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Impact of Online Orientation for First-Time Online Students on Retention, Academic Success, and Persistence

Lynda Marshall
Walden University

Walden University

College of Education

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Lynda Marshall

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Review Committee
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Dr. Kay Persichitte, Committee Member, Education Faculty
Dr. Gerald Giraud, University Reviewer, Education Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
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Abstract

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by

Lynda Marshall

MA, Webster University, 2005

BS, University of South Carolina, 1993

Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

A challenge faced by higher education is whether online orientation that is offered before the start of class can impact academic performance for online students. The purpose of this quantitative research study was to determine if there are significant differences in retention, academic success, and persistence between first time online students who have participated in an online orientation and those who did not participate and if there was a significant difference in retention, academic success, and persistence by gender of first-time online students. The sample for this study was extracted from archived data originating from 433 first-time online undergraduate students at a 2-year technical college in South Carolina. Student retention was measured by midterm grades, academic success as measured by final course grades, and persistence as measured by enrollment in at least 1 online class in subsequent semester. The results of this study indicated a high level of statistical significance in male and female first-time online students with academic success as well as overall persistence in students who successfully completed online orientation with a grade of 80 or better. Additionally, statistical significance was found in relation to male and female first-time online students and retention. These results can support a shared purpose among educational leaders to transform online education into a collaborative learning environment that promotes growth, competence, and a thriving learning community. The results of this study reinforced awareness and understanding among educational leaders at colleges and universities about online orientation and its impact to online students' success.

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Dedication

This is dedicated to my mom (October 1945 – November 2013) and my two caring children. Mom, you taught me well. I miss you every day. Clay and Brandon, thank you for reminding me to write even when I didn't feel like writing.

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Dr. Smolka and Dr. Persichitte thank you, thank you, and thank you for…

- believing in me
- for your patience in correcting my writing
- for your years of excellent guidance
- for your relentlessness

Thank you for helping me get to the finish line. You have enriched my learning experience and I am forever grateful.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Introduction

Students worldwide are turning to online education mainly because of course flexibility and convenience (Brown, Keppel, Hughes, Hard, Shillington, & Smith, 2013). The perception that online education is available anywhere and the concomitant notion of anytime learning are appealing to students of the 21st century. Because of the flexibility of online learning, approximately 32% of today's college students have enrolled in at least one online class throughout the duration of their program of study (Aslanian & Clinefelter, 2013). With 2.8 million post-secondary students enrolled in online education in America, approximately 40% of online students are identified as out of state (Allen, Seaman, Poulin, & Straut, 2016). In education, this equates to a revolution in teaching and learning. Due to this shift in the learning environments, institutional leaders and administrators of distance education must be kept informed of relevant elements that impact success and retention in online learning. First year students are traditionally introduced to higher education by way of new student orientation designed to better prepare students for the college life and learning journey. However, this is not the case for online students. According to Bawa (2016), approximately 20% of online students are failing in online classes. As part of a solution to retention in higher education, some colleges are implementing online orientation prior to the start of online courses to better prepare students for the online learning environment (Brewer & Yucedag-Ozcan, 2013; Waldman, Perreault, Alexander, & Zhao, 2014).

Orientations for new online students should be appropriately designed to adapt to student learning style. Common problems like instructor-to-student and student-to-student communications are more prevalent in online learning than communications in traditional classes (Waldman et al., 2014). The disadvantage most first time online students encounter upon entering the online learning environment is a lack of understanding regarding how technology works in the learning management system and how to navigate through the list of links and buttons (Kelly, 2013). Online students are often offered little to no orientation while traditional classroom students are commonly provided with a full class of orientation during the first week and before assignments are issued (Jones, 2013). Online learning requires students to be technology savvy in addition to self-motivated and self-disciplined (Dray, Lowenthal, Miszkiewicz, Ruiz-Primo, & Marczynski, 2011). Online enrollment is increasing across colleges and universities (Allen et al., 2016). The shift in the availability to obtain a degree online makes it more imperative for higher educational institutions to require online student orientation to all first-time online students.

Brewer (2016) contended that orientation for online programs provide much needed support and resourceful information that enables online students to be successful. Therefore, it is prudent that educators recognize the importance of online orientation to student success in the continuously evolving online learning environment. The intent of this study is to inform decision makers in higher education on the value of online orientation to first time online student success and retention rates.

Background

The integration of technology in education has provided opportunities for students to obtain higher education degrees in an e-learning environment. E-learning is a platform that enables learning to occur for students at anytime and anywhere through distributive technologies (Goda et al., 2013). This mode of learning allows students to balance school, work, and family while working toward their degree. In order for higher educational infrastructure to survive in the future, higher education should be willing to adapt to new ways of designing and teaching online courses.

Online learning is still evolving just like emerging technology and its practice. Like emergent technologies, the impact of online learning on the educational community is still at the beginning of research, with better understanding of the online learning phenomenon still needed. The "big picture" perspective on 21st century learning is that researchers are striving to catch up with emerging technologies in online education (Veletsianos, 2016). While much research has been conducted on the role of online teachers and a social approach to learning (Fetzner, 2013), there have been few research studies on empowering students with adequate learning tools that leads to student learning success in the online environment (Ha, 2016). According to Public Agenda (2015), students are more likely to successfully complete their program of study if they have been properly oriented to information that will help them succeed through the duration of the course. Hence, the premise of my study is based on Burns (2013) who showed high attrition and low persistence rates amongst online students who experienced challenges with online learning. This study also looked at Hart (2012) on persistence

factors that are indicators of online success and completion as well as Lokken and Mullins (2015) regarding the academic success rate comparing online students and traditional students at community colleges.

Furthermore, Bawa (2016) confirmed the need for further research on persistence, retention, and success in online education. Jones (2013) contended that online orientation is effective in better preparing online students for success in the online learning environment. Gleicher (2013) noted that the role of faculty and support services do have some influence on retention rate with the online student population.

In addition to retention and persistence, the academic success rate aspect of this study draws on studies by Dray, Lowenthal, Miszkiewicz, Ruiz-Primo and Marczynski (2011) on student readiness for online learning through self-assessment survey and developmental study by Cho (2012) that supports the impact online orientation has on online learning success. Kelly (2013) gave insight on the need for further research on the impact of online orientation to first time online students' persistence, academic success, and retention.

The purpose of this study was to provide a richer and deeper understanding of online orientation's impact on first time online students' retention, academic success, and persistence to higher education administrators. The need for adequate online orientation prior to the first day of online class is imperative to online student success (Brown et al., 2013; Smith, 2011). This research fills a gap in the need for further research on online orientation based on supporting research studies. While this study offers insight on the importance of online orientation to first time online students' success, further study is

needed on this topic to better inform educators, administrators, and leaders at universities and colleges (Waldman et al., 2014; Yu & Richardson, 2015).

Problem Statement

Online education standards should be similar to traditional learning and align with the institution's mission in providing quality education to students (Brown & Keil, 2014). There is an 89% drop out rate which contrasts with the rapid increase in online enrollment across all higher educational institutions (Allen et al., 2016). College students enrolled in online courses have a 20% higher attrition rate than traditional campus students (Bawa, 2016). Success in the online learning environment is dependent on (a) accessibility of online content, (b) availability of web resources, and (c) readily accessible online help services (Gönül & Solano, 2013). The problem throughout online courses is the need for clear guidance regarding critical learning tools and course content the first week of online class (Ha, 2016). Students new to online education are often confused during the first week of online class (Moon-Heum, 2012). Unfortunately, online students are not receiving adequate support as they enter online classes (Allen & Seaman, 2013; Lokken & Mullins, 2015). According to Public Agenda (2015), colleges should be held accountable for providing tools to students that will enable them to succeed in their studies. Online students are expected to be technology savvy and knowledgeable of the learning management system used for their online learning (Ryan & Latchem, 2016). Burn (2013) showed an outcome for students enrolled in an all online program showed a 31% high attrition rate.

Purpose

The purpose of this quantitative study was to determine if there was a significant difference in retention, academic success, and persistence between first time online students who participate in an online orientation and those who do not participate. The study was also interested in finding if there was a significant difference in retention, academic success, and persistence between male and female first-time online students. The population of interest in this study was extracted from archived data originating from a designated two-year technical college in South Carolina.

The first three weeks of online classes are regarded as critical days in retaining students (Lunde, 2015; UVU, 2015). Retention was measured by first-time online students who remained in their online class after midterm exam. Academic success was measured by first-time online students' final course grades. Lastly, persistence was determined by online students who enrolled in an online class in subsequent semester.

Research Questions and Hypotheses

The following research questions provided an understanding of whether online orientation impacts first-time online students' persistence, academic success, and retention (see Appendix A).

Research Questions (RQ):

RQ1: Is there a significant difference in retention as measured by midterm grades of first-time online students who participated in online orientation and passed with grade of 80+, those who did not participate? Is there a significant difference in retention between male and female first-time online students as measured by midterm grades?

H_{01}: First-time online students who participated in an online orientation will not have a significantly higher retention rate than those who did not and their gender.

H_{A1}: First-time online students who participated in an online orientation will have a significantly higher retention rate than those who did not and their gender.

RQ2: Is there a significant difference in academic success as measured by final class grades of first-time online students who participated in online orientation and passed with grade of 80+and those who did not participate? Is there a significant difference in academic success between male and female first-time online students as measured by final grades?

H_{02}: First-time online students who participated in an online orientation will not have a significantly higher academic success rate than those who did not and their gender.

H_{A2}: First-time online students who participated in an online orientation will have a significantly higher academic success rate than those who did not and their gender.

RQ3: Is there a significant difference in persistence as measured by enrollment in at least one online course in the subsequent semester of first-time online students who participated in online orientation and passed with grade of 80+ and those who did not participate? Is there a significant difference in persistence between male and female first-time online students as measured by enrollment in at least one online course in the subsequent semester?

H_{03}: First-time online students who participated in an online orientation will not have a significantly higher persistence rate than those who did not and their gender.

H_{A3}: First-time online students who participated in an online orientation will have a significantly higher persistence rate than those who did not and their gender.

In addition to the research questions, the independent variables (IV) identified in this study were first-time online students who participated in an online orientation and passed with a grade of 80+ and those who did not participate in an online orientation. The other independent variables investigated in this study were male and female first-time online students who participated and did not participate in online orientation. The dependent variables (DV) identified in this study were retention (DV1), academic success (DV2), and persistence (DV3).

Conceptual Framework

Learning theories grounded in educational technology and distance education are the premise of this research study. Siemen (2004) stated that learning is a connection of network nodes (i.e. students, teachers, friends, and subject matter experts) sharing information that leads to the building of knowledge. This aligns with Vygotsky (1978), who contended that learning occurs and is enriched through social interactions with people who are more knowledgeable than the learner. Likewise, Kift's (2009) first year experience principle recognized and acknowledged the complexity of online learning through campus wide support for first-year students. Aligned with the belief that learning is enhanced through socialization, connectivism theory also addresses the transformation of traditional learning to actionable learning through real world experience and technology in an online platform (Tschofen & Mackness, 2012; Siemens, 2014).

Connectivism

Since social learning is one of the key components to virtual learning, connectivism theory promotes learning through life experiences, which entails interacting with other learners and sharing information. Siemen (2014), posits that connectivism learning theory engage students into real-world learning through social interactions with other students across the internet via the use of technological nodes. With that said, connectivism is an important theory for this study as it places value on the role social and digital learning plays in the online learning environment. Bawa (2014) argued that online learning is dependent on adaptability to the online environment and connection with technology that makes learning meaningful to online students.

Constructivism

Like connectivism theory, constructivism theory involves engagement with other learners to enhance the learning experience, and from experience, cognitive development is gained. In this instance, social interactions in the surrounding environment with those more knowledgeable foster a robust learning experience. Constructivist theory draws on sharing of knowledge and life experiences with others within the learning environment to transform learning into a richer experience (Dewey, 1939). This approach to learning aligns with the importance of allowing students to practice and experience the breadth of online learning.

First Year Experience Principle

Students' first-year experience is a factor in determining retention and success rate for online learners. As Kift (2015) said, retention and success rate of first-year

college students is dependent on six key elements – Transition, Engagement, Assessment, Evaluation and Monitoring, Design, and Diversity (TEAEDD). Of the six elements, the transition phase is critical in ensuring support, persistence, and success to first-year students' learning journey in higher education. The core of the transition element is for colleges to focus on offering continuous support throughout students' first-year experience in higher education. The first-year experience principle aligns with this study's focus on the need for support and mentoring students as they transition, for the first time, into online learning.

Nature of the Study

This quantitative research study was interested in examining the impact online orientation has on first-time online students based on retention, academic success, and persistence. The study investigated first-time online students who participated in an online orientation versus those who did not participate. Additionally, this study sought to examine if there were significant difference in gender retention, academic success, and persistence rate based on participation, participation with a passing grade of 80+, and no participation in online orientation. Because there are three predictors in this study, a test analysis specified if there were significant differences in the relationships between each categorical variable and a two-way ANOVA hypothesis test was used to validate findings from the data (Frankfort-Nachmias & Nachmias, 2008).

Rationale

Connectivism, constructivism, and the first-year experience theoretical frameworks offer support to understanding the value of online orientations to first-time

online students' success. The theories stressed that learning is enhanced when students are continuously interacting with their instructors and fellow students. Connectivism and constructivism theories view social interactions and surrounding environment as critical learning experiences. The first-year experience principle emphasized the importance of mentoring students throughout the school term. All three theoretical frameworks offer additional insight to this research study in as far as the efficacy of online orientation to persistence and retention rate amongst online students.

Variables

The independent variables in this study are first-time online students who participated in an online orientation and passed with a grade of 80+ and those who did not participate in an online orientation. The dependent variables are retention, academic success, and persistence rates. Frankfort-Nachmias and Nachmias (2008) contended that scientific research is interested in knowing if change to the dependent variable was caused by the independent variable. Causal inference in the experiment is validated based on the following conditions: covariation between the independent and dependent variables, third variable effect on the covariant, and time order of occurrences in the variables (Edmonds and Kennedy, 2017).

Methodology

Data in this study was extracted from a two-year technical college online orientation session. The data analysis investigated whether persistence, success, and retention in online learning for first-time students is impacted by an online orientation. A two-way ANOVA analysis was used to determine if any significant difference exists

between two or more variables (Weiss and Sosulski, 2003). The quantitative outcome in this study seek to discover whether persistence, academic success, and retention rates of online students are dependent on participation in online orientation.

Definitions of Terms

Terminologies identified below are used throughout the study with other interchangeable words that share similar meanings.

e-Learning: This study defines e-Learning as learning content materials deliverable only via the Internet through desktop, laptop, tablet, and smartphone devices (Clark & Mayer, 2016).

Online learning environment: The online learning environment is also known as the learning management system with course content materials viewable 24/7 on the internet (Harasim, 2017).

