to make decisions based on partial data (Yukselturk et al., 2014). Social media can be a good, yet unofficial, source to gauge faculty performance if a university found missing data on its faculty evaluations. Liang (2015) examined unofficial social media ranking websites such as RateMyProfessor.com. The researcher found that positive comments on trustworthiness created an increase in a student's lower-level cognitive learning (Liang, 2015). There was a high correlation between positive reviews and course enrollment (Liang, 2015). This supports Nowell et al.'s (2014) research on how a student's preconceived opinion can influence faculty evaluations.

Summary and Conclusions

Research on the topic of online evaluations has been inadequate (Adams & Umbach, 2012; Beleche et al., 2012; Brockx et al., 2012; Ewing, 2012; Galbraith et al., 2012; Stowell et al., 2012; Wright & Jenkins-Guarnieri, 2012). Educational institutions heavily rely on information that faculty evaluations provide for scholastic and administrative decisions (Beleche et al., 2012; Ewing, 2012; Kuzmanovic et al., 2013; Stowell et al., 2012). Evaluations can determine faculty retention, tenure, promotion, salary, and course development decisions (Beleche et al., 2012; Ewing, 2012; Kuzmanovic et al., 2013; Stowell et al., 2012). However, online education, including faculty evaluations, remains largely untested when compared to traditional methods of education (Mueller et al., 2012; Fish & Snodgrass, 2014). Comprehensive exploration of topics related to online evaluations can identify a literature gap of this relatively new phenomenon (Adams & Umbach, 2012; Beleche et al., 2012; Brockx et al., 2012; Ewing, 2012; Galbraith, et al., 2012; Stowell et al., 2012; Wright & Jenkins-Guarnieri, 2012). Topics

such as faculty, online education, best practices for online instruction, and student satisfaction all point to a gap of how teacher evaluations efficiently transfer to online programs (Brockx et al., 2012; Ewing, 2012; Galbraith et al., 2012; Stowell et al., 2012; Wright & Jenkins-Guarnieri, 2012).

Even though online education is transforming the field of higher education, the faculty remains a key component of the educational process (Meyer, 2012). Online teaching offers new opportunities for instructors even though developing online courses and programs can be time consuming (Cowen & Tararrok, 2014; Meyer, 2012). Educators who are not experienced with technology remain resistant to distance education (Cowen & Tararrok, 2014; Meyer, 2012). Financial incentives must be established to entice faculty to teach in an online program (Betts, 2014; Herman, 2012; Lloyd et al., 2012; Mandernach et al., 2013; Mueller et al., 2012). Administrators should employ instructional designers and technologists to help create online courses and train faculty to teach online (Betts & Heaston, 2014). Student surveys contribute greatly to the creation of best practices for online education (Betts & Heaston, 2014). Further research is needed to create guidelines for the utilization of new technology in education (Betts & Heaston, 2014; Fish & Snodgrass, 2014; Hunt et al., 2014; Smith et al., 2015).

The gap in the literature seems to be a lack of understanding; therefore, instructors need to effectively communicate with students in the online environment. Specifically, lower teaching evaluation scores in online courses have created problems for faculty, students, and the university administration. Without constructive feedback from online students, institutions will not be able to adjust to student concerns. This study addressed the gap by providing evidence of the importance of purposeful, well-designed course activities that foster instructor and student

engagement to reduce transactional distance in online courses. The literature gap will shrink through the identification of these communication impediments.

Moore's TTD is appropriate for this study as it focuses on communication between student and instructor in terms of faculty teaching evaluations. Moore built TTD on the premise that the distance between the student and the instructor can negatively influence learning (Dron & Anderson, 2014; Ekwunife-Orakwue & Teng, 2014; Goel et al., 2012; Koslow & Pina, 2015). Poor communication throughout the learning process has the potential to negatively influence teaching evaluation scores (Berk, 2013). By utilizing Moore's TTD, this study will help determine how much, if at all, poor communication due to transactional distance can influence an instructor's online teaching evaluation.

The next chapter examines the methodology for the investigation. The author used a correlation analysis to address the circumstances of how transactional distance in online pedagogy affects student evaluation scores of online instructors at a Doctoral Research University in Texas. The next chapter also provides descriptions of the research questions, methodology, key personnel involved in the study, data collection, analysis, participants' rights, and potential limitations of the study.

CHAPTER 3

METHODOLOGY

This quantitative study measured the strength of the relationship between instructors'

teaching evaluation scores derived from the *IDEA survey* (IDEA Center, 2016c) and

transactional distance scores (TDS) derived by instructional designers rating the four universally

recognized best practices in distance education using the modified Jaggars and Xu (2016) *Online*

Course Quality Rubric (p. 282). The hypothesis of this study posited a high correlation between

the four best practices in online course design -- Course Organization and Presentation, Learning

Objectives and Assessments, Instructor-Student Interpersonal Interaction, and the Appropriate

Use of Video or Multimedia -- and teaching evaluation scores.

To determine whether and to what extent there was a correlation, trained instructional

designers assessed and rated the variables of Course Organization and Presentation, Learning

Objectives and Assessments, Instructor-Student Interpersonal Interaction, and the Appropriate

Use of Video or Multimedia and awarded each online course a transactional distance score

(TDS). The researcher correlated total TDS with the IDEA survey summary evaluation scores to

determine how strongly Moore's theory of transactional distance related to online teaching

evaluation scores (Moore & Kearsley, 2012). The author then correlated each one of the four

best practices in online pedagogy were correlated with the IDEA survey summary evaluation

scores as well. Then the researcher conducted a Pearson's correlation analysis between the

instructor evaluation scores from the IDEA survey and the TDS generated by the instructional

designers. The correlation analysis measured the strength of the relationship between the IDEA

survey scores and the TDS of the same online courses to measure how these best practices in

online pedagogy related to teaching evaluation scores.

Method

According to Creswell (2012), the emphasis of quantitative research is to recognize how results affect variables through using experimental designs. By describing the relationship between variables, researchers can determine if one or more variables affect another variable (pp. 13-14).

In this study, the predictor variables were the transactional distance scores (TDS) generated by instructional designers and the criterion variable were the online teaching evaluation scores from the IDEA survey. In theory, if an instructor incorporates the best practices in online pedagogy as measured by the TDS, the predictor variable may forecast or predict higher teaching evaluation scores on the IDEA survey. The intent of this study was to measure the correlation between the predictor variable and the criterion variable; therefore, a correlation research design was required. A quantitative research design was appropriate for assessing the relationships between variables (Cooper & Schindler, 2013).

The research design of this study used a correlation design, due to the objective of this study, which was to measure and correlate the association between the IDEA survey scores and the transactional distance scores (TDS) of same online courses to measure the strength of the relationship between the two variables. Creswell (2012, p.338) emphasized that a correlation analysis identifies the significance between relationships among variables. Instead of simply correlating two variables at a time, this study is designed to predict the outcome of IDEA survey scores by using the transactional distance scores (TDS) as the predictor variable. Researchers use a predictor variable to forecast the result in correlation research (Creswell, 2012, p.341).

Building on Moore & Kearsley's (2012) research, the author of this study analyzed distance education through the lens of Michael G. Moore's Theory of Transactional Distance.

Moore's theory suggested that in distance education the separation in space, time, and interpersonal relationship between the instructor and student could lead to communication problems and confusion between them. According to Moore and Kearsley (2012), the type of transactions that occur between instructors and students in distance education should account for three factors: dialog, the structure of the course, and the ability of the student to learn autonomously. Dialog means more than interpersonal communication and is concerned with all forms of interaction including collaboration, and understanding on the part of the instructor, which can solve many of the learners' problems. Moore and Kearsley (2012) pointed out that what matters most is not the frequency of dialog, but how effective it is in helping to solve students' problems. The second factor Moore and Kearsley (2012) referred to is how the course is structured which they describe as how rigid or flexible the course is. This includes the learning objectives, the pedagogy used to teach the course, the types of assessment, and how well the course accommodates student needs. The third factor is learner autonomy, which is dependent on the student's ability of self-direction, motivation and their ability to learn in on their own. Dialog, the rigidity or flexibility in the course design, and the ability of the student to take responsibility for their own learning can seriously affect learner autonomy.

Dependent Variable

For this research study, the dependent variable was the IDEA survey Score. Prior to administering the survey, the instructor rates the importance of 12 learning objectives and makes a judgement about which three to five are most essential to student learning outcomes. The survey is a student rating of instruction administered online at the end of every semester. Three unique ratings on the survey form provide an indication of teaching effectiveness. The first section of the IDEA survey asks the student to rate the instructor on the frequency of their

teaching procedures where the instructor displayed a personal interest in the student and their learning using the following scale: (1) = hardly ever, (2) = occasionally, (3) = sometimes, (4) = frequently, and (5) = almost always. There are 20 items related to the instructor showing a personal interest in the student and their learning in this section of the survey. The second section of the survey involves students rating their progress on relevant learning objectives in the course. The survey asks students to rate 12 possible learning objectives using the following scale: (1) no apparent progress, (2) slight progress, (3) moderate progress, (4) substantial progress, and (5) exceptional progress. The second section of the survey is very important in that it is double weighted when calculated in the overall score. The third section of the survey asks students to compare this course with other courses they have taken at this university using a five point Likert scale. IDEA's Student Ratings of Instruction are designed to provide summative and formative feedback that gives faculty suggestions for improvement and that can be used as part of a more complete system of faculty evaluation used by administrators in annual performance evaluations and in tenure and promotion decisions. The Summary Evaluation assesses teaching effectiveness in two ways. (1) The IDEA survey uses the weighted average of student ratings of progress on relevant objectives, and (2) overall ratings, which are the average student agreement that the instructor and the course were excellent. The Summary Evaluation is the average of these two measures. The score is adjusted to account for factors that the instructor cannot control. These factors include the student willingness to take the course regardless of the instructor, student work schedule, class size, student effort, and course difficulty. The survey provides comparisons across a national database to disciplines and to the university as a whole (IDEA survey, 2015).

Independent Variable

The independent variable is the transactional distance score (TDS). This study examined the correlation between IDEA survey scores and TDS. Instructional designers assessed and rated the online course using the Jaggars and Xu (2016) Online Course Quality Rubric (p.282) and awarded a transactional distance score (TDS) for each course. The instructional designers, trained to assess the online courses, made a subjective judgement on a Likert scale of 1 to 5 -- see Appendix A (Jaggars & Xu, 2016 p. 282).

Setting of the Study

This study took place at one of the oldest universities in Texas. The University is one of the most progressive and diverse institutions in Texas. Founded in 1879 to train teachers, the university enrolls over 20,000 students and offers 140 bachelors', masters', and doctoral programs. The Carnegie Commission on Higher Education classified the university as a Doctoral Research University. The main campus of the university is located in a rural community and has a lovely 316-acre campus with over 250 million dollars in new and renovated facilities. A second campus was built in 2010, and is located 25 miles south of the main campus.

The U.S. News and World Report has recognized the university numerous times for having some of the best online graduate programs in the country (U.S. News and World Report, 2016). The research study took place within the distance education organization, where the researcher is the senior administrator. The university founded the distance education organization in 2009 when it decided to make an institutional commitment to expand course offerings via distance education. State funding had declined to only 25 % of the total university budget. The university president decided distance education should become a strategic focus of enrollment growth. The president understood the need to become more competitive in the rapidly emerging

online education landscape. The university embraced distance education as a way to increase enrollment and serve a wider audience of non-traditional students. Presently, the university offers 43 online degree programs, including 14 bachelors, 27 masters, and two doctorates. Online courses generate approximately 20 % of the university's annual student credit hours. The university has 3,000 students that are taking 100 % of their course work online. Distance education programs serve students in 40 states and more than 10,000 students take at least one online course every semester. Because of the rapid growth in distance education, the university community must understand its impact. Currently, there is insufficient research on how best practices in distance education affect the student evaluation scores of instructors teaching online. This research study is important because student evaluations of instructors teaching online are often lower when compared to traditional classroom teaching evaluations. The university administration values excellence in teaching. Therefore, student evaluations of instructors' teaching are an important element of a professor's annual performance appraisal and in tenure and promotion decisions. It can be detrimental to their careers if professors are not prepared to teach online. This makes it difficult to recruit faculty to teach online. Consequently, the university administration created a set of incentives for faculty to develop and teach courses online. Additionally, instructional designers, who use a rubric that incorporates best practices in online course design and pedagogy, assist professors. Therefore, the author deemed it necessary to research and share the effectiveness of online courses with the academic community in order for online education to become an accepted educational delivery methodology.

