A COMPARATIVE ANALYSIS OF TEACHER SELF-EFFICACY SCORES OF ONLINE BUSINESS FACULTY BASED ON EDUCATIONAL BACKGROUND

by

Michaelia Renée Black

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

This study examined the faculty efficacy of online business faculty of adult students. It compared the differences in efficacy of business faculty who are trained in teaching, with some sort of educational degree, and faculty who are only credentialed in their discipline. The study also considered the effects on faculty efficacy that teaching experience plays. The research question asked: Is there a difference between the teacher efficacy scores of online business faculty members who have a teaching degree and those who do not have a teaching degree? The setting for the study was an online business program designed for adult students, and the sample consisted of 140 online business faculty. The study utilized a causal-comparative ex post facto design. Data was collected via an online survey of online business faculty using the Educators' Sense of Efficacy for Online Teaching Scale. Four ANOVAs were used to compare the sample. The study revealed there was a statistically significant difference between the efficacy of faculty with an education degree and those without. Further recommendations for further research include looking at other groups of faculty and using qualitative research to determine the views of students on the efficacy of each group of faculty.

Keywords: faculty efficacy, business faculty, self-efficacy, online learning, adult learning theory.

Dedication

I would like to dedicate this work to my husband, Josh, and to my children, Joshua, Matthew, and Jonah. They have stood by me and encouraged me throughout this process. When I did not have the strength to continue, they pushed me to believe in myself. I also dedicate this to my dad, Melvin Hyatt. He was never able to reach this level in his education before his death, but he instilled in me a love for teaching and for learning that will be with me forever.

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Analysis of Covariance (ANCOVA)

Analysis of Variance (ANOVA)

Doctorate of Business Administration (DBA)

Educators' Sense of Efficacy for Online Teaching Scale (ESEOTS)

Michigan Nurse Educators' Sense of Efficacy for Online Teaching Scale (MNESEOTS)

National Center for Educational Statistics (NCES)

Teachers' Sense of Efficacy Scale (TSES)

CHAPTER ONE: INTRODUCTION

Overview

This chapter provides the framework for this quantitative study. The background and historical perspective are examined. The problem, purpose, and significance for this study are clearly defined. In addition, the research question and study definitions are identified.

Background

In higher education, there is debate over whether or not faculty have been properly trained to teach in the classroom (Berrett, 2012). Teachers in the K-12 setting go through years of schooling and hands on training before they receive a class of their own (Klassen & Durksen, 2014). However, in higher education, this is not the case. Faculty have been trained in their discipline. They receive their masters and usually a doctorate in the area they will teach. Discipline-specific training typically does not include skills such as teaching techniques, learning styles, lesson plan development, or classroom management (Chang, Lin, & Song, 2011). In his article, Berrett (2012) discussed how business and business education communities have begun to ask the question as to whether or not professors know how to teach. The article also described how Harvard University was looking at what they needed to do to train their professors how to better teach students. Many professors are trained in research, not in the art of teaching. Robinson and Hope (2013) looked at whether or not training in pedagogy should be included in the graduate degree programs. With the increase in online learning, Tyrrell (2015) explored how online faculty discussed their need for training in teaching techniques. Some schools have begun looking at implementing teacher training into their business doctoral programs. They feel their graduates need to be able to teach when they leave their program (Brightman & Nargundkar, 2013).

Higher education over the last 40 years has seen significant changes. Two of those changes include new student demographics and new methods of delivery. With a new audience and new delivery, institutions of higher education face new challenges. The faculty must be equipped to teach in this new environment. New student groups include adult students. These students are not only older than traditional students, but have additional life experience and needs (Montague, 2012). The learning outcomes of these students are driven by a need to better themselves and learn in an experiential way (McGlone, 2011). With the increase in technology, these students and others can now be reached in an online setting. The online learning environment opens the door for students to be reached across the globe. Faculty must be able to navigate the technology, as well as understand the differences in teaching without the face-to-face interaction (Chang, Shen & Liu, 2014; Jones, 2013). These changes in higher education create new areas for research. With adult learning theories, specifically Knowles's (1980) theory of andragogy, becoming popular in the early 1970's, research and additional theories have emerged. With this quickly evolving market of higher education, adult education programs for business have changed (Chang et al., 2014). There has been an onset and growing availability of higher education due to online and other non-traditional formats. Planty et al, (2009) stated in their report for the National Center for Educational Statistics (NCES) that, "Enrollment increases in graduate and first-professional programs will persist, with graduate enrollment exceeding 2.7 million and first-professional enrollment reaching 422,000 in 2018" (p. 29). This has created a growing demand for making quality business education available for adult students (Brightman & Nargundkar, 2013). The expectation of these adult students would be a mixture of theory and practice in the field. However, without business faculty having specific training in educational

theory and methods, there is concern over the balance of practice in the field and trained delivery (Tyrrell, 2015).

The issue of faculty efficacy is one that affects all of higher education. Research shows that teacher efficacy holds positive influences on students, affecting student outcomes, achievement, and motivation which in turn impacts the effectiveness of the educational system (Cerit, 2010; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran & Woolfolk Hoy, 2007). The question becomes whether business faculty who have experience in their specific field have the training in educational methods to make the classroom effective for learning. Research reveals that faculty, especially those in online courses, have concern over their ability to effectively teach and manage course outcomes (Johnson, Wisniewski, Kuhlemeyer, Isaacs & Krzykowski, 2012). Teachers in the online setting and in the adult classroom need to be prepared and feel they are ready to teach. Those faculty members who have a degree in education, at any level, would have learned methods, such as classroom management skills, which give them knowledge that would increase teacher efficacy. These faculty members would still have the professional training needed to teach within the discipline. A business faculty member would have formal business training; however, these faculty are often considered practitioners. These are content experts who often have years of experience in the field. They do not usually have educational training that would give them the efficacy in areas that could be useful in the classroom, thus increasing teacher efficacy (Dibapile, 2012).

The foundation for this research is Bandura's (1997) Self-Efficacy Theory. Self-efficacy is one's ability to control their own environment and have an effect on their outcomes (Cerit, 2010). These outcomes are based on personal, social, and situational factors (Bandura, 1997). One situation is that of the classroom; therefore, the type of self-efficacy called teacher efficacy

will be explored. This is one's belief of being capable to influence a student's learning and engagement in the learning process (Mehdinezhad, 2012). As teacher efficacy looks at how one feels prepared to teach, it is relevant to consider if formal educational training helps in this preparation.

Adult learning theories, made popular by Knowles (1980), promote a different learning environment. Adult learning theory is based around life-long learning, a readiness and motivation to learn, and a constructivist view of learning (McGlone, 2011). The online classroom also creates a different situation for learning where faculty face challenges such as lack of face-to-face interaction, while having the benefit of fitting educational activities into the schedule as needed (Crawford-Ferre & Wiest, 2012; Greener, 2010). The business classroom for online adults can be more challenging due to the types of courses being taught (Fearon, Starr & McLaughlin, 2012). For example quantitative classes are difficult, especially for adults, when the face-to-face element is taken out of the picture. Based upon these theories, it is expected that teacher efficacy would be greater for those who have training in educational practices. However, having experience in the discipline and using those skills in practice may increase other aspects of teacher efficacy (Klassen, Tze, Betts & Gordon, 2011).

Students and delivery methods in higher education have changed over the years. These changes have led to the need for continued research on how faculty manage within this environment. Teaching adult business students in an online setting requires faculty to be prepared in ways that traditional educators may not experience (Chang et al., 2014).

Problem Statement

Adult, online, and business education environments have specific issues and conditions surrounding them that create a unique situation for study, and there is little known research that

examines these groups in combination. In higher education, there is debate over educational and practitioner-degreed faculty (Berrett, 2012). Practitioners are often considered content experts, while those with educational training would have acquired skills in teaching (Dibapile, 2012). In business programs, many faculty are those who have experience in their professional areas or degrees in business topics (Higher Learning Commission, 2016). However, the question arises whether or not they have the necessary skills to teach in the classroom (Berrett, 2012). A top professional in the business field is not necessarily going to be trained in areas like classroom management, student engagement, and instructional methods (Dana, Havens, Hochanadel & Phillips, 2010). However, they should have the skills to provide students with more real-life experiential learning (Fall, Kelly, MacDonald, Primm & Holmes, 2013). As a teacher gains experience in the classroom, efficacy is increased. Over the years, experience can increase efficacy in spite of a lack of educational training (Fives & Buehl, 2010). The problem is professionally trained individuals in an online and business setting may not necessarily possess the teaching skills to effectively teach in the classroom without formal educational training (Dana et al., 2010).

Purpose Statement

The purpose of this quantitative causal-comparative study was to determine if there is any statistically significant difference in faculty efficacy scores between those with different types of degrees, while controlling for years of experience, for adult online business faculty at a Midwestern university. The dependent variable is the self-reported faculty efficacy scores measured by the Educators' Sense of Efficacy for Online Teaching Scale (ESEOTS). Faculty efficacy is defined as one's belief of being capable to influence a student's learning and engagement in the learning process (Mehdinezhad, 2012). The sense of efficacy scale includes

the overall efficacy and three following sub-categories: student engagement, instructional strategies, and classroom management (Robinia, 2008; Robinia & Anderson, 2010). The independent variable is the presence or absence of an education degree. These are categorized into those with an educational training degree and those without. Research shows that teacher efficacy is increased by the training that is part of an education program (Chang et al., 2011; Dibapile, 2012). Education degrees can be at any level, including bachelors, masters, specialist, or doctoral. Those with education degrees would also have business degrees in order to be able to teach in the specific discipline. Those without any type of education degrees would only have business discipline specific degrees, which did not include coursework in educational teaching methods (Hughes, Bence, Grisoni, O'Regan, & Wornham, 2011). Therefore, both groups would have business degrees, but only one group would also have an education degree. The control variable is the number of years of online teaching experience the faculty has. Research has shown that experience in teaching will raise efficacy, especially over the first few years (Klassen & Chiu, 2010; Putman, 2012; Tan, 2012). However, the control variable did not have an effect on the dependent variable as the research suggested. Therefore, the control variable was eliminated from the analysis. A convenience sample of 140 from the population of 828 online business faculty was utilized for this study.

Significance of the Study

The significance of the study is that it helps to address the gap in the literature that looks at online teacher efficacy in adult higher education business courses. As education focuses more on the online and adult classroom, more research is needed that addresses various topics (Melkun, 2012). Teacher efficacy is one of those areas (Albee, 2015; Ke & Xie, 2009). Teacher efficacy is examined throughout the literature, but few studies have looked at how this concept is

utilized in adult, online, or business classroom settings. Younger (2011) tested the differences in teacher efficacy for technical education faculty in the field of higher education. He found a statistically significant difference for those with an education background, rather than only having a professional background. This study will look for a similar difference with business faculty in the online higher education setting. In addition, no similar studies were found in the literature that combined adult, online, and business settings.

Educational leaders who are looking at growing business programs with faculty equipped to teach could gain insight into the type of faculty member they want to hire. The outcomes of the study could support the need for more training for individuals who do not have a background in education (Dana et al., 2010; Richter, 2015). Additionally, there is concern over effective teaching in the online classroom (Horvitz, Beach, Anderson & Xia, 2014; Johnson et al., 2012). By testing teacher efficacy in this setting, the gap in the literature could be addressed, and the concern could be heightened over the absence of educational training in the business and online settings.

Research Question

The research question for this study states:

RQ: Is there a difference between the faculty efficacy scores, as defined by the Educators' Sense of Efficacy for Online Teaching Scale (Robinia, 2008), of online business faculty members who have an education degree on any level and those business faculty who do not have an education degree of any kind?

Definitions

The following words will be utilized for this study with these functional definitions.

1. *Adult Classroom* – The classroom setting used for this study is one that is primarily students who are working adults. These are not traditional college students who are 18-22 years old. The classroom setting is different because the adult students have real-life experience and age-specific issues not normal for traditional college-age students (Knowles, Holton & Swanson, 2005; Montague, 2012).
2. *Andragogy* **–** Made popular by Malcolm Knowles in the early 1970's in America, this is the common term for the set of adult learning theories, assumptions, and practice that is commonly used in adult education and training (Knowles et al., 2005).
3. *Business Classroom* **–** These include classes such as accounting, finance, marketing, management, and statistics that fall within the School of Business (Tanner, Noser & Totaro, 2009).
4. *Education Degree* **–** For the purpose of this study, an education degree will be defined as any type of bachelors, masters, or doctoral education degree. The participant only needs to hold one of these degrees in conjunction with other degrees to be considered having an education degree (Cerit, 2010).
5. *Online Classroom* **–** The online classroom is one that does not meet face-to-face. Teachers correspond with students via the Learning Management System utilized by the school. This can be accessed via computer, tablet, smart phone, or other Internet capable device (Yang, Hsiao, Liu & Lin, 2009).
6. *Pedagogy* **–** The Christian church started training young boys for the priesthood in seventh century Europe that evolved into formal schooling for children. The literal translation of Pedagogy is "to lead a child." Modern day education is based on the principles and theories of teaching children (Knowles et al., 2005).

7. *Professional Degree* – A professional degree is a degree that is content specific for the purpose of this study. The degree trains the individual in the subject matter over which the faculty member teaches. For example, an accounting teacher might hold a graduate degree in accounting (Backhaus, 2009).
8. *Practitioners* – For the purpose of this study, a practitioner is defined as one who does not hold an education degree, but only content-specific degrees. While all faculty members would need to have a professional degree to be teaching in the discipline, those who hold only this type of degree are to be considered practitioners. These individuals would need to hold a minimum of a master's degree in order to be teaching at the college level (Hughes et al., 2011).
9. *Teacher Efficacy* – Teacher efficacy is defined as a faculty member's belief in his or her ability to effectively influence student learning (Dibapile, 2012).

CHAPTER TWO: LITERATURE REVIEW

Overview

This literature review examined the role of adult higher education, online education, business education, and faculty efficacy. Current literature is rich with studies examining each of these themes. With the increase in online and adult education, studies are being conducted on an ongoing basis testing the latest theories. Business education is just beginning to adapt to the increase in these types of studies, so the literature will be examined in light of the need for changes in educational focus. Teacher efficacy is prevalent in literature examining K-12 teaching and pre-service teachers. There is a small body of literature that focuses on faculty efficacy in higher education, especially for practitioners in the business field. This review will seek to define each theme, show how they interrelate, and identify the gap in the literature.

Theoretical Framework

The theoretical framework for this study was derived from the combination of several theories throughout the field of education, especially learning and constructivist theories. Online and adult learning theories play an integral role in this framework as well. The constructivist perspective has been used by many to develop an understanding of why there is a need for further research on this phenomenon. Those with education and practitioner-based training both have a need for high levels of teaching efficacy to be effective and influential in the classroom. This lays the groundwork for this convergence of theories.