Online student or learner: Students who take online classes and view content materials in an online learning management system (Cole, Shelley, & Swartz, 2014).

Online orientation: Orientation in this case can take place in a physical classroom or on the Internet and provides directions about the online learning classroom and expectations on conduct and engagement (Cho, 2012).

Persistence: This study examines persistence in enrollment based on student participation in online orientation and self-efficacy (Brewer & Yucedag-Ozcan, 2013).

Retention: This study defines retention as the number of online students who complete online classes (Bawa, 2016).

Success: In this instance, it is defined as online learners who display persistence throughout their online course by completing assignments as described in the course syllabus (Burns, 2013).

Assumptions

The study assumes that self-discipline and adaptation traits are determinants that drive those who possess such traits to participate in online orientation. In addition, students who possess such traits tend to succeed in the e-learning environment (Shea & Bidjerano, 2014). This study also assumes that students who do not participate in online orientation do not possess such traits that, according to Cole, Shelley, & Swartz (2014) and Fetzner (2013), are recognized as motivators to succeed in an online learning environment. In addition to motivational traits, the author assumes that students who do not participate in online orientation are not required to do so by their institution. Furthermore, the lack of participation in online orientation is assumed to be due to content materials that are perceived by students as less important (Yu & Richardson, 2015). The research also assumes that all colleges offer online courses at the time of this writing. Lastly, the study assumes that students who do not participate in online orientation are transfer students who may have taken online orientation at a previous institution.

Scope and Delimitations

This study focused on the population of first-time online students at a two-year technical college. The quantitative analysis utilized archived data to draw on the findings. The conceptual framework used in this study were connectivism learning theory

(Siemens, 2014), constructivism learning theory (Vygotsky, (1978), and first-year experience principle (Kift, 2015). As mentioned earlier, all three frameworks aligned with the study's interest on retention, academic success, and persistence rate based on participation in an online orientation.

The population in this study was first-time online students enrolled in the 2016 fall term. The college used in this study was a small, southern, two-year technical school. Furthermore, sample populations selected are students who are enrolled in at least one or more online courses for the first time and first-time online students enrolled in at least one or more online courses in their first year of college. These students were selected as prospects of the study based on the criteria of being a first-time online student and enrolled in at least one online class.

Limitations

This study recognized lack of comparison data from other institutions as limitations to data. The student population at the two-year technical college was may not be a good representation of the overall population of college students across the United States. Data was also limited to first-time online students and was not focused on student status (i.e. freshman, sophomore, transient, and working adult students) and student age. This study was also limited to students who are enrolled in online courses for the first time and was not focused on students who have taken several online courses. Lastly, the data used in this study only captured conditions that occurred in the 2016 fall term.

Significance

Higher educational institutions should be concerned with the success and retention of their online student populations as online classes continue their exponential growth (Lorenzo, 2012; Allen & Seaman, 2013). This is evident in the 32% increase in online class enrollment at universities and colleges across the United States within the last 5 years (Aslanian & Clinefelter, 2013). Lokken and Mullins (2014) said that of the 1.8 million community college students, approximately 26% reported having taken at least one online class throughout the duration of their study. The demands for online education are driving academic institutions to offer online classes and programs to its population of students and the larger community. While striving to meet the online educational demands from citizens and businesses in the community, academic administrators fail to understand the culture of online learning and elements needed to sustain online learners. Obviously, universities and colleges alike are diligent in their quest to retain the online student population. Until support is provided from institutional leaders, universities and colleges will continue to experience high attrition rates with online learners (Boston, Ice, & Gibson, 2011; Hachey, Conway, & Wladis, 2013).

This study seeks to argue that online orientation should be integrated as an essential skills training for all online students. For example, traditional new students are required to attend new student orientation to better prepare them for college. Likewise, online orientation should be required of all online students but especially first-time online students in order to better prepare them for the online learning environment. This study

strived to gain understanding from previous research findings on first-time online students' experiences in the online orientation session.

While community and technical colleges are responding to high demands for online courses by offering more online programs, two-year colleges are not requiring online orientation for students enrolled in online classes (Shea & Bidjerano, 2014). Values regarding online student orientation must be acknowledged and well received by institutional decision-makers, distance education administrators, online faculty, and online students alike for online education to be a viable delivery and learning platform (Aslanian & Clinefelter, 2013). This study provided a comprehensive understanding of the effectiveness of online orientation regarding first-time online students' success and retention rate. In other words, insight gained from this study should encourage institutional decision makers to implement a required online student orientation for first-time online students. It is the hope of the author that this study provided insight to decision makers in their respective departments the benefits of online orientation to students' success in online learning. This study differentiates itself from studies on distance education and virtual classroom learning by focusing on the significance of providing support to first-time online students throughout the duration of the first-time online experience. Based on the findings from this study, stakeholders and institutional decision makers can make informed decisions about establishing mandatory online orientation to ensure adequate training is offered to first-time online students that leads to retention, success, and persistence in online learning.

Allen and Seaman (2013) posited that while online orientations are being offered at some colleges, there are other universities that do not offer online orientation. To that end, higher educational institutes that do not require online orientation should reconsider online orientation as a prerequisite class for first-year online students enrolled in at least one online course, based on the results disclosed in this report. Additionally, the findings in this study revealed that there is a need to orient existing online students to the online learning environment. More importantly, it is the hope of the author that higher educational administrators and stakeholders consider offering online orientation as stackable training levels based on criteria like familiarity with online learning, grade point average, and withdrawing from online classes due to failing grades.

Summary

According to Kelly (2013), students new to online education are confused the first week of online class. Bawa (2016) said that college students enrolled in online courses have a 20% higher attrition rate than traditional school students. Hence, the rising issue at most colleges is the need for clear guidance regarding critical learning tools and course content during the first week of online classes. The need for adequate online orientation prior to the first day of online class is imperative to online student success (Brown et al., 2013). The purpose of this quantitative study is to determine if there is a significant difference in retention, academic success, and persistence based on first-time online students who participate and those who do not participate in online orientation. Furthermore, this study seeks to find if there was a significant difference in retention, academic success, and persistence based on gender.

Connectivism and constructivist theories are the framework of this study. The theories touch on the social aspects that are instrumental in online learning. Also incorporated into this study is the principle of first year experience. Kift (2015) said that first-year students are more likely to experience success if given support through the duration of the semester. The principle aligns with the core of the research in that adequate training and guidance are tools that enable online students to better prepare for online courses and make them more likely to succeed.

Students entering college for the first time are traditionally introduced to the college life and culture via mandatory new student orientations. New student orientations are traditionally offered at colleges and universities to first-time students to better prepare students for higher education. However, this is not the case for online students. According to Valle (2016), some higher educational institutions evidence lack of online support and guidance even though persistence and retention rates in online classes are at a steady high. Hence, the goal is to determine the persistence, academic success, and retention of online students based on participation in an online orientation. The premise of this study is to help educational leaders understand the value of providing guidance at the start and during the online course to aid online students' persistence, academic success, and retention.

Chapter 2: Literature Review

Introduction

The purpose of this quantitative study is to determine if there is a significant difference regarding persistence, academic success, and retention between first-time online students who participate in an online orientation and those who do not participate. Furthermore, this study seeks to find if there was a significant difference in retention, academic success, and persistence based on gender.

Therefore, the premise of this literature review is to examine, identify, and define areas of study that support this research topic on the impact of online orientation on first-time online students. The goal of this chapter is to provide a comprehensive investigation of theories of learning in relation to the online learning environment. Concepts of persistence and retention in online students will be synthesized. Lastly, the chapter identified gaps in literature for future research.

Based on recent literature reviews, there is a significantly high attrition of online students due to inadequate online training and support (Yu & Richardson, 2015). Bawa (2016) said students enrolled in online courses have a 20% higher attrition rate than traditional school students. New students to online education are unprepared for the rigorous demands of online learning because of the misconceptions about online course requirements (Pratt, 2015). Additionally, the other intent of this study is to provide quantifiable data to institutional leaders and online administrators regarding the value of online student orientation for persistence and retention rates in first-time online students.

Philosophically and socioeconomically, the continuing existence of any society lies in changing traditional ways of education (Schramm, 2002). At the time of this

writing, students are choosing online education for its flexibility, convenience, and exclusive online only programs (Brown et al., 2013). Research in online education in America over a 10-year period reveals approximately 6.7 million college students have enrolled in at least one online class during their college years (Allen & Seaman, 2013).

As online enrollment increases across colleges and universities, the credibility of online learning comes into question from academics and employers. Lokken and Mullins (2013) showed that both online students and employers are indecisive regarding whether online education is of equal or better quality than traditional education. Conversely, Waldman et al. (2014) found in their research study, based on a survey of 300 responses, students new to online education and those proficient in online education concur that they received quality learning in their online classes. In the same research study, students new to online education felt that the quality learning stem from the rigor discussion assignments required of them.

As new online programs continue to increase in popularity, colleges and universities are troubled with high noncompletion rates amongst the online student population. Waldrop (2013) asserted that the availability of online programs is not the issue; instead, the problem facing higher education is the rising number of non-completers in online programs. More specifically, higher education is experiencing high attrition rates amongst the first-time online student population compared to freshman students in traditional classroom settings (Lloyd, Steven, Byrne, Michelle, & McCoy, 2014). To date, students new to online learning need proper online orientation that offers better guidance in areas of technology, learning environment, and proper social

interactions in the discussion forum (Dray, Lowenthal, Miszkiewicz, Ruiz-Primo and Marczynski, 2011).

Online orientations for first-time online students must be appropriately designed to adapt to the online learning environment (Jones, 2013). Effective orientation requires more than just orienting students to the technological aspects of online learning. First-time online students need to be aware of various success factors such as time management and self-discipline (Kift, 2015). Virtual learners should receive adequate training in their online classes before the start of class to ensure success (Brown et al., 2013).

The purpose of online student orientation is to ensure that students receive adequate orientation to help them succeed as online learners. Therefore, it is prudent that educators recognize the importance of online orientation to student success. This study may help decision makers in higher education recognize the value of online orientation for first-time online student success and retention rates. Moreover, the same institutional leaders may be convinced to support mandatory online orientation with the same vigilance as mandatory new student orientation at traditional universities and colleges.

Literature Search Strategy

To substantiate credibility on the importance of this research work, the literature review investigates multiple scholarly sources to provide evidence on the value of online student orientation for first-time online students. This study sought scholarly articles and journals on online education through the following electronic databases Walden University Library, ProQuest Central, ProQuest Dissertation and Thesis, ERIC database,

ERIC and Education Research Complete Simultaneous Search, and EBSCOHost. Additionally, web-based data sources used for further exploration on online education and online orientation include the following: Primary Source Electronic Books, Google Scholar, Merlot, Taylor & Francis Online, and The Teacher Reference Center. The terms and phrases are as follows: *first-time online students*, *new online students*, *first-year college students*, *community college online students*, *online student success*, *online classes*, *online courses*, *online student retention*, *online student attrition*, *distance education in 21st century*, *21st century students*, *higher education initiative to 21st century learning*. The 2012–2016 customized date range was used to retrieve the most recent research articles in this literature review.

In addition to journal reviews, SAGE Research Methods Online was used to examine the methodology appropriate for this study. The data sources provided a rich conceptual understanding of the online learning environment as well as student, staff, and faculty perceptions of online learning. The journal articles provide grounded theories and principles that were relevant to this study regarding first-time online students and online student orientation.

Theoretical Framework

This study focused on two learning theories and a first-year principle. Constructivism and connectivism learning theories were teaching methods at the turn of the century and continue to be influential learning theories. Likewise, the first-year experience principle is making an impact in 21st century education with methods on retaining first-year college students, an area of concern for many online educational

programs. It is the blend of constructivist and connectivism theories and the first-year experience principle that the author believes are key elements regarding why online orientation is essential for first-time online student success.

While constructivism and connectivism learning theories share the ideological belief that cognitive development occurs through social interactions and meaningful experiences, the learning theories differ in their stance on the type of interactions that stimulates learning. For example, the constructivism theory credits learning as a product of social interaction between students and students, students and instructors (Wang, 2013). The connectivism theory attributes learning to technology, personal networks, and the surrounding environment as tools of encouragement to learn (Flynn, Jalali, & Moreau, 2014). Both theories factor in socialization as a key element to online learning success. While not a theory, Kift's (2015) first year experience principle aligns with these two learning theories as it identifies social interaction and mentoring as critical components to the success of students' online learning experience.

Online education attracts students who are interested in enriching their learning experience through technology, collaboration with peers, and discovery of new information across different geographical locations. Based on centuries of research in education by that of Dewey (1938), Saettler, (2004), Tyack and Cuban (1995), Vygotsky (1975), learning is meaningful when the experience is exposed to different views and cultures. As Sudmale (2015) points out, constructivism and connectivism are active learning theories, in that, both theories conceptualize that learning happens when existing knowledge merges with current thoughts and experience to conceive new knowledge.

Constructivism theory also proposes that learning is obtained at the point of social interactions between students, instructor, and their surroundings (Vygotsky, 1978). Connectivism theory places emphasis on communication and sharing of information with other students all over the world as essential components to enriching the learning experience (Siemens, 2014).

Education is an essential tool in sustaining the future of humanity and global economy (Tyack and Cuban, 1995). As the future of society is dependent on educated citizens for survival, the demands for highly skilled citizens will increase exponentially. This is evident in the advancement of technology in our workplace and lifestyle. The theoretical framework discussed in this research study provided a better understanding and explanation to the importance of adequately providing students with the right tools that furthered their exploration and thirst for knowledge throughout their lifelong learning process.

Compared to learning theories from years past, connectivism theory is a much-needed paradigm shift in the educational arena. According to Siemens (2004), the vital ability to adapt to computer-based learning environment is the fundamental concept of connectivism learning theory and essential element to 21st century teaching and learning. As Ertmer and Newby (1993) points out, theories share a common denominator in providing explanations to the learning process. At the same token, learning theories offer differing views on the meaning of learning. Siemen (2006) contends that learning theories, while different in its viewpoint on effective learning, reinforces active learning.

Connectivism Learning Theory

To say that one theory works better than another is to believe that one size fits all. The key element that makes connectivism theory conducive to today's learning style is the cornucopia of theories from past years that it embraces and blend into a well-adapted teaching methodology. Siemens (2004) postulate that connectivism theory recognizes a link of network nodes (i.e. instructors, friends, peers, colleagues, acquaintance, and professionals) that is key components to social learning and knowledge building in the digital era. In essences, connectivism theory encourages students to learn from others outside of their social circle, beyond the county and state lines in which they are geographically bound and instead, connect with those from other nations.