Key Personnel

Twenty-two instructional designers who work in the office of Distance Education volunteered to evaluate 69 online graduate courses taught in the spring semester of 2015. The

researcher summarized the study for the instructional designers so they had a clear understanding of the research design. The instructional designers were required to sign an Informed Consent document before the research began. The researcher trained them to evaluate and award each online course a TDS score based on best practices in online course design using the Jaggars and Xu (2016) online course quality rubric. All of the courses were graduate courses taught by tenured professors. There were 1,068 graduate students enrolled in the 69 online graduate courses. Every course administered the IDEA survey to the online students. Of the 1,068 students surveyed, 679 responded which equaled a 63.6 % response rate. The researcher chose the tenured professors for their experience as instructors. Online graduate students were chosen because they are more experienced students than undergraduates, and theoretically more capable of being autonomous learners if the online classroom was structured with a high level of transactional distance.

Sampling Procedures

The study intentionally used theory sampling as a strategy to select the online courses used in the study because they enabled the researcher to produce precise ideas about the theory (Creswell, 2012, p. 208). This approach ensured reliability and helped avoid possible bias. The requirements included in this study were as follows: Tenured professors of Sam Houston State University, who held a terminal degree, and who had taught at least one online course, must have taught the courses. Students, who were enrolled in the selected online graduate courses in the spring semester of 2015, completed the IDEA surveys.

Data

There were two main data sources used in this study and these were the IDEA survey scores and transactional distance score (TDS). The researcher used the IDEA survey to

understand student evaluation scores regarding teaching effectiveness. The IDEA survey

assessed teaching effectiveness in two ways: 1) progress on relevant objectives and 2) overall

instructor rating which included excellent teacher and excellent course. The overall instructor

rating is the average of agreement with statements that the instructor and the course were

excellent. The average of these two measures is called the summary evaluation. The average of

the combined measures is used to make a summary judgement about teaching effectiveness. The

average scores for the measures were rated in a 5-point scale where the higher the score (the

nearest to five) indicated better teaching effectiveness or meeting the desired learning objectives.

There are five IDEA rating categories: outstanding 5.0-4.5, excellent 4.4-4.0, good 3.9-3.5, needs

improvement 3.4-3.0, and unacceptable 2.9 or less. The IDEA survey scores are publically

available on the university website (Sam Houston State University, 2016a).

The author, with the aid of instructional designers, derived the TDS score by using

Jaggars and Xu's (2016) Online Course Quality Rubric. Instructional designers rated the 69

online graduate courses using a five point Likert scale to determine how effectively they used

best practices in online pedagogy. They then converted the resultant scores with the highest

possible score of 20 converted to zero so it was easier to understand the transactional distance

score. This scale inversion had no consequence on the correlation analysis. This means that a

TDS of 0, 1, or 2 are outstanding and represents less transactional distance and TDS in the 14,

15, or 16 range represents greater transactional distance. The author uploaded the IDEA survey

scores and the TDS results into Microsoft Excel for preprocessing. Once the data set was

complete, the researcher uploaded it into SPSS. SPSS Version 22 is a statistical software

program that analyzed the data in the study. The researcher used SPSS through the entire analytic

process, including preparation, data calculation, and for reporting the findings of the research.

Analysis

The author used descriptive and inferential statistics to analyze the data. Descriptive statistics such as location, or central tendency and frequency distribution, characterized the data gathered from the IDEA survey surveys and the Transactional Distance Scores (TDS). According to Thompson (2006), the quality of the characterization of the location of the data on a number line is conditional upon the number of scores and how spread out the data. Even with large sample sizes, central tendency descriptive statistics do very well at representing data when the scores are similar and perfectly when the scores are identical (p. 33).

Thompson (2006) noted that the correlation between data sets is a measurement of how closely they are related (p. 103). The author of this study used Pearson's correlation analysis to measure the data to understand the degree and direction of the relationship between the variables. The Pearson's Correlation Coefficient (r) is used extensively in quantitative analysis and is also known as linear or product-moment correlation.

The question was, "Can a line graph be drawn to represent the data?" There are two letters used to signify the Pearson correlation: The Greek letter rho (ρ) for a population and the letter "r" for a sample. The correlation coefficient is calculated using the following formula where n (69) represents the sample size, x represents observations of the predictor variable (TDS) and y represents observations of the dependent variable (IDEA survey).

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

Pearson's correlation measures the amount of linear relationship between two variables. It ranges from +1 to -1 where the former indicates a positive relationship and the latter indicates a negative relationship. If the linear relationship is positive and the score of one variable becomes higher, the score on the second variable will also become higher. When the linear relationship and Pearson's r is negative the scores on both variables become lower. A scatterplot is a graphic that displays both scores for each individual in the dataset. To conceptualize r, the researcher should think of r as asking the question "how well does the line of best possible fit define the data points' in the scatterplot (Thompson, 2006, p.101)?" See Figure 2.
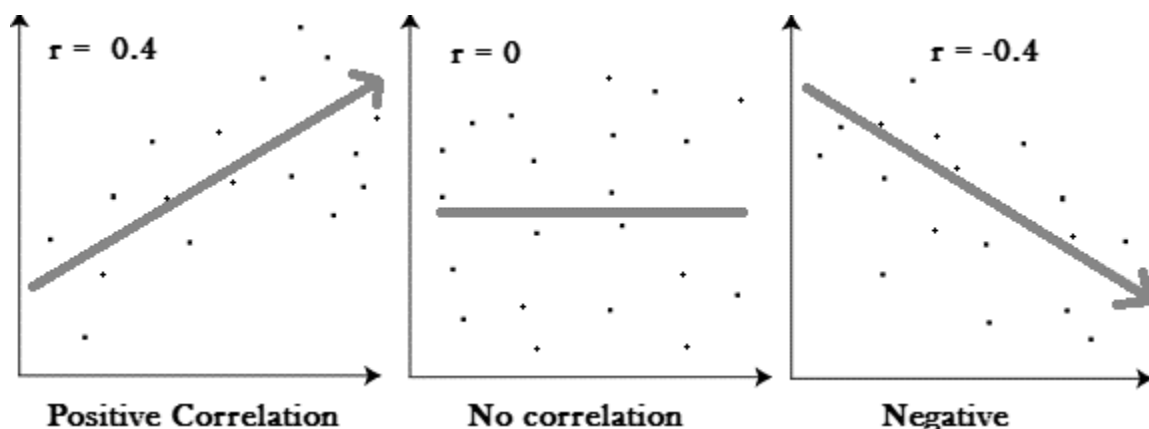

Figure 2. What are the Possible Values for the Pearson Correlation, 2016?

The value +1.00 represents a perfect positive correlation. The value 0.00 represents no correlation. The value -1.00 represents a perfect negative correlation. A high correlation would

be in the range of: 0.5 to 1.0 or -0.5 to -1.0; a medium correlation would be in the range of: 0.3 to

0.5 or -0.3 to -0.5; and a low correlation would be in the range of: 0.1 to 0.3 or -0.1 to -0.3.

Data Confidentiality

The researcher made sure to follow all ethical procedures that the IRB described. First,

the researcher obtained IRB approval to perform the research from the University of New

England and Sam Houston State University. Permission was granted by the IRB to collect the

IDEA survey scores and the transactional distance scores (TDS) of the online courses. As such,

no data gathering began before the researcher had obtained all permissions and approvals.

Furthermore, the researcher did not use any personal information in the study. Instead, the author

used a numeric code to protect the privacy of the instructors throughout the entire study. The

course name, number, and section were coded so there was no way to trace the findings to any

instructor. There was no mention or discussion of the course, discipline, department, or college

in the study thereby maintaining confidentially of the instructors. The author held the entire data

set in a password-protected computer and locked the data set in a safe in the researcher's private

office. The researcher will retain the entire data set for more than five years, in accordance with

IRB policy. One unintended consequence of the study was a negative reaction from tenured

instructors who did not appreciate the analysis of IDEA survey scores by a member of the

university administration. The researcher mitigated this by the fact that the IDEA survey scores

are publically available on the university website in an easily accessible database (Texas

Legislature, 2009). There were also other mitigating factors for tenured, tenure track, and adjunct

instructors. That is to say, if instructors simply incorporate the best practices in online pedagogy

their teaching evaluations scores may improve. This may qualify them to receive higher annual

merit raises and may increase their chances for tenure and promotion.

Potential Limitations of the Study

The proposed study had several potential limitations. The researcher's bias could have affected the study. In order to prevent bias, the researcher carried-out a thorough literature review related to the relevant research regarding the topic. There could be a response bias on the IDEA survey due to the fact that student ratings of instruction could be affected by their grades in the course, the difficulty of the course content, and the instructors understanding and capability to use technology effectively in the online environment. However, there was general agreement in the research literature that student ratings of instruction (SRI) are reliable. According to Benton and Cashin (2012), SRIs are generally consistent across rating methods, semesters, and over time. There is a high correlation between students' answers to questions on SRIs meaning they are very consistent (as cited in Forsyth, 2016, p. 253). The researcher assumed that students who completed the IDEA surveys provided honest answers to the survey questions when they were administered.

The instructional designers who measured TDS were required to attend a workshop to inform them how to interpret and rate TDS to mitigate misunderstandings. In this study, the researcher used inter-rater reliability to determine how well the Instructional Designers were trained to evaluate TDS. In an independent test of inter-rater reliability, 18 of the 22 staff members trained awarded the same TDS to a single online course for an 81.8% reliability rate. As Gwet (2014) noted, inter-rater reliability is used in a scientific study to classify subjects or objects into categories. The reliability of the process can be verified by asking two or more people to independently classify the same set of objects. This procedure is known as inter-rater reliability if the categorizations are the same (p. 4). The researcher addressed the validity of the study by using the Jaggars and Xu (2016) Online Course Quality Rubric as an instrument to

measure TDS. The study was further limited by the 15-week length of the semester, the number of enrollments in the online courses, the student response rate on the IDEA survey, the instructors all held terminal degrees, and that the study occurred in a single public institution of higher education in Texas.

Delimitations

A delimitation is a reason why the researcher deliberately restricts the size of a study to make it easier to control. The proposed study had numerous delimitations. The author used a Pearson's correlation analysis to measure the differences and similarities between the variables. The author delimited the study to tenured faculty teaching online graduate courses in the spring semester of 2015, which limited the generalizability of the study's findings. The study used a modified version of Jaggars and Xu's (2016) Online Course Quality Rubric to measure TDS and the IDEA survey scores from 69 online graduate courses. The researcher further delimited the study by eliminating the instructors' names, the course number, the identification of academic disciplines, and the names of the colleges within Sam Houston State University. Additionally, there was no demographic information used regarding the instructors and students. The study did not use gender, ethnicity, race, age, or socioeconomic status. The researcher did not use any test scores or grade point averages in the study, further limiting the study's generalizability.

Summary

The purpose of this quantitative study was to measure how four universally recognized best practices in online pedagogy affected instructor evaluation scores in online graduate courses. The data for this study were gathered from a public university database containing instructor teaching evaluation scores recorded on the IDEA survey instrument. Additionally, the

university instructional design team assed and rated the online graduate courses for how well they incorporated the four best practices in online course design by using the modified Jaggars and Xu (2016) Online Course Quality Rubric (see Appendix A). Subsequently, the instructional design team assigned each course a transactional distance score. The researcher subjected the data to descriptive and inferential statistics by using Pearson's correlation analysis to identify whether significant association and differences existed among the variables. This chapter included details about the research question and corresponding hypothesis, methodology, setting of the study, key personnel, sample size, analysis, participants' rights, potential limitations of the study, and a summary of the chapter. Chapter 4 presents the findings on the possible relationships between the variables.