Knowles's (1980) Adult Learning Theory laid part of the theoretical framework for this study. He further developed the theory of andragogy that describes the way adults learn and how it differs from pedagogical approaches. Most discussions on adult learning include the work of Knowles. Later, Knowles et al. (2005) further enhanced the adult learning theory given the

increase in adult education throughout the academy. This study focuses on faculty members teaching adult online learners and how factors of their own education influence their beliefs in their ability to effectively teach and influence learning.

This study was also founded in Bandura's (1997) Self-efficacy Theory. Self-efficacy is based on personal beliefs about one's capabilities. These beliefs determine outcomes including courses of action, effort, resilience, ability to cope with stress, perseverance in the face of adversity or failure, and the level of realizable accomplishments (Bandura, 1997). In relation to education, teacher's efficacy, a type of self-efficacy, is the belief that one has the capability of influencing a student's learning and engagement in the learning process (Mehdinezhad, 2012). As adult and online learning becomes more prevalent in higher education, research has begun to evaluate how efficacy affects teachers in this environment.

Related Literature

Adult Higher Education

In the literature, the influence of adult higher education is profoundly challenging long accepted theories and methods of education. Many newer or adjusted theories have developed. Adult learners are active learners and focus on life-long learning that is relevant to daily life. These non-traditional students also have additional pressures that traditional-aged students do not have which cause stress levels to be greater and their focus to be different.

Adult learners are defined as students who have finished traditional K-12 school, are self-directed, and have been able to decide the course of study for themselves. Many definitions of an adult learner also include the fact that most of these students have left schooling for several years before returning to the classroom (Gorge & Kandler, 2012; Ke & Xie, 2009; Montague, 2012). In general, most adult students return to school for fields of study that are related to their

profession, desired profession, or for personal interest. It is assumed that most adult students are also already part of the work force (Montague, 2012). Therefore, these learners are more autonomous because they made their own decision to return to school (Abdallah, 2009; Buvoltz, Powell, Solan, & Longbotham, 2008).

The most well-known theorist was Malcolm Knowles with his theory of andragogy (Clapper, 2010). He proposed that adults learn differently because they are self-directed and self-motivated in their learning (Abdallah, 2009). His theory of adult learning explores how adults learn in a more transformative way than traditional students (Knowles et al., 2005; Knox, 1980; McGlone, 2011). This theory involves several assumptions for adult students:

- learning must satisfy a need for the student, whether in a job situation or personal satisfaction;
- they must have a readiness to learn;
- learning should be life-centered and applicable;
- the student's experiences influence the learning that will take place;
- learning should be problem-centered with the student as an active part; and
- they require internal motivation for learning to take place (Knowles et al., 2005; Rodrigues, 2012).

This theory of andragogy has brought light to the difference between adult and pre-adult learning (Minter, 2011).

Knowles's theory of andragogy varies from Brookfield's critical theory of adult learning. Brookfield places the emphasis on the outcomes of learning, where Knowles's focus is on how the adult learns. Knowles's theory is rooted in constructivist views. He makes the argument that for adults, knowledge is built upon the context and addition of personal experiences. This aligns

with the constructivist approach (Knowles et al., 2005). However, Brookfield (2001) states that critical theory deals with the economic exchange between teacher and learner, the idea that knowledge creates freedom, and the ability to change society through learning. The critical theory is grounded in capitalist and socialist ideals (Brookfield, 2001). In countries outside the United States, some argue that this capitalist and socialist viewpoint has a greater impact on adult learning systems (Rees, 2013). Knowles's constructivist view ties more closely to the theory of self-efficacy, so it will be the focus of this research.

For adult students, a readiness to learn is necessary. Readiness to learn comes through confidence and a connection between the learning experience and real-life (Knowles et al., 2005; Rodrigues, 2012). Adult students that are successful typically are ready to learn by exhibiting self-motivation and personal responsibility for their study skills. Confidence can be a problem for adult students because it can be many years since their prior studies, especially in math-related subjects (Rodrigues, 2012). The same can be true for writing skills, thus in some cases these students need remedial assistance. Adult students vary greatly in their ability to effectively write, as there may be a lack of training or continued use of these skills (Melkun, 2012). Research shows that higher aged students have less confidence and less self-efficacy in their learning activities (Chu & Tsai. 2009; El-Kafafi, 2011; Hollis-Sawyer, 2011). Also, if the student's prior learning experience was negative, the student's expectations for future learning will be negatively affected tearing down their confidence (Gorge & Kandler, 2012).

In order for adult students to be ready to learn, they must understand why they are learning the material and how it applies to their lives. There must be a strong connection to real-life situations for personal growth to happen (Knox, 1980; Rodrigues, 2012). They must find internal motivation, which usually comes from that knowledge of why it is important to learn the

material (Hollis-Sawyer, 2011). Students are looking for life-long learning experiences that they have some control over (McGlone, 2011; Montague, 2012). Learning is stunted when there is a lack of connections between the abstract concepts being covered and the real world application (El-Kafafi, 2011). Many adult programs are structured to include more case studies and practitioner faculty than their traditional counterpart programs. Adult students do not blindly accept concepts but need to be able to compare and contrast them for themselves (Montague, 2012). This deeper understanding of how learning relates to real life makes adult students unique from traditional students.

In order to foster motivation in adults, activities that require thought, reflection, and an expression of one's situational experiences are necessary (Abdallah, 2009). Adults have life experiences they can bring to the discussion that allows for more interactivity in the classroom (Ke & Xie, 2009). The interactive and experiential learning that adults prefer can be different than the pedagogical methods in traditional college lecture halls, but the adult students have life experience that they can share that differs from the traditional "kids" that do not have as much life experience yet. Adult students can use their experiences to bring value to the other students' education (Caminotti & Gray, 2012; Quinn, Foote & Williams, 2012). They also do not want to be taught by observation, but by doing (Roessger, 2012). Research shows that using one's job situation and building activities around that life experience have a large effect on learning outcomes (Dunst & Trivette, 2012; Dunst, Trivette, & Hamby, 2010). By joining together in the learning community, sharing, and experiencing the knowledge, adult students can have a meaningful, active learning experience (Caminotti & Gray, 2012; Snyder, 2009).

While there were many theories in the literature dealing with adult education, constructivism and transformational learning rose to the top. These two theories complement

each other. A constructivist hierarchy is created by transformative learning theory in the adult learning environment (Chu, Chu, Weng, Tsai & Lin, 2012). From these, the concept of the "life-long learner" and the factor of stress in an adult student's life become an integral part of teaching to adult students.

Research reveals how the theory of constructivism has influenced adult education. While this began as a traditional learning theory, it has become an underlying theme for adult learning theories (Roessger, 2012.) Constructivism focuses on building learning, based on prior knowledge, which is more effective for adults (Abdallah, 2009). Coryell and Clark (2009) described how adults construct meaning based on their emotions. El-Kafafi (2011) focused on the construct of knowledge and how adults determine knowledge for themselves. Adults come with life experiences that give them knowledge to build upon to make learning more beneficial (Minter, 2011). Constructivism not only focuses on building upon past knowledge, but also by making the environment learner-centered (Snyder, 2009). The learner becomes an active part of the learning process (Abdallah, 2009). Learners are encouraged to think for themselves (Chatterjee, 2010). The process of learning becomes more important than the knowledge itself. Constructivism is based on cognitive development that higher aged students possess (Chu & Tsai, 2009).

Transformational learning theory was developed by Jack Mezirow (Quinn et al., 2012). It is built on the premise that "All learning produces change of some kind but transformational learning is responsible for personal change, the kind of change that is major and significant" (Sandlin, Wright, & Clark, 2013, p. 6). Adults are able to use their experiences to pull added meaning into their learning. This theory focuses on learning through communication and critical analysis (Roessger, 2012). When learners are able to change what they know and their frame of

reference, then transformational learning has taken place (Clapper, 2010). Adult program curriculum that is designed to facilitate transformational learning is structured to help adult students transform their personal theoretical constructs and apply the changes to their real life situations. It involves reflection, discourse, and action in order to transform input into output. This theory helps to define the ways adults learn (Quinn et al., 2012).

The term "life-long learner" has developed out of adult learning theories. The concept deals with the fact that adults understand the need for learning (McGlone, 2011). In many cases the need for learning is to help the adult student with their personal, professional, or community situation in life. Knowledge is useful to adults because they have a need for it (Minter, 2011). Along with the learning being active, they also desire for knowledge to be relevant (Abdallah, 2009). Not only do adults desire the knowledge, but they also want to understand it and be able to utilize it in their own environment (Clapper, 2010). The concept of life-long learning also deals with being self-directed, which is another assumption of the adult learner (Ahedo, 2009; Minter, 2011; Snyder, 2009). They can be given assignments that are self-directed because they understand self-discipline and have intrinsic motivation for success (Chatterjee, 2010; Dunlap & Grabinger, 2003; McGlone, 2011; Quinn et al., 2012).

A final factor was consistently mentioned throughout the literature about adult learners, and this was the element of stress. Adult students have different responsibilities than traditional students. They have work, school, personal life, home, family, and possibly other demands on their time and energy (Giancola, Grawitch, & Borchert, 2009). Adults have time restraints that can cause learning to be squeezed in at unusual times (Clapper, 2010). Non-traditional academic programs have accommodated the unusual times through night and weekend programs and online programs to fit adult students' busy lives. The time constraints of busy adults can often

affect student retention as life situations can get in the way of completion of coursework (Buvoltz et al., 2008). The faculty member's role can become an important factor in helping to encourage adult students through these times of stress and difficulty (Ke & Xie, 2009). Using the prior assumptions of life-long and active learning, real-life situations used during the course can often have positive influences on the student's own life events (Sandlin et al., 2013). Research shows that the biggest stressor in an adult student's life is the workplace factor (Giancola et al., 2009). In many institutions adult program curriculum has been built with the scaffolding of knowledge into life situations that can help the student and bring about transformative learning (Clapper, 2010).

Online Learning

Online learning has historically been considered "a form of instructional technology" (Molinari, 2012, p. 73) instead of an actual educational modality. Often called distance education, online education has the means to reach busy students without face-to-face interaction (McGlone, 2011; McPhee & Söderström, 2012). As society makes advancements in technology and economic pressures affect higher education, online learning continues to grow (Cools, Evans, & Redmond, 2009; McGlone, 2011). Primarily, this type of learning takes place in an asynchronous environment via computer and internet-based programs (Yang et al., 2009). There has been continued discussion as to the effectiveness of online instruction. Many studies show that there are no significant differences on learning outcomes between the two formats (McPhee & Söderström, 2012). In spite of the lack of educational outcome differences, there are many benefits to online learning, as well as drawbacks to this setting. The literature discusses these positive and negative aspects while examining those elements that can greatly sway the

experience one way or another. The importance of faculty to the online environment cannot be underestimated.

The literature highlights several benefits to the online learning setting. Some benefits are practical in nature, while others are more educationally based. Online education can provide lower educational costs for students. Students potentially would not have the expenses of travel, possible childcare, interference from the workday, and others (Hamtini, 2008). Colleges and universities also find cost savings through utilizing online instruction. With the lack of monetary resources available to institutions of higher education, the use of online instruction allows for significant savings (Bowen, Nygren, Lack & Chingos, 2013). Time is another practical factor that online learning can help alleviate, especially for the adult student. With additional restraints on an adult student's life, online education can provide a way for him or her to participate (Giancola et al., 2009). This also provides for learning to take place any time or place (Hamtini, 2008). With online educational programs, students can study from around the world and geography would not inhibit their educational goals. It also allows students the flexibility to schedule their education around work and home responsibilities (Hart, 2012; Potvin, 2012; Synder, 2009).

Along with practical benefits, online education offers diversity to learners. Students learn on a deeper level from other students who help to motivate them and hold each other responsible (Molinari, 2012). Colleges and universities that are isolated with specific demographics in their geographical location can find greater diversity in online programs that allow for global student enrollment instead of just their location. Students each have their own experiences to bring to the classroom, and the online setting is formatted in a way that allows for this sharing (Holly, Legg, Mueller, & Adelman, 2008; Snyder, 2009). The online setting also allows for diversity of

activities that would reach students of varying learning styles. While some learning styles benefit more from online activities, instructional design can easily encompass any style (Tonsing-Meyer, 2013). It is participatory in nature; so diverse students are all given the opportunity to interact (Greener, 2010; Holly et al., 2008). Online programs can provide adult students an equal chance to participate and be involved no matter one's demographics (Maddix, 2013).

Another benefit that closely relates to diversity is that online instruction can be individualized to fit the needs of the student (Greener, 2010; Potvin, 2012). Activities can vary that will reach all learning styles and cultures (Cools et al., 2009). This personalization is rooted in constructivism where instruction and course design are learner-focused and based upon individual needs (Xu, Huang, Wang & Heales, 2014). Learning communities can be asynchronous and synchronous. This allows for individuals the opportunity to respond in various ways that fit their own learning needs (Abdallah, 2009). Educators can provide individualized responses to learners (Potvin, 2012). This benefit is useful in both the andragogical and pedagogical worlds. For adult learners, this benefit can be directed towards constructivism and transformational learning. Adult learners can use the self-directed nature to create a learning environment that meets their needs and builds upon their prior knowledge and experience (Chu et al., 2012).

Hamtini (2008) defined several issues that can arise in the online learning environment. The following were consistent throughout the literature: lack of self-motivation, lack of support, high dropout rates, and the lack of face-to-face interaction. The lack of self-motivation can be a problem for some learners. Adults and online learners are usually self-motivated (Greener 2010; Synder, 2009). However, not all students fit the normal mold. If the student does not find his or

her own motivation, it is highly probable that the coursework will not be completed and drop out will occur (Hamtini, 2008). Student support services for online students are very important for encouraging student motivation and success in the online setting. The lack of face-to-face interaction can be a downfall of the online learning experience (Abdallah, 2009; Ahedo, 2009). Online programs, which were predominately asynchronous in the past, have started to diversify as the online modality grows and more research is done to show the success rates of hybrid instruction vs. all asynchronous designed programs. Communication is vital to the success of the adult student's educational experience. It once again is up to the student to make sure that communication is flowing in order to achieve success (Ahedo, 2009; Hart, 2012).

With the strong reliance on self-motivated study skills, the age and maturity of the online student is a factor to their potential success. If an older student is not as familiar with the technology required for online learning, this could encumber one's learning (Quinn, Fitch & Youn, 2011). High achieving online students typically require strong verbal and visual mental processing skills (Jones, 2013). Students may also be diverse in their writing abilities, creating a challenge for faculty and students (Melkun, 2012). Adult students who are returning to school after being out of school for several years may have challenges in writing and quantitative subjects. Some institutions have found that their online students struggle due to the lack of student support services and institutional resources dedicated to online learning (Jones, 2013; Keengwe & Kidd, 2010). Each of these factors can be a threat to successful student learning in the online environment.