The theme of connectivism theory is to engage students in continuous discussions on the subject matter and to explore additional information from their surroundings. In this instance, information is shared amongst students through digital connectivism. Dewey (1938) contests that education is not as simple as obtaining knowledge, processing it, then regurgitating it when asked. He advocates for combining knowledge with experience as a basis to learning. The idea behind Dewey's experiencing education is to allow learning through knowledge and application. Simply put, students initially learn textbook knowledge and then combine it with life-experience to gain a full education. Connectivism theory is taught from life experience, which is a product of intellectual education.

The overall theme of any learning theory is to provide substantial evidence that a paradigm shift is needed to sustain learning in the moment of the era. The purpose of

connectivism theory is to broaden students' learning experiences through the connectivism with people and technology (Lane, 2013). Through connectivism theory, students are to heighten their senses and engage in meaningful practices that will allow them to build on their existing knowledge base and work toward mastery of skills. As noted by Driscoll (2005), learning theories are essentially by-products of past theories, compilation of current theories, and forecasters of future theories. In other words, connectivism can and should be regarded as a theory based on sound reasons that encompasses past, present, and future ideas into its theoretical formula for learners.

The connectivism theory that has emerged within the last several years is revolutionizing how society and educational institutions look at learning through the lens of advanced technology. It is regarded as the 21st century learning theory that integrates social media and advanced technology into a virtual classroom. Connectivism theory acknowledges the value of networking to obtain information by linking students to subject matter experts. According to Siemens (as cited in Kopp & Hill, 2008), computer networks and social networks are essential components to learning. The gist of connectivism theoretical framework is to allow learners to obtain knowledge through those who have experienced life, who have higher knowledge than the learner, and who can add other professionals and scholars to the social learning network. Learning in the 21st century is more than just comprehension. It is about networking with people. Connectivism theory is about connecting with people and resources worldwide and tearing down geographical barriers.

With such a massive network of social, business, research, education, and open source available on the Internet, the ease of disseminating information is readily accessible to anyone with access to technology. Connecting students across the globe through the Internet provides opportunities to obtain information from different cultural perspectives. The basis of connectivism is to take information from multiple sources and infused new information with existing to expand current knowledge (Sudmale, 2015). The value in connecting students from various geographical locations is two-fold. It fosters learning by encouraging social networking and allows students to exchange ideas…thus foster learning. Connectivism theory survives today as the learning approach in the digital age and is defended well by Siemens (2006) who stated it best in saying that "knowledge does not only reside in the mind of an individual, knowledge resides in a distributed manner across a network…learning is the act of recognizing patterns shaped by complex networks" (p.7). The premise to any learning theory is to recognize that people learn differently and at different pace (Chau, Wong, Wang, Lai, Chan, Li, & Sung, 2013). connectivism theory recognizes this and encourages learning by connecting students with other students through social network. Collaborative networking amongst students, instructors, and subject-matter experts enriches the learning process. As Shukie (2013) noted in the chaos Theory, events and occurrences may appear unrelated but in reality, it is related through connections with each other that creates an organize process. For example, the emergence of 3D simulated technology is rapidly being introduced to online students as a collaborative learning tool based on the learning approach to Siemens' (2014) connectivism theory. These are exciting times for education if educators

are willing to be open-minded and trust modern day theories that validate online learning. The online/virtual world is the leverage needed in education to swing the pendulum to the 21st century educational revolution.

Constructivist Learning Theory

Constructivist learning theory originated from the minds of philosophers – Dewey (1938) and Bandura, Piaget, and Vygotsky (Cain, 2015) – who espoused the idea that learning occurs from interactions with other people, personal experience and from our surroundings through observation. Likewise, Driscoll (2005) acknowledges that constructivist theory builds upon people's existing knowledge and from those with more knowledgeable than the individual. In other words, students are dependent on other students, instructors, friends, family, and colleagues, as well as, their surrounding environment to learn and survive. Rheingold (2013) noted that we offer our best results through collaborative efforts like brainstorming sessions. From a Constructivist viewpoint, knowledge is gained from real-world experience.

Bandura, Piaget, and Vygotsky (as cited in Cain, 2015) contend that learning is influenced by individual interactions with other people who are more knowledgeable and influenced by the individual's surroundings. In other words, the building blocks of learning are based on our own experiences along with guidance from instructors and peers that encourages independent learning (Lane, 2013). Vygotsky's (1978) Zone of Proximal principle aligns with the later concept in which social interactions constructivist recognize new knowledge is achieved through involvement with the surrounding environment, at which time, the acquired information is transferred to new knowledge.

The process of gaining new information can also be achieved through observation of others modeling the skills (Cain, 2015). In other words, learning is a lifelong matter that progresses through our life span. The process of learning is influenced by external factors like our surrounding environment and internal factors such as cognitive growth development. Piaget (as cited in Cacioppo & Freberg, 2013) argued that constructivist learning is achieved through schemes, assimilation, and accommodation stages allowing the learner to organize new information into meaningful information and processed to understandable knowledge in long-term memory.

This emergent learning theory supports online learning by encouraging teachers to play the role of a facilitator and through a structured learning environment allow students to construct their own meanings to the presented information. By having the flexibility to connect the newly presented material to students' real-world experiences, the new information becomes meaningful. In other words, the learning is transported from the outside world into the students' reality world. Constructivist learning theory is applicable to the online learning environment through effective use of collaborative efforts amongst students and instructor. The learning theory combined with technology can transform learning into the future and enrich the learning process for first-time college students.

The First Year Experience Principle

Like many higher education institutions in the United States, the Australian higher educational system was also troubled by high attrition rates amongst first year college students (Brown et al., 2013). The first-year experience (FYE) emerged as a government initiative in Australia to increase retention rates amongst first-year college students (Baik,

Naylor, & Arkoudis, 2015). FYE examined first-year students' coping skills and resources used to overcome challenges faced in the first year of college. It also captured perspectives from administrators and faculty on how to improve retention rates for first-year students (Kift, 2015). FYE aligns with this study's focus on challenges that new online students face in their first online course.

As noted in the first-year experience report, critical elements in sustaining higher education in today's competitive collegiate market requires attentiveness to the quality of student experiences that first year of college life (Jeurissen, 2015; Waldman, Perreault, Alexander, & Zhao, 2014). The first-year experience initiative proved to be successful in providing much needed support in preparing first-year students for college life and higher educational learning (Picciano, 2015). The importance of having experience a good first year at college is critical to new student success and institutional effectiveness (Nelson, Creagh, Kift, & Clarke, 2014).

In their research, Penn-Edwards & Donnison (2014), Kift (2015), and Smith, L. (2010) assert that first year college bound students are overwhelmed with the whole aspect of being a college student. This ranges from learning to be independent to knowing how to study. The stress of adapting to college life is compounded for first-time online students who are thrust into the meteoric online environment with little support from their college (Britto & Rush, 2013). The first-year experience principle, which aligns with this research investigation into the impact of online student orientation to first-time online students, recognizes four factors that are critical to first-year student

success in college and critical to the success of online programs for colleges (Baik, Naylor, & Arkoudis, 2015).

Firstly, the key in waging the war against attrition issues is based on whether executive leaders, stakeholders, and college administrators place value in offering equal student support for first-time online students. Just like how college administrators dedicate time and effort to ensure new students have adequate support throughout their first-year college experience, the same first-year experience support should be reciprocated to first-time online students if higher education is to combat the high online attrition issue facing colleges and universities today (Kift, 2015).

Secondly, FYE principle addresses the importance of providing services and support to diversified first-year students. Colleges and universities are concerned with falling short in providing healthy support services to online students. In the Distance Education hub (DEHub) project research conducted at Charles Sturt University, Australia and Massey University, New Zealand, it is well noted that higher education is challenged with completion and retention rates in new students to online education. The study, based on data drawn from 160 students (Massey University) and staff members (Charles Sturt University and Massey University) not only investigated students' experience in online education but also examined supportive resources that are beneficial to higher education in increasing online student retention. As a result, researchers discovered that institution wide initiative in providing support services that meet the needs of diversified online learners is the positive intervention tool that will empower online students to be successful completers in their online course and program of study (Brown et al., 2013). In

other words, the take home element for higher educational institutions is to recognize diversity in the online student population and erase the misconception that online students are a homogenous group. The FYE also re-evaluates how institutions monitor first-year student progress in their courses and provide assistance when needed throughout their learning process.

Third, the first-year experience principle recognizes engagement as another key element to online student success. The principle of engagement concedes that success in the online classrooms stems from continuous conversation between students-to-instructors, as well as, student-to-student throughout the duration of the online class (Kift, 2015). For example, online curricula that infuse active learning contents allows online students to experience that sense of comradery a community presents. Online active engagement is supported in a data mining analysis in which the research revealed that the more frequently students access class materials, post discussions, reading posts, and participate in synchronous discussion sessions, the more likely they are to be involved. These are better performance predictors to online student success (Jui-Long & Zhang, 2008).

Lastly and equally important, the fourth FYE acknowledges class analytics as essential online success tools to increase online student retention. The principle of data analytics is to be proactive in recognizing low performance and setup alert notifications to faculty and students as early intervention tools. More so, the analytics should go beyond early alerts and extend to end-of-class performance review to evaluate ways to improve in the next upcoming online class (Kift, 2015). Reviewing progress in-class via

data analytical reports are proven invaluable to students as one student in the DEHub research states “I’d like to think that I’m prepared for my study. But, I’m not really sure what to expect at the same time” (Brown et al., 2013, p. 57)). And, from another student who expresses the importance of receiving adequate information knowing “…a lot of information was assumed I knew because it was semester 2” (Brown et al., 2013, p. 60). Noted, the first-year experience examines institutional need to focus on first year college experience and hear from students who retained in online study after that critical first week of online class and after the critical first year experience (Nelson, Creagh, Kift, & Clarke, 2014).

Brown et al. (2013) assert that learning in the online culture is complex and challenging because there is an understanding deficit in the scope of responsibility to online education. From the first-year experience survey, online students have expressed concerns with matters like “as a first timer everything is new…I fell totally at the mercy of the computer, waiting for something to happen” (Brown, Keppell, Hughes, Hard, Shillington, & Smith, 2013, p. 58). Similarly, first-time online students have a misconception that they are equally prepared to study online as they are to study in traditional classrooms. One student commented, “I’d like to think that I’m prepared for my study. But I’m not really sure what to expect at the same time” (Brown, Keppell, Hughes, Hard, Shillington, & Smith, 2013, p. 57). Likewise, online students still need support from someone such as the instructor, librarian, help desk, or a mentor. A first-time online student voiced her surprise “I read the books and then I came to a part that I’m stuck on…I understand what the words are saying, but I can’t quite finish the gap to

make the solid connection. I need someone to talk to" (Brown, Keppell, Hughes, Hard, Shillington, & Smith, 2013, p. 69). The take away about online education is that it is a lot more challenging than a traditional class in the sense that online students need to be instilled with self-disciplinary characteristics. Baik, Naylor, and Arkoudis (2015), express concerns with first-time students in studying skills and more specifically, lack of social skills as today's students would rather keep-to-themselves than have to interact with their peers. It is obvious that technology has enabled students to be less sociable and more self-absorbed. The most common reason distance education students enrolled in online courses is because of time conflict between work and class time (Aslanian & Clinefelter, 2013). Today's students are impelled to online learning to achieve their goal of obtaining a higher degree due to the hectic lifestyle demands of current time (Brown, et al., 2013). This leads to the next discussion on the role higher education has on providing adequate training to new students to online learning.

Online Learning in Higher Education

Worth noting, a brief history about distance education and its impact on the emergence of online learning. Unbeknown to some, online learning or distance education began as a *need* by society to help individuals who are unable to attend school either because of distance to the nearest school and/or work responsibilities (Anderson & Simpson, 2012). It was people like William Harper, President of the University of Chicago in 1891, who advocated for correspondence studies way before its popularity grew and predicted that correspondence studies will surpass learning in the classroom (Ryan & Latchem, 2016). It was educators like Eliot Ticknor, founder of the Society to

Encourage Studies at Home in 1873, who wittingly recognized the need to expand education beyond the school yards and offered correspondence studies to individuals who were limited by work and transportation to attend classroom learning (Caruth & Caruth, 2013). Hence, it was the desire by academic scholars and educators that led the way for correspondence studies in the 19th century and later distance education emerged and since then evolved into 21st century online learning. The driving force behind the exponential growth in online learning stems from demands by working class citizens for equal opportunity in education for themselves and future generations (Aslanian, & Clinefelter, 2013).

Technology has shifted distance education into a realm where cloud technology, virtual simulation, and augmented reality are learning tools for online students. The old-way of learning has collided with 21st century advanced technology and unfortunately; first-time college students are unprepared for the multifaceted delivery in online education (Lokken & Mullins, 2015). At the time of this writing, online learning is transforming into an immersed reality classroom where students can actively engage in laboratory experiments through the lens of an animated character that represents the student in the virtual realm of the online class called an avatar (Wu, Lee, Chang, & Liang, 2013). Hence, it is ever more critical that online students are properly trained in online skills that will better serve them in the online learning environment. Online students' proficiency in navigating through technology and performing tasks in the online environment are essential to their overall success (Yu, & Richardson, 2015).

The Problem

While topics on student retention are thoroughly discussed, analyzed, and planned by administrators on campuses across the nation, conversations about online student retention is beginning to resonate in executive meetings as experiencing low online student retention rates (Picciano, 2015). All too often, institutional stakeholders exhibit lack of understanding in the online learning environment and therefore, offer little support to first-time online students. This behavior is impeding the development of online programs and training for online faculty and students are well studied and noted by Lint (2013), Hachey, Conway, & Wladis, (2013); Taeho & Richardson (2015).

Based on the cited literatures, the problem the future of online learning in higher education lies in the thinking mentality of board members, executive leaders, and administrators on the future of online education. Colleges are seeing a low online student completion and retention rates amongst non-traditional students like adult learners and socioeconomically challenged students (Britto & Rush, 2013). As online enrollment continues to experience an upward oscillation, colleges are also seeing a 75% increase in the number of students who have taken at least one online class (Waldman, Perreault, Alexander, & Zhao, 2009). Higher educational institutions should be concern with the steady 10% decline in retention rates in online students compared to students in traditional courses (Fetzner, 2013)

Impact of Problem

The consistent low retention rate in online students has the potential to peak at critical levels if institutions do not address this issue now. This no-nonsense attitude

about low retention rates in online students by administrators will impact the overall reputation on online learning. All the hard work invested in ensuring high quality online learning will quickly dissolve into a non-reputable learning platform if administrators continue with this destructive mindset about online education. Students who rely solely on online programs to obtain higher degrees will no longer be able to obtain such degrees. Students of low socioeconomically status will not be able to attend college. Colleges and universities will be limited in offering new programs and traditional geographically-based colleges will be limited in reaching out to students beyond college campus. Working adult learners will be limited in obtaining higher degrees or finishing their higher education degrees (Public Agenda, 2015).