CHAPTER 4

RESULTS

The purpose of this quantitative study was to discover how four universally recognized best practices in online pedagogy affected teaching evaluation scores. This study used a Pearson's correlation analysis to measure the strength of the relationship between IDEA survey scores and transactional distance scores (TDS) in 69 online graduate courses taught by tenured instructors in the spring semester of 2015. The IDEA survey is a student evaluation of instructor teaching effectiveness that is widely used in higher education in the United States. The IDEA survey assesses teaching effectiveness by asking students to rate progress on relevant learning objectives and provide an overall instructor rating. The overall instructor rating is the average of agreement with statements that the instructor and the course were excellent. The average of these two measures is called the *summary evaluation*. The researcher used the summary evaluation score as the criterion variable in this study. The researcher derived the TDS scores by using the Jaggars and Xu (2016) Online Course Quality Rubric, which the researcher modified by using a five point Likert scale and by changing item number four from technology to the appropriate use of video or multimedia. The four best practices in online course design included: (1) course organization and presentation, (2) learning objectives and assessments, (3) instructor-student interpersonal interaction, and (4) the appropriate use of video or multimedia. Trained instructional designers made subjective judgements to assess the use of these best practices in online course design. The total score for each online course was inverted, meaning the highest possible score of 20 was converted to zero so it was easier to understand the transactional distance score. This scale inversion had no consequence on the correlation analysis.

This chapter provides a brief overview of the results of this study including how the data were organized, coded, entered into the database, visualized, and ultimately analyzed. The researcher designed this quantitative study to answer the following research question: "How does transactional distance in online pedagogy relate to student evaluation scores of online instructors at a Doctoral Research University in Texas?" The hypothesis of this study posited that there is a high correlation between the four best practices in online course design -- Course Organization and Presentation, Learning Objectives and Assessments, Instructor-Student Interpersonal Interaction, the Appropriate Use of Video or Multimedia -- and teaching evaluation scores.

Analysis Method

The researcher individually extracted the IDEA survey scores of the 69 online graduate courses selected for the study from the Sam Houston State University website database, and uploaded these scores into Microsoft Excel. The IDEA survey scores ranged from a low score of 2.1 to high score of 4.9. Subsequently, the author rated each course for how well they incorporated the four best practices in online course design using the modified Jaggars and Xu (2016) Online Course Quality Rubric. The 22 instructional designers, whom the researcher trained to evaluate and rate the online courses, divided themselves into 11 groups of two. Eight groups of the instructional designers evaluated and rated six online courses and three groups of instructional designers rated seven online courses. The teams of instructional designers rated the courses using a five point Likert scale on the level of agreement where 5 points were awarded for strongly agree, 4 points for agree, 3 points for neutral, 2 points for disagree, and 1 point for strongly disagree. The data points of one, three, and five on the Likert scale were defined parenthetically as a guideline for the course evaluators. For example, the best practice *course organization and navigation* used the following definitions:

5 = strongly agree (Clear navigation in presentation of course with step-by-step

instructions of how to approach course navigation)

3 = neutral (Clear navigation in presentation of course, but no instructions of how to

approach navigation)

1 = strongly disagree (The navigation is unclear and there are no instructions of how to

approach navigation).

Once the instructional designers had completed the evaluation and ratings, the researcher

uploaded the 69 total TDS scores, whose range was from a low score of zero to a high score of

15. The researcher also uploaded the individual rating scores for each one of the four best

practices in online pedagogy into Microsoft Excel. The author placed the five columns of

numbers measuring transactional distance next to the column of IDEA survey scores in Excel.

The author then uploaded the resultant six columns of numbers into SPSS Version 22 and

executed a Pearson correlation analysis to determine the correlation coefficient to measure the

strength of the relationship between the IDEA and transactional distance sores.

Presentation of Results

The results of this study include five measures of transactional distance used to predict

IDEA survey scores. The first result is the correlation coefficient between all 69 IDEA survey

scores and all 69 transactional distance scores. This result is the combined measure of each of the

four best practices in online course design: (1) course organization and presentation, (2) learning

objectives and assessments, (3) instructor-student interpersonal interaction, and (4) the

appropriate use of video or multimedia. The researcher used these four best practices in online

pedagogy to measure the correlation between IDEA survey scores and transactional distance

scores. The second result is the correlation coefficient between the IDEA survey scores and

transactional distance scores (TDS) for the best practice *course organization and presentation*. The third result is the correlation coefficient between the IDEA survey scores and (TDS) for the best practice *learning objectives and assessments*. The fourth result is the correlation coefficient between the IDEA survey scores and (TDS) for the best practice *instructor-student interpersonal interaction*. The fifth result is the correlation coefficient between the IDEA survey scores and (TDS) for the best practice *the appropriate use of video or multimedia*.

Total Correlation between IDEA survey Scores and TDS

The correlation coefficient is calculated using the following formula where n (69) represents the sample size, x represents observations of the predictor variable (TDS) and y represents observations of the dependent variable (IDEA survey). The correlation coefficient measuring the strength of the relationship between IDEA survey scores and transactional distance scores was 0.007 meaning there was nearly a perfect no correlation between the variables (see Figure 3).
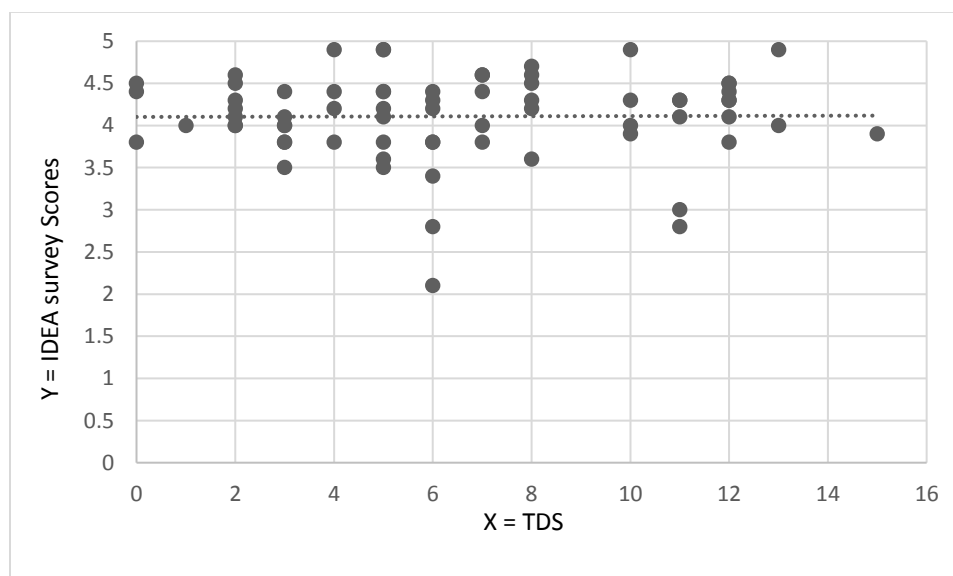

Figure 3. Correlation between IDEA Scores & TDS = 0.007

The results of this finding were somewhat surprising given that the hypothesis of the study posited a high correlation between IDEA survey scores and TDS. Clearly, utilizing the four best practices in online course design did not affect teaching evaluation scores among the group of online courses selected for this study. This may be because of the relatively small sample size of 69 online graduate courses taught by tenured professors in the spring semester of 2015. This result also may have occurred because of the variation in rating by the Instructional Designers who may have over or underrated rated the four best practices in online course design. Inter-rater reliability among the instructional designers was 81.8% after they were trained to rate the online courses for transactional distance using the modified Jaggars and Xu (2016) Online Course Quality Rubric.

Course Organization and Presentation

The correlation coefficient measuring the strength of the relationship between the IDEA surveys scores and TDS for the best practice *Course Organization and Presentation* was 0.137 representing a low positive correlation between the two variables. The slightly positive direction in the line of best fit (seen in Figure 4) represents this relatively low positive correlation.
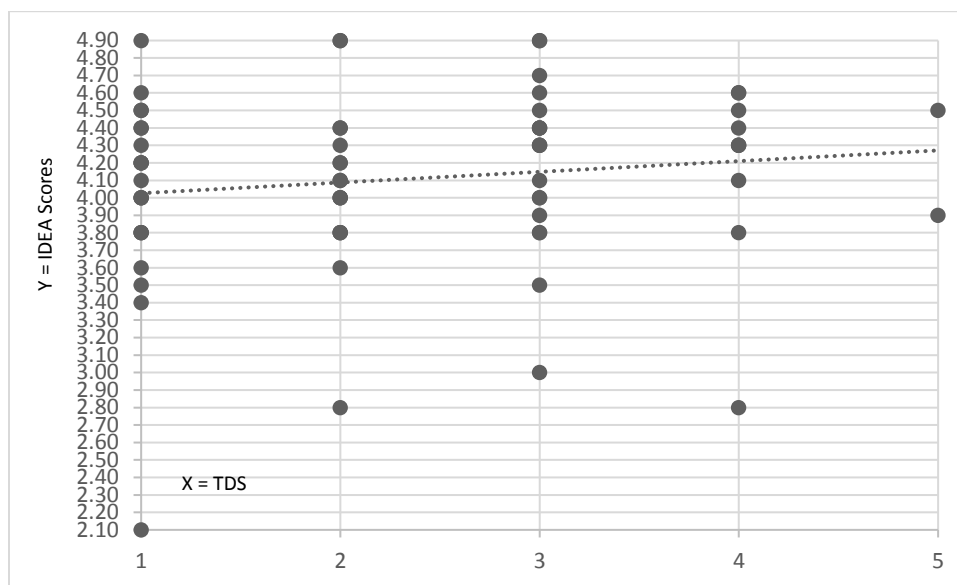
Figure 4. Correlation between IDEA Scores and TDS for Course Organization and Presentation = 0.137

This result shows there was a low positive correlation between the IDEA surveys scores and TDS for the best practice *Course Organization and Presentation.* The correlation coefficient of 0.137 is much higher in this study, as compared to Jaggars and Xu's (2016) study, who found only a negligible correlation of a -0.05 for the category of *Course Organization and Presentation* (p. 276). Vealé (2009) found that online students appreciated a well-organized course, and that qualitative research study on transactional distance and course structure revealed students used words like "easy to navigate" when describing a well-designed online course or the word "lost" when expressing their frustration with a poorly organized online course (p. 83).

Learning Objectives and Assessments

The correlation coefficient measuring the strength of the relationship between the IDEA surveys scores and TDS for the best practice *Learning Objectives and Assessments* was 0.171 representing a low positive correlation between the two variables (see Figure 5).
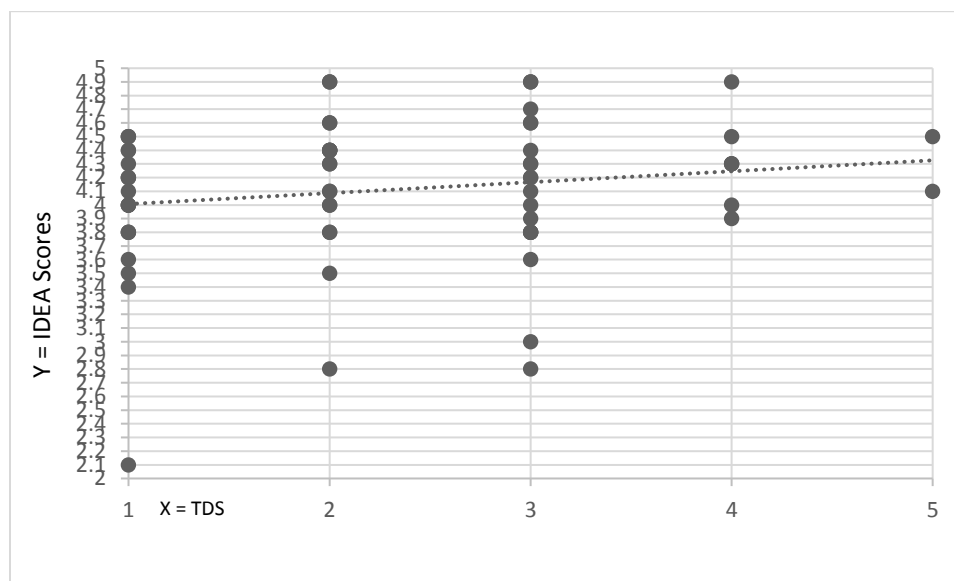
Figure 5. Correlation between IDEA Scores & TDS for Learning Objectives and Assessments = 0.171

This finding also shows there is a low positive correlation between the IDEA surveys scores and TDS for the best practice *Learning Objectives and Assessments.* Once again, the slightly positive direction of the line of best fit in Figure 5 shows this relatively low positive correlation. This finding is also interesting when compared to Jaggars and Xu's (2016) study, who found only a negligible 0.05 positive correlation for the category *Learning Objectives and Assessments* (p. 276). The difference in the types of students in the studies may explain this variance. Jaggars and Xu (2016) studied community college students, who are more inexperienced learners when compared to the graduate students in this study. This finding may suggest that graduate students are more experienced learners with a greater level of learner autonomy. Vealé's (2009) qualitative research found that online students felt less anxiety if they knew what was expected of them. That qualitative research study on transactional distance and

course structure revealed that students used words like "vague" or "no clear objectives" when describing how they struggled with courses objectives that were unclear to them (p. 83).