The quality of the online learning experience can be heavily dependent on two factors, instructional design and faculty (Molinari, 2012; Yang et al., 2009). Instructional design should foster self-motivation and utilize tools that help direct students in their learning (Abrami,

Bernard, Bures, Borokhovski, & Tamim, 2011; Dunlap & Grabinger, 2003). Intentionally and carefully designed courses will inspire students to continue their learning and to achieve higher levels of learning. Activities should engage the student and create a sense of enjoyment of learning (Chatterjee, 2010). Interaction between students and sense of community can be built with the proper design (Ke, 2010; Molinari, 2012). The design should also motivate students and provide material to raise their level of interest (Abrami et al., 2011; Chatterjee, 2010). The challenge becomes the ability to integrate cognitive and transformative learning strategies into the online course (Haggerty, 2009). This is especially true for adult students who require learning that is transformative (Quinn et al., 2012).

When instructional design of a course is good, learning occurs and a positive student experience is possible. Instructional designers in the online field must be cognizant of this fact and plan accordingly when developing such programs (Abdallah, 2009; Cools et al., 2009). These instructional designers are not always the same as the content experts who would be designing or teaching the courses. There must be collaboration between both the designers and the faculty for the course to be effective (Chang et al., 2014). Some schools are beginning to use course production plans that use business models to effectively develop online courses. The models require the above-mentioned collaboration and evaluation in a cyclical process that is constantly updating and reevaluating. One of the problems that arises in course design is when the technology drives the process instead of the pedagogy (Puzziferro & Shelton, 2008). It is also important that the technology have the proper support. If there are technical issues, the student and faculty frustration level can be raised making learning difficult (Horvitz et al., 2014). A plan for managing the technical aspects of a course should be part of the course design (Cook-Wallace, 2012).

The instructor or faculty member also plays a large role in the success of a quality online learning experience. Munsch (2008) ascertains that online instruction is a craft and that teachers must develop their craft through training and experience. Community is one key to the effectiveness of online learning (Ke & Xie, 2009; Maddix, 2013). For higher levels of learning to be influenced, the instructor must have a desire to interact with students and provide for this learning (Yang et al., 2009). This is a different type of interaction than the traditional on campus setting, but the need for contact is the same (Keengwe & Kidd, 2010). Faculty can also provide interaction that will build and enhance that sense of community (Abrami et al., 2011; Rovai & Gallien, 2005). It is dependent on the faculty member to create an atmosphere of community, support, learning, and trust (Cools et al., 2009; Maddix, 2013). It is also crucial that online faculty provide sufficient and significant feedback. This can require large amounts of time and an understanding of how to provide constructive feedback electronically. While this puts greater demands on faculty, it is a key to creating community in the online setting (Haggerty, 2009). If the instructor can build such an environment, a positive learning experience is possible for the students.

Student engagement is another factor that shows that faculty must be intentional in action when teaching online. It is important for higher levels of academic achievement that students have three aspects of engagement. These include student-to-student, student-to-faculty, and student-to-content (Quinn et al., 2011). Student must engage with one another and their instructor to effectively learn (Hart, 2012; Tonsing-Meyer, 2013). They must feel connected to other students, to the faculty member, and to the actual content being learned. Faculty should use all of the available online resources to be able to foster an environment where students can engage on these levels (Hart, 2012; Quinn et al., 2011). As previously stated from multiple

sources, online student engagement is facilitated in many ways by the instructional design, the technology, and the faculty in an online course.

Online faculty may require additional training beyond that of the traditional classroom, since the technology and student engagement can be different in the online setting. Faculty can improve online teaching skills through training (Horvitz et al., 2014). Many colleges provide instruction on how to manage the online classroom and how to facilitate learning. Often traditional faculty resist teaching online if they have not had sufficient training to do so. However, with the push for more online education, faculty are being forced to adapt and learn online methods, without sufficient training (Chang et al., 2014). By taking part in online training, faculty can increase teacher self-efficacy making it a more meaningful learning experience (Horvitz et al, 2014). Another way that faculty improve is through experience. Some colleges have faculty shadow another faculty or use mentors to give them a positive beginning experience in the online classroom. Other methods can also be used to provide an instructor's initial experience. As faculty gain more experience teaching online, their level of experience, expertise, and effectiveness with online teaching also grows (Horvitz et al., 2014; Schmidt, Hodge & Tschida, 2013). Thus, both training and experience are influential to the effectiveness of online faculty.

Business Education

Business education programs' debate over the need to provide more adult and online education programs can be seen throughout the literature. While the literature is somewhat limited on implementation and the importance of business education at the higher education level, there is evidence of four themes. These include the need for the following:

- programs to adapt to the changing higher education market (Hashmi & Zeeshan, 2011; Tanner et al., 2009),
- educators who develop critical thinking skills and creativity in their students (Abdullah, Hanafiah & Hashim, 2013; Harrison & Ritchie, 2011),
- instructional strategies to provide students with real-life experience and the technical knowledge they will need for the business workplace (Bhatti, Syed, Maitlo & Shaikh, 2012), and
- training for business faculty, especially adjunct and part-time faculty (Johnson et al., 2012).

These themes will be examined in light of the literature and their impact on business programs within higher education.

The shifts in demographics for institutions of higher education have caused business schools to have to adapt to the market. The increase of adult and online populations, as well as the globalization of education, has driven administrators and leadership to change the model used for business schools around the world. Christensen & Eyring (2011) have called the influence of online and adult programs in American higher education a "disruptive innovation" that is changing the way students learn in both the traditional and non-traditional settings. Changes to the business education market demographics include gender, age, nationality, and workplace demands or requirements (Hashmi & Zeeshan, 2011). Some schools have found that many business adult students also want convenience in their pursuit of an academic program, thus these changes have caused schools to look at online or non-traditional termed coursework. With a diversified population of students, traditional course delivery does not meet the demand (Alexander, Perreault, Zhao & Waldman, 2009).

Much of the research focuses on those business schools that are accredited by the Association to Advance Collegiate Schools of Business (AACSB). AACSB accreditation signifies that the business school meets additional research-based and business-specific criteria beyond regional accreditation. The AACSB has been slow to adapt to the need for online programs due to a reaction of the inconsistency of for-profit online schools that gained quick market share in business education. However, the need for business schools to adapt has helped push the AACSB along to embrace the importance of non-traditional programs (Alexander et al., 2009; Hashmi & Zeeshan, 2011).

Perception is a major factor that stands in the way of business schools being able to make the changes necessary. Institutions of higher education have taken the standpoint that nothing other than the face-to-face lecture-style setting can be effective. The development of new curriculum, support of the programs, and support to students has suffered due to these negative perceptions of non-traditional approaches (Alexander et al., 2009). Faculty attitudes toward educational modalities affect the way students perceive online learning as well. Students can struggle with acceptance of new approaches because of the way the faculty member presents the course or program format. This is especially true in quantitative business courses such as accounting, economics, and finance (Tanner et al., 2009). Clayton Christensen, a professor of business administration at Harvard Business School, describes online education as something that is constantly improving with innovation and technology, which is the opposite of what many traditional business faculty believe. He states that quality online courses are built like Toyota cars that are rolling off a production line at a newly improved auto plant, vs. their traditional counterparts that are coming from a 100+ year old traditional auto plant (Christensen & Eyring, 2011).

There are other changes that are necessary to adapt to the market of business education. Programs must change their focus from pedagogical approaches to those that align with andragogical approaches and theories of life-long learning (Dana et al, 2010; Hashimi & Zeeshan, 2011). Learning outcomes must be evaluated by new methods (Salazar & Wang, 2009). Assessments are no longer traditional tests that are taken in class. They have to test whether the student has achieved the desired outcomes via other means (Ivanovski, Milenkovski, Ivanovska, & Kozuharov, 2013). Student-to-student and teacher-to-student interactions must be more intentional, while the pressure is put on the student to be self-motivated to learn (Tanner et al., 2009). There now has to be more intentional curriculum that can meet the need for online and non-traditional delivery methods (Harrison & Ritchie, 2011).

It is important that the new model for business education fosters creativity and critical thinking skills in students. Business programs should prepare students for a competitive market place and to be effective leaders for the future (Essounga-Njan, Morgan-Thomas & Zheng, 2010). Critics of traditional business education have focused on the lack of creativity and critical thinking skills with which graduates come to the workplace. Some critics of traditional business education programs have called into question the value of higher education preparation for successful careers in business. The curriculum and teaching methods in most business programs have traditionally focused on theoretical approaches (Abdullah et al., 2013; Hughes et al., 2011). This can create linear problem-solving methods and analytical decision-making styles that are not as relevant for the modern workplace as the nonlinear and creative styles (Vance, Groves, Gale, & Hess, 2012).

The literature has identified ways for creativity and critical thinking skills to be taught. These correspond with adult and online theories, while not neglecting the importance of

traditional approaches as well. The blended learning model that combines various delivery methods has been found effective (Fearon et al., 2012). Debates and case studies are also being used to increase these skills (Radu, 2012). Both faculty and students surveyed showed these methods helpful for fostering creativity and critical thinking (Essounga-Njan et al., 2010; Fearon et al., 2012). Instructional design of business programs both face-to-face and online can benefit from including more than just traditional lecture to inspire student learning.

Along with creativity, there is a desire for students to be prepared for real-life work situations. Faculty have the responsibility to not only impart knowledge to the business students, but to train them for the ever-changing workplace. Innovation and flexibility are key skill sets that are needed in today's workplace. The marketplace has become globalized, requiring different skill sets from professionals (Bhatti et al., 2012; Fall et al, 2013). Students must also be prepared to use constructivist methods to adapt as situations arise. Knowledge must transfer to action rather than just external information (Radu, 2012).

In order for faculty to be able to foster real-life situational learning to students, they need to be professionals with experience in the actual marketplace. This fits with the online and adjunct models that utilize working professionals to teach many courses (Backhaus, 2009). This also coincides with adult learning theories that focus on the ability for students to bring work experience and life-long learning to the classroom. Working professionals, or practitioners, who have experience in their field, are highly viewed by most business students, yet there still is resistance to them from traditional business faculty. Most students desire teachers with experience who can help them with pertinent understanding of their current positions (Knox, 1980; Rodrigues, 2012).

The question becomes whether business faculty have the training in educational methods to make the classroom effective for learning. Research shows that faculty, especially those in online courses, have concern over their ability to effectively teach and manage course outcomes (Johnson et al., 2012). Backhaus (2009) studied the need for adjunct business faculty to have professional development that would help foster teaching and research skills. These skills are most likely not taught in their respective disciplines, but rather would come through experience and educational training. This issue is not just isolated to adjunct business faculty though, many full-time business faculty are trained in their field and not in teaching methods. Outside of the United States, the issue of business faculty not having proper pedagogical or andragogical training is even more prevalent. Vianna and de Oliveria (2011) examined the growing problem in Brazil where business faculty were hired from the market who are unfamiliar with academia. With no teaching or research skills, their ability to effectively teach was stifled. Faculty without the necessary training may feel they are underprepared for the classroom. This trend was also noted throughout the literature in other areas around the global academy (Abdullah et al., 2013; Fearon et al., 2012; Ivanovski et al., 2013). This limited knowledge of educational methods may be greatly affecting college faculty's teacher efficacy.

Teacher Efficacy

Teacher efficacy has been defined as the teacher's ability to effectively influence student learning. It is derived from Bandura's (1977) Social Cognitive Theory and (1997) Theory of Self-efficacy. Teaching efficacy is believed to be a form of self-efficacy (Dibapile, 2012; Tournaki, Lyublinskaya, & Carolan, 2009). Efficacy states that an individual can perform a certain task in a certain environment (Chang, McKeachie, & Lin, 2010). For teachers this is specific to the educational setting. Bandura suggested that both professional and personal

teaching efficacies make up teacher efficacy (Cerit, 2010; Dibapile, 2012; Swackhamer, Koellner, Basile, & Kimbrough, 2009). Professional efficacy is also referred to as general teaching efficacy and deals with one's ability to bring about outcomes in the face of external factors. Internal factors help develop a teacher's personal teaching efficacy which directly influences learning outcomes (Cerit, 2010). He also claimed that efficacy comes from four sources: mastery experiences, vicarious experiences, social influence, and emotional stimulation (Bandura, 1997; Putman, 2012; Shavaran, 2012). These are based on personal, social, and situational factors (Bandura, 1997). Research on efficacy generally focuses on outcome expectancies or efficacy expectancies. Outcome expectancy is how one's efficacy can affect the outcomes of learning for students. Efficacy expectancies focus on measuring one's own efficacy (Cararoglu, 2014).

Researchers define teacher efficacy in higher education with different frameworks. One framework includes course design, instructional strategy, technology usage, class management, interpersonal relation, and learning assessment (Chang et al., 2010). Another framework entails student engagement, instructional practices, and classroom management (Fives & Looney, 2009; Younger, 2011). Mehdinezhad (2012) defined faculty teacher efficacy by subject matter knowledge, curriculum and instruction, communication skills, assessment skills, learning environment, and educational technology. Shavaran (2012) found that teacher efficacy involves four factors that relate to faculty. Teachers should be competent in teaching, research, social, and personal aspects that relate to the classroom. No matter which framework is utilized, researchers agree faculty need to know how to teach, how to do research, how to encourage a social atmosphere in the classroom, and how to relate personally with students (Crawford-Ferre & Wiest, 2012; Shavaran, 2012). In the online setting, this can be even more challenging as

these factors must take place in a mostly asynchronous atmosphere. If a faculty member does not have the necessary training and tools for teaching in the online setting, they may not be able to effectively transfer the information to the students in a productive manner (Creasey, Jarvis, & Gadke, 2009).

Measuring Teacher Efficacy. There have been several instruments developed for the intent of measuring teacher efficacy. Each evaluates efficacy based on different factors. Gibson and Dembo (1984) developed the first scale on teacher's self-efficacy (Cerit, 2010; Dibapile, 2012). It examines the following elements of teacher efficacy: general and personal teaching efficacy (Dibapile, 2012). This instrument has been used to measure pre-service and in-service teachers. However, the validity of this instrument has been questioned, especially for pre-service teachers (Cerit, 2010; Klassen et al., 2011).

Due to this unreliability of the instrument, Tschannen-Moran and Woolfolk Hoy (2001) developed the Teachers' Sense of Efficacy Scale (TSES). This scale, which has a short and long form, has proven reliable and valid. It assesses the following teaching efficacy factors: student engagement, classroom management, and instructional practices (Fives & Buehl, 2010; Klassen et al., 2011). Shaukat & Iqbal (2012) used this scale to look for differences between male and female, elementary and secondary, ages, type of degree. It was also used by Cabaroglu (2014) to measure teacher efficacy over time during the student teaching process. Klassen and Durksen (2014) used portions of the scale to determine how job stress and self-efficacy correlate. Meristo and Eisenschmidt (2014) used the scale in conjunction with other instruments to examine the perceptions of novice teachers in Estonia. Both the TSES and Gibson and Dembo's scale were formed with the intent of measuring efficacy in elementary and secondary teachers.