Advantages

Online education offers a variety of programs that are readily accessible and available to students from various geographical locations. According to Lokken & Mullins (2014) and Yu & Richardson (2015), the advantage of online learning for some students is the ability to work at their own pace and the convenience of attending class without having to be physically sitting in class. Furthermore, in a study conducted by Dziuban, Moskal, Thompson, Kramer, DeCantis, & Hermsdorfer (2015) on student satisfaction with online learning, found that generational students are drawn to the active learning experience that mimics their social interactive real-world lifestyle. In addition to active learning experience, online learning affords students from low social economic backgrounds and adult learners the opportunity to obtain a higher degree while remaining employed and sustaining the supporting role.

The success of online education is possible if educational institutions are steadfast in requiring online students to enroll in online orientation before the start of online class well documented by Allen & Seaman (2013), Fetzner (2013), Lokken & Mullins (2015), Jones (2013), and Picciano (2015). One of many variables that contributes to online student success is participation in online orientation as evidenced in dossiers of case studies on the effectiveness of orientation and its link to student retention (Kelly, 2013; Jones, 2013).

Disadvantages

While convenience lure students to online education, lack of experience with the online learning environment deters consistent enrollment in future online courses. Research such as that of Fetzner (2013) and Cole, Shelley, & Swartz (2014) revealed that online students who experience challenges in their online class are most likely to be less satisfied and less likely to continue with online learning. Online education continues to receive poor satisfactory rating in lack of engagement with peers and lack of instructor feedback in asynchronous courses (Kelly, 2013). In research work conducted by Cole, Shelley, & Swartz (2014), Lint (2013), and Pratt (2015), students are more likely to express unsatisfactory with online learning when they…

- felt a sense of disconnect with their online teachers.
- felt a sense of isolation in their online class.
- did not receive feedback on assignments in a timely manner.
- lack time management skills.

In most cases, students who are unsatisfied with online classes are less likely to be complete an online class or enroll in other online classes.

Technology

Technology is instrumental in accelerating education into the 21st century. It is also a contributing factor to low retention rates with online students (Lint, 2013). Online students and online faculty members both express inadequacy with technology in the online learning platform. According to Picciano (2015), higher educational institutions lack proper planning in the role technology plays in online education thus, resulting in low completion amongst online students.

Technology plays an integral part in online courses in that it provides tools and resources necessary for successful online learning (Ryan & Latchem, 2016). However, Burns (2013) contend that technology is a one of many barriers that affects online student success rate. According to Bawa (2016), today's students are intuitive and comfortable with trendy technological gadgets but lack experience with educational technology tools. Dron and Anderson (2016) posit that the advanced innovative technologies that were meant to enhance the online learning experience were perceived by students as challenging technologies that demanded more of learning the functionality of the digital tool than learning the course context.

Online Orientation

Education administrators need to acknowledge if higher education is to progress further with online education. Of the estimated 20 million students enrolled at colleges and universities in the fall of 2014 across the United States, 2 million students reported

they are taking all online classes and 5 million reported they are enrolled in at least one online class (Allen et al., 2016). This data is significant in demonstrating the popularity of online education in the United States - even though reports from higher education are showing low overall enrollments (Poulin & Straut, 2016). At the same token, online education is seeing, on average, a 10% decline in online retention rates compared to traditional education (Lokken & Mullins, 2015; Fetzner, 2013).

With the rising popularization of online education and the looming forecast of high online attrition, higher education administrators need the right tools to make informative decisions on the future of online education. Druta and Garcia (2015), suggest the use of classroom analytics as the power tool in fostering successful online students and minimize dropouts. Clark and Barbour (2015), stress that quality online programs derive from proper training in the online learning environment for both online teachers and students. While both classroom analytics and adequate training are important elements to online student retention, Merriam and Bierema (2015) offer a sensible approach to succeeding as online students and to recognize essential tools that will enable effective navigation and learning in the online learning environment.

To that end, Lokken and Mullins (2015) emphasize that online orientation is necessary if higher education is serious about increasing online student retention rates. Worth noting, first-time online students are more likely to be unsuccessful in their online class than their counterparts - campus students. According to Fetzner (2013), traditional students are 32 percent more likely to be successful in their courses than compared to online students. This validates the importance and critical need to mandate online

orientation to first-time online students. In a research conducted by Dziuban, Moskal, Thompson, Kramer, DeCantis, and Hermsdorfer (2015), one of the contributing factor to online student satisfaction, which is an indicator of online learning success with online learning was the fact that students were well informed with online course expectations.

Summary

Online education is a staple in modern day education where time is valuable and convenience is normal. For the most part, online education has been the driving force behind the push for educational reform in the 21st century. The online learning sector is growing exponentially not because of innovative technology but more of a paradigm shift in how society view higher education. According to the U.S. Department of Education Institute of Education Sciences National Center for Education Statistics (2016), the projected college enrollment growth is expected to increase by 15% for the next 10 years. More so, research on online learning in higher education reports, as of 2014, approximately 2 million students are online learners (Allen et al., 2016). Thus far, research data reveals a steady upward climb in enrollment at colleges and universities. The concern for higher education is whether or not the institutions are prepared for the influx of online students (Picciano, 2015).

Online courses are in high demand for the adult learners and first-generation students simply because of convenience (Bawa, 2016; Fetzner, 2013). Populations of non-traditional students and adult students are juggling work and family while seeking a degree. These specific populations of students require flexibility in course schedules in

order to meet the demands of life. Thus, online programs offer students who are faced with barriers to achieve their goal in obtaining a higher education.

To meet the demands of increasing enrollment in online courses, higher education facilities need to offer students adequate training to better prepare for online learning. As a first-generation student from Johnson C. Smith University states, “They treat us like family. They put us in a position to succeed and the only option we have is to succeed” (Gates, 2016).

Chapter 3: Research Method

Introduction

The purpose of this quantitative study is to determine if there is a significant difference in retention (DV_1), academic success (DV_2), and persistence (DV_3) between first-time online students who participated in an online orientation and passed with a grade of 80+ and those who did not (IV_1). The study is also interested in investigating if there is a significant difference in retention, academic success, and persistence between male and female first-time online students. This study examined archived data to determine the impact of online orientation for first-time online students. In addition, the intent of this research study is to provide quantifiable data to institutional leaders and online learning administrators regarding the value of online student orientation for the success and retention of first-time online learners.

Research Design and Rationale

This study provided a quantitative analysis of first-time online students' retention, success, and persistence based on participation and non-participation in online orientation prior to the start of online courses. Data collection on first-time online students who participated in online orientation, those who did not participate in an online orientation, and gender was extracted from archived data at a two-year technical college. This descriptive research design made use of a two-way ANOVA statistical analysis to demonstrate if there is a correlational relationship between persistence, success, and retention in participation in online orientation. The two-way ANOVA analysis aligns with the research question in determining statistically significant differences between

persistence, success, and retention rates in first-time online students and interactions between measured variables. Figure 1 illustrates the theoretical framework of this study by identifying two independent variables (participation in online orientation and gender) and three dependent variables (retention, academic success, and persistence). The independent variables consist of two factors, which are first-time online students who participated and passed with a grade of 80+ and those who did not participate and their gender. The statistical analysis investigated whether retention, academic success, and persistence in online learning for first-time students is impacted by online orientation.

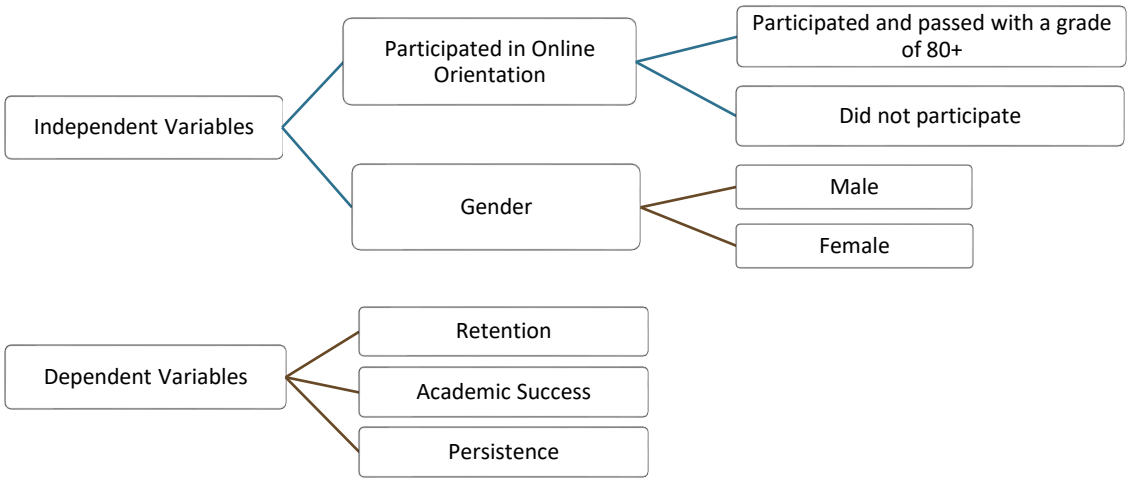


Figure 1. The theoretical framework of the study

Variables

Archival data drawn in this study are as follows and illustrated in Table 1:

- The numbers of students who enrolled in an online class for the first time.
- The numbers of first-time online students who participated in online orientation.

- The numbers of first-time online students who did not participate in online orientation.

Table 1. *Archival Data Variables*

Categories	Type	Description	Source
Participated	Ratio	Number of first-time online students who participated in online orientation and passed with grade of 80+ Number of first-time online students who participated in online orientation and did not pass with grade of 80+	Internal
Retention	Ratio	Number of first-time online students who retained in an online class as measured by midterm grades. Number of first-time online students who did not retained in an online class as measured by midterm grades.	Internal
Academic Success	Ratio	Number of first-time online students who successfully completed online classes as measured by final grades. Number of first-time online students who did not successfully completed online classes as measured by final grades.	Internal
Persistence	Ratio	Number of first-time online students who enrolled in an online class in subsequent semester. Number of first-time online students who did not enrolled in an online class in subsequent semester.	Internal

Methodology

The quantitative method proposed for this research study was a two-way ANOVA statistical analysis. This method enabled the researcher to test the effects of the independent variables (first-time online students who participated, those who did not participate in an online orientation and gender) and determine if there are interactions with the three dependent variables (retention, academic success, and persistence). Additionally, the administered Shapiro-Wilk test determined normality of the error residuals. The assumptions tests and Shapiro-Wilk statistical calculation were administered to maintain credibility of the research finding.

Quantitative Statistical Analysis

This quantitative research study utilized archived data to determine if there is a significant impact on first-time online students who participated in an online orientation versus those who did not participate. The study also examined retention, academic success, and persistence significant differences in gender based on their participation and no participation in an online orientation. In this study, independent variables are identified as first-time online students who participated in online orientation, those who did not participate in an online orientation, and gender of first-time online students. The dependent variables are identified as persistence, academic success, and retention rates. Because there are three dependent variables being hypothesized in this study, two-way ANOVA analysis was used to specified if there is interaction between each categorical variable, which makes the study efficient and reduces error in variation (Frankfort-Nachmias & Nachmias, 2008). Additionally, the use of two-way ANOVA analysis

enabled the study to determine if significant differences exist between independent variables and dependent variables (Cohen, Manion, & Morrison, 2013; Weiss and Sosulski, 2003). Two-way ANOVA test allowed for data to be analyzed for interactions, if any, between the two independent variables and three dependent variables (Iversen, 2004).

Population

The research study population was derived from a designated two-year technical college located in South Carolina and consisted of first-time online students. The list of first-time online students was obtained from the Office of Institutional Effectiveness and Planning at the designated two-year technical college. The designated two-year college serves approximately 3,600 undergraduate students seeking associate degrees, diplomas, or certificate programs (cctech, 2015). According to the National Center for Education Statistics (NCES, 2016), the number of students seeking an associate degree and/or certificate and who are enrolled in only distance education courses is approximately 400 and those enrolled in some distance education courses is approximately 700. This equates to 1,200 students enrolled in distance education who are nonduplicate online students at this college. The student population that the college serves is from the surrounding four counties and consists of blended learners ranging from working and non-working adults to high school graduates.

Sampling and Sampling Procedures

A probability sampling strategy was used to analyze this archival data study. Frankfort-Nachmias and Nachmias (2008), contended that a well-represented population

in research incorporates the standards of probability sampling. Probability sampling uses probability strategies to determine the best type of participant pool of interest that well represents a generalize population (Creswell, 2014). There are no constraints on the data source because the author of this study is employed at the specified college.

Power Analysis

Based on the 1,200-online student population count, G-power statistical software ANOVA: fixed effects, special, main effects and interactions statistical analysis was used to determine the appropriate sample size for this study (Field, 2013). A sample size of 251 offered a 95% valid confidence interval and sampling error for the investigated studied population (Creswell, 2009 and Frankfort-Nachmias & Nachmias, 2008).

Procedures

Recruitment. This proposed study extracted archival data on first-time online students at the designated two-year technical college in South Carolina. Therefore, recruitment was not conducted at this time. Population demographics was collected and consisted of male and female first-time online students. Demographics of full-time enrolled (FTE) students and part-time enrolled first-time online students was also collected. The online student populations extracted in this study were either recent graduates from high school, transfer students, or adult students.

Informed consent. A letter of cooperation was crafted and detailed the purpose of the study, the data analytics approach, and more specifically, the confidentiality of the information and results of the study. A letter of data use agreement is sent to the college's Vice President of Academic Affairs office and the Research and Institutional

Effectiveness office to seek permission to extract archived data. The letter of cooperation (see Appendix B) and data use agreement (see Appendix C) were sent to the college's Vice President of Academic Affairs office and the Research and Institutional Effectiveness office prior to IRB approval and data collection to meet compliancy with the Family Educational Rights and Privacy Act of 1974 (U.S. Department of Education, 2015). A final research report was shared with the college's Vice President of Academic Affairs office, Research and Institutional Effectiveness office, and Dean of learning Resources upon request. Creswell (2014) contends that ethics in research should be applied through all phases of the research i.e. at the start of the research, throughout the duration of data collection and analysis, at the reporting and sharing phase, and equally important, how and where the research report is stored.

Upon approval of the research ethics review application from the dissertation committee members Drs. Jennifer Smolka and Kay Persichitte and Walden University Institutional Review Board (IRB), a Research Consent letter was distributed to appropriate leadership team at the designated two-year technical college in South Carolina and was approved for archived data extraction from the institution's internal Banner data management systems.

Data collection. Data was extracted from archived data provided by the office of Research and Institutional Effectiveness at the two-year technical college. International Business Machine (IBM) Statistical Package for the Social Science (SPSS) software program was the electronic data analytic tools used to draw upon existing data on first-time online students (IBM, 2016). The collection of data consisted of the number of first-

time online students who participated in an online orientation, those who did not participate, and the gender of first-time online students.