Instructor and Student Interpersonal Interaction

The correlation coefficient measuring the strength of the relationship between the IDEA survey scores and TDS for the best practice *Instructor and Student Interpersonal Interaction* was -0.099 or no correlation -- as shown in Figure 6.
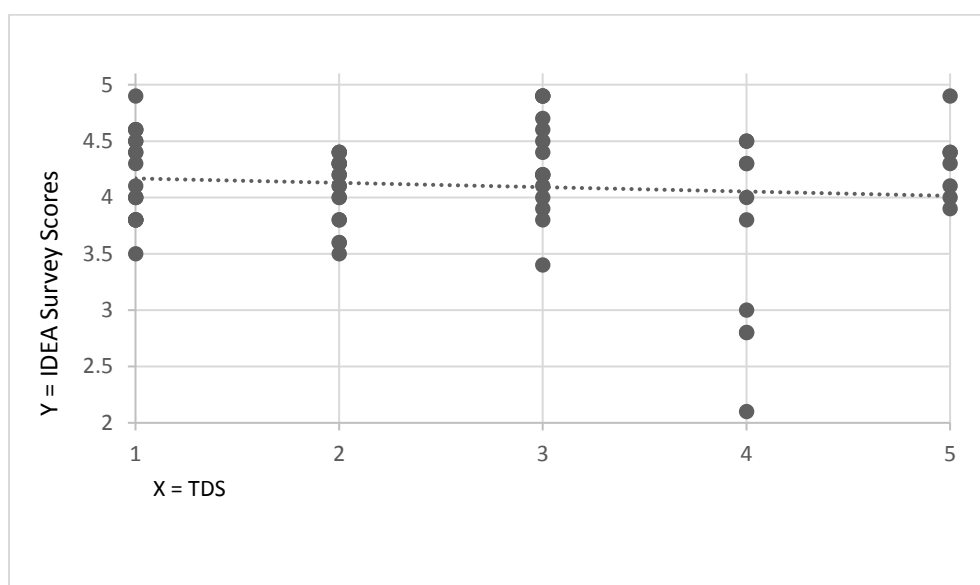
Figure 6. Correlation between IDEA Scores & TDS for Instructor-Student Interaction = -0.099

This result was equally as surprising as the finding of no correlation between total IDEA survey scores and TDS. This finding is also interesting when compared to the Jaggars and Xu (2016) study, who found a low positive correlation of 0.15 for *Instructor and Student Interpersonal Interaction,* which is slightly higher than the -0.099 correlation coefficient found in this study. However, as mentioned previously, Jaggars and Xu (2016) studied community college students who are inexperienced learners compared to the graduate students in this study who may need less interaction with their instructor. Dixon, Dixon, and Siragusa (2007) (as cited

in Kuboni, 2013) concluded that the majority of online graduate students wanted to work alone and their learning styles did not favor collaboration. Dixon et al. noted that these adult learners took responsibility for their education and did not want to collaborate with anyone (as cited in Kuboni, 2013, p. 229). Saba (2016) noted that most online students in higher education today are non-traditional learners who have family and work obligations. They belong to a world where everything is done online and these learners can work and learn together to solve a myriad of problems using the power of the Internet. Today, the instructor is more of a facilitator who provides enough course structure and organization to allow the online learner to be more autonomous (p. 22). Moore (1983) suggested that non-traditional learners pursue learning on their own and described two types of learner autonomy. Emotional autonomy is the ability to learn without reassurance or approval. Instrumental autonomy is the ability to learn without any help from others (p. 162). These factors may explain why there was no correlation between IDEA survey scores and TDS for the best practice *Instructor and Student Interpersonal Interaction* in this study.

Appropriate use of Video or Multimedia

The correlation coefficient measuring the strength of the relationship between IDEA surveys scores and TDS for best practice *the Appropriate Use of Video or Multimedia* was -0.124 representing a low negative correlation. The scatterplot for the best practice of *the Appropriate Use of Video or Multimedia* shows a slight negative direction in the line of best fit -- as seen in Figure 7.
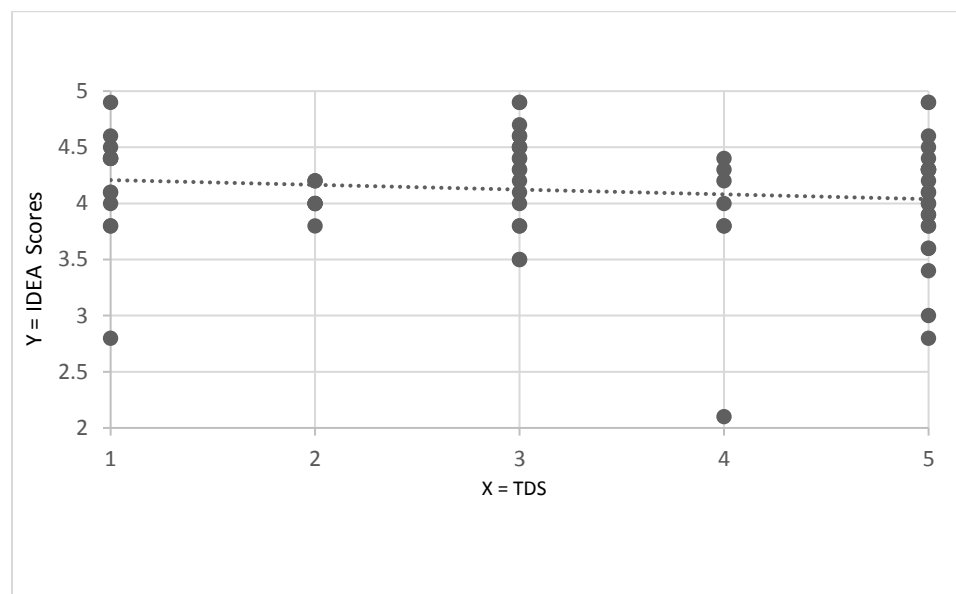
Figure 7. Correlation Between IDEA Scores & TDS for the Appropriate Use of Video or

Multimedia = -0.124

This finding suggests that there is a slightly negative correlation between IDEA survey

scores and TDS for *the Appropriate Use of Video or Multimedia*. Zhang, Zhou, Briggs, &

Nunamaker (2006) noted that there are conflicting results regarding the use of video and

multimedia in distance education. Their study found that using video might not always improve

learning but that if students could interact with the video and replay it as necessary they may

have improved learning outcomes. They reported that students enjoyed being able to interact

with multimedia instructions in most cases (p. 24). However, Dockter (2016) indicated that pre-

recorded video and multimedia actually increased transactional distance in online courses (p. 77).

Moore (2013) found that recorded lectures create a very structured course with minimal

instructor-student interaction that may increase transactional distance (p. 71). Moore's finding

may explain why there is a low negative correlation between IDEA survey scores and TDS for

this best practice.

Summary

The purpose of this study was to measure the strength of the relationship between four best practices in online course design and teaching evaluation scores: 1) Course Organization and Navigation, 2) Learning Objectives and Assessments, 3) Instructor-Student Interpersonal Interaction, and 4) the Appropriate Use of Video or Multimedia. The hypothesis of this study posited there would be a high correlation between the four best practices in online course design and teaching evaluation scores. The researcher used a Pearson correlation analysis to measure the strength of the relationship between transactional distance scores and teaching evaluation scores. The statistical tests performed in the study did not support the researcher's hypothesis. However, the findings provide some insights into Moore's theory of transactional distance as related to online graduate students, learner autonomy, and tenured instructors at a doctoral research university in Texas. Chapter Five provides a brief overview of the study, an interpretation of the findings, the implications of the findings, recommendations for future action, recommendations for further study, and the conclusion.

CHAPTER 5

CONCLUSION

The researcher's interest in teaching evaluation scores in online courses resulted from observing Brocato et al. (2015) study that took place at the university in 2014. They studied why teaching evaluations in online courses were consistently lower that teaching evaluations in face-to-face courses. They concluded that instructors' teaching styles and student interactions are not easily transferable from the classroom to the online environment, which suggested that online courses needed better student engagement strategies. The author of this study suspected that many instructors were either not building interaction into their online courses or simply did not understand how to incorporate those strategies into their courses. The experiences of the instructional design team, who do their best to incorporate best practices in online pedagogy when they work with instructors to design online courses, grounded this suspicion. The instructional designers' efforts have varying degrees of success as the instructors' ultimately decide how the course will be designed and what pedagogical approaches will be used. The literature review led the researcher to the Jaggars and Xu (2016) Online Course Quality Rubric. The researcher modified the rubric, with their permission, by using a 5-point Likert scale instead of their 3-point Likert scale and by changing their fourth best practice category (technology) to *the Appropriate Use of Video or Multimedia*. As a distance education practitioner for many years, the researcher was already familiar with Moore's *theory of transaction distance*, since it is widely known in the field of distance education. The researcher trained the instructional design team to rate the 69 online graduate courses chosen for the study and assign a transactional distance score. The IDEA surveys are publically available in a database located on the university website.

The study used a correlation analysis to measure the strength of the relationship between teaching evaluation scores and transactional distance scores (TDS) in online graduate courses. The significance of this study lies in the fact that distance education generates over 20% of student credit hours at the university, which warranted the need to investigate and measure best practices in online pedagogy that may reduce transactional distance (Sam Houston State University, 2016b). Other theorists may use the findings of this study to inform instructors about the effects of *Course Organization and Presentation*, *Learning Objectives and Assessments*, *Instructor-Student Interpersonal Interaction*, *The Appropriate Use of Video or Multi-Media* and their relationship to teaching evaluation scores. Insights from this study may aid distance education practitioners and university administrators in the implementation of strategies that reduce transactional distance and may improve teaching evaluation scores

Interpretation of Findings

The research question used in this study was how does transactional distance in online pedagogy relate to student evaluation scores of online instructors at a Doctoral Research University in Texas? The hypothesis of this study posited that there is a high correlation between the four best practices in online course design -- Course Organization and Navigation, Learning Objectives and Assessments, Instructor-Student Interpersonal Interaction, the Appropriate Use of Video or Multimedia -- and teaching evaluation scores.

The statistical correlation analysis performed in the study did not support the researcher's hypothesis. In fact, the author found no correlation between the cumulative measures of transactional distance and teaching evaluation scores. However, there were two low positive correlations between IDEA survey scores and TDS for the best practices of 1) Course Organization and Presentation and 2) Learning Objectives and Assessments. Surprisingly, there

was no correlation between IDEA survey scores and TDS for the best practice of 3) Instructor-

Student Interpersonal Interaction. There was a low negative correlation between IDEA survey

scores and TDS for the best practice 4) the Appropriate Use of Video or Multimedia -- as shown

in Figure 8.
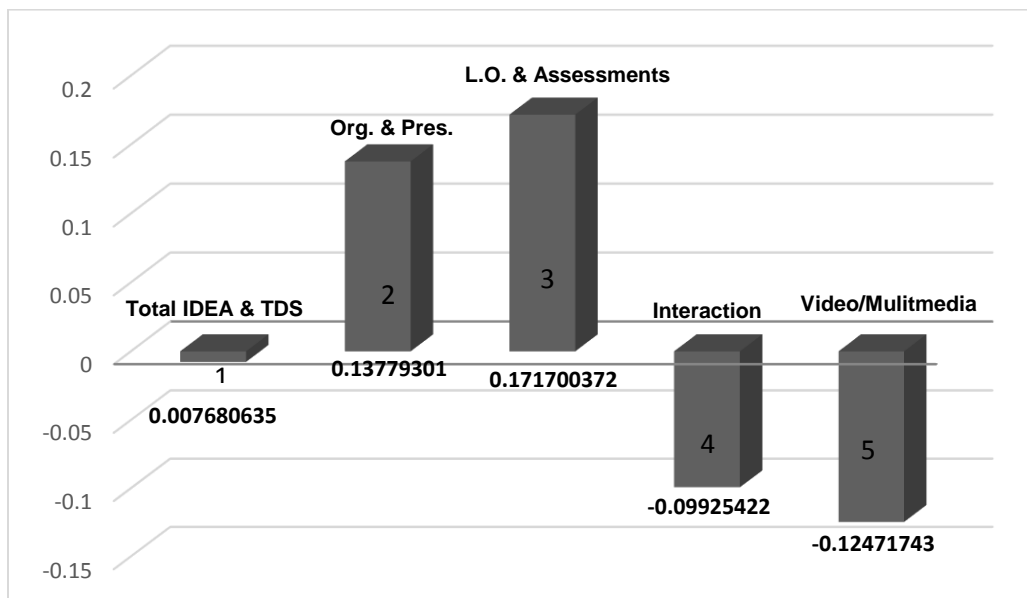
Figure 8. Predicted Correlation of IDEA survey Scores by TDS

There could be numerous reasons for the findings in this study. According to Blaschke

and Hase (2014), people are learning in new ways that are revolutionary. The revolution lies in

the ways people acquire information and knowledge. There are no barriers to acquiring

knowledge in the world of the Internet. Today, learners have the skills to network with each

other to analyze and synthesize information. Learners are no longer passive recipients of

information that only the instructor possesses. Instructors are no longer the sole expert of a

subject because learners have access to much of the same information through the Internet and

online databases like ProQuest, ERIC and Google Scholar (Blaschke & Hase, 2014, p. 26).