Other measurement tools have used these as a foundation for developments in testing other aspects of efficacy. Skaalvik and Skaalvik (2010) developed the Norwegian Teacher Self-Efficacy Scale. This measured efficacy as a multidimensional construct based on Bandura's efficacy definition. This measures six dimensions of teaching. In a study by Khurshid, Qasmi, and Ashraf (2012), a version of the teacher efficacy scale was modified by Hanif that focused on perceived job performance.

Researchers have recently begun to develop instruments to measure efficacy in faculty members of higher education. Chang et al. (2010) developed the Faculty Teaching Efficacy questionnaire to assess university faculty. This instrument evaluates faculty efficacy based on the following categories: course design, instructional strategy, technology usage, class management, interpersonal relation, and learning assessment (Chang et al., 2010; Chang et al., 2011). Mehdinezhad (2012) further revised and developed the scale to include elements of content knowledge, curriculum and instruction knowledge, communication competences, assessment, knowledge of learning environment, and knowledge and skills on technology implementation and usage in the curriculum. Shavaran (2012) utilized a panel of experts to develop the Faculty Member Efficacy Inventory to examine efficacy in higher education which is based on teaching competency, research competency, social competency, and personal competency.

Robinia (2008) used Tschannen-Moran and Woolfolk Hoy's TSES (2001) and further developed it for measuring online teaching efficacy of faculty. This scale is called the Michigan Nurse Educators' Sense of Efficacy for Online Teaching Scale (MNESEOTS). The wording was changed to focus on the online classroom, and a section of questions was added to address self-efficacy in the use of computers. The instrument has two parts. The first part is the section

based on the TSES (2001) and does not mention nursing education. It evaluates faculty efficacy based on the following categories: instructional strategies, classroom management, use of computers, and student engagement. The second part serves the purpose of collecting biographical data on nursing faculty (Robinia, 2008; Robinia & Anderson, 2010).

Studies by other researchers have utilized the first section of the MNESEOT (Robinia, 2008) as they look further into the self-efficacy of online faculty. Robinia & Anderson (2010) continued work on the instrument to further test its validity with positive results. Horvitz et al. (2014) utilized the instrument in their study of online teaching at a regional research university. Albee (2015) used the instrument to select individuals with high self-efficacy for a qualitative case study to determine best practices for faculty in the online classroom. Weisel (2015) also utilized it to examine adjunct faculty in a community college system.

Of the many instruments developed to measure self-efficacy as it pertains to teaching, there are few that are focused on higher education. Of those, there are few that have application to this study as many include research and collaboration categories that are traditionally focused. Other than the MNESEOT, the instruments developed for higher education would lack relevance to the online and adult classroom.

Effects of Teacher Efficacy. Research shows that teacher efficacy holds positive influences on students. It affects student outcomes, achievement, and motivation. Teachers with higher teacher efficacy will have students with increased student performance, higher achievement, and greater motivation (Cerit, 2010; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran & Woolfolk Hoy, 2007). Klassen et al. (2011) found a lack of evidence in their meta-analysis of significant research which linked student outcomes to teacher efficacy. Between 1986 and 1997, only 4.4% of studies focused on student outcomes. Those studies

resulted in vague results, as the Teacher Efficacy Scale by Gibson and Dembo (1984) was used. Newer research from 1998-2009 only showed 2.8% of studies on student outcomes. With the use of new instruments, better results were found, though sparse. For example, teachers with higher efficacy were able to engage difficult students in classwork therefore increasing outcomes (Klassen et al., 2011). Some research on student outcomes deals with the collective educators' self-efficacy. This is the idea that one's school or efforts as an entire unit can positively affect student learning. It has been found that students are more motivated and have higher achievement when collective efficacy is higher (Akinbobola & Adeleke, 2012).

Klassen and Tze (2014) performed an additional meta-analysis looking at newer research that measured student achievement and motivation and teacher effectiveness. When analyzing many studies collectively, there was a significant relationship between teacher efficacy and student outcomes. Though the effect size was small, the results may have critical influence on student outcomes depending on the situation (Klassen & Tze, 2014). Additional research by Mojavezi and Tamiz (2012) found a significant difference between those with various levels of self-efficacy. The results show positive correlation between teacher efficacy and student achievement and motivation. Akbari, Kiany, Naeeni, and Allvar (2008) found that teachers' sense of efficacy, along with teacher reflectivity and teaching styles, could significantly predict student achievement outcomes. Tompkins (2013) found similar results where learning is enhanced by efficacy in the workplace. Research also shows that teachers with high efficacy often work harder and expect more from students, enabling them to increase student self-efficacy and success (Arabzadeh, Salami, Nadery, & Bayanati, 2013; Cerit, 2010; Ross & Gray, 2006). Because of the potential influence it holds on student learning, teacher efficacy has become an

important factor for research (Akinbobola & Adeleke, 2012; Klassen & Chiu, 2010; Lightle, 2011).

On the other hand, much of the research has focused on how teacher efficacy affects personal factors such as job satisfaction, job performance, and stress levels in faculty. In a study by Chang et al. (2009), research found that support from administration influenced teacher efficacy and ultimately job satisfaction. Klassen and Chiu (2010) also evaluated job satisfaction and linked it positively to teaching self-efficacy. Teachers perform based on how they believe themselves able to perform. In the classroom, a teacher can perform more efficiently and effectively by increasing self-efficacy. Performance can include classroom management, creativity and innovation in the classroom, taking responsibility for student outcomes, and overcoming obstacles to learning (Tournaki et al., 2009; Tschannen-Moran & Woolfolk Hoy, 2001). This can also include willingness to take on challenging situations (Cerit, 2013; Fives & Looney, 2009). Correlations between self-efficacy and attendance have been found. Those with higher efficacy had higher attendance rates (Reilly, Dhingra, & Boduszek, 2013). Teachers with lower levels of teacher efficacy have higher levels of job-related stress, both classroom and workload (Klassen & Chiu, 2010). Those with higher levels of teacher efficacy are able to cope with stress in a more effective manner (Akinbobola & Adeleke, 2012). Alternately, Reilly et al. (2013) evaluated the correlation between job stress, self-efficacy, and job satisfaction and did not find a significant correlation between self-efficacy and job satisfaction. This was surprising, as it did not follow the prior research findings. However, they did find small effects on the other relationships.

Influences on Teacher Efficacy. There are several factors in higher education that can influence a faculty member's sense of teacher efficacy. From the literature, years of teaching

experience, content knowledge, and educational background will be highlighted. The research shows that teacher efficacy is affected by the number of years of experience one has teaching (Fives & Buehl, 2010; Klassen & Chiu, 2010; Younger, 2011). This is especially true for beginning teachers. In the first year of teaching, efficacy can greatly shift (Klassen & Chiu, 2010; Putman, 2012; Tan, 2012). After that, a steady increase is found over the years. More experienced teachers have more efficacy in classroom management skills and instructional practices (Fives & Buehl, 2010). Also, teachers are more likely to stay in the profession if they have higher levels of teacher efficacy (Putman, 2012). Klassen and Chiu (2010) found, however, that the relationship between years of experience and teacher efficacy was not linear. They found that after 23 years of teaching, efficacy began to drop. They concluded, based on the research, that this was due to a lack of motivation in the end-of-career stage (Klassen & Chiu, 2010). However, no research was found that examined adult or online faculty members in higher education. Longitudinal studies have not been completed, and this may be due to the fact that adult online education is fairly young to education. It is unknown whether these faculty will experience this same decline.

Another factor influencing teacher efficacy is one's understanding of content knowledge. One of the roles of a teacher is to be an expert who guides students, novices, through the information (Dibapile, 2012). Having specific content knowledge is what makes a teacher an expert. Research shows that teachers who study specific subjects are able to increase their teacher efficacy when teaching those subjects (Klassen et al., 2011; Swackhamer et al., 2009). A study by Tan (2012) examined the efficacy levels of second-career teachers who were experts in their fields. While their understanding of teaching was limited, they were proficient in their content knowledge. These findings are similar to those of Duncan and Ricketts (2008). Those

with traditional certifications had higher efficacy in program management, while those with experience in the field were more efficacious in content knowledge. Fives and Looney (2009) found that teachers from the School of Education had greater levels of efficacy for instructional practice. Mehdinezhad (2012) had similar findings and explained that this was due to the fact that educators had experience in what they were teaching. Having learned how to teach, they had greater teacher efficacy.

This introduces the next influence on teacher efficacy: educational background. Those who have been trained in teaching have learned how to plan and prepare lessons, how to manage classroom environments, and how to facilitate active learning (Dibapile, 2012). The study by Fives and Looney (2009) revealed that efficacy in instructional practice was increased by those who studied education, while Mehdinezhad (2012) found all categories of efficacy to be higher with educators. Chang et al. (2011), however, found that university faculty that participated in educational training programs did not score higher in efficacy. In the same study, those in the education department scored statistically higher than those in the business department in instructional strategy, class management, learning assessment, and total score. Duncan and Ricketts (2008) found traditional teachers had better efficacy in program management. Shazadi, Khatoon, Aziz, and Hassan (2011) found in their study that secondary teachers who had an education degree had higher overall efficacy than those with professional degrees. Younger (2011) discovered a significant difference in the teacher efficacy in instructional practices for those who held a teaching degree. In a study by Velthuis, Fisser, and Pieters (2014), those with additional teacher training in secondary science education had higher teaching efficacy. Those without formal training in education may find it more difficult to enter into the teaching career. They may be missing the pedagogical skills required for higher levels of teacher efficacy.

Training and learning from other educators can help those without that educational background (Tan, 2012).

Summary

When examining the factors of teacher efficacy, online learning, adult education, and business education, extensive research has been done on each. There is, however, no known literature on the intersection of all of these variables. Teacher efficacy, more specifically faculty efficacy, research has shown differences between efficacies of those with and without educational backgrounds. These studies have not taken into account online faculty or faculty of adult programs. With the changes in higher education to online and adult-focused formats, a gap has been created in the literature to examine the efficacies of faculty teaching in these settings. As business education programs are finally making the change to accept these programs, the need for more research continues.

CHAPTER THREE: METHODOLOGY

Overview

In this chapter, the methodology utilized during this study is examined. The design is identified, and the variables are explained. The research question is restated, and the null hypotheses are defined. Data regarding the participants and setting of the study are given. An examination of the instrument used for the study is included, as well as the procedures and data analysis.

Design

This causal-comparative study examined teacher efficacy in the adult online business classroom and the differences between faculty with education degrees and those with only professional degrees. This design was chosen because it compares groups and looks for a possible cause and effect relationship between an independent and dependent variable (Gall, Gall & Borg, 2007). It has been used in similar studies when trying to examine this cause and effect relationship for examining teacher efficacy between groups (Klassen & Tze, 2014; Lightle, 2011; Tschannen-Moran and Woolfolk Hoy, 2007). This design also allows for the researcher to control for other variables that may cause a change in the relationship (Warner, 2013).

Using this causal-comparative design, the independent variable was not manipulated by the research but was intact prior to the study. This variable is categorical, as an education degree is present at any level or absent all together. The study examined the dependent variable, level of teacher efficacy, and the difference between the groups (Gall et al., 2007). Teacher efficacy refers to one's belief in his or her ability to teach and influence student learning (Robinia, 2008), and the difference between the groups was analyzed (Warner, 2013). This nonexperimental design supports the following research question.

Research Question

The research question for this study states:

RQ: Is there a difference between the faculty efficacy scores, as defined by the Educators' Sense of Efficacy for Online Teaching Scale (Robinia, 2008), of online business faculty members who have an education degree on any level and those business faculty who do not have an education degree of any kind?

Hypotheses

The null hypotheses for this study are:

H_{o1}: There is no statistically significant difference between the total efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

H_{o2}: There is no statistically significant difference between the student engagement efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

H_{o3}: There is no statistically significant difference between the instructional strategies efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

H_{o4}: There is no statistically significant difference between the classroom management efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

Participants and Setting

This study took place at a Midwest Christian university. This university is a mid-sized not-for-profit school in the Midwestern United States. The School of Business and Leadership

within the College of Adult and Professional Studies was studied. The population consisted of all business faculty who teach in the online classroom. Faculty within the School of Business and Leadership would have a minimum of a Master's degree in the area of business in which they teach, according to university accreditation standards (Higher Learning Commission, 2016). Each faculty was invited to participate via email.

A convenience sample of online faculty within the School of Business and Leadership from a Midwest Christian university were utilized for this study. Participants from the population became part of the sample by self-selecting to participate. They could chose to respond to the invitation email that was sent to the entire population of business faculty. Their choice to participate in the online survey automatically made them be part of this convenience sample.

With an anticipated medium effect size, the sample requires both groups are homogeneous and similar in size from the population of 828 faculty with a total of 140 participants. The sample exceeded the minimum requirement with a total of 96 participants from the population for a medium effect size with an alpha level of $p < .05$ (Gall et al., 2007; Warner, 2013). The sample included 44 female, 95 male, and one non-reporting online faculty with an average reported age of 57.23 years old. The demographics of the sample is listed in Table 1 on the following page with the group demographics.

The setting for the participants from a Midwest Christian university was online. Participants took the survey via the Internet from a location and time of their choosing. The online survey was accessible from a computer, tablet, smartphone, or any other Internet-ready device.

The groups for this study included those with at least one education degree, 75 participants, and those with no education degree, 65 participants. These groups were formed with the information provided in the survey. The demographics of each group are listed in Table 1 below.

Table 1

Descriptive Statistics for Groups 1 and 2

	Group 1	Group 2	Total
Gender			
Female	25	19	44
Male	50	45	95
Non-reporting	0	1	1
Age			
Average	57.11	57.37	57.23
Minimum	33	41	33
Maximum	76	76	76
Years of Teaching Experience			
Average	8.97	8.07	8.55
Minimum	1	1	1
Maximum	32	25	32

Note. Group 1 includes those with a degree in education (n = 75), Group 2 includes those without a degree in education (n = 65).

Instrumentation

This study utilized the Michigan Nurse Educators' Sense of Efficacy for Online Teaching Scale (MNESEOTS) which was developed by Robinia (2008) from Northern Michigan University. See Appendix A for the instrument. This tool was adapted from Tschannen-Moran and Woolfolk Hoy's Teachers' Sense of Efficacy Scale (TSES) which pertained to K-12 educators. Robinia's (2008) scale was further developed to be utilized by faculty members in the

higher education setting. Permission to use the instrument was given by the author. See Appendix B for permission.