The archived data extracted from the college banner systems was analyzed by a post hoc and Levene's test. The post hoc test is commonly used to determine if there are significant interactions between the independent variables and dependent variables. Equally important, the assumption of homogeneity of variances was conducted to determine the validity of the data of interest in the study. A follow-up with the Levene's test was administered to determine if the assumptions of homogeneity of variances were met.

Two sets of data were drawn from same sample size to establish a valid measurement outcome (Frankfort-Nachmias & Nachmias, 2008). Two-way ANOVA statistical analysis was used to examine the relationship between first-time online students who participated in an online orientation, those who did not participate and their gender orientation. The purpose of utilizing multiple data analysis tools is to ensure credibility and greater accuracy in the data findings (Robson & McCartan, 2016).

The data findings offered insight on retention based on midterm grades, academic success based on final grades, and persistence based on enrollment in subsequent terms. The follow data points guided the data collection in this study:

1) Participation - First-time online students who participated in an online orientation.

- Number of first-time online students who participated in online orientation and passed with grade of 80+.

- Number of first-time online students who participated in online orientation and did not pass with grade of 80+.

2) Retention - First-time online students Retention Data.

- Number of first-time online students who retained in an online class as measured by midterm grades.
- Number of first-time online students who did not retained in an online class as measured by midterm grades.

3) Academic Success - First-time online students' success data.

- Number of first-time online students who successfully completed online classes as measured by final grades.
- Number of first-time online students who did not successfully completed online classes as measured by final grades.

4) Persistence - First-time online students' enrollment in subsequent semester.

- Number of first-time online students who enrolled in an online class in subsequent semester.
- Number of first-time online students who did not enrolled in an online class in subsequent semester.

The data points used in this study aligns with the study's conceptual framework that acknowledges a community of learners that acquires new knowledge and a sense of community in the learning environment through active engagement with other learners.

Exiting the study. The conclusion of the study was complete and provided formal written notice to active parties involved in facilitating the archived data extraction and provide explanation on the data.

Follow-up Procedures. The proposed study recommends duplicating this study on the impact of online orientation to first-time online students at other two-year colleges across the state that this study was conducted. This approach established a comprehensive finding on the correlation between online orientation and first-time online student persistence, retention, and success factor throughout the two-year college systems in the same state.

Archival Data

As mentioned earlier, a letter of cooperation (see Appendix B) was distributed to appropriate leadership team at the designated two-year technical college for approval to extract secondary data from the college internal Banner data system. The office of Research Planning and Development permit the author to access Argos software program, which was used to extract the secondary data on first-time online students. The permission to access the Argos software was warranted based on the author's existing role at the college as the Director of BOOST grant program – at the time of this writing.

Instrumentation and Operationalization of Constructs

The G*Power statistical calculation software used to determine effective sample size in this research is a free application and available for download on PC and MAC computers. The author downloaded the MAC version through the Heinrich-Heine University of Dusseldorf website (http://www.gpower.hhu.de/en.html).

SPSS statistical analysis was used to compare the impact of first-time online students who participated in an online orientation to those who did not participate in an online orientation. As noted earlier, the researcher has access to Argos software application at the technical college that is being investigated in this study and the role of Director that the author holds at the time of this writing.

Threats to Validity

Research measuring instruments are tools that researchers use to decide on which statistical analytics is a best match for the research work. While statistics is important in evaluating measurement scores, totals, and/or percentages, the data being examined must be as accurate at possible. Testing the data for validity and reliability checks for external and internal errors and affirms the quality of the data collected. Trichom (2006) explains it best when he stated, "On one end is the situation where the concepts and methods of measurement are the same (reliability) and on the other is the situation where concepts and methods of measurement are different (*very* discriminant validity)" (para 10). This leads to discussions on external, internal, and construct validity of this study.

External Validity

The limitations of validity and reliability measuring tools are the differences in how each instruments measure. For example, multiple errors may reside in a complex research experiment that no one instrument is able to identify each erroneous that may exist in the data collection (Trichom, 2006). As noted by Golafshani (2003), validity and reliability measures can be a rigor with the result still questionable due to unknown variables like the human factor.

Internal Validity

Internal validity is a factor that affects the inference of the connection between variables in the research (Frankfort-Nachmias & Nachmias, 2008). Factors such as selection of students, student history, maturity, and extraneous variable can affect the results of this study (Campbell & Stanley, 2015). Instrumentation such as the researcher, who is responsible for data gathering and calculation, may result in finding that is bias (Rabon & McCartan, 2016). The internal validity mentioned are of interest to this study as it can affect the persistence, success, and retention (dependent variables) under investigation in this research.

Construct or Statistical Validity

A premise of construct validity in research is to assure that the operationalization and conceptual framework of the study are supportive of the predictive outcome (Frankfort-Nachmias & Nachmias, 2008). In other words, the researchers make a prediction through the hypothesis and make use of measuring tools to either confirm or debunk the original hypothesis statement or question. Creswell (2009) takes it one level further and asks if the measured results have any significant meaning to the subject, topic, or item researched.

As a mean to substantiate construct validity measure, a concurrent validity is used to test if there is a correlation in persistence, retention, and success in first-time online students who participate in an online orientation compared to those who did not participate in an online orientation. A linear regression analysis used to test the power analysis of the concurrent measurement (Robson & McCartan, 2016). A SAS data

analytical application was used to extract raw data on first-time online students from the two-year technical college chosen in for this study. The author used SPSS data software to substantiate the archival data extracted from SAS.

Potential weakness in the use of concurrent validity is data inaccuracy in secondary data that was not detected in the SPSS measurement. In addition, this study faces mono-operation bias threats (Trochim, 2006) in that participation in online orientation is a single occurrence that is measured in this study and no other instance is measured to predict online students' persistence, retention, and success. Lastly, the obvious contributor to threats to validity in the study is the human error.

Ethical Procedures

Addressing research ethics is based on the design of the research. To that end, this is a non-experimental quantitative research and therefore, the number of participant extracted from secondary data is of ethical concern in the study in as much as whether the participants in the study well represent the overall population of first-time online students. Furthermore, there is ethical concern on the strength of data collection from one source i.e. a two-year technical college. Ethics on data collection of secondary data from researcher's own employment institution was a concern in this study.

Participants in the data collection were protected by anonymity and confidentiality. More importantly, research results were only shared with designated administrators and executives of the two-year technical college. The consent letters were held in confidence, separate from data and with the researcher for three years after completion of research study. Lastly, the study is aligned with the Institutional Review

Board at Walden University, which the researcher is a student of doctoral program of study at the time of this writing.

Summary

The research study examined data from a two-year technical college in South Carolina. The secondary data was evaluated using a repeated measure Anova statistical analysis to determine if there is significance in persistence, retention, and success between first-time online students who participated in an online orientation and first-time online students who did not participate in an online orientation. Additionally, a Two-way ANOVA statistical analysis was utilized to validate the research findings. A Post Hoc test was used to determine if there is a significant interaction effect. Shapiro-Wilk test was used because the small sample size; and, it helped determine if the two independent variables were evenly distributed. Lastly, the Levene's test was used to test for the assumption of homogeneity of variances.

Chapter 4: Results

Introduction

The interpretation of data can affect stakeholders' decisions on the outcomes of existing programs, depending on the credibility of the data. Therefore, the validity of the data is critical to the measurement outcome of the analysis (Frankfort-Nachmias & Nachmias, 2008). Hence, it is judicious to use credible data sources that are recognized by organizations like national research societies, academia, and government institutions. When using quantitative research methods with interest in analyzing two or more variables to find if significant differences exist between those variables an ANOVA is typically the measurement test of choice (Lund Research, 2013).

The purpose of this quantitative research study was to use archived data to determine if there was a significant impact on students' retention, academic success, and persistence when online orientation was available to first-time online students. The researcher of this study hypothesized that there would be a significant difference in online students' academic success, retention, and persistence based on participation in online orientation prior to the start of online class. The study analyzed online students' retention (DV_1), academic success (DV_2), and persistence (DV_3) based on first-time online students who participated in online orientation and passed with a grade of 80+ versus those who did not participate (IV_1). Gender (IV_2) was also an independent variable analyzed to determine if there are significant differences between male and females in retention, academic success, and persistence based on participation and non-participation of online orientation.

This study draws from fall 2016 archival data from a two-year technical college located in the southeastern region of the United States. Analysis was conducted using a two-way ANOVA test. Data was drawn from first-time online students regarding online orientation, gender, final grades, retention, and persistence. It is important to note that the archived data source for this study included disaggregated educational reports on students' performance in an online course, completion rates, and persistence. The findings of this study support the implementation of online orientation at colleges and universities for first-time online students.

Analysis

The assumptions for this study are additivity and linearity, normal distribution, homogeneity of variance, and independence. There are three assumptions regarding a two-way ANOVA test that were used to test for the main effects and interactions between the two independent variables. The first independent variable were students who participated in online orientation and passed with a grade of 80+ vs. those who did not pass (IV_1). The second independent variable was gender (IV_2). The dependent variables examined in this study were retention (DV_1), academic success (DV_2), and persistence (DV_3). The three assumptions of the two-way ANOVA were met.

In this study, retention in online class was measured by midterm grades, academic success was based on the final grade in online course, and persistence was determined by enrollment in an online course in a subsequent semester. The following research question guided this study:

RQ1: Is there a significant difference in retention as measured by midterm grades of first-time online students who participated in online orientation and passed with grade of 80+, those who did not participate? Is there a significant difference in retention between male and female first-time online students as measured by midterm grades?

RQ2: Is there a significant difference in academic success as measured by final class grades of first-time online students who participated in online orientation and passed with grade of 80+and those who did not participate? Is there a significant difference in academic success between male and female first-time online students as measured by final grades?

RQ3: Is there a significant difference in persistence as measured by enrollment in at least one online course in the subsequent semester of first-time online students who participated in online orientation and passed with grade of 80+ and those who did not participate? Is there a significant difference in persistence between male and female first-time online students as measured by enrollment in at least one online course in the subsequent semester?

Population and Sample

The population of interest in this study was extracted from archived data originating from a designated two-year technical college in South Carolina. The first-time online students included in this study were either full-time enrolled (FTE) or part-time enrolled students (PTE). Furthermore, the first-time online students included recent graduates from high school, transfer students, and adult students. The sample population consisted of employed, under employed, or unemployed first-time online students. The

ethnicity options of the online student population consisted of White, Black, American Indian or Alaskan Native, Asian, Hispanic, two or more races, and unknown.

The 2-year college served approximately 3,600 undergraduate students in the fall 2016 semester. Undergraduate students were seeking associate degree, diplomas, and certificate programs (cctech, 2015). Of the 3,600 undergraduate students, 1,200 non-duplicated online students were enrolled in at least one online class in the fall 2016 semester.

Of the 1,200 online students registered during the fall 2016 semester at this technical college, this research utilized G-Power statistical calculation software with Cohen standard significance testing to determine the adequate sample size for research study (Field, 2013). The adequate sample size for this study was 251 as shown in Table 2. The sample size of 251 was determined to be the minimum amount required given the actual number of 1,200 online students extracted from the institution's Banner system at the time of this study. The sample size of 251 showed an effect size of .25, α was set at 0.005, and the acceptable power of probability in testing the null hypothesis was set at .95 (95%). However, given access to archived data for 433 first-time online students out of a total of 1,200 online students, this study analyzed 433 first-time online students to substantiate the statistical measurement outcome and increase generalization of the results. The dataset of 433 first-time online students were obtained from the two-year technical college Office of Institutional Effectiveness and Planning.

Table 2.

Sample Size F-Test

F tests - ANOVA: Fixed effects, special, main effects and interactions

Analysis:	A priori: Compute required sample size		
Input:	Effect size f	=	0.25
	α err prob =	0.05	
	Power (1-β err prob)	=	0.95
	Numerator df =	2	
	Number of groups	=	6
Output:	Noncentrality parameter λ =		15.6875000
	Critical F	=	3.0326630
	Denominator df =	245	
	Total sample size	=	251
	Actual power	=	0.9506745

Note. Table 2 data was coded and extracted from the G-Power Statistical software.

Data Collection

The archived data was extracted from the Banner database system used by the college to store student information and performance. IBM SPSS software was used to perform data analytics on archived data (see Appendices E, F, and G). The continuous variables for the two-way ANOVA test were:

- The number of first-time online students retained in their online course per midterm grades.
- The number of first-time online students who academically succeeded in their online course per final course grades.
- The number of first-time online students who persisted per enrollment in an online course in a subsequent term.
- The number of male and female first-time online students who retained, was academically successful, and who persisted in an online class in subsequent semester.

Assumptions

The purpose of the two-way ANOVA test, used in this study, was to determine if there was an interaction between the independent variables (passed with a grade of 80+ and did not pass with a grade of less than 80).

Assumption 1: Dependent Variable is Continuous

The assumption of Dependent Variable is Continuous was met. The Retention dependent variable was measured per midterm grade of first-time online students. The Academic Success dependent variable was measured per final course grades of first-time online students. The Persistence dependent variable was measured by enrollment in at least one online course in the subsequent semester.

Assumption 2: Two Independent Variables

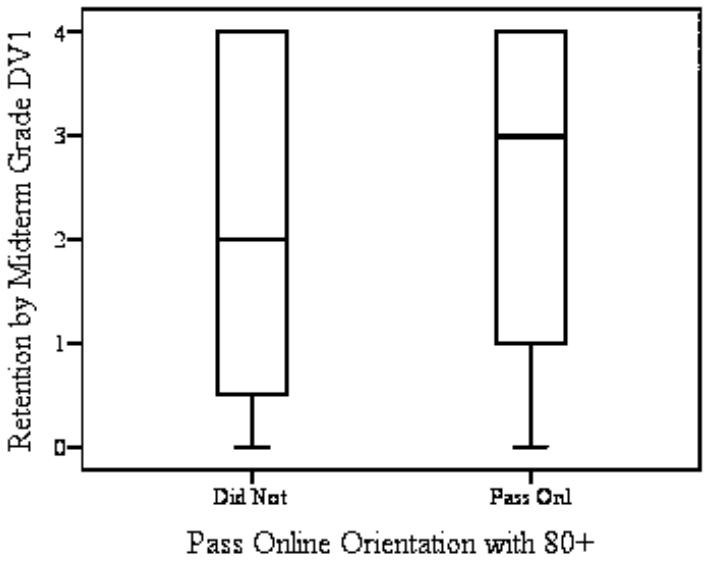
The assumption of two independent variables was met. First-time online students independent and dichotomous variables consisted of 1) passed with a grade of 80+ or did not pass and 2) gender with two factor levels male and female.