Saba (2016) noted that information and communication technology are ubiquitous and distance education enables access to higher education, which is no longer place- and time-bound. This researcher suggested that the academic community should embrace distance education because it may offer more opportunities for students, may reduce the cost of education, and may increase graduation rates. Saba advised that institutions should develop electronic curriculum, use communication technology, develop accelerated degree programs, flexible schedules, and increase opportunities for non-traditional students. The researcher also suggested that, with the appropriate understanding of online pedagogy, instructors could develop the right combination of learner autonomy and course structure to improve student success (p. 29-30).

Dunn (2001) suggested that problems might occur when instructors design online courses for a class of homogenous students. This is problematic because instructors must consider different student learning styles. Assuming all of the students learn best by reading, writing, watching video, or using multimedia will negatively affect students who prefer learning in a different way, i.e. that is most conducive to them (as cited in Dockter, 2016, p. 81). Bronack (2011) noted that assuming that students all had a positive attitude and were highly motivated in the course alienated the students who do not like the course content or the learning styles presented in the course. The technology used in the course may play a role in student satisfaction with online courses. Students who are not skilled at using the various tools in the course may become frustrated and an instructor's preferred way of communicating may either improve or impede students' ability to be successful in the course (p. 114).

Liu (2012) studied the student teaching evaluations of 1,522 online instructors spread across 29 institutions of higher education with 11,351 students in the sample. The purpose of the study was to evaluate how student and instructor characteristics affect student evaluations of

online teaching (Liu, 2012, p. 475). The study found a significant relationship between teaching evaluation scores and instructor rank. Compared to the rank of Instructor in the study, Tenured Professors received consistently lower teaching evaluation scores. Liu posited that instructors focused more on teaching, while tenured faculty had additional responsibilities other than teaching, including research and service. In some cases, tenured professors may see research as a higher priority than teaching. Liu suggested that tenured professors might lack the motivation to teach an online course, especially if the institution required them to do so. Teaching online demands more work with technology and new challenges with student interaction (Liu, 2012, p. 483-484). Similarly, the instructors in this study were all tenured faculty.

According to Peterson (2016), there are numerous student evaluation instruments used to assess the effectiveness of online instruction, most of which are summative, meaning they occur after the course is finished. Universities typically use these evaluations for tenure and promotion, and not to improve the quality of the course (p. 2). Peterson's (2016) research suggested that universities should use formative evaluations at key points during an online course. Regular student feedback enabled course corrections that could improve the online course. This approach benefitted the current students and resulted in increased satisfaction with the course (p. 20).

In summary, even though the statistical correlation analysis performed in this study did not support the researcher's hypothesis, it was interesting to assess the findings of this study. Saba (2016) noted that the Internet, technology, and information are ubiquitous, thereby requiring online course design to consider a balance between learner autonomy and course structure to facilitate student success. Dockter (2016) suggested that instructors should incorporate a variety of learning styles into online courses to increase student satisfaction and reduce frustration. Bronack (2011) noted that students' attitudes, motivation, and learning styles

could influence learning outcomes in online courses. Liu (2012) found that course organization and planning had the highest correlation to student rating of online instruction, and that tenured professors consistently received the lowest teaching evaluation scores, which were strikingly similar to the findings in this dissertation study. Peterson (2016) found regular formative evaluations during an online course to be more effective in improving the course during the semester. This innovation improved student satisfaction with the course.

This body of research literature, therefore, seems to support the findings in this dissertation study.

Other possible explanations for the findings are that instructional designers may have rated the courses too leniently or harshly, thereby skewing the results of the transactional distance scores. Many factors may have influenced the IDEA survey scores as well and they may have skewed the results of the teaching evaluations. The correlation coefficients of both measures in this study may have been less accurate than the researcher originally hypothesized.

Overall, while the four best practices used as predictor variables in this study are desirable and recognized as important components of a quality online course, the results indicated no correlation between the cumulative measures of IDEA survey scores and transactional distance scores (TDS). However, the best Practice *Learning Objectives and Assessments* had the highest correlation coefficient (0.171) between IDEA survey scores and TDS. The best practice *Course Organization and Presentation* had the second highest correlation coefficient (0.137) between IDEA survey scores and TDS. No correlation (-0.099) was found between IDEA survey scores and TDS for the best practice *Instructor-Student Interpersonal Interaction*. A low negative correlation (-0.124) was found between IDEA survey scores and TDS for the best practice *the Appropriate Use of Video or Multimedia.*

Another very interesting way to understand the teaching evaluations scores of the 69 online graduate courses in the study was to categorize them by the IDEA rating scale -- as seen in Figure 9.
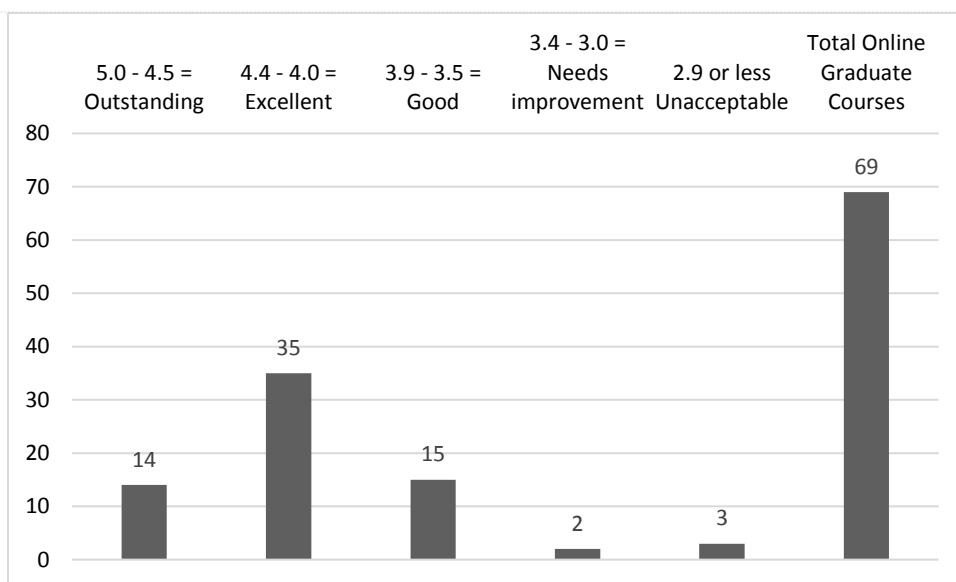
Figure 9. IDEA survey Scores by Rating Category

Of the 69 online graduate courses in the study, students rated 14 courses as outstanding, 35 courses as excellent, and 15 courses as good. Overall, nearly 93% of the courses received the ratings "good to outstanding." Even though there is no overall correlation between teaching evaluation scores and TDS in the study, the IDEA survey scores for these courses are overwhelmingly positive, which suggests there was hardly any variability between the IDEA survey scores of the 69 courses. This lack of variability may have contributed to the findings in this study.

Implications

Instructional designers and instructors may use the results of this study in collaborative efforts as they develop new online courses for the university. University administrators may use

the results of this study to more fully understand the complex relationship between instructors'

teaching evaluation scores and transactional distance. Instructors and administrators will be more

aware of the recommended use of best practices in distance education pedagogy. University

administrators may use this knowledge to assist them when conducting their annual performance

appraisals with instructors who are teaching online. Teaching evaluations in online courses are

an important component of an instructor's effort to earn tenure and promotion. This study raises

the awareness of how much effort goes into designing, supporting, and delivering quality online

education. This study has the potential to transform the way instructors think about developing

electronic materials for instruction even for their face-to-face courses. In theory, this study may

benefit student learning outcomes as instructors adopt best practices in online pedagogy. The

study may aid in the continuous quality improvement process as online courses are re-designed.

Professional development courses offered for instructors teaching online may also incorporate

the findings and the literature used in this study. The next section of this study discusses

recommendations for action, and how distance education has the potential to transform the lives

of non-traditional students returning to school to study at a distance.

Recommendations for Action

Even though the hypothesis of this study was not supported, the findings of this study are

important for recommending further action. Careful consideration must still be given to how

online courses are designed and delivered based on best practices from the literature. The

findings of this study recommend incorporating the best practice of *Course Organization and

Presentation* based on the low positive correlation (0.137) between teaching evaluation scores

and TDS. The author recommends incorporating the best practice of *Learning Objectives and

Assessments* in online courses, based on the low positive correlation (0.171) between teaching

evaluation scores and TDS. Given the fact there was no correlation between teaching evaluation scores and TDS for the best practice of *Instructor-Student Interpersonal Interaction* (-0.099), the researcher does not recommend designing a high level of interaction in online graduate courses. Based on the low negative correlation (-0.124) between teaching evaluation scores and TDS for the best practice *the Appropriate Use of Video or Multimedia*, the researcher recommends using video or multimedia sparingly in online graduate courses.

Universities must consider research regarding learner autonomy in online graduate courses to more fully understand the results of this study. According to Annand (2007), requiring graduate students to participate in a high level of interaction is in direct conflict with autonomous learners. Online graduate course design should allow for more self-directed learning (Annand, 2007, p. 1). Based on a study of online graduate students in a university in Africa, Asunka (2008) argued that less time should be spent in online discussions and group work and more time on individual assignments (p. 12). Dixon, Dixon, and Siragusa (2007) found similar results. In their study of online graduate students, they concluded the majority of participants preferred to study alone and believed their learning styles were not conducive to collaboration. These adult learners wanted to take responsibility for their own learning and this did not include collaborating with others (Dixon et al., p. 213, as cited in Kuboni, 2013, p. 229). Moore (1973) posited that the very nature of distance education necessitates that students embrace a great deal of responsibility for their own learning, which is a core competency of autonomous learners (pp. 663-664, as cited in Kuboni, 2013, p. 232). Moore (1973) correctly predicted that countless additional autonomous learners would be interested in distance education in the future. Moore argued that successful students in distance education programs would be far more autonomous learners than in traditional educational settings (p. 674).

The results of this study may influence the stakeholders of the university community by increasing their understanding of the best practices in online course design, the autonomous nature of how graduate students learn, and how these factors relate to teaching evaluation scores in online graduate education. There were low positive correlations between teaching evaluation scores and TDS for the best practices of *Course Organization and Presentation* and *learning objectives and assessments*. There was no correlation between teaching evaluation scores and TDS for the best practice *Instructor-Student Interpersonal Interaction*. This suggests that instructors should limit interaction and focus their efforts more on course organization, learning objectives, assessments, and self-directed learning activities. There was a low negative correlation between teaching evaluation scores and TDS for the best practice of *the Appropriate Use of Video or Multimedia.* This finding may suggest that online courses may need alternative methods of delivering content. Graduate students are autonomous learners with a variety of learning styles. They may simply prefer reading, writing, or engaging in a research project as opposed to passively watching video or multimedia. These findings suggest that it is necessary to transform the way instructors design online graduate courses, which may reduce student frustration and improve teaching evaluation scores.