The purpose of this instrument is to measure the online faculty's teaching self-efficacy. The questions are broken down into four constructs including the following: student engagement, instructional strategies, classroom management, and use of computers. Student engagement pertains to the instructor's ability to involve students in the learning process. Instructional strategies are the faculty's way to communicating and developing learning strategies. Classroom management deals with the control over the learning environment (Tschannen-Moran & Hoy, 2001). The use of computers construct focuses on the faculty's ability to use technology (Robinia, 2008). The questions on the use of computers were not included in the analysis for this research. The purpose of the research was to focus on those items that would be part of a degree in education. The use of computers is not part of the formal training, while student engagement, instructional strategies, and classroom management are. In addition, all participants use computers to teach in the online environment; therefore, there would be no expectation for differences between the groups. Thus, these questions were excluded from the analysis.

The scale is a self-reporting survey that was completed by each participant. It utilizes a 9-point Likert scale with the following responses: Nothing = 1, Very Little = 3, Some Influence = 5, Quite A Bit = 7, and A Great Deal =9. Each subscale was added together and averaged for a total subscale score of 1 through 9. The three subscale scores are added together for an overall teaching efficacy score, ranging between 3 and 27. A high score of 27 to the question "How much can you do?" means that the faculty member has full confidence in all aspects of online teaching. Higher scores indicate a greater sense of efficacy, while lower scores indicate less of a

sense of efficacy in online teaching. There is no additional training required for scoring this instrument. The scores are added and averaged by the survey program.

For the purpose of this study, the title of the scale was changed, with permission (Appendix B), to the Educators' Sense of Efficacy for Online Teaching Scale (ESEOTS) in order to not confuse the business faculty who were taking the survey. Within the instrument, there is no reference to nursing or the location. Therefore, this minimal change to the title will have no bearing on the validity or reliability of each construct of the survey.

The Michigan Nurse Educators' Sense of Efficacy for Online Teaching Scale (MNESEOTS) has been tested for validity and reliability. Robinia (2008) tested the scale using Cronbach's alpha statistic. The overall alpha was .97, the Student Engagement alpha was .93, the Instruction Strategies alpha was .94, and the Classroom Management alpha was .93.

Table 2

Cronbach's Alpha for the MNESEOTS (Robinia, 2008)

Subscale	Cronbach's Alpha
Student Engagement	0.93
Instructional Strategies	0.94
Classroom Management	0.93
Total Reliability	0.97

The instrument has been used in several recent studies. Robinia and Anderson (2010) further examined the tool to confirm its validity and reliability. Horvitz et al. (2014) used it to examine what personal characteristics influenced the faculty's self-efficacy, finding that gender and perception of student learning were the most significant predictors. In the study by Albee

(2015), the scale was used for qualitative research looking at the best practices used by those with high levels of teaching efficacy. Richter (2015) used this instrument to study the levels at which nursing faculty lacked self-efficacy and needed additional training to be able to perceive they can effectively teach online.

Procedures

For this study, the following procedures were taken. First, IRB approval was attained from both Liberty University and the participating university. See Appendix C for IRB approvals from both institutions. A pilot study was not included, and no training was necessary for the implementation of the study. Once approval was given, participants were then elicited via email invitation. See Appendix D for the email invitation to participate in the study. The researcher sent the email invitation to the university staff in charge of faculty development. This university staff member sent the email to the list of online business faculty on behalf of the researcher. This email included the information for the study, the timeframe for participation, and the link to the online survey. If the faculty chose to read the email, they then had the option to click on the link which took them to Survey Monkey®. Once in Survey Monkey®, the home page gave a welcome message informing them of the survey and to read the consent form to continue. See Appendix E for the welcome message. Next, the participant was asked to read the Consent for Participation in an Electronic Survey and to agree to the terms. See Appendix F for the Consent Form. This form was explained that no training is necessary to participate and would take an estimated 20 minutes to complete the entire survey. The form also explained that the survey answers would be held in strict confidence and participation was voluntary. After the consent form, the participants were asked to click “next” giving their consent and to continue on with the survey. The following page asked for demographic information. See Appendix G for

the demographic questions. Once this was complete, the survey questions began. See Appendix A for the survey questions. After the survey, participants were required to click "submit" in order for their survey to be completed and recorded. Invitations to complete the survey were sent three times. This served as a reminder and an opportunity for more faculty members to participate.

Once the survey time had passed, the researcher closed the survey within Survey Monkey®. The raw data, which had no identifying markers from participants, was downloaded into a spreadsheet and transferred into the statistical software SPSS for analysis in this casual-comparative study. The data was held by the researcher on a secure, password-protected server for a minimum of three years after the study was completed.

Data Analysis

The researcher used an ex post facto causal-comparative research design to determine where there was a statistically significant difference between faculty with differing educational backgrounds. While the research was designed to test the research question using four separate ANCOVAs, or analysis of covariance, four separate ANOVAs, or analysis of variance, were used. This analysis was designed to look at each of the three sub scores and total overall score and test the difference in the means between the groups while controlling for the years of experience. However, the analysis of the control variable revealed that the covariate was not an impactor of the dependent variable. As such, the ANOVA was used due to the fact that the independent variable is categorical and independent of the other variables, and the dependent variable was measured on an interval scale (Gall et al., 2007).

In order to utilize an ANCOVA, certain assumptions had to be analyzed (Warner, 2013). The covariate and dependent variable scores were approximately normally disturbed for the

independent variable groups. This assumption was met for all variables. However in order to utilize the covariate, there should be a linear relationship between the covariate and dependent variable, and this relationship should be equal between groups. When examining this linear relationship through scatterplots and best fit lines, the researcher determined that this relationship had a slope nearing zero. Therefore, the covariate did not impact the dependent variable score. The researcher determined the ANCOVA could not be used. In order to increase the power of the test, the covariate was discarded and ANOVAs were used to test each null hypothesis (Green & Salkind, 2013).

In order to utilize the ANOVA tests, the researcher conducted further assumption testing. The assumptions of normality were met for each of the three sub scores, as well as the total score. The test assumed that the sample was random from the population. A histogram was used to test for population distributions. A Box and Whisker plot was used for each group and variable to look for extreme outliers (Gall et al., 2007). Three outliers were discovered within the data. Since the sample size was not large enough to allow these outliers to not statically affect the analysis, they were normalized using statistical methods (Osborne & Overbay, 2004). Because the sample was greater than 50, the Kolmogorov-Smirnov test was used to test normality for the differences between the data sets. The Levene's Test for Equality of Variance was also examined and met for all data sets (Warner, 2013). Alpha levels were set to $p < .05$ in order to limit the probability to 95% of finding a difference between the group means as a result of chance (Gall et al., 2007).

The use of statistical tests of significance, like the ANOVA, does not provide the researcher with a measure of usefulness and meaningfulness of the results. In order to evaluate further meaning, the analysis examined the *F* statistic and eta squared (η^2). Eta square gives a

value for the effect size and describes the proportion of the variance due to between group differences. Scores range from 0 to 1 in value, with 0 indicating there are no differences in the mean scores. For the purpose of the study, the effect sizes were interpreted using small, medium, and large effect sizes with the upper bounds of each as .01, .06, and .14, respectively (Green & Salkind, 2013; Warner, 2013).

CHAPTER FOUR: FINDINGS

Overview

The purpose of this casual-comparative study was to examine any differences in faculty self-efficacy scores between those with an education degree and those without an education degree as measured by the Educators' Sense of Efficacy for Online Teaching Scale (ESEOTS) (Robinia, 2008). The researcher collected data from 140 college business faculty members in the online environment. Inferential statistics were used to compare the means of the efficacy scores. The ANOVA model was used to test the hypotheses, which looked for differences between the means.

Research Question

The research question for this study states:

RQ: Is there a difference between the faculty efficacy scores, as defined by the Educators' Sense of Efficacy for Online Teaching Scale (Robinia, 2008), of online business faculty members who have an education degree on any level and those business faculty who do not have an education degree of any kind?

Hypotheses

The null hypotheses for this study were:

H_{o1}: There is no statistically significant difference between the total efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

H_{o2}: There is no statistically significant difference between the student engagement efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

H_{o3}: There is no statistically significant difference between the instructional strategies efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

H_{o4}: There is no statistically significant difference between the classroom management efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

Descriptive Statistics

A total of 140 participants were included in the data analysis. There were 75 (53.6%) who identified as having a degree in education in addition to a business degree and 65 (46.4%) who identified as only having a business degree. The inclusion of an education degree or the absence of an education degree served as the independent variable for the study and determined the groups used for analysis. Group 1 is identified as those with a degree in education (n = 75), while Group 2 is identified as those without a degree in education (n = 65).

The dependent variable was measured using the Educators' Sense of Efficacy for Online Teaching Scale (Robinia, 2008). Total efficacy scores (n = 140) ranged from 13.01 to 26.75, with M = 21.60 and SD = 2.96. Efficacy scores for student engagement (n = 140) ranged from 4.13 to 9.00, with M = 6.85 and SD = 1.15. Efficacy scores for instructional strategies (n = 140) ranged from 4.25 to 9.00, with M = 7.23 and SD = 1.09. Efficacy scores for classroom management (n = 140) ranged from 4.25 to 9.00, with M = 7.49 and SD = 0.99. Each efficacy scores was grouped according to the independent variable. Table 3 presents the descriptive statistics for all efficacy scores for all groups.

Table 3

Descriptive Statistics for Group Efficacy Scores

Null Hypothesis	Group	Number	Mean	Standard Deviation
H_{o1} – Total Efficacy				
	Group 1	75	22.23	2.60
	Group 2	65	20.88	3.19
	Total	140	21.60	2.96
H_{o2} – Student Engagement				
	Group 1	75	7.03	1.08
	Group 2	65	6.65	1.19
	Total	140	6.85	1.15
H_{o3} – Instructional Strategies				
	Group 1	75	7.47	0.98
	Group 2	65	6.96	1.13
	Total	140	7.23	1.09
H_{o4} – Classroom Management				
	Group 1	75	7.69	0.89
	Group 2	65	7.27	1.05
	Total	140	7.49	0.99

Note: Group 1 includes those with a degree in education (n = 75), Group 2 includes those without a degree in education (n = 65).

Results

H_{o1} – Total Efficacy

The first hypothesis asked whether or not there was a statistically significant difference between the total efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

The researcher used an ANOVA to test this hypothesis. When evaluating differences between groups for a dependent variable, an ANOVA is the appropriate tool (Gall et al., 2007). The independent variable for this study is the presence or absence of an education degree. The

dependent variable was measured by the Educators' Sense of Efficacy for Online Teaching Scale (ESEOTS) (Robinia, 2008).

Assumptions. Potential outliers were examined using boxplots (see Figure 1). The boxplot for total efficacy scores indicate no outliers. Therefore, no scores were adjusted or removed.

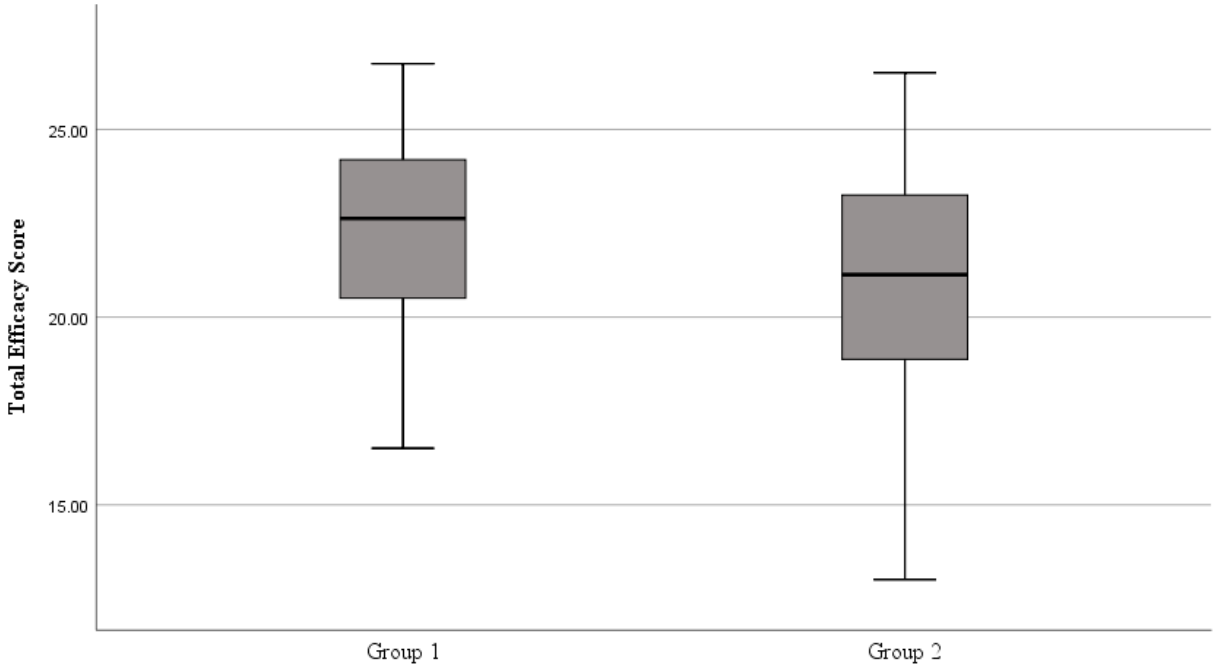

Figure 1. Boxplots for Groups 1 and 2 Total Efficacy Scores.

Assumption tests were run for the purpose of ensuring validity of the ANOVA (Warner, 2013). Frequency histograms were analyzed for the scores for each group (see Figure 2). The Komogorov-Smirnov Test was used to test the assumption of normality of the efficacy scores for each group. The findings for group one were significant and group two were not significant (p_1 = .027, p_2 = .173), indicating an approximately normal distribution for group two but not for group one (Warner, 2013). Table 4 presents the findings of the Kolmogorov-Smirnov tests for both groups. Due to the failed Kolmogorov-Smirnov test for group one, other factors were evaluated for this group. The histogram revealed the issue as an abnormally high mode that falls

above the mean. The skewness (-0.463) and kurtosis (-0.615) were both found to be within acceptable range, and visual examination of the distribution shape was deemed sufficient (Warner, 2013).