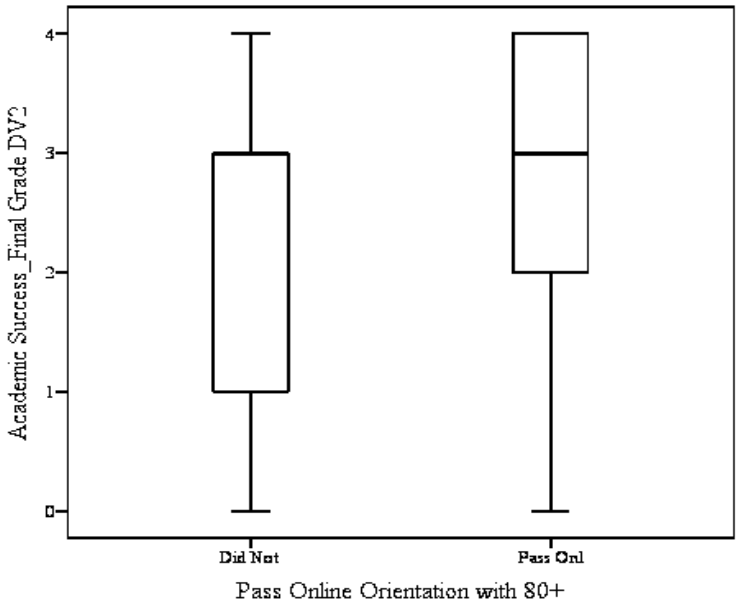
Assumption 3: Independence of Observation

The assumption of independence of observation was met based on the design of this study. The groups were made up of different populations of first-time online students (i.e. FTE, PTE, high school graduate, adult students).

1) Assumptions of No Significant Outliers

The assumption of no significant outliers was met. There are no outliers as demonstrated in the boxplot.


Retention by Midterm Grade DV1
4
3
2
1
0
Did Not
Pass Onl
Pass Online Orientation with 80+


Academic Success_Final Grade DV2
4
3
2
1
0
Did Not
Pass Onl
Pass Online Orientation with 80+

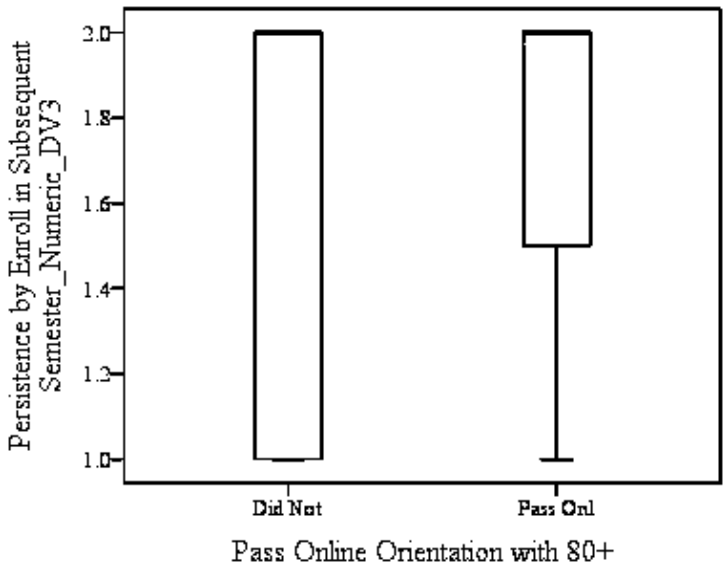
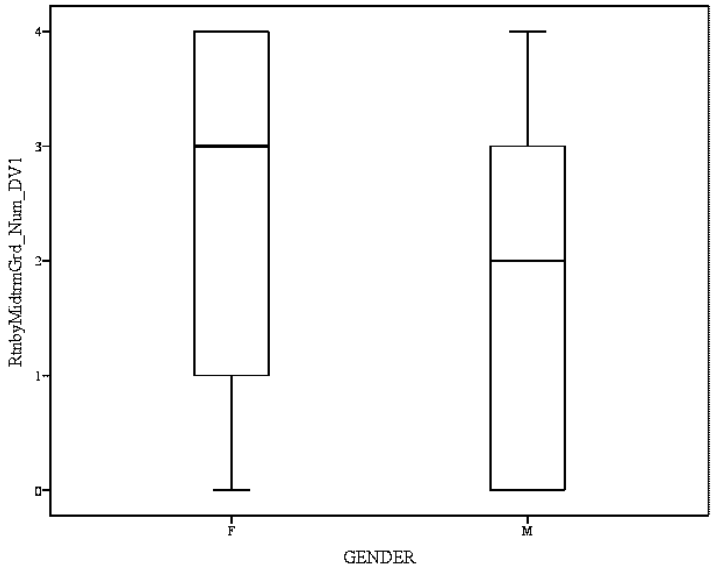


Figure 2. Boxplots of the pass online orientation with a grade of 80+ (IV_1) by Retention, Academic Success, Persistence and dependent variables. The three boxplot graphs show no outliers.

The three boxplot graphs shown in the Figure 2, are summary data plots of Retention by Midterm Grade, Academic Success by Final Grade, and Persistence by Enrollment in Subsequent Semester based on first-time online students' who participated and passed online orientation with grade of 80+. Notably, the above boxplots are divided into four sections or four-percentiles with the bottom line representing the 25thpercentile and the top line of the box representing the 75thpercentile. The middle line represents the measure if central tendency (median). The whiskers (T-bar) at the bottom and top of the boxplot represent the lowest and highest data values but are not considered as outliers (extreme data values). Extreme data values are indicated by circle plots beyond whisker indicators (Web.pdx.edu, 2017; Ken State University, 2016; IBM Knowledge Center, 2012).

These boxplots indicate that first-time online students who participated in online orientation and passed with a grade of 80+ had a high tendency to stay in their online

course as evidenced in Retention by Midterm Grade. These same students tended to successfully complete their online course as shown in Academic Success by Final Grade. Lastly, first-time online students who participated and those who did not participate in orientation were just as likely to enroll in another online course in a subsequent semester as depicted in the Persistence by Enrollment in Subsequent Semester.



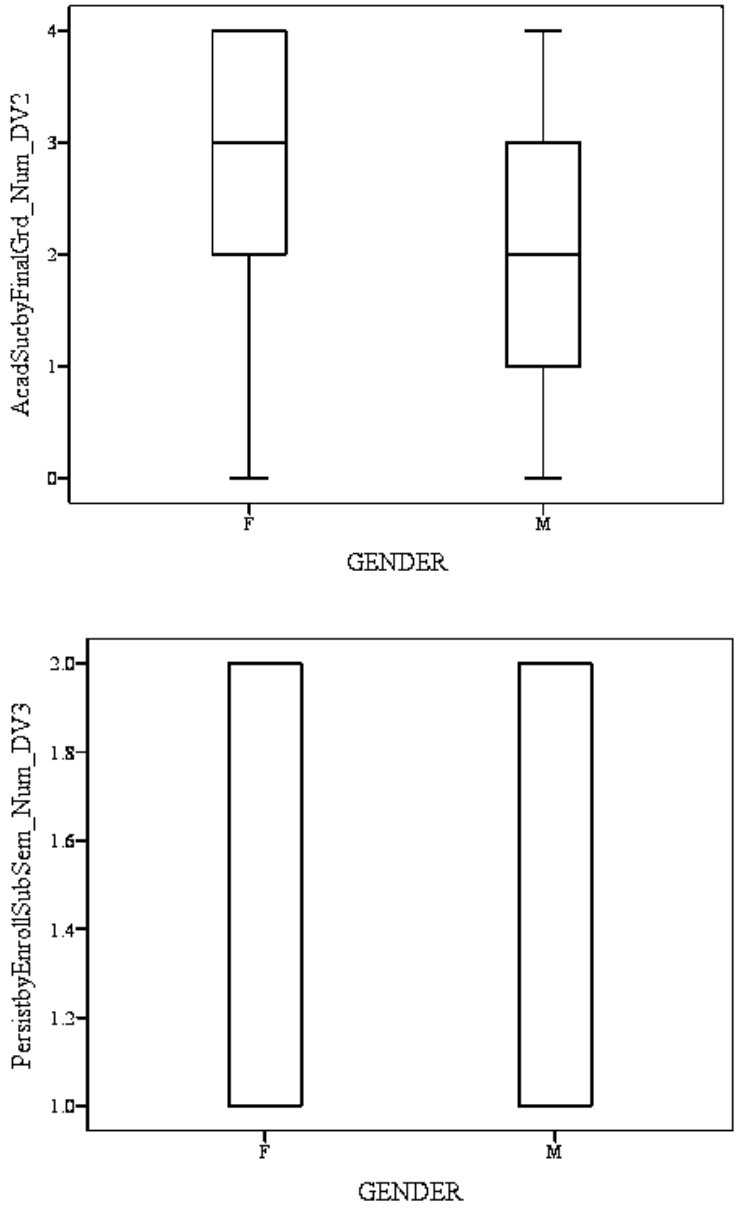


Figure 3. Pass Online Orientation with grade of 80+ based on Gender – Retention, Academic Success, and Persistence

The three-boxplot graphs shown in the Figure 3 (above) are summary data plots of Retention by Midterm Grade, Academic Success by Final Grade, and Persistence by Enrollment in Subsequent Semester based on gender. These boxplot graphs showed that female students had a high tendency to stay in their online course as evidenced in

Retention by Midterm Grade. Likewise, female students showed a high tendency to successfully complete their online course as shown in Academic Success by Final Grade. Most interestingly, female and male students were both just as likely to enroll in another online course in a subsequent semester as shown in the Persistence by Enrollment in Subsequent Semester.

2) Assumption: Residuals Normal Distribution

Table 3

Test of Normality –Pass Online Orientation with 80+_Retention, Academic Success, and Persistence

	Pass Online Orientation with 80+	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
Retention by Midterm Grade DV3	Did Not	.187	176	.000	.849	176	.000*
	Pass Online	.235	208	.000	.821	208	.000*

	Pass Online Orientation with 80+	Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Academic Success Final Grade	Did Not	.206	152	.000	.871	152	.000*
	Pass Online	.215	181	.000	.845	181	.000*

	Pass Online Orientation with 80+	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Persistence by Enroll in Subsequent Semester	Did Not	.430	209	.000	.590	209	.000*
	Pass Online	.468	224	.000	.538	224	.000*

Note. Table 3 data was coded and extracted from SPSS software.

Table 3 represents a normality test that checks for normal distribution of data based on academic success, retention, and persistence. The Shapiro-Wilk Normality Tests

was used to determine the data Skewness and Kurtosis (Laerd, 2016). The test for normality looks at the significant value to determine if the value was greater than .05. Significant value greater than .05 are considered not significant and therefore, data was normally distributed. On the other hand, significant value less than .05 are considered significant and data not normally distributed.

The Shapiro-Wilk test in Table 3 (above) showed significant value was less than .05 for Did Not and Pass Online Orientation with a grade of 80+. Therefore, data was not normally distributed for first-time online students who participated in online orientation and pass with a grade of 80+ and those who did not pass with a grade of 80+ across the three factors (retention, academic success, and persistence). The issues of non-normality may have derived from the large sample size (433 first-time online students).

Figure 4 (below) provides an illustrative explanation to why the data points were not normally distributed based on the linear line alignment.

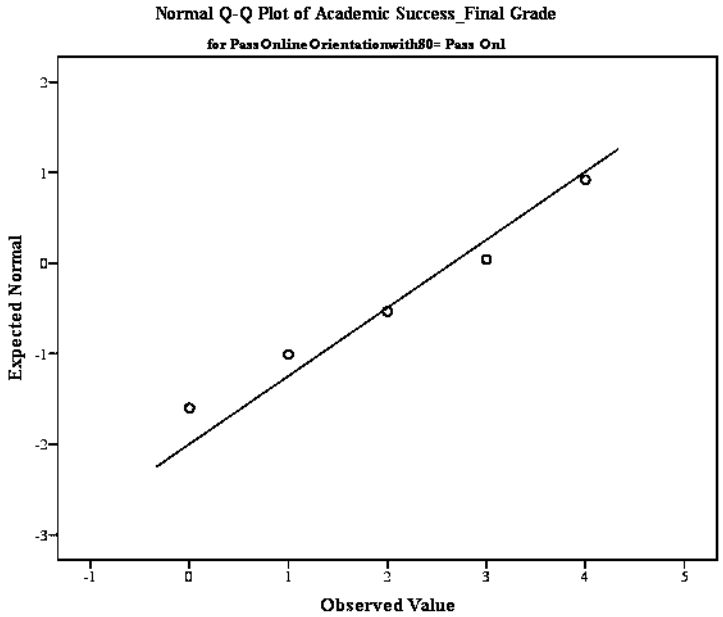


Figure 4. Normal Q-Q Plot of Academic Success_Final Grade

Figure 4 illustrates a slight non-normality of data distribution of data as evidenced in data plots position slightly away from the linear line. Note, the numeric values on the horizontal axis of the graph represent letter grades (4=A, 3=B, 2=C, 1=D, and 0=F). The graph offered additional explanation to the skewness of the data as evidence in two data plots position slightly away from the linear line at values 0 and 1 markers. More notably, most of the data plots are aligned on or near the linear line. The two variables that are slightly away from the linear line also represent first-time online students who withdrew from online class prior to end-of-semester and not enrolled in subsequent online courses as denoted in Table 3 (above) significant value is less than .05 (retention and persistence).

Table 4

Test of Normality –Pass Online Orientation with 80+_Gender

		Kolmogorov-Smirnov[b]			Shapiro-Wilk		
	GENDER	Statistic	df	Sig.	Statistic	df	Sig.
RtnbyMidtrmGrd_Num_DV1	F	.224	269	.000	.826	269	.000*
	M	.185	115	.000	.851	115	.000*

		Kolmogorov-Smirnov[b]			Shapiro-Wilk		
	GENDER	Statistic	df	Sig.	Statistic	df	Sig.
AcadSucbyFinalGrd_Num_DV2	F	.225	237	.000	.844	237	.000*
	M	.177	96	.000	.886	96	.000*

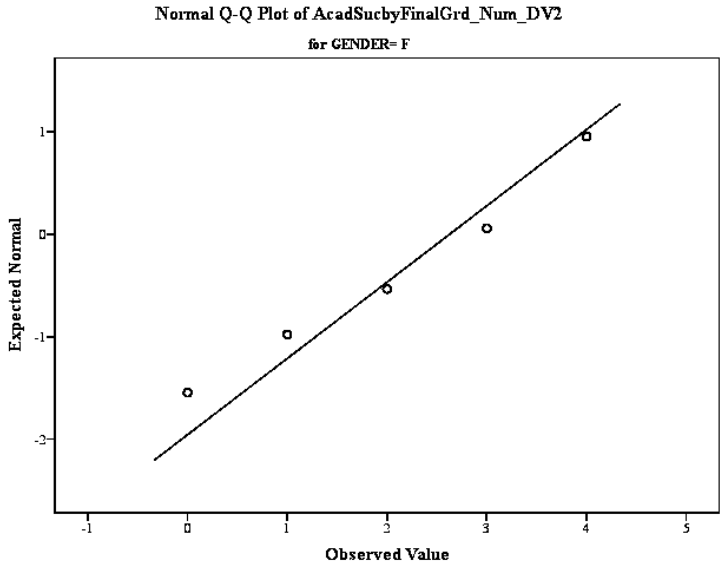
	GENDER	Kolmogorov-Smirnov[b]	Shapiro-Wilk

		Statistic	df	Sig.	Statistic	df	Sig.
PersistbyEnrollSubSem_Num_DV3	F	.458	295	.000	.555	295	.000*
	M	.433	138	.000	.587	138	.000*

Note. Table 4 data was coded and extracted from SPSS software.