Students already generate over 20% of their credit hours through distance education at this university. The quality of online instruction directly impacts students, instructors of all rank, and administrators at all levels, including the Office of System Administration that governs the eight institutions in our university system. The appropriate combination of best practices in online pedagogy and learner autonomy has the potential to transform the lives of non-traditional students who return to the university and complete a degree or pursue an advanced degree online. The benefits of earning additional education have a profound economic impact on people's lives

and the economy of Texas. The Brookings Institute's (2015) research study showed that a Texas citizen with a bachelor's degree earns almost double the lifetime income of a Texas citizen with a high school diploma. The lifetime earnings for those with a master's degree increased by nearly half a million dollars, and the lifetime earnings for individuals with a doctoral degree increased by almost one million dollars (Texas Higher Education Coordinating Board, 2016b, p. 9).

Recommendations for Further Study

The researcher recommends that theorists conduct a study to measure the strength of the relationship between teaching evaluations and transactional distance in undergraduate online courses at the university. The enrollments in undergraduate online courses are approximately three quarters of the total online enrollments of the university. The university offers 14 undergraduate degrees online and hundreds of online undergraduate courses each semester to on-campus students who enroll in online courses for numerous reasons. Many on-campus students enroll in online courses because of scheduling conflicts, work obligations, and the added flexibility they provide. The volume of undergraduate courses offered online is significant and warrants further study. Theorists should expand upon this study to include an analysis of online instructors by academic rank, gender and ethnicity, level of education, academic discipline, and readiness to teach online. Researchers should develop qualitative questions and conduct surveys to discover the effects of student perceptions regarding technology, course structure, dialog, learner autonomy, class size, group work, video, multimedia, and course difficulty to better understand the strength of the relationship between teaching evaluations scores and TDS in undergraduate online courses.

Conclusion

The researcher's focus in this doctoral program was the transformation of self, the university community, and the administration of distance education programs. Beaudoin (2015) suggested that distance education leaders must create the conditions for innovative change. The challenge is not one of managing the technology but managing organizational change. Leadership in distance education is a transformative process and requires leaders to understand and implement the principles and practices of transformative leadership. The transformative distance education leader engages key stakeholders in a university to systematically change numerous administrative procedures and develop a culture of continuous innovation and growth with the least amount of disruption to the administrative process (p. 41).

The researcher intends to initiate discussions with the stakeholders regarding a modified or alternative teaching evaluation instrument for online courses. This discussion may transform stakeholders understanding of the relationship between best practices in online pedagogy, teaching evaluation scores, and transactional distance.

According to Brown (2004), transformative leadership must consider equity, social justice, democracy, and the abuse of power first and foremost, while purposefully initiating change. Transformative leaders in education share authority with minority groups, build coalitions, and show their allies how to gain political influence and promote themselves, their causes, and other underrepresented groups (p. 86). Shields (2010) stated that educational leaders must create guidelines for social justice through engagement in dialog and pedagogical conversations, which value the student and their lived experience (p. 128).

Over the last few years, the implementation of distance education at this university necessitated the transformation of numerous administrative processes and procedures. The

university implemented the Texas common application to enable online students to apply for admission electronically. It also redesigned the student information system to accommodate distance education offerings. A new eight-week accelerated semester was added to the schedule of classes to create flexibility to distance education programs. The university redesigned its website to include detailed information about distance education programs, and employed search engine optimization to improve the search engine rankings of online programs. The university also launched radio, television, and social media advertising campaigns to recruit new online students, and created a 24-7 technology support desk to assist online students and instructors.

This study was unique in how instructional designers measured transactional distance using the modified Jaggars and Xu (2016) Online Course Quality Rubric. Moore's theory of transactional distance suggests transactions in distance education accounted for three factors: dialog, structure, and learner autonomy. This study was surprising in that dialog as measured by the best practice *Instructor-Student Interaction* had no correlation between teaching evaluation scores and transactional distance scores. Course structure as measured by the best practice *Learning Objectives and Assessments* in online courses had a low positive correlation between teaching evaluation scores and TDS as did the best practice of *Course Organization and Navigation.* The researcher found best practice *the Appropriate Use of Video or Multimedia* to have a low negative correlation between teaching evaluation scores and TDS. Contrary to the literature regarding best practices in online pedagogy, the researcher found little or no correlation between teaching evaluation scores and the four predictor variables used to measure transactional distance. This study was transformative in that learner autonomy emerged from the findings to aid in the understanding of the relationship between teaching evaluation scores and TDS. The findings from additional literature suggest that autonomous learners preferred to study alone and

are not interested in collaboration with others. This research suggests that a transformative re-design of online graduate courses is necessary to accommodate the learning styles of this population of students. In the future, instructors must consider the factors of dialog, course structure, learner autonomy, and learning styles when designing online graduate courses. The influences of learner autonomy and learning styles helped to indirectly validate Moore's *Theory of Transactional Distance* in this study. The researcher discovered that learner autonomy may have been more influential on teaching evaluation scores than the four predictor variables used in the study. The online graduate student is an autonomous learner in Moore's theory of transactional distance. According to Moore (1973), learners acquire additional autonomy as they age and finally become responsible for their own learning. Autonomous learners have the ability to overcome problems and any obstacles put in their way (Moore, 1973, p. 667). Combined with the power of the Internet and ubiquitous communication technology, autonomous learners may be successful regardless of the amount of transactional distance in an online course. Researchers should conduct further research to more fully understand the effects of learner autonomy on best practices in online pedagogy and teaching evaluation scores in online graduate courses.

REFERENCES

Adams, M. J., & Umbach, P. D. (2012). Nonresponse and online student evaluations of teaching: Understanding the influence of salience, fatigue, and academic environments. *Research in Higher Education*, *53*(5), 576-591. doi:10.1007/s11162-011-9240-5

Allen, I.E., & Seaman, J. (2016). *Online report card: Tracking online education in the United States*. Retrieved from http://www.onlinelearningsurvey.com/reports/onlinereportcard.pdf

Anderson, B., & Simpson, M. (2012). History and heritage in distance education. *Journal of Open, Flexible and Distance Learning*, *16*(2), 1-10. Retrieved from http://www.jofdl.nz/index.php/JOFDL/article/view/56

Annan, S. L., Tratnack, S., Rubenstein, C., Metzler-Sawin, E., & Hulton, L. (2013). An integrative review of student evaluations of teaching: Implications for evaluation of nursing faculty. *Journal of Professional Nursing*, *29*(5). doi:10.1016/j.profnurs.2013.06.004

Annand, D. (2007). Re-organizing universities for the information age. *The International Review of Research in Open and Distributed Learning, 8*(3). Retrieved from http://www.irrodl.org/index.php/irrodl/article/viewArticle/372

Asunka, S. (2008). Online learning in higher education in Sub-Saharan Africa: Ghanaian university students' experiences and perceptions. *The International Review of Research in Open and Distributed Learning, 9*(3). Retrieved from http://www.irrodl.org/index.php/irrodl/article/viewArticle/586

Beaudoin, M. F. (2015). Distance education leadership in the context of digital change. *Quarterly Review of Distance Education*, *16*(2), 33-44. Retrieved from

http://search.proquest.com/openview/105bf82c43c853001e5a704d32ea11c9/1?pq-origsite=gscholar

Beleche, T., Fairris, D., & Marks, M. (2012). Do course evaluations truly reflect student learning? Evidence from an objectively graded post-test. *Economics of Education Review*, *31*(5), 709-719. doi:10.1016/j.econedurev.2012.05.001

Benson, R., & Samarawickrema, G. (2009). Addressing the context of e-learning: using transactional distance theory to inform design. *Distance Education*, *30*(1), 5-21. doi:10.1080/01587910902845972

Benton, S. L., & Cashin, W. (2012). Student ratings of teaching: A summary of research and literature. *IDEA Paper no. 50. Manhattan, K.S: The IDEA Center.* Retrieved from http://ideaedu.org/research-and-papers/ideapapers/50-student-ratings-teaching-summary-research-and-literature.

Benton, S. L., & Li, D. (2015). Validity and reliability of IDEA teaching essentials. *IDEA Research Report no. 8. Manhattan, K.S: The IDEA Center.* Retrieved from http://ideaedu.org/wp-content/uploads/2015/04/research_report_8.pdf

Berk, R. A. (2013). Face-to-face versus online course evaluations: A "consumer's guide" to seven strategies. *Journal of Online Learning and Teaching*, *9*(1), 140. Retrieved from http://search.proquest.com/openview/79304fb219dbc766a64965b2ba92a8fc/1?pq-origsite=gscholar

Betts, K. (2014). Factors influencing faculty participation & retention in online & blended education. *Online Journal of Distance Learning Administration*, *17*(1). Retrieved from http://s3.amazonaws.com/academia.edu.documents/41567366/FactorsInfluencingFaculty ParticipationKBetts2014.pdf?AWSAccessKeyId=AKIAJ56TQJRTWSMTNPEA&Expire

s=1466420631&Signature=0Nw0efgmsx1ttV0oXeqKMtuzi88%3D&response-content-

disposition=inline%3B%20filename%3DFactors_Influencing_Faculty_Participatio.pdf

Betts, K., & Heaston, A. (2014). Build it but will they teach? Strategies for increasing faculty

participation & retention in online & blended education. *Online Journal of Distance*

Learning Administration, *17*(2). Retrieved from

http://s3.amazonaws.com/academia.edu.documents/41567035/BuildItButWillTheyTeach

KBetts2014.pdf?AWSAccessKeyId=AKIAJ56TQJRTWSMTNPEA&Expires=14664207

00&Signature=X0Q0MkuiDWyUYHq1qIQH8PtNtes%3D&response-content-

disposition=inline%3B%20filename%3DBuild_it_but_will_they_teach_Strategies.pdf

Blaschke, L. M., & Hase, S. (2016). Heutagogy: A holistic framework for creating twenty-first-

century self-determined learners. In *The Future of Ubiquitous Learning* (pp. 25-40).

Springer Berlin Heidelberg.

Bledsoe, T. S. (2013). A multimedia-rich platform to enhance student engagement and learning

in an online environment. *Journal of Asynchronous Learning Networks, 17*(4). Retrieved

from http://olj.onlinelearningconsortium.org/index.php/olj/article/view/398

Bloomberg, L.D. & Volpe, M. (2012). C*ompleting your qualitative dissertation: A road map*

from beginning to end. Thousand Oaks, CA: Sage Publications, Inc.

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

distance education: Perspectives on what promotes positive, online learning experiences.

The Internet and Higher Education, *15*(2), 118-126. doi:10.1016/j.iheduc.2011.11.006

Bolliger, D. U., & Wasilik, O. (2009). Factors influencing faculty satisfaction with online

teaching and learning in higher education. *Distance Education, 30*(1), 103-116.

doi:10.1080/01587910902845949

Brocato, B. R., Bonanno, A., & Ulbig, S. (2015). Student perceptions and instructional

    evaluations: A multivariate analysis of online and face-to-face classroom settings.

    Education and Information Technologies, *20*(1), 37-55. doi:10.1007/s10639-013-9268-6

Brockx, B., van Roy, K., & Mortelmans, D. (2012). The student as a commentator: Students'

    comments in student evaluations of teaching. *Procedia-Social and Behavioral Sciences*,

    69, 1122-1133. doi:10.1016/j.sbspro.2012.12.042

Bronack, S. C. (2011). The role of immersive media in online education. *Journal of Continuing*

    Higher Education, 59(2), 113-117. doi:10.1080/07377363.2011.583186

Brown, K. M. (2004). Leadership for social justice and equity: Weaving a transformative

    framework and pedagogy. *Educational Administration Quarterly, 40*(1), 77-108.

    doi:10.1177/0013161x03259147

Ch, S.K., & Popuri, S. (2013). Impact of online education: A study on online learning platforms

    and edX. *Institute of Electrical and Electronics Engineers*, 366-370.

    doi:10.1109/MITE.2013.6756369

Chang, Y., & Hannafin, M. J. (2015). The uses (and misuses) of collaborative distance education

    technologies: Implications for the debate on transience technology. *Quarterly Review of*

    Distance Education, *16*(2), 77. Retrieved from

    http://search.proquest.com/openview/105bf82c43c8530025d8e72e76ef5b7a/1?pq-

    origsite=gscholar

Chen, S. (2007). Instructional design strategies for intensive online courses: An objectivist-

    constructivist blended approach. *Journal of Interactive Online Learning*, *6*(1), 72-84.