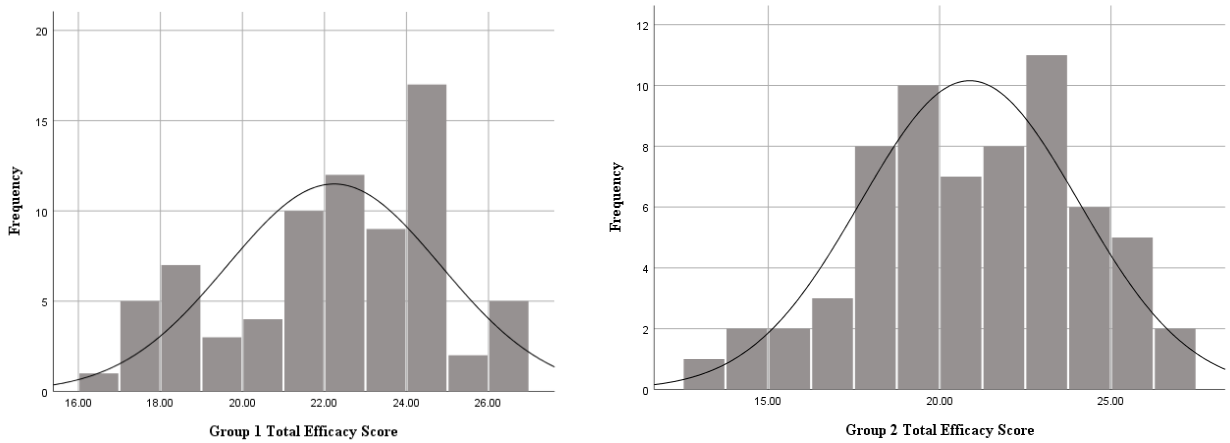

Figure 2. Frequency histograms for Groups 1 and 2 Total Efficacy Scores.

Table 4

Kolmogorov-Smirnov Test of Normality for Total Efficacy Scores

Group	Kolmogorov-Smirnov Test Statistic	*p*
Group 1 – Education degree	0.109	0.027
Group 2 – No Education degree	0.100	0.173

The Levene's Test for Homogeneity of Variance was used to test for the equality of variance of the dependent variables between each group. The result of Levene's was significant, $F(1, 138 = 3.857, p = .052)$ indicating that the assumption of homogeneity of variance was met (Gall et al., 2007; Warner, 2013).

Results. The results of the ANOVA were significant, $F(1, 137) = 7.637, p = .006$, indicating there was a statistically significant difference in the faculty efficacy scores for the adjusted total efficacy between those with an education degree and those without an education

degree. The partial Eta Squared value indicates that the effect size is medium ($\eta_p^2 = 0.052$), which suggests that 5.2% of the faculty's adjusted total efficacy score is explained by the presence of an education degree. Due to this significant finding, the null hypothesis for the research question was rejected. The findings of the ANOVA are presented below in Table 5.

Table 5

One-way ANOVA for the Comparison of Total Efficacy Scores between Groups 1 and 2

	Sum of Squares	Mean Square	F	Sig.
Between Groups	63.824	63.824	7.637	.006
Within Groups	64715.115	64715.115		
Total	66556.185			

H_{o2} – Student Engagement

The second hypothesis asked whether or not there was a statistically significant difference between the student engagement efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

The researcher used an ANOVA to test this hypothesis. When evaluating differences between groups for a dependent variable, an ANOVA is the appropriate tool (Gall et al., 2007). The independent variable for this study is the presence or absence of an education degree. The dependent variable was measured by the Educators' Sense of Efficacy for Online Teaching Scale (ESEOTS) (Robinia, 2008).

Assumptions. Potential outliers were examined using boxplots (see Figure 3). The boxplot for student engagement efficacy scores indicate no outliers. Therefore, no scores were adjusted or removed.

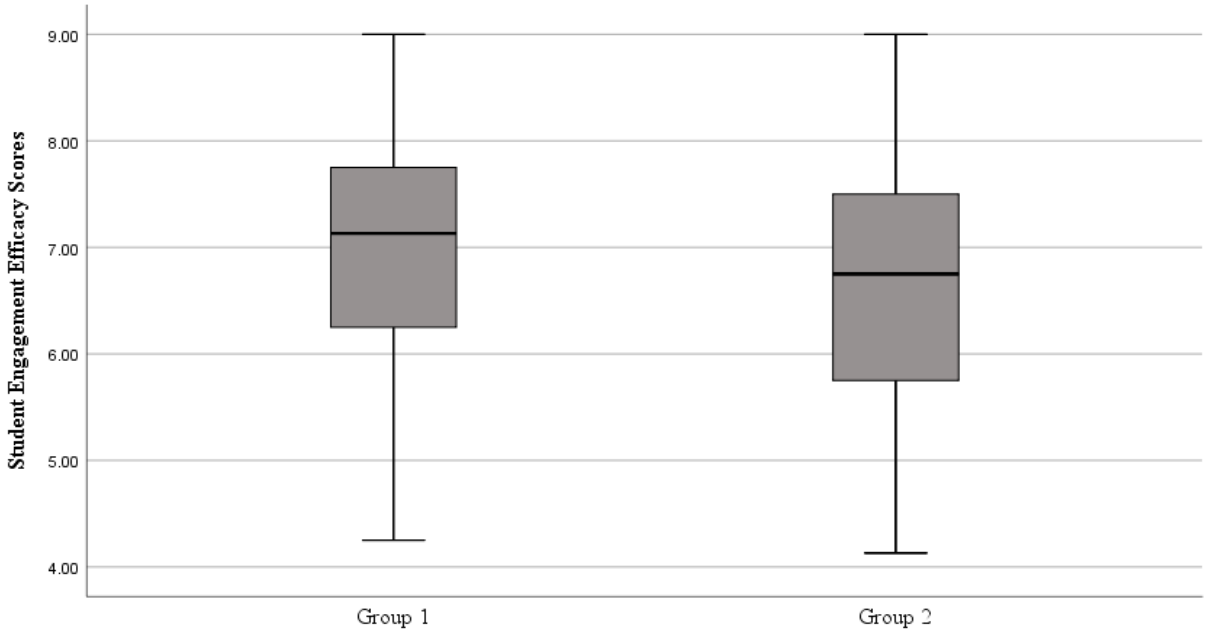

Figure 3. Boxplots for Groups 1 and 2 Student Engagement Efficacy Scores.

Assumption tests were run for the purpose of ensuring validity of the ANOVA (Warner, 2013). Frequency histograms were analyzed for the scores for each group (see Figure 4). The Komogorov-Smirnov Test was used to test the assumption of normality of the efficacy scores for each group. The findings for both groups were non-significant (p_1 = .200, p_2 = .087), indicating an approximately normal distribution (Warner, 2013). Table 6 presents the findings of the Kolmogorov-Smirnov tests for both groups.

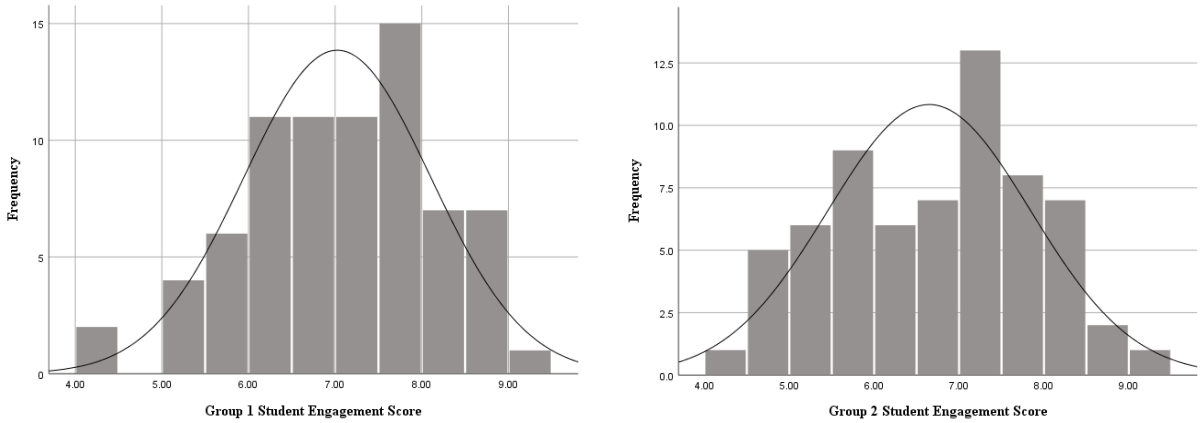

Figure 4. Frequency histograms for Groups 1 and 2 Student Engagement Efficacy Scores.

Table 6

Kolmogorov-Smirnov Test of Normality for Student Engagement Efficacy Scores

Group	Kolmogorov-Smirnov Test Statistic	*p*
Group 1 – Education degree	0.086	0.200
Group 2 – No Education degree	0.103	0.087

The Levene's Test for Homogeneity of Variance was used to test for the equality of variance of the dependent variables between each group. The result of Levene's was not significant, $F(1, 138 = 1.512, p = .221)$ indicating that the assumption of homogeneity of variance was met (Gall et al., 2007; Warner, 2013).

Results. The results of the ANOVA were not significant, $F(1, 137) = 3.840$, $p = .052$, indicating there was not a statistically significant difference in the faculty efficacy scores for student engagement between those with an education degree and those without an education degree. Based on the findings, the null hypothesis for the research question failed to be rejected. The findings of the ANOVA are presented in Table 7.

Table 7

One-way ANOVA for the Comparison of Student Engagement Efficacy Scores between Groups 1 and 2

	Sum of Squares	Mean Square	F	Sig.
Between Groups	4.950	4.950	3.840	.052
Within Groups	6510.235	6510.235		
Total	6752.263			

H_{o3} – Instructional Strategies

The third hypothesis asked whether or not there was a statistically significant difference between the instructional strategies efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

The researcher used an ANOVA to test this hypothesis. When evaluating differences between groups for a dependent variable, an ANOVA is the appropriate tool (Gall et al., 2007). The independent variable for this study is the presence or absence of an education degree. The dependent variable was measured by the Educators' Sense of Efficacy for Online Teaching Scale (ESEOTS) (Robinia, 2008).

Assumptions. Potential outliers were examined using boxplots (see Figure 5). The boxplot for instructional strategies efficacy scores for group one indicated two outliers. Outliers were truncated by adjusting the score to 0.005 below the lowest normal value. This allowed the data to keep its properties as the lowest scores without disrupting the distribution of the entire set (Osborne & Overbay, 2004). The boxplot for group two indicated no outliers. Therefore, no scores were adjusted or removed for this group.

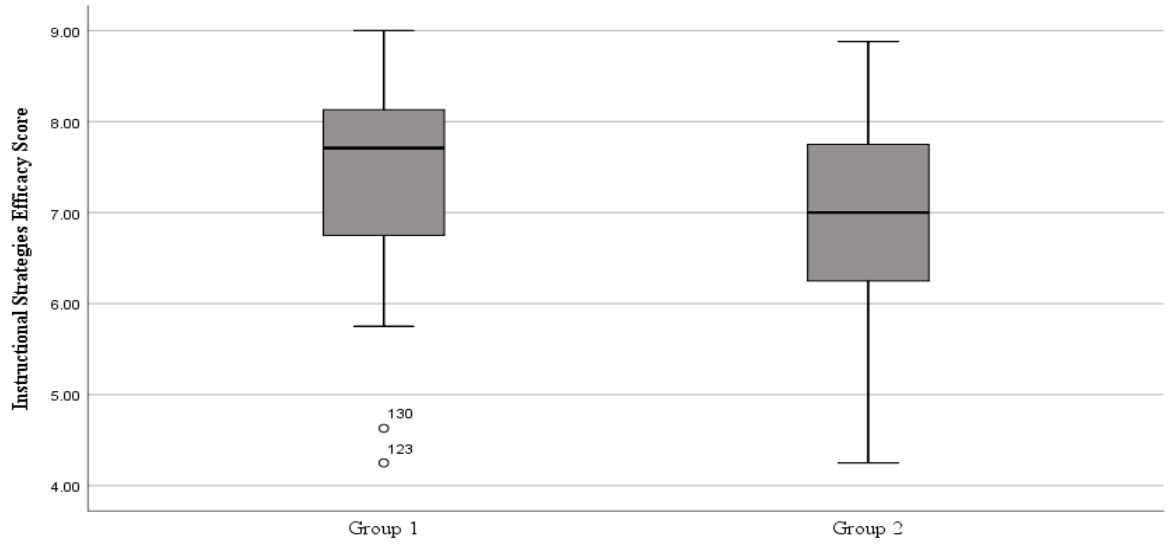

Figure 5. Boxplots for Groups 1 and 2 Instructional Strategies Efficacy Scores.

Assumption tests were run for the purpose of ensuring validity of the ANOVA once the outliers were adjusted for group one (Warner, 2013). Frequency histograms were analyzed for the scores for each group (see Figure 6). The Komogorov-Smirnov Test was used to test the assumption of normality of the efficacy scores for each group. The findings for both groups were non-significant (p_1 = .056, p_2 = .200), indicating an approximately normal distribution (Warner, 2013). Table 11 presents the findings of the Kolmogorov-Smirnov tests for both groups.

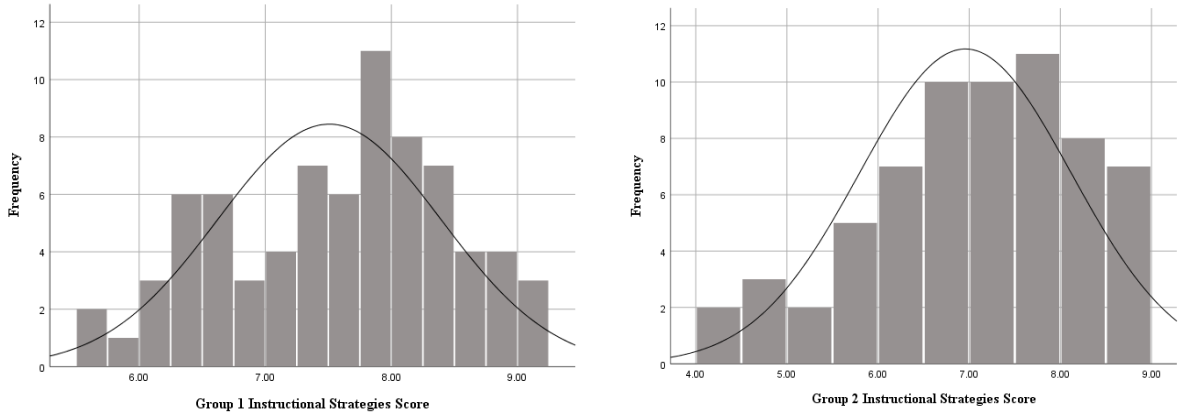

Figure 6. Frequency histograms for Groups 1 and 2 Instructional Strategy Efficacy Scores.

Table 8

Kolmogorov-Smirnov Test of Normality for Instructional Strategy Efficacy Scores

Group	Kolmogorov-Smirnov Test Statistic	*p*
Group 1 – Education degree	0.101	0.056
Group 2 – No Education degree	0.088	0.200

The Levene's Test for Homogeneity of Variance was used to test for the equality of variance of the dependent variables between each group. The result of Levene's was not

significant, $F(1, 138 = 3.876, p = .051)$ indicating that the assumption of homogeneity of variance was met (Gall et al., 2007; Warner, 2013).