Table 4 represents a normality test that checks for normal distribution of data based on gender. As noted in the previous assumption, the test for normality looks at the significant value to determine if the value is greater than .05 and if yes, than the significance value is considered not significant. A not significant value is means that the data are normally distributed. The Shapiro-Wilk test in Table 4 showed significant value was less than .05 for gender based on retention, academic success, and persistence. Therefore, data was not normally distributed for gender by academic success factor.

To further explain, Figure 4 shows why the data points were not normally distributed based on linear line alignment.



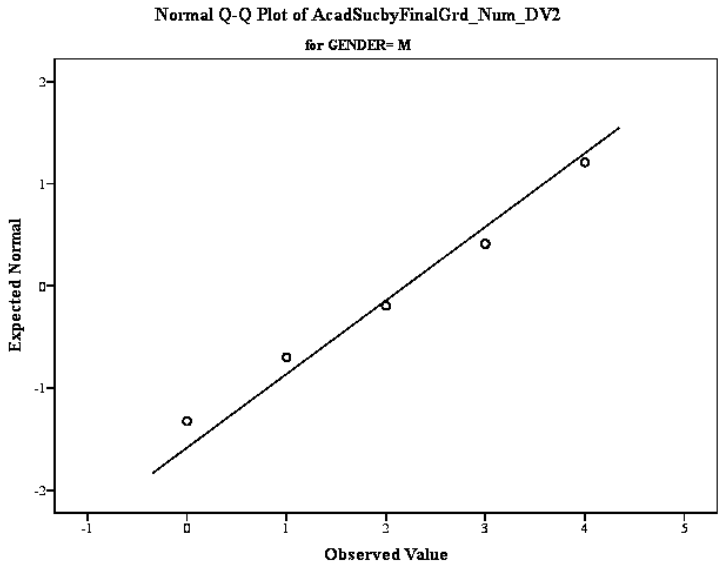


Figure 5. Normal Q-Q Plot of Academic Success_Final Grade by Gender

Figure 5 showed a slight non-normality of data distribution as evidenced in data plots position slightly away from the linear line. The numeric values on the horizontal axis (Observed Values) of the graph represent letter grades (4=A, 3=B, 2=C, 1=D, and 0=F). The graph offered additional explanation to the slight skewness of the data as evidence in two data plots position slightly away from the linear line at values 0 and 1 markers. Most notably, most data plots are aligned on or near the linear line. The two variables that are slightly away from the linear line also represent first-time online students who withdrew from online class prior to end-of-semester and not enrolled in subsequent online courses as denoted in Table 4 (above) significant value is less than .05 (retention and persistence).

3) Assumption: Homogeneity of Variance

Table 5

Levene's Test of Equality of Error Variances - Retention, Academic Success, and Persistence based on Pass Online Orientation with 80+

Dependent Variable: Retention by Midterm Grade

F	df1	df2	Sig.
.089	2	381	.914*

Dependent Variable: Academic Success_Final Grade

F	df1	df2	Sig.
.760	2	330	.468*

Dependent Variable: Persistence by Enroll in a Subsequent Semester

F	df1	df2	Sig.
10.186	2	430	.000*

Note: Table 5 data was coded and extracted from SPSS software.

Table 5 represents Levene's Test of Equality based on retention, academic success, and persistence. The retention by midterm grade based on pass online orientation with 80+ showed non-significant value of (F(.089) = 2, p = .914). The academic success by final grade showed non-significant value of (F(.760 = 2, p = .468). However, the persistence by enrollment in a subsequent semester showed a significant value of (F(.10 = 2, p = .000). Because the assumption of homogeneity of variance was not met, a conservative F adjusted ratio Welch test was conducted to test for equal population means and Brown-Forsythe test was conducted to test for equal variance of population.

Table 6 represents the Levene's Test of Equality based on gender per retention, academic success, and persistence. The gender per retention by midterm grade based showed non-significant value of (F(.473) = 5, p = .796). The gender per academic success by final grade showed non-significant value of (F(1.54 = 5, p = .176). However, The persistence by enrollment in a subsequent semester showed a significant value of

($F(4.19 = 5, p = .001)$.

Table 6

Levene's Test of Equality of Error Variances - Retention, Academic Success, and Persistence per gender

Dependent Variable: Retention by Midterm Grade

F	df1	df2	Sig.
.473	5	378	.796

Dependent Variable: Academic Success by Final Grade

F	df1	df2	Sig.
1.541	5	327	.176

Dependent Variable: Persistence by Enrollment in a Subsequent Semester

F	df1	df2	Sig.
4.194	5	427	.001

Note: Table 6 data was coded and extracted from SPSS software.

Because the assumption of homogeneity of variance was not met for persistence, a Welch test was conducted to test for equal population of means and Brown-Forsythe test was conducted to test for equal variance of population per gender. Table 7 (below) showed no significant in the mean and differences in persistence $F(2, 210.71) = 3.44)$, p = ..034) and $F(2, 303.64) = 3.75$, p = .025). Therefore, the null hypothesis was met and no real effect in persistence based on the Welch and Brown-Forsyth tests.

Table 7

Robust Tests of Equality of Means and Variance per persistence

		Statistic[a]	df1	df2	Sig.
PersistbyEnrollSubSem	Welch	3.441	2	210.708	.034*
	Brown-Forsythe	3.751	2	303.642	.025*

Note: Table 7 data was coded and extracted from SPSS software.

Results

The purpose of the null hypothesis was to examine whether the independent variables online orientations with first-time online students who participated and passed with grade of 80+, those who did not participate in online orientation, and gender are predictors of retention, academic success, and persistence. This study examined the following research questions and null hypothesis:

RQ1: Is there a significant difference in retention as measured by midterm grades of first-time online students who participated in online orientation and passed with grade of 80+, those who did not participate? Is there a significant difference in retention between male and female first-time online students as measured by midterm grades?

H_{01}: First-time online students who participated in an online orientation will not have a significantly higher retention rate than those who did not and their gender.

H_{A1}: First-time online students who participated in an online orientation will have a significantly higher retention rate than those who did not and their gender.

RQ2: Is there a significant difference in academic success as measured by final class grades of first-time online students who participated in online orientation and passed with grade of 80+and those who did not participate? Is there a significant difference in academic success between male and female first-time online students as measured by final grades?

H_{02}: First-time online students who participated in an online orientation will not have a significantly higher academic success rate than those who did not and their gender.

H_{A2}: First-time online students who participated in an online orientation will have a significantly higher academic success rate than those who did not and their gender.

RQ3: Is there a significant difference in persistence as measured by enrollment in at least one online course in the subsequent semester of first-time online students who participated in online orientation and passed with grade of 80+ and those who did not participate? Is there a significant difference in persistence between male and female first-time online students as measured by enrollment in at least one online course in the subsequent semester?

H_{03}: First-time online students who participated in an online orientation will not have a significantly higher persistence rate than those who did not and their gender.

H_{A3}: First-time online students who participated in an online orientation will have a significantly higher persistence rate than those who did not and their gender.

Research Question 1

The main effects in retention of first-time online students who participated in an online orientation, those who did not participate and their gender were examined in Table 8 (below). The tests of between-subjects effects confirmed the null hypothesis that there was not a significant effect in retention rate between first-time online students who participated and passed with a grade of 80+ versus those who did not participate in an online orientation and their gender. The main effects in interaction between PassOnlOrientGrd80*Gender were not statistically significant (F (2, 378) = .218, p = .804, partial η^2 = .001. However, the test showed a slight statistical significance with retention only in the gender group with p = .052. This is evident in figure 6 (below) that

showed an increase in retention with both gender in those who passed with a grade of 80+. The estimated mean showed differences in retention for those who participated and passed with a grade of 80+ between female (M = 2.52) and male (M = 2.17).

Table 8

Tests of Between-Subjects Effects - Retention by Midterm Grade

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	18.548[a]	5	3.710	1.583	.164	.021
Intercept	1282.352	1	1282.352	547.340	.000	.592
PassOnlOrientGrd80	5.917	2	2.959	1.263	.284	.007
Gender	8.927	1	8.927	3.810	.052*	.010
PassOnlOrientGrd80* Gender	1.022	2	.511	.218	.804*	.001
Error	885.608	378	2.343			
Total	2930.000	384				
Corrected Total	904.156	383				

Note: Table 8 data was coded and extracted from SPSS software.

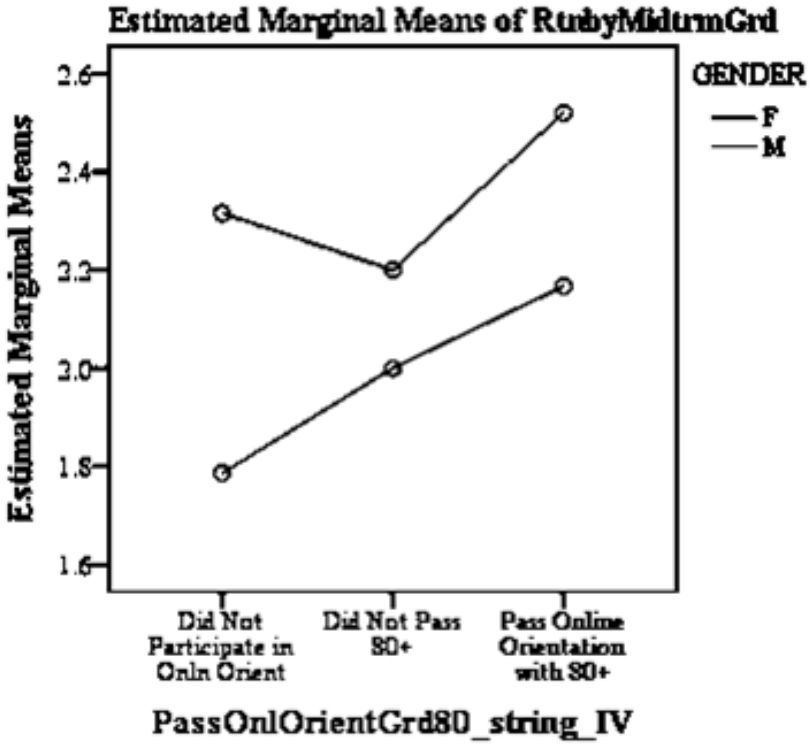


Figure 6. Profile Plot - Retention by Participation and Gender

Research Question 2

The main effects in academic success of first-time online students who participated in an online orientation, those who did not participate in an online orientation and their gender were examined in Table 9 (below). The tests of between-subjects effects confirmed the null hypothesis that there was not a significant effect in academic success between first-time online students who participated and passed with a grade of 80+ versus those who did not participate in an online orientation and their gender. The main effects in interaction between passed online orientation with a grade of 80+ and gender were not statistically significant (F (2, 327) = .190, p = .827, partial η^2= .001. The test showed some significance only in gender with p = .025. This is evident in figure 7 (below) that showed an increase in academic success with both gender in those who passed with a grade of 80+. The estimated mean showed differences in academic success for those who participated and passed with a grade of 80+ between female (M = 2.81) and male (M = 2.29).

Table 9

Tests of Between-Subjects Effects – Academic Success by Final Grade

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	23.060[a]	5	4.612	2.521	.029	.037
Intercept	1254.629	1	1254.629	685.849	.000	.677
PassOnlOrientGrd80	5.445	2	2.722	1.488	.227	.009
Gender	9.227	1	9.227	5.044	.025*	.015
PassOnlOrientGrd80*Gender	.697	2	.348	.190	.827*	.001
Error	598.184	327	1.829			
Total	2710.000	333				
Corrected Total	621.243	332				

Note: Table 9 data was coded and extracted from SPSS software.

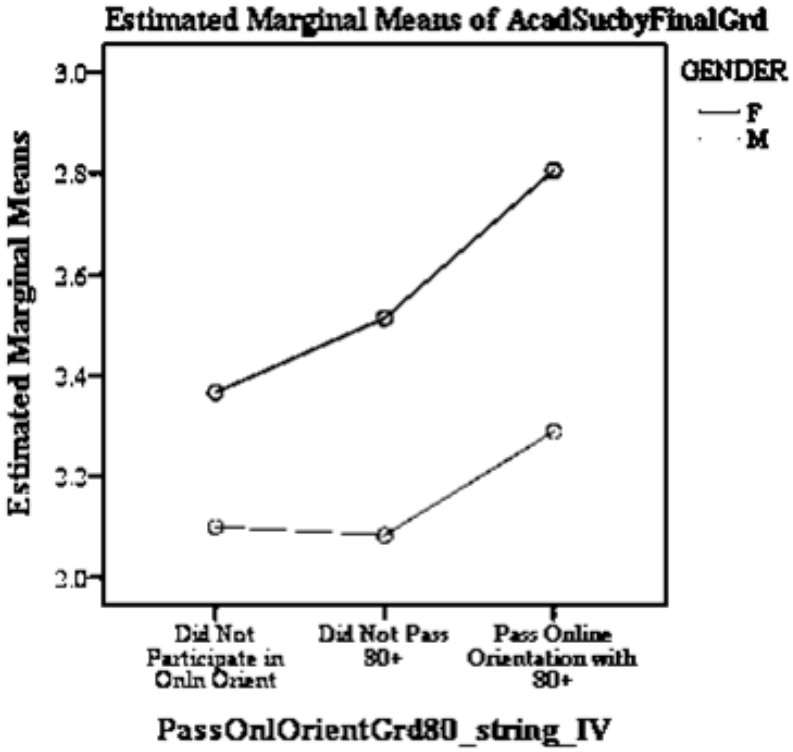


Figure 7: Profile Plot – Academic Success by Participation and Gender

Research Question 3

The main effects in persistence of first-time online students who participated in an online orientation, those who did not participate in an online orientation, and their gender were examined in Table 10 (below). The tests of between-subjects effects confirmed the null hypothesis that there was not a significant effect in academic success between first-time online students who participated and passed with a grade of 80+ versus those who did not participate in an online orientation and their gender. The main effects in interaction between passed online orientation with a grade of 80+ and gender were not statistically significant (F (2, 427) = .309, p = .734, partial η^2= .001. The test showed significance only in first-time online students who participated and passed with a grade of

80+ with p = .023. This is evident in figure 8 (below) that showed no interaction but a high percentage of academic success with both gender.