    Retrieved from http://www.unhas.ac.id/hasbi/LKPP/Hasbi-KBK-SOFTSKILL-

    UNISTAFF-SCL/Mental%20Model/konstruktivisme2.pdf

Cicco, G. (2013). Faculty development on online instructional methods: A protocol for counselor educators. *Journal of Educational Technology, 10*(2), 1-6. Retrieved from http://search.proquest.com/openview/342bcc0754ed28f1819f0992097bb9ab/1?pq-origsite=gscholar

Cowen, T., & Tabarrok, A. (2014). The industrial organization of online education. *American Economic Review, 104*(5), 519-522. doi:10.1257/aer.104.5.519

Crawford-Ferre, H. G., & Wiest, L. R. (2012). Effective online instruction in higher education. *The Quarterly Review of Distance Education*, *13*(1), 11-14. Retrieved from http://search.proquest.com/openview/afa391aa4ef082c87a6e2a058d23e9ee/1?pq-origsite=gscholar

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research.* Boston, MA: Pearson Education, Inc.

Cooper, D., & Schindler, P. (2013). *Business research methods* (12th ed.). New York, NY: McGraw-Hill Higher Education.

Darabi, A., Liang, X., Suryavanshi, R., & Yurekli, H. (2013). Effectiveness of online discussion strategies: A meta-analysis. *American journal of distance education*, *27*(4), 228-241. doi:10.1080/08923647.2013.837651

Dockter, J. (2016). The problem of teaching presence in transactional theories of distance education. *Computers and Composition, 40*, 73-86. doi:10.1016/j.compcom.2016.03.009

Dron, J., & Anderson, T. (2012). The distant crowd: Transactional distance and new social media literacies. *International Journal of Learning and Media, 4*(34), 65-72. doi:10.1162/IJLM_a_00104

Ekwunife-Orakwue, K., & Teng, T. (2014). The impact of transactional distance dialogic interactions on student learning outcomes in online and blended environments. *Computers & Education, 78*, 414-427. doi:10.1016/j.compedu.2014.06.011

Ewing, A. M. (2012). Estimating the impact of relative expected grade on student evaluations of teachers. *Economics of Education Review*, *31*(1), 141-154. doi:10.1016/j.econedurev.2011.10.002

Fish, L. A., & Snodgrass, C. R. (2014). A preliminary study of business student perceptions of online versus face-to-face education. *The BRC Academy Journal of Education*, *4*(1), 1-21. doi:10.15239/j.brcacadje.2014.04.01.ja01

Forsyth, D. R. (2016). *Evaluating: Assessing and enhancing teaching quality. College teaching: Practical insights from the science of teaching and learning* (2nd ed.). Washington, DC, US: American Psychological Association. doi:10.1037/14777-010

Fraile, R., & Bosch-Morell, F. (2015). Considering teaching history and calculating confidence intervals in student evaluations of teaching quality. *Higher Education*, *70*(1), 55-72. doi:10.1007/s10734-014-9823-0

Galbraith, C. S., Merrill, G. B., & Kline, D. M. (2012). Are student evaluations of teaching effectiveness valid for measuring student learning outcomes in business related classes? A neural network and Bayesian analyses. *Research in Higher Education*, *53*(3), 353-374. doi:10.1007/s111162-011-9229-0

Goel, L., Zhang, D. & Templeton, M. (2012). Transactional distance revisited: Bridging face and empirical validity. *Computers in Human Behaviors, 28*(4), 1122-1129. doi:10.1016/j.chb.2012.01.020

Gould, M. & Padovano, D. (2006, July). Seven ways to improve student satisfaction in online courses. *Distance Education Report*. Retrieved from http://www.facultyfocus.com/articles/distance-learning/seven-ways-to-improve-student-satisfaction-in-online-courses/

Grimes, A., Medway, D., Foos, A., & Goatman, A. (2015). Impact bias in student evaluations of higher education. *Studies in Higher Education*, 1-18. doi:10.1080/03075079.2015.1071345

Guri-Rosenblit, S. (2009). Distance education in the digital age: Common misconceptions and challenging tasks. *Journal of Distance Education (Online), 23*(2), 105-122. Retrieved from http://search.proquest.com/docview/867412658?accountid=12756

Gwet, K. L. (2014). *Handbook of inter-rater reliability: The definitive guide to measuring the extent of agreement among raters* (4th ed.). Gaithersburg, MD: Advanced Analytics, LLC.

Harbin, J. L., & Humphrey, P. (2013). Online cheating: The case of the emperor's clothing, elephant in the room, and the 800 lb. gorilla. *Journal of Academic and Business Ethics*, *7*, 1-6. Retrieved from http://search.proquest.com/openview/fa375a16f0951c15f5c3a960229bd1ed/1?pq-origsite=gscholar

Hoyt, J. E., & Oviatt, D. (2013). Governance, faculty incentives, and course ownership in online education at doctorate-granting universities. *American Journal of Distance Education*, *27*(3), 165-178. doi:10.1080/08923647.2013.805554

IDEA Center. (2016a). *About the IDEA center*. Retrieved from http://www.theideacenter.org/about.

IDEA Center. (2016b). *IDEA Center Inc*. Retrieved from http://www.ideaedu.org/wp-

    content/uploads/2014/11/Student_Ratings_Diagnostic_Form.pdf.

IDEA Center. (2016c). *Student ratings faculty information*. Retrieved from

    http://ideaedu.org/wp-content/uploads/2014/11/Student-

    Ratings_Faculty_Information_Form.pdf

Jaggars, S. S., & Xu, D. (2016). How do online course design features influence student

    performance? Computers & Education, 95, 270-284. doi:10.1016/j.compedu.2016.01.014

Karl, K., & Peluchette, J. (2013). Management faculty perceptions of candidates with online

    doctorates: Why the stigma? *American Journal of Distance Education*, *27*(2), 89-99.

    doi:10.1080/08923647.2013.773221

Koslow, A., & Piña, A. A. (2015). Using transactional distance theory to inform online

    instructional design. *Instructional Technology*, *12*(10), 63-77. Retrieved from

    http://www.itdl.org/Journal/Oct_15/Oct15.pdf#page=67

Kuboni, O. (2013). The preferred learning modes of online graduate students. *The International*

    Review of Research in Open and Distributed Learning, 14(3), 228-250. Retrieved from

    http://www.irrodl.org/index.php/irrodl/article/view/1462

Kuo, Y. C., Walker, A. E., Belland, B. R., & Schroder, K. E. (2013). A predictive study of

    student satisfaction in online education programs. *The International Review of Research*

    in Open and Distributed Learning, *14*(1), 16-39. Retrieved from

    http://www.irrodl.org/index.php/irrodl/article/view/1338

Kuo, Y. C., Walker, A. E., Schroder, K. E., & Belland, B. R. (2014). Interaction, internet self-

    efficacy, and self-regulated learning as predictors of student satisfaction in online

education courses. *The Internet and Higher Education*, *20*, 35-50.

doi:10.1016/j.iheduc.2013.10.001

Kuzmanovic, M., Savic, G., Gusavac, B. A., Makajic-Nikolic, D., & Panic, B. (2013). A

conjoint-based approach to student evaluations of teaching performance. *Expert Systems

with Applications*, *40*(10), 4083-4089. doi:10.1016/j.eswa.2013.01.039

Liang, R., & Chen, D.V. (2012). Online learning: Trends, potential and challenges. *Creative

Education*, *3*(8), 1332-1335. doi:10.4236/ce.2012.38195

Liang, Y. (2015). Responses to negative student evaluations on ratemyprofessors.com: The

effect of instructor statement of credibility on student lower-level cognitive learning and

state motivation to learn. *Communication Education*, *64*(4), 455-471.

doi:10.1080/03634523.2015.1047877

Liu, O. L. (2012). Student evaluation of instruction: In the new paradigm of distance education.

Research in Higher Education, 53(4), 471-486. doi:10.1007/s11162-011-9236-1

Lee, Y., & Choi, J., (2011). A review of online course dropout research. Implications for practice

and future research. *Education Tech Research Dev.* 59, 593-618. doi 10.1007/s1423-010-

9177-y

Lewisson, N., Hellgren, L., & Johansson, J. (2013). Quality improvement in clinical teaching

through student evaluations of rotations and feedback to departments. *Medical Teacher*,

35(10), 820-825. doi:10.3109/0142159x.2013.802303

Lloyd, S. A., Byrne, M. M., & McCoy, T. S. (2012). Faculty-perceived barriers of online

education. *Journal of Online Learning and Teaching*, *8*(1). Retrieved from

http://search.proquest.com/openview/f2f2f8b2caebec8c751b70b375dad54b/1?pq-

origsite=gscholar

Linardopoulos, N. (2012). Employers' perspectives on online education. *Campus-Wide*

   Information Systems, 29(3), 189-194. doi:10.1108/1065074121143201

Mandernach, B.J. (2009). Effect of instructor-personalized multimedia in the online classroom.

   International Review of Research in Open and Distance Learning, 10(3): 1-19. Retrieved

   from http://www.irrodl.org/index.php/irrodl/article/viewArticle/606

Mandernach, B. J., Hudson, S., & Wise, S. (2013). Where has the time gone? Faculty activities

   and time commitments in the online classroom. *Journal of Educators Online*, *10*(2), 1-15.

   Retrieved from http://eric.ed.gov/?id=EJ1020180

Marchionini, G. (2003). Video and learning redux: New capabilities for practical use.

   Educational Technology 43(2), 36-41. Retrieved from https://open-

   video.org/papers/Educational_Technology.pdf

Matthews, D. (1999). The origins of distance education and its use in the United States.

   T.H.E.Journal, 27(2), 54-67. Retrieved from

   http://search.proquest.com/docview/214802168?accountid=12756

Mayer, R., & Sung, E. (2012). Five facets of social presence in online distance education.

   Computers in Human Behavior, 28(5), 1738-1747. doi:10.1016/j.chb.2012.04.014

Merisotis, J. P., & Phipps, R. A. (2000). Quality on the line: Benchmarks for success in internet-

   based distance education. Retrieved from

   http://www.ihep.org/Publications/publicationsdetail.cfm?id=69.

Meyer, K. (2012).The influence of on online teaching on faculty productivity. *Innovative Higher*

   Education, 3(1), 37-52. doi:10.1007/s10755-011-9183-y

Miller, M. D. (2014). *Minds online: Teaching effectively with technology*. Cambridge, MA:

   Harvard University Press.

Moore, M. G. (1973). Toward a theory of independent learning and teaching. *The Journal of Higher Education, 44*(9), 661-679. Retrieved from http://www.jstor.org/stable/1980599?seq=1#page_scan_tab_contents

Moore, M. G. (1983). The individual adult learner. In M. Tight (Ed.), *Adult learning and education* (pp. 153-168). London, UK: Croom Helm.

Moore, M.G., & Thompson, M.M. (1990). *The effects of distance learning: A summary of literature* (Research Monograph No. 2). University Park, PA: American Center for the Study of Distance Education.

Moore, M. G. (1993). Theory of transactional distance (pp. 22-38). Retrieved from http://www.c3l.uni-oldenburg.de/cde/support/readings/moore93.pdf

Moore, M. G., & Kearsley, G. (1996). *Distance education: A systems view*. Belmont, CA: Wadsworth.

Moore, M. G. (1997). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical Principles of Distance Education* (pp. 22-38.). London: Routledge.

Moore, M. G., & Kearsley, G. (2005). *Distance education: A systems view* (2nd ed.). Belmont, CA: Thomson/Wadsworth.

Moore, M. G., & Kearsley, G. (2012). *Distance education: A systems view of online learning*. Belmont, CA: Wadsworth, Cengage Learning.

Moore, M. G. (2013). The theory of transactional distance. In M. G. Moore (Ed.), *Handbook of distance education* (3rd ed.). New York, NY: Routledge.