Results. The results of the ANOVA were significant, $F(1, 137) = 10.556, p = .002$, indicating there was a statistically significant difference in the faculty efficacy scores for instructional strategies between those with an education degree and those without an education degree. The partial Eta Squared value indicates that according to Gall et al. (2007) the effect size is just above medium ($\eta_p^2 = 0.068$), which suggests that 6.8% of the faculty's instructional strategies efficacy score is explained by the presence of an education degree. Due to this significant finding, the null hypothesis for the research question was rejected. The findings of the ANOVA are presented below in Table 9.

Table 9

One-way ANOVA for the Comparison of Instructional Strategy Efficacy Scores between Groups 1 and 2

	Sum of Squares	Mean Square	F	Sig.
Between Groups	10.556	10.556	10.104	.002
Within Groups	7286.581	7286.581		
Total	7518.565			

H_{o4} – Classroom Management

The fourth hypothesis asked whether or not there was a statistically significant difference between the classroom management efficacy scores of online business faculty members who have an education degree as compared to those who do not have an education degree.

The researcher used an ANOVA to test this hypothesis. When evaluating differences between groups for a dependent variable, an ANOVA is the appropriate tool (Gall et al., 2007).

The independent variable for this study is the presence or absence of an education degree. The dependent variable was measured by the Educators' Sense of Efficacy for Online Teaching Scale (ESEOTS) (Robinia, 2008).

Assumptions. Potential outliers were examined using boxplots (see Figure 7). The boxplot for classroom management efficacy scores for group one indicated two outliers. Outliers were truncated by adjusting the score to 0.005 below the lowest normal value. This allowed the data to keep its properties as the lowest scores without disrupting the distribution of the entire set (Osborne & Overbay, 2004). The boxplot for group two indicated no outliers. Therefore, no scores were adjusted or removed for this group.

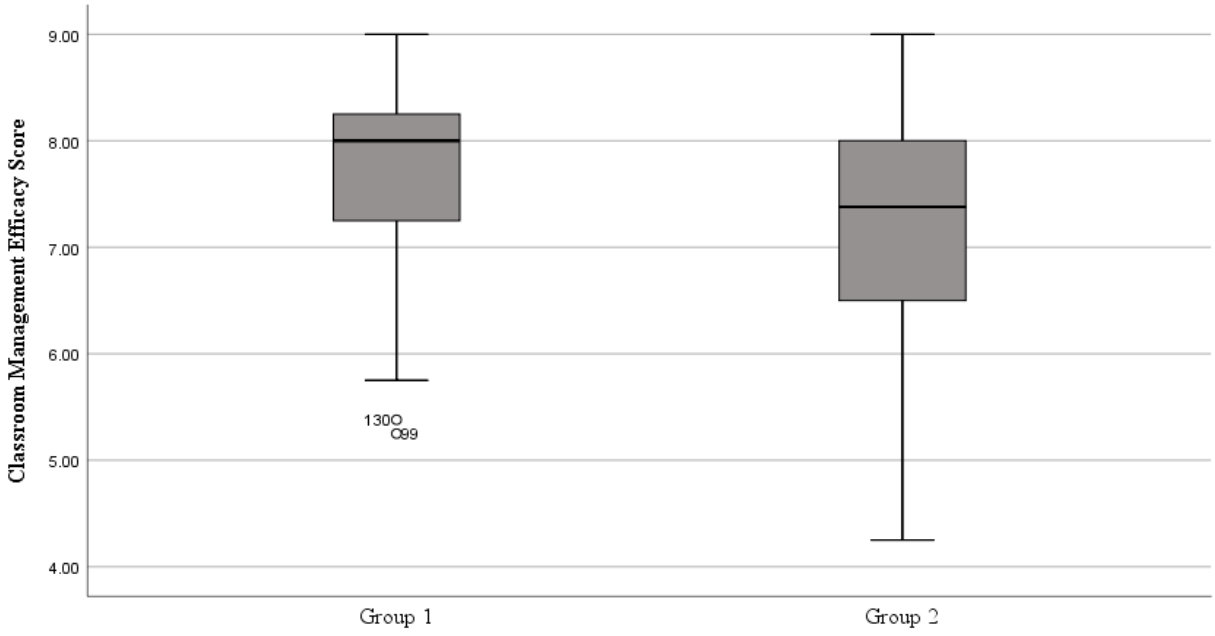

Figure 7. Boxplots for Groups 1 and 2 Classroom Management Efficacy Scores.

Assumption tests were run for the purpose of ensuring validity of the ANOVA (Warner, 2013). Frequency histograms were analyzed for the scores for each group (see Figure 8). The Komogorov-Smirnov Test was used to test the assumption of normality of the efficacy scores for each group. The findings for group one were significant and group two were not significant (p_1

= .001, p_2 = .063), indicating an approximately normal distribution for group two but not for group one (Warner, 2013). Table 10 presents the findings of the Kolmogorov-Smirnov tests for both groups. Due to the failed Kolmogorov-Smirnov test for group one, other factors were evaluated for this group. The histogram revealed the issue as an abnormally high mode that falls above the mean. The skewness (-0.693) and kurtosis (-0.377) were both found to be within acceptable range, and visual examination of the distribution shape was deemed sufficient (Warner, 2013).

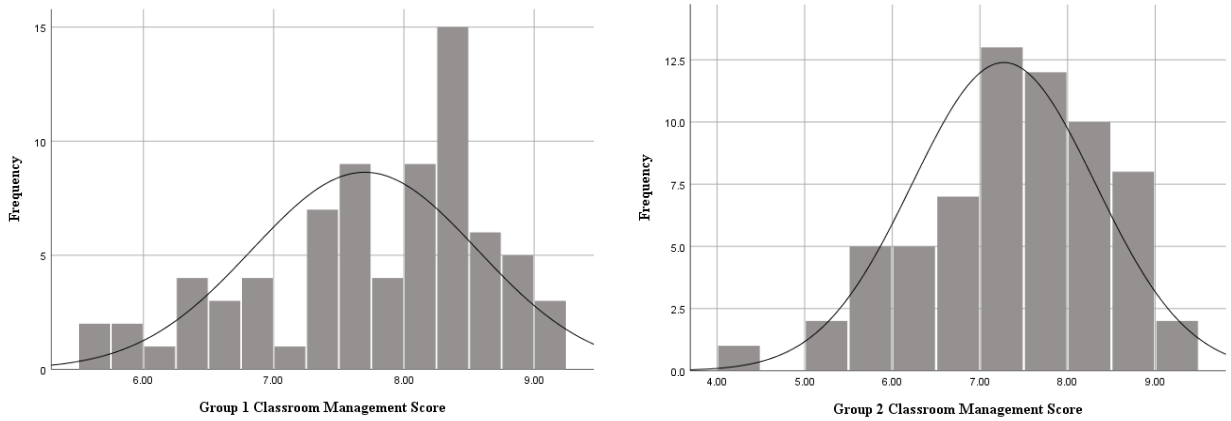

Figure 8. Frequency histograms for Groups 1 and 2 Classroom Management Efficacy Scores.

Table 10

Kolmogorov-Smirnov Test of Normality for Classroom Management Efficacy Scores

Group	Kolmogorov-Smirnov Test Statistic	*p*
Group 1 – Education degree	0.143	0.001
Group 2 – No Education degree	0.107	0.063

The Levene's Test for Homogeneity of Variance was used to test for the equality of variance of the dependent variables between each group. The result of Levene's was not

significant, $F(1, 138 = 1.779, p = .184)$ indicating that the assumption of homogeneity of variance was met (Gall et al., 2007; Warner, 2013).

Results. The results of the ANOVA were significant, $F(1, 137) = 6.317, p = .009$, indicating there was a statistically significant difference in the faculty efficacy scores for classroom management between those with an education degree and those without an education degree. The partial Eta Squared value indicates that the effect size is medium ($\eta_p^2 = 0.048$), which suggests that 4.8% of the faculty's classroom management efficacy score is explained by the presence of an education degree. Due to this significant finding, the null hypothesis for the research question was rejected. The findings of the ANOVA are presented below in Table 11.

Table 11

One-way ANOVA for the Comparison of Classroom Management Efficacy Scores between Groups 1 and 2

	Sum of Squares	Mean Square	F	Sig.
Between Groups	6.317	6.317	6.943	.009
Within Groups	7804.412	7804.412		
Total	8008.229			

CHAPTER FIVE: CONCLUSIONS

Overview

In this chapter, the study's results are discussed as it relates to the review of the literature. The implications of the results to the body of knowledge are examined, along with the limitations of this specific study. Finally, recommendations for further research are addressed.

Discussion

The purpose of this causal-comparative study was to determine if there is a statistically significant difference between faculty efficacy scores of online business faculty members who have a degree in education and those who do not. The study examined the research question: Is there a difference between the faculty efficacy scores, as defined by the Educators' Sense of Efficacy for Online Teaching Scale (Robinia, 2008), of online business faculty members who have an education degree on any level and those business faculty who do not have an education degree of any kind?

The research question separates faculty into two groups, those who have an education degree and those who do not. Within higher education, all faculty must be trained in their specific discipline. However, they are not required to have formal educational training (Berrett, 2012; Higher Learning Commission, 2016). The null hypotheses examined the faculty efficacy scores these two groups of faculty in the online business setting to determine if there were statistically significant differences. The researcher investigated whether or not having an education degree impacted the efficacy scores for these faculty. Faculty efficacy was self-reported by the participants using the Educators' Sense of Efficacy for Online Teaching Scale (Robinia, 2008). The null hypotheses included the total efficacy, student engagement, instructional strategies, and classroom management scores, which were evaluated individually.

Since research has shown that years of experience has an effect on efficacy, years of experience was considered as a control variable (Putman, 2012). However, the results of the study showed that years of experience had no effect on the efficacy scores within the sample, which is contradictory to the research.

The results of the ANOVA for the total efficacy scores are displayed in Table 5. It indicated that there is a statistically significant difference $F(1, 137) = 7.637$, $p = .006$. Since $p < .05$, the null hypothesis was rejected (Gall et al., 2007; Warner, 2013). This statistically significant difference does not explain causation; however, it does show that those with an education degree self-reported as having more total faculty efficacy than those without an education degree. This is consistent with Robinia's (2008) study found that formal educational training experiences, like having an education degree, had a positive correlation to total efficacy scores of nursing faculty. In a qualitative study by Tyrell (2015), it was found that professors and administrators had lower levels of overall efficacy and felt the need for more training since professional development alone was not enough. Another study, however, did not find a statistically significant difference in efficacy based on formalized training. The researcher explained that his deviation could be caused by the study design which looked at multiple factors and the results were compounded (Richter 2015). Shazadi et al. (2011) found in their study that secondary teachers who had an education degree had higher efficacy than those with professional degrees. Other research within education shows that formal education and additional training in teaching increases total efficacy. However, these studies focused on pre-service teachers in the K-12 environment (Fives & Buehl, 2010; Klassen et al., 2011; Velthuis et al., 2014). A study by Chang et al. (2011) looked at the difference in university faculty between departments. The results showed that those in the education department scored statistically higher than those in the

business department in total efficacy, as well as instructional strategies and classroom management. A study by Mehdinezhad (2012) had similar findings, as faculty from the education department had higher efficacy in all categories of efficacy as compared to other faculty. This supports the results of this current study which show that there is a difference in the efficacy of business faculty in higher education. This would support the concern and need for more formalized training for business professors in order to improve faculty efficacy.

The results of the ANOVA for the student engagement scores are displayed in Table 7. It indicated that there was not a statistically significant difference $F(1, 137 = 3.840, p = .052)$. Therefore, the null hypothesis was not rejected. Other studies found different purposes for higher student engagement scores. Robinia (2008) found that student engagement scores were positively correlated with number of online courses that had been taught. In this study, there was a small correlation with the other aspects of efficacy, but student engagement had the strongest correlation, which was medium. It was found in a qualitative study by Tyrell (2015) that professors felt the need for more training, especially in the area of student engagement and instructional strategies. Another study by Meristo & Eisenschmidt (2014) found that vocational school teachers in Estonia had lower efficacy in student engagement. The findings of these various studies are not consistent with results of this study. It would appear that while the educational training might influence student engagement efficacy, there are other factors that could have a stronger effect and would account for greater change.

The results of the ANOVA for the instructional strategy scores are displayed in Table 9. These results indicated that there is a statistically significant difference $F(1, 137) = 10.104, p = .002$. Since $p < .05$, the null hypothesis was rejected, and these results had the largest effect size of 6.8%. The study by Younger (2011) had the same results. This study looked at factors

influencing efficacy of career and technical faculty in higher education, utilizing the short form of the TSES which asked many of the same questions in a format for K-12 teachers. Younger (2011) found that educational training had the strongest correlation to increased efficacy for instructional strategies. A study by Fives and Looney (2009) revealed that efficacy in instructional practice was increased by those who studied education. The studies by Chang et al. (2011) and Mehdinezhad (2012) each showed the same increase in instructional strategy efficacy for those who taught education, and therefore, had educational training. Weisel (2015) also found a statistically significant difference in instructional strategy efficacy for those at a community college who went through a specific training program in educational strategies. This area is the most consistent in the literature as showing a difference for those with training in education. This would support this heightened effect of educational training on the faculty efficacy for instructional strategies.

The results of the ANOVA for the classroom management scores are displayed in Table 11. It indicated that there is a statistically significant difference $F(1, 137) = 6.943$, $p = .009$. Since $p < .05$, the null hypothesis was rejected. This is consistent with some of the literature. Chang et al. (2011) did find a statistical difference for education faculty versus business faculty. Meristo & Eisenschmidt (2014) also showed that vocational teachers in the K-12 setting had lower efficacy in classroom management than other teacher types. However, a study by Horvitz et al. (2014) found that classroom management was more greatly influenced by years of experiences than educational training. This was not consistent with the current study since years of experience did not affect efficacy.

Implications

The results of this study would support the implication that having formal training in educational practices will increase the teaching efficacy of the faculty member. When teaching in the online business setting, there are issues that faculty members will face. These issues deal with educational practices that a business professional would probably never confront in the business world. However, they are situations that are common when teaching.

The field of business education is primarily focused on training students for jobs in industry or other professional settings. This requires the business faculty members to have the necessary technical skills in the field. However, in order to effectively teach those technical and professional skills, one must be able to communicate and function within the classroom setting, even if that setting is online. The literature shows that increasing one's teaching efficacy has a direct correlation to student outcomes, achievement, and motivation (Cerit, 2010; Klassen & Tze, 2014; Mojavezi & Tamiz, 2012; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran & Woolfolk Hoy, 2007). If one wants to increase their efficacy, therefore possibly increasing student learning, they could benefit from training in education methods.

As colleges and universities look at what type of faculty they would like to hire, they should consider the educational background of the faculty. Does the faculty member have the required technical skills and training for the subject matter? Does the faculty member have any formalized educational training? By looking further into these questions, the college or university could make better decisions about faculty hiring.