Morrison, R. (2011). A comparison of online versus traditional student end-of-course critiques in resident courses. *Assessment & Evaluation in Higher Education, 36*(6), 627-641. doi:10.1080/02602931003632399

Mueller, B., Mandernach, B. J., & Sanderson, K. (2013). Adjunct versus full-time faculty: Comparison of student outcomes in the online classroom. *Journal of Online Teaching and Learning, 9*(3), 341-352. Retrieved http://search.proquest.com/openview/8be98490c08ea98574e4d3219391f484/1?pq-origsite=gscholar

Nipper, S. (1989). Third generation distance learning and computer conferencing. In R. Mason & A. Kaye (Eds.), *Mindweave: Communication, computers and distance education* (pp. 63-73). Oxford: Permagon Press.

Nowell, C., Gale, L. R., & Kerkvliet, J. (2014). Non-response bias in student evaluations of teaching. *International Review of Economics Education*, *17*, 30-38. doi:10.1016/j.iree.2014.05.002

O'Neill, D. K., & Sai, T. H. (2014). Why not? Examining college students' reasons for avoiding an online course. *Higher Education*, *68*(1), 1-14. doi:10.1007/s107734-013-9663

Paul, R. C., Swart, W., Zhang, A. M., & MacLeod, K. R. (2015). Revisiting Zhang's scale of transactional distance: Refinement and validation using structural equation modeling. *Distance Education*, *36*(3), 364-382. doi:10.1080/01587919.2015.1081741

Perritt, D. C. (2013). Using faculty survey data to make school improvement decisions: One school's story. *National Teacher Education Journal*, *6*(1), 57-60. Retrieved from http://web.a.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=19453744&AN=110270357&h=kx8aw5ip7heupxF%2bZSV%2bAMmoeYhNC9Py3OE2OsBB2AeevOl0Ejz6guiVTykxTzpHizhWjjOyG%2fM7ORApnj%2b1sg%3d%3d&crl=c&resultNs=AdminWebAuth&resultLocal=ErrCrlNotAuth&crlhashurl=login

.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler
%26jrnl%3d19453744%26AN%3d110270357

Peterson, J. L. (2016). Formative evaluations in online classes. *Journal of Educators Online*, *13*(1), n1. Retrieved from http://eric.ed.gov/?id=EJ1087683

Powell, N. J., Rubenstein, C., Sawin, E. M., & Annan, S. (2014). Student evaluations of teaching tools: a qualitative examination of student perceptions. *Nurse Educator*, *39*(6), 274-279. doi:10.1097/NNE.00000000066

Quality Matters Program. (2014). *Rubric*. Retrieved from https://www.qualitymatters.org/rubric

Raffo, D. M., Gerbing, D. W., & Mehta, M. (2014). Understanding student preferences in online education. *Proceedings of PICMET '14 Conference: Portland Internet Center for Management of Engineering & Technology, Infrastructure & Service Integration* (pp. 1555-1564). Retrieved from http://ieeexplore.ieee.org/xpl/articleDetails.jsp?tp=&arnumber=6921338&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxpls%2Fabs_all.jsp%3Farnumber%3D6921338

Rao, K., Edelen-Smith, P., & Wailehua, C. U. (2015). Universal design for online courses: applying principles to pedagogy. *Open Learning: The Journal of Open, Distance and e-Learning*, *30*(1), 35-52. doi:10.1080/02680513.2014.991300

Rovai, A.P. (2001). Building classroom community at a distance: A case study. *Educational Technology Research and Development Journal, 49*(4), 33-48. doi:10.1007/BF02504946

Rovai, A. P., & Barnum, K. T. (2003). Online course effectiveness: An analysis of student interactions and perceptions of learning. *Journal of Distance Education*, *18*(1), 57-73. Retrieved from http://www.ijede.ca/index.php/jde/article/viewArticle/121

Russell, T.L. (1999). *No significant difference phenomenon*. Raleigh, NC: North Carolina State
University.

Saba, F. (2016), Theories of distance education: Why they matter. *New Directions for Higher
Education*, 2016, 21-30. doi:10.1002/he.20176

Sam Houston State University. (2016a). *Faculty evaluations*. Retrieved from
https://ww2.shsu.edu/faci05wp/

Sam Houston State University. (2016b). *The Faculty Evaluation System*. Retrieved from
http://www.shsu.edu/dotAsset/9da0f7f4-da01-4e8f-ad3f-d47996c6079e.pdf

Shen, P., & Tsai, C. (2013). Improving undergraduates' experience of online learning and
involvement: An innovative online pedagogy. *International Journal of Enterprise
Information Systems*, *9*(3), 100. doi:10.4018/jeis.2013070105

Sher, A. (2009). Assessing the relationship of student-instructor and student-student interaction
to student learning and satisfaction in web-based online learning environment. *Journal of
Interactive Online Learning, 8*(2), 102-120. Retrieved from
http://s3.amazonaws.com/academia.edu.documents/34432524/8.2.1.pdf?AWSAccessKey
Id=AKIAJ56TQJRTWSMTNPEA&Expires=1466427374&Signature=ij1%2F%2BfCah
K0xPnVtYgIDtVxo98Q%3D&response-content-
disposition=inline%3B%20filename%3DAssessing_the_relationship_of_student-in.pdf

Shields, C. M. (2010). Transformative leadership: Working for equity in diverse contexts.
Educational Administration Quarterly, *46*(4), 558-589. doi:10.1177/0013161X10375609

Shin, N. (2006). Online learner's 'flow' experience: An empirical study. *British Journal of
Educational Technology, 37*(5), 705-720. doi:10.1111/j.1467-8535.2006.00641.x

Simon, D., Jackson, K., & Maxwell, K. (2013). Traditional versus online instruction: Faculty

    resources impact strategies for course delivery. *Business Education & Accreditation*,

    5(1), 107-116. Retrieved from

    http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2155137

Smith, A.A., Synowka, D.P., & Smith, A.D. (2015). Online education and its operational

    attractions to traditional and non-traditional college students. *International Journal of*

    Process Management and Benchmarking, 5, 37-73. doi:10.1504/IJPMB.2015.066026

Stein, D. S., Wanstreet, C. E., Calvin, J., Overtoom, C., & Wheaton, J. E. (2005). Bridging the

    transactional distance gap in online learning environments. *The American Journal of*

    Distance Education, 19(2), 105-118. doi:10.1207/s15389286ajde1902_4

Stott, A., & Mozer, M. (2016). Connecting learners online: Challenges and issues for nurse

    education—Is there a way forward? *Nurse Education Today*, 39, 152-154.

    doi:10.1016/j.nedt.2016.02.002

Stowell, J. R., Addison, W. E., & Smith, J. L. (2012). Comparison of online and classroom-based

    student evaluations of instruction. *Assessment & Evaluation in Higher Education*, *37*(4),

    465-473. doi:10.1080/02602938/2010/545869

Texas Higher Education Coordinating Board. (2016a). *Online SHC data*. Retrieved from

    http://www.txhighereddata.org/index.cfm?objectID=1B35A155-A00D-6763-

    8E2AA371127E8F0E

Texas Higher Education Coordinating Board. (2016b). *Texas Higher Education Strategic Plan:*

    2015-2030. Retrieved from

    http://www.thecb.state.tx.us/reports/PDF/6862.PDF?CFID=41804074&CFTOKEN=3216

    7497

Texas Legislature. (2009). *HB 2504*. Retrieved from

http://www.legis.state.tx.us/tlodocs/81R/billtext/html/HB02504F.HTM

Thompson, B. (2006). *Foundations of behavioral statistics: An insight-based approach*. New

York: Guilford Press

U.S. News and World Report. (2016). *America's best colleges 2012*. Retrieved from

http://colleges.usnews.rankingsandreviews.com/best-colleges/sam-houston-state-3606

Vealé, B. L. (2009). *Transactional distance and course structure: A qualitative study* (Doctoral

Dissertation). Available from Open Access Theses and Dissertations from the College of

Education and Human Sciences. (Record No. 51)

Verduin, J.R., & Clark, T.A. (1991). *Distance education: The foundations of effective practice*.

San Francisco, CA: Jossey-Bass

Veren, D. (2013). Does online education rest on a mistake? *Academic Questions, 26*(3), 296-307.

doi:10.1007/s12129-013-9367-2

Wright, S. L., & Jenkins-Guarnieri, M. A. (2012). Student evaluations of teaching: Combining

the meta-analyses and demonstrating further evidence for effective use. *Assessment &

Evaluation in Higher Education*, *37*(6), 683-699. doi:10.1080/02602838.2011.563279

Young, S. (2006). Student views of effective online teaching in higher education. *The American

Journal of Distance Education, 20*(2), 65-77. doi:10.1207/s15389286ajde2002_2

Yukselturk, E., Ozekes, S., & Türel, Y. K. (2014). Predicting dropout student: An application of

data mining methods in an online education program. *European Journal of Open,

Distance and e-Learning*, *17*(1), 118-133. doi:10.2478/eurodl-2014-008

Zhang, D., Zhou, L., Briggs, R. O., & Nunamaker, J. F. (2006). Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness. *Information & management, 43*(1), 15-27. doi:10.1016/j.im.2005.01.004

Zumrawi, A. A., Bates, S. P., & Schroeder, M. (2015). What response rates are needed to make reliable inferences from student evaluations of teaching? *Educational Research and Evaluation, 20*(7-8), 557-563. doi:10.1080/13803611.2014.997915

APPENDIX A

The following best practices in online course design are adapted from research by Jaggars and Xu (2016) using their *Online Course Quality Rubric* (p. 282). Jaggars and Xu (2016) invited researchers to adapt and use their rubric for additional research projects (p. 281). Accordingly, the researcher modified their evaluation instrument by replacing the fourth category of technology with the appropriate use of video or multimedia and by using a 5 point Likert scale. The data points of one, three, and five on the Likert scale are defined parenthetically as a guideline for the course evaluators.

A.1. Organization and Presentation

The online course instructions are clear, self-explanatory, and easy to navigate. They help students understand the requirements of the course. The location of course materials are clearly categorized and organized in a consistent manner. The homepage describes which materials and content are important to the learning objectives, and reduces the amount of unnecessary information. Hyperlinks to web-based content are integrated appropriately with other course content and are functioning properly. There is a clear and simple way to find important course materials, homework, and assessments.

5 = strongly agree (Clear navigation in presentation of course with step-by-step instructions of how to approach course navigation)

4 = somewhat agree

3 = neutral (Clear navigation in presentation of course, but no instructions of how to approach navigation)

2 = somewhat disagree

1 = strongly disagree (The navigation is unclear and there are no instructions of how to approach navigation)

A.2. *Learning objectives and alignment*

The learning objectives and performance requirements for the course and each instructional module are clear, meaning students have the necessary information to know what to do and when to do it. The objectives are described on the course site and in the syllabus. There is a strong connection between the learning objectives and the instructional activities. There are specific learning objectives describing how student performance is measured in the course and in each module. The criterion for grading clearly reinforces students' expectations.

5 = strongly agree (Course-level objectives, unit-level objectives, and expectations for assignments are clear and well-aligned with one another)

4 = somewhat agree

3 = neutral (Some course-level objectives, unit-level objectives, or expectations for assignments are clear, and others are not)

2 = somewhat disagree

1 = strongly disagree (Unclear or no course-level or unit-level objectives, along with unclear or no expectations for assignments)

A.3. *Interpersonal interaction*

The course design includes numerous chances for students to engage with their instructor, and with their fellow students, in ways that increase knowledge acquisition and create positive relationships between students and the instructor. Instructor feedback to students is precise, useable, and prompt, stating what students are doing correctly and what they need to improve on. The instructors use strategies to be "present" in the course enabling students to feel they know

the instructor. The student-to-student interactions are rooted in well-designed pedagogical

lessons that are applicable and interesting to students and improve learning outcomes. The

interactions are designed to meet the learning objective, not just for the sake of collaboration.

5 = strongly agree (Strong meaningful interaction with instructor and amongst students)

4 = somewhat agree

3 = neutral (Moderate meaningful interaction with instructor and students)

2 = somewhat disagree

1= strongly disagree (Little or no meaningful interpersonal interaction)

A.4. Appropriate use of video or multimedia by online course instructor

The course design includes the appropriate use of video or multimedia. The online course

uses video or multimedia to introduce the instructor or to provide instruction in short segments

throughout the course. Multimedia includes the use of presentation software, graphics, images,

animations, and audio.

5 = strongly agree (The course design includes the appropriate use of video or

multimedia)

4 = somewhat agree

3 = neutral (The online course uses video or multimedia)

2 = somewhat disagree

1 = strongly disagree (There was no use of video or multimedia in the course)