Some universities have chosen to put into their Doctorate of Business Administration (DBA) programs training in educational methods. Many of the professionals who continue on with their education to receive a DBA are those who will go into the teaching profession,

especially on a part-time or adjunct basis (Davidson, 2016). Therefore, it would be ideal for these programs to train those professionals in the area of education. For example, one university has courses that include items like the following: the role of higher education, best practices in college teaching, and teaching practicums (Anderson University, 2019). Others have options for teaching or consulting tracks (Saint Leo University, 2019). Other universities might consider adding this into their programs as they continue to educate professionals in the business world. The majority of online teachers in business teach on a part-time or adjunct basis. With a program that would include teaching methods, they could potentially have greater efficacy and be more effective in their online classroom. As mentioned prior, colleges and universities could take this into consideration when hiring. They could look at the type of program the potential faculty member had acquired.

In addition to looking directly at the type of degrees the faculty member received, the college or university should consider the types of training that they provide to their current and new faculty members. Many trainings are based on technical skills, such as managing the learning management system, how to report grades or attendance, or how to communicate with the university. However, there are educational strategies that these faculty need to be trained on as well in order to increase the faculty's teaching efficacy. By finding ways to increase efficacy, student learning can be increased and faculty can be more effective. This could apply to any setting in higher education, but especially to the online and business environment.

Limitations

Several areas of limitation for this study were considered. First, this study was limited to one university in the Midwest region. While faculty were not limited to this area, the population was limited to faculty within one university. Surveying of other faculty from other universities

would be needed to ensure that the results could be assumed onto other university faculty across the county. However, due to the design of the study, the external validity would be strong enough to infer that the results would be transferable to a larger population of business faculty (Warner, 2013). Also, the sample size was a limiting factor. While it was enough to meet the requirements of the statistical tests, a greater sample size for each grouping could have improved the effect size in some situations.

As this study used a nonexperimental design, there would be weak internal validity while maintaining strong external validity (Warner, 2013). This weak internal validity means that there could be other factors that have greater effect than the independent variable (Gall, Gall, & Borg, 2010). The design was set to measure teacher efficacy at one point in time, not to test the before and after effects of teacher training.

Another limitation to the study was the method of sampling and the use of a survey that was used to collect the data. Faculty were asked to self-report. One with a lower efficacy or understanding of research might not have participated, thus skewing the data. Also, with self-reporting comes several issues. Faculty members could have ranked themselves higher, or even lower, depending on their perception of how this data would be used. It is also possible that some faculty could have misunderstood some of the questions or misrepresented themselves concerning their educational background or experience. With the use of a survey instrument, the researcher was not able to independently verify the data.

Finally, the only types of educational training that was tested for was a degree in education. It is possible that individuals who did not obtain a degree in education have had other formal types of training in educational strategies. The study did not take this into account, and as such, the non-education group may have reported higher scores if they had this type of training.

Therefore, this study would not show whether educational training for current faculty would increase efficacy.

Recommendations for Future Research

There are many opportunities for future study that would continue to advance the body of knowledge related to the educational training of business faculty at colleges and universities. Some areas for continued study include:

1. Conduct a qualitative study which would include interviews with each faculty member to reduce the limitations of the online survey to get a better sense of the faculty member's feelings about their preparedness to teach in the business setting.
2. Conduct a qualitative study to determine efficacy of the faculty member from the students' perspective.
3. Combine quantitative and qualitative procedures for a mixed methods study to determine if faculty self-efficacy correlates to the student's perception of teaching ability by the faculty member.
4. Expand the size of the study to schools from around the country.
5. Expand the scope of the study to include other disciplines taught at the university level, not just those in business.
6. Redefine the study in order to examine the correlation between the degree type and level with efficacy outcomes, using a regression analysis to look for other factors that might affect the faculty member's efficacy.
7. Examine the differences in types and levels of education degrees.
8. Facilitate a study for schools of business that teach onsite rather than in the online setting.

9. Consider a study to determine if other types of training, rather than just formal educational training, will have the same effect on increasing teacher efficacy.
10. Conduct a study that measures faculty self-efficacy before training and after training to determine the effectiveness of the training.
11. Conduct a study to measure the effects of years of experience on teacher efficacy in an expanded higher education population, including online and onsite.

Valuable insight into effective teaching in higher education could be gained by any of these suggested areas of future study.

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APPENDICES

APPENDIX A. Michigan Nurse Educators' Sense of Efficacy for Online Teaching Scale

1. How much can you do to help your students think critically in an online class?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

2. How much can you do to get through to disengaged students in an online class? (e.g. passive learners who might lurk online, but fail to actively contribute to their own learning.)

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

3. How much can you do to control disruptive behavior (e.g. disrespectful posting or failure to adhere to outline policies for posting) in an online environment?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

4. How much can you do to motivate students who show low interest in online work?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

5. To what extent can you make your expectations clear about student behavior in an online class?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

6. How much can you do to get students to believe that they can do well in an online class?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

7. How well can you respond to difficult questions from online students?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

8. How well can you establish routines (e.g. facilitate or moderate student participation) in coursework to keep online activities running smoothly?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

9. How much can you do to help online students' value learning?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

10. How much can you gauge student comprehension of what you have taught in an online course?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

11. How well can you craft questions or assignments that require students to think by relating ideas to previous knowledge and experience?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

12. How much can you do to foster individual student creativity in an online course?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

13. How much can you do to get students to follow the established rules for assignments and deadlines during an online class?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

14. How much can you do to improve the understanding of a student who is failing in an online class?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

15. How much can you do to control students dominating online discussions?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

16. How well can you establish an online course (e.g. convey expectations; standards; course rules) with each group of students?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

17. How much can you do to adjust your online lessons for different learning styles?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

18. How much can you do to use a variety of assessment strategies for an online course?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

19. How well can you develop an online course that facilitates student responsibility for online learning?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

20. To what extent can you provide an alternative explanation or example when students in an online class seem to be confused?

Nothing Very Little Some Quite a Bit A Great Deal

1 2 3 4 5 6 7 8 9

21. How well can you respond to defiant students in an online setting?

Nothing Very Little Some Quite a Bit A Great Deal

1 2 3 4 5 6 7 8 9

22. How well can you structure an online course that facilitates collaborative learning?

Nothing Very Little Some Quite a Bit A Great Deal

1 2 3 4 5 6 7 8 9

23. How well can you structure an online course that provides good learning experiences for students?

Nothing Very Little Some Quite a Bit A Great Deal

1 2 3 4 5 6 7 8 9

24. How well can you provide appropriate challenges for very capable students in an online environment?

Nothing Very Little Some Quite a Bit A Great Deal

1 2 3 4 5 6 7 8 9

25. To what extent can you use knowledge of copyright law to provide resources for online students?

Nothing Very Little Some Quite a Bit A Great Deal

1 2 3 4 5 6 7 8 9

26. How well can you navigate the technical infrastructure at your institution to successfully create an online course?

Nothing Very Little Some Quite a Bit A Great Deal

1 2 3 4 5 6 7 8 9

27. How well can you navigate the technical infrastructure at your institution to successfully teach an established online course?

Nothing Very Little Some Quite a Bit A Great Deal

1 2 3 4 5 6 7 8 9

28. To what extent can you use asynchronous discussions to maximize interactions between students in an online course? (Asynchronous means not online at the same time.)

Nothing Very Little Some Quite a Bit A Great Deal

1 2 3 4 5 6 7 8 9

29. To what extent can you use synchronous discussions (e.g. same time chat rooms) to maximize interaction between students in an online course?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

30. How well can you use computers for word processing, internet searching and e-mail communication?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

31. To what extent does your comfort level with computers facilitate participation in online teaching?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

32. How well can you navigate the internet to provide links and resources to student in an online course?

Nothing		Very Little		Some		Quite a Bit		A Great Deal
1	2	3	4	5	6	7	8	9

APPENDIX B. Permission Letter to Use Michigan Nurse Educators' Sense of Efficacy for Online Teaching Scale

Kristi Robinia <krobinia@nmu.edu>

Fri 6/28/2019 7:21 AM

To:Black, Michaelia <mblack5@liberty.edu>;

Congratulations Michaelia! I'm sure the last two years seem a blurr. You do have my permission to include the tool within your dissertation, I look forward to reading about your results.

Kristi Robinia PhD, RN
Associate Dean and Director | School of Nursing
Northern Michigan University
906-227-2042
1401 Presque Isle Ave, Marquette, MI 49855
*Located on the beautiful shores of Lake Superior upon the ancestral homelands of the Anishinaabeg

Robinia, Kristi J <krobinia@nmu.edu>

Mon 1/16/2017 10:54 AM

Inbox

To:Black, Michaelia <mblack5@liberty.edu>;

1 attachments (20 KB)

FinaltoolMNSEOT.docx;

Dear Michaelia:
You are most welcome to use the tool and modify it so that it makes sense for your population under study. I hope you find it useful for your research- Best of luck with your dissertation!

Sincerely,

Kristi Robinia

Kristi Robinia PhD, RN
Professor | School of Nursing
Northern Michigan University
906.227.2484 | fax: 906.227.1658 |
3312 New Science
1401 Presque Isle Ave, Marquette, MI 49855
krobinia@nmu.edu

APPENDIX C. IRB Approvals

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

October 11, 2017

Michaelia R. Black
IRB Exemption 3005.101117: A Comparative Analysis of Teacher Efficacy Scores of Online Business Faculty Based on Educational Background

Dear Michaelia R. Black,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under exemption category 46.101(b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

> (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
> (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Please note that this exemption only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
The Graduate School

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UNIVERSITY.
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[redacted] **IRB Authorization Agreement**

Name of Research Project	A Comparative Analysis of Teacher Efficacy Scores
Principal Investigator(s)	Michaelia Black, Principal Investigator Roger Stiles, Research Advisor
[redacted] IRB Protocol Number	1109.17
Sponsor or Funding Agency, if any	NA

Name of Institution or Organization Providing IRB Review	Liberty University IRB
OHRP Federal-wide Assurance (FWA) Number	FWA
IRB Registration #	IRB

The Officials signing below agree that [redacted] may rely on the above-named Institutional Review Board (IRB) that is providing IRB review for initial review, approval and continuing oversight under its Federalwide Assurance (FWA) for the project identified above.

The relied-upon IRB agrees that its initial review, approval and continuing oversight of the above-captioned project satisfies the requirements for protection of human subjects at 45 CFR 46. The relied-upon IRB agrees to notify [redacted] of any changes that take place in the protocol during the lifetime of the project. [redacted] reserves the right to remove its approval for the project if there are any violations of 45CFR46 or related guidelines and regulations of the US Department of Health and Human Services, Office of Human Research Protections.

This agreement applies only to the project named above and to no other research projects in which [redacted] may be engaged at the present or in the future.

This document should be kept on file at both institutions and must be provided to OHRP upon request.

APPENDIX D. Email Invitation to Participate

Dear [redacted] School of Business Online Instructor,

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree in Educational Leadership. The purpose of my research is to explore the differences in teaching efficacy of online business faculty with differing educational backgrounds, and I am writing to invite you to participate in my study.

If you are 18 years of age or old, are online business faculty, and are willing to participate, please click on the link below. It should take 20 minutes or less to complete the online survey. Your participation will be completely anonymous, and no personal, identifying information will be collected.

A consent document is provided as the first page you will see after you click on the link. The consent document contains additional information about my research, but you do not need to sign and return it. Please click on the survey link at the end of the consent information to indicate that you have read the consent information and would like to take part in the survey.

If you are interested in the results of this research, please feel free to contact me at [redacted] at any time.

<link>

Thank you for sharing your information and helping me with this research.

God bless,

Michaelia R. Black

Doctoral Candidate, Liberty University

[redacted]

APPENDIX E. Welcome Message

You are invited to participate in a research study about the teaching efficacy of online business faculty. If you would like to participate, please read the following consent document.

APPENDIX F. Consent for Participation in an Electronic Survey

You are invited to participate in a research study about the teaching efficacy of online business faculty. If you would like to participate, please read the following consent document.

I certify that I am over the age of 18 and am participating in this survey of my own freewill. I understand all survey answers will be held in strict confidence and may be used by the researchers for future publications. I understand that there are no known risks of participating in this survey beyond what one would encounter in everyday life and that the benefits would be to add to the body of research in the areas of online higher education and faculty efficacy.

I understand that the purpose of the research is to determine if educational background has a difference on the faculty efficacy scores of online business faculty.

I authorize Michaelia Black, a doctoral candidate in the School of Education at Liberty University and adjunct faculty member of the [redacted] School of Business and any designated research assistants to gather information regarding my responses to questions asked on this survey. This survey will take approximately 20 minutes to complete and will ask questions about my perception of teaching in the online classroom. If I agree to take part in this study, I understand that I will be asked to complete the survey questions listed on the following pages. I understand that my responses will be utilized for research and may become part of a published journal article or scholarly presentation.

I recognize that I will not receive monetary compensation for participating in this survey. Conversely, there are no monetary costs to me for participating.

I certify that my participation in this survey is wholly voluntary and recognize that I may withdraw at any time prior to completing the survey. I understand that I am free to skip any question I do not feel comfortable answering. There is no obligation for my participation, and I may withdraw at any time prior to submitting the survey.

I understand that Michaelia Black will be available for consultation should I have any additional questions regarding the research being conducted.

I understand that the answers given to this survey will be maintained by the researcher for a period of no less than three years after the close of the study. The researcher will store the data electronically on a firewalled server, which uses password protected access.

I release any claim to the collected data, research results, publication of or commercial use of such information or products resulting from the collected information.

If I have any questions or comments about this research project, I can contact:

- Michaelia Black at [redacted], or Dr. Roger Stiles at rhstiles@liberty.edu

If I have concerns about the treatment of research participants, I can contact the Institutional Review Board (IRB) at [redacted].

If you have any questions or concerns regarding this study and would like to talk to someone from Liberty University other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

The survey is designed not to collect e-mail addresses or Internet protocol (IP) addresses. To further maintain the anonymity of the survey, please do not include your name or any other information by which you can be identified in any comment boxes that may be included in the survey.

BY CLICKING ON "TAKE MY SURVEY," I ACKNOWLEDGE THAT I HAVE HAD THE OPPORTUNITY TO READ THIS CONSENT FORM, ASK QUESTIONS ABOUT THE RESEARCH PROJECT AND AM PREPARED TO CONSENT TO MY PARTICIPATION IN THIS SURVEY.

APPENDIX G. Demographic Questions

Please indicate your gender:

Male _____

Female _____

What was your age on your last birthday?

_____

Please identify the highest degree that you hold:

Bachelor's _____

Master's _____

Doctorate _____

Other _____

Please indicate type of education degree you hold at each level, if applicable. *(Education degrees are those that would be housed with a College/School of Education that teach students how to teach.)*

Associate _____

Bachelor's _____

Masters _____

Specialist _____

Doctorate _____

Other (please specify) _____

None _____

How many years of experience do you have teaching online business courses?

_____