Table 10

Tests of Between-Subjects Effects – Persistence by Enroll in Subsequent Semester

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.797[a]	5	.359	1.771	.118	.020
Intercept	946.955	1	946.955	4664.193	.000	.916
PassOnlOrientGrd80	1.554	2	.777	3.828	.023*	.018
Gender	.146	1	.146	.718	.397	.002
PassOnlOrientGrd80*Gender	.126	2	.063	.309	.734*	.001
Error	86.692	427	.203			
Total	1360.000	433				
Corrected Total	88.490	432				

Note: Table 10 data was coded and extracted from SPSS software.

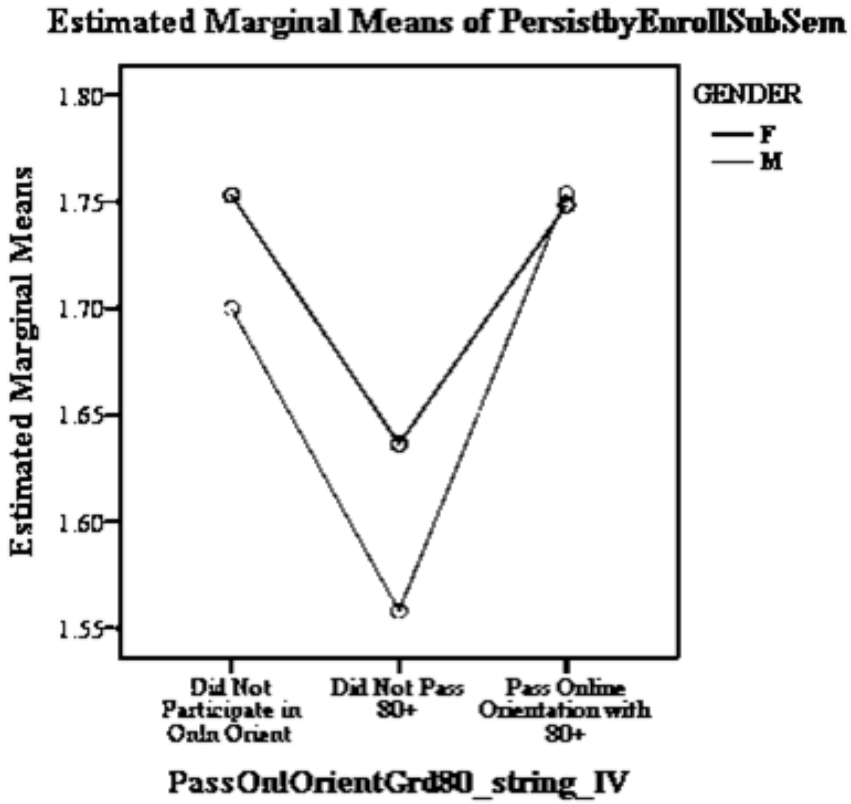


Figure 8: Profile Plot – Persistence by Participation and Gender

Summary

The two-way ANOVA statistical analysis examined archival data from a two-year technical college located in the southeastern region of the United States. A total of 433 sample population was extracted and analyzed using SPSS analytical software. The test indicated a high level of statistically significance in gender with academic success F (1, 327) = 5.04, p = .025, partial η^2= .015. At the same time, the two-way ANOVA test revealed a high level of statistical significance in persistence F (2, 427) = 3.83, p = .023, partial η^2= .018 with first-time online student who participated in online orientation and passed with a grade of 80+. Meanwhile, the findings showed some level of statistically significance in gender with retention factor (F (1, 378) = 3.81, p = .052, partial η^2= .010). The results of these data reject the null hypothesis.

On the contrary, the results from this study disclosed no high level of statistical significance (i.e. the calculated probability value or p-value was larger than the standard alpha level of significance .05 or 50%) were found in retention, academic success, and persistence independent variables when measured for interaction between PassOnlOrientGrd80*Gender. There was no statistically significant difference in retention at the interactions between PassOnlOrientGrd80*Gender (F (2, 378) = .218, p = .804, partial η^2 = .001. Similarly, there was no statistically significant difference in academic success at the interactions between PassOnlOrientGrd80*Gender (F (2, 327) = .190, p = .827, partial η^2= .001. Lastly, there was no statistically significant difference in

persistence at the interactions between PassOnlOrientGrd80*Gender F (2, 427) = .309, p = .734, partial η^2= .001. The results of these data fail to reject the null hypothesis.

Further study on the impact of online orientation to first-time online students in retention, academic success, and persistence at other 2-year colleges, 4-year colleges, graduate schools, and online only colleges are needed. More than ever, the research questions addressed in this study may be expanded to examined student status (freshman, sophomore, junior, transfer, returning student, and professional) upon enrollment in an online course for the first time.

Chapter 5: Interpretation, Implications, Recommendations, and Conclusions

Introduction

The purpose of this research study was to examine the impact of online orientation for first-time online students' retention, academic success, and persistence. The research sought to explore the effects of retention, academic success, and persistence based on comparisons of first-time online students' participation and nonparticipation in an online orientation. The sample size was 433. The hypothesis was that there is a statistically significant difference in online students' retention, academic success, and persistence based on participation in online orientation. The study analyzed online students' retention (DV_1), academic success (DV_2), and persistence (DV_3) based on first-time online students who participated in online orientation and passed with a grade of 80+ versus those who did not participate (IV_1). Gender (IV_2) was also an independent variable analyzed based on retention, academic success, and persistence rate.

Interpretation of Findings

The interpretation of this study's findings offered results in relation to the literature review discussed in Chapter 2. Briefly, the theory mentioned throughout Chapter 2 was constructivist style learning to enhance education for first-time online students. The common theme echoed throughout the literature review on online education was to ensure online students are, at minimum, adequately prepared for online learning. Based on previous literature concerning online learning and distance education, programs that offer online orientation evidenced higher student retention in online courses, higher

academic success rates, and better persistence in online course enrollment in the subsequent term.

The findings in this study utilized two-way ANOVA statistical analysis to examine the following three research questions:

RQ1: Is there a significant difference in retention as measured by midterm grades of first-time online students who participated in online orientation and passed with grade of 80+, those who did not participate? Is there a significant difference in retention between male and female first-time online students as measured by midterm grades?

RQ2: Is there a significant difference in academic success as measured by final class grades of first-time online students who participated in online orientation and passed with grade of 80+and those who did not participate? Is there a significant difference in academic success between male and female first-time online students as measured by final grades?

RQ3: Is there a significant difference in persistence as measured by enrollment in at least one online course in the subsequent semester of first-time online students who participated in online orientation and passed with grade of 80+ and those who did not participate? Is there a significant difference in persistence between male and female first-time online students as measured by enrollment in at least one online course in the subsequent semester?

Based on the research questions above and findings from the two-way ANOVA test, the research concludes that online orientation had some impact in retention based on midterm grades in gender group only. It was determined that female and male first-time

online students who participated in an online orientation and passed with grade of 80+ were likely to retain in their online courses. Conversely, online orientation had a statistically significant effect on academic success based on final course grades in the gender group alone. These students were also more likely to successfully complete their online course. Likewise, online orientation had a statistically significant effect on persistence based on enrollment in online courses in a subsequent semester, but this time, in first-time online students who participated and passed with grade of 80+. In other words, first-time online students who participated and passed with grade of 80+ were more likely to enroll in other online courses next semester then those who did not participate in an online orientation. The test rejected the null hypothesis and accepted the alternative hypothesis because the results for gender in retention, academic success, and persistence were statistically significant. At the same time, the test failed to reject the null hypothesis and not accept the alternative hypothesis because there was not a high statistical significant difference for interactions between PassOnlOrientGrd80*Gender (Pass Online Orientation with a grade of 80+ and Gender) in retention, academic success, and persistence.

This study found female and male first-time online students who participated in online orientation showed a likely tendency to remain in their online course, to be academically successful, and to persist and enroll in another online course in a subsequent term. Conversely, this research revealed there was no statistically significant difference in interactions between PassOnlOrientGrd80*Gender in retention, academic success, and persistence. Therefore, the results of this study were two-fold. When the

two-way ANOVA test analyzed the gender dependent variable, the probability value was less than the alpha level .05 showing strong support against the null hypothesis and acceptance of the alternative hypothesis. However, when the test measured interactions between two dependent variables (PassOnlOrientGrd80*Gender), the results of the p-value was greater than the alpha level .05, which showed weak evidence against the null hypothesis. The failure to reject the null hypothesis also implied the alternative hypothesis was not accepted.

Limitations of the Study

The limitations in this study may have prevented more robust and confident results. For example, the findings were generalized to the student population at a 2-year technical college, which represents a small population of first-time online students. The small technical college used in this study is in South Carolina. The sample population of first-time online students were limited to a technical college, which may influence the significance or lack of significance in the data results. Lastly, the study did not explore other demographics of first-time online student populations like student status (i.e. freshman, sophomore, transient, and working adult students) and age that may influence the results of this study.

Implications

The findings from this research had several implications for the participating 2-year college in this study and higher educational institutions overall. First, instilling adequate online orientation for online students to foster online learning success should be customized to student needs while meeting the institutional mission. Second, educational

institutions should conduct local research on online student populations and based on the findings, make informative decisions on how to sustain online education programs in the near and distant future. Third, the success and sustainability of online education entails embracing 21st century learning that fosters social and collaborative learning for online students (Becker et al., 2017). As change agents, educational administrators should build on this study's findings to improve online education for all students. Lastly, the findings in this study offered additional knowledge other scholars may extend and develop further on the impact of online orientation on first-time online students.

Recommendations

Lokken and Mullins (2014) reported that approximately 1.8 million community college students have taken at least one online course while in college. The high attrition rates amongst online students in higher education should be of concern for most colleges as online education continues its exponential growth (Allen and Seaman, 2013). Based on the literature review, more research is needed to better understand the online learning environment and improve students' preparation for online learning. Within the scope of these research findings, it is suggested that:

- New online students participate in online orientation prior to the start of online class.
- Online students who have taken at least one online course and whose final grade was below a grade of "C" should participate in online orientation prior to the start of online classes.

- Online orientation should be customized based on the college's population of online students.

Based on this study's findings, research pertaining to online students should be shared across higher education via professional development or visiting guest speakers. Online education requires the full attention of higher educational administrators if colleges are to achieve success in online students' retention, academics, and persistence.

Conclusion

This study provided additional evidence that online education needs more research studies for continuous and sustainable improvement. The findings in this research showed some statistical significance regarding retention, academic success, and persistence in first-time online students who participated and passed with a grade of 80+ and in gender groups. This was evidenced in data findings that revealed online orientation had some effect on first-time online students and their successful completion in online courses and persistence in enrollment in a subsequent semester. Of the 433 first-time online students and those who enrolled in an online orientation, a modest percentage of first-time online students were successful in completing their online course in the fall 2016 term. It is strongly recommended that further research studies are needed to fully understand the effects of online orientation to retention, academic success, and persistence in online students.

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Appendix A: Research Hypothesis alignment with Research Questions

Problem Statement	Measurement Outcome	Research Question	Data Points
1) Online orientation's impact on first-time online students' academic success rates in online classes.	First-time online students' pass by final grades.	RQ2: Is there a significant difference in academic success as measured by final class grades of first-time online students who participated in online orientation and passed with grade of 80+and those who did not participate? Is there a significant difference in academic success between male and female first-time online students as measured by final grades?	First-time online students Online Orientation Enrollment and Non-enrollment Data • Number of first-time online students enrolled in online orientation in fall 2016 semester. • Number of first-time online students not enrolled in online orientation in fall 2016 semester.
2) Online orientation's positive impact on first-time online students' persistence in online classes.	First-time online students' enrollment in online courses in subsequent semester.	RQ3: Is there a significant difference in persistence as measured by enrollment in at least one online course in the subsequent semester of first-time online students who participated in online orientation and passed with grade of 80+ and those who did not participate? Is there a significant difference in persistence between male and female first-time online students as measured by enrollment in at least one online course in the subsequent semester?	First-time online students Persistence Data • Number of first-time online students enrolled in subsequent term. • Number of first-time online students not enrolled in subsequent term.

3) Online orientations positive impact on first-time online students' class performance that correlates to passing their first online classes.	Number of times students utilized available support resources in the virtual classrooms.	RQ1: Is there a significant difference in retention as measured by midterm grades of first-time online students who participated in online orientation and passed with grade of 80+, those who did not participate? Is there a significant difference in retention between male and female first-time online students as measured by midterm grades?	3) First-Time Online Students Success Data • Number of first-time online students who participated an online orientation before the start of class as measured by attendance record. • Number of first-time online students who successfully completed online classes fall semester as measured by final grades.

Appendix B: Letter of Cooperation

Sample Letter of Cooperation from a Research Partner

Central Carolina Technical College
506 N. Guignard Drive
Sumter, SC 20150

February 7, 2017

Dear Dr. Frederick Cooper,

I am writing to request your permission and cooperation in the archived data collection process for my research on the *Impact of Orientation for First Time Online Students on Persistence, Academic Success, and Retention*. I am proposing to collect archived data on first-time online students enrolled in an online orientation and those not enrolled in an online orientation in the fall 2016 semester. The data collection will be coordinated with the Research and Planning Department at Central Carolina Technical College in order to minimize disruption to the college activities.

My role in the data collection will be undertaking a Walden University student researcher role.
To support this research inquiry, I am willing to release de-identified data to you, as outlined in the attached Data Use Agreement. You may reserve the right to withdraw from the study at any time if our circumstances change.

The data collected will remain entirely confidential and may not be provided to anyone outside of the college without permission from Central Carolina Technical College and Walden University IRB.

Thank you for your consideration. I would be pleased to share the results of this study with you if you are interested.

I am requesting your signature to document that I have cleared this data collection with you.

Sincerely,
Lynda Marshall
Walden PhD Candidate

Walden University Graduate Student Signature_____

Authorize Institutional Officer Signature: _____

Appendix C: Data Use Agreement

DATA USE AGREEMENT

This Data Use Agreement ("Agreement"), effective as of February 7, 2017 ("Effective Date"), is entered into by and between Lynda Marshall ("Data Recipient") and Central Carolina Technical College ("Data Provider"). The purpose of this Agreement is to provide Data Recipient with access to a Limited Data Set ("LDS") for use in research in accord with the HIPAA and FERPA Regulations.

1. Definitions. Unless otherwise specified in this Agreement, all capitalized terms used in this Agreement not otherwise defined have the meaning established for purposes of the "HIPAA Regulations" codified at Title 45 parts 160 through 164 of the United States Code of Federal Regulations, as amended from time to time.

2. Preparation of the LDS. Data Provider shall prepare and furnish to Data Recipient a LDS in accord with any applicable HIPAA or FERPA Regulations

Data Fields in the LDS. No direct identifiers such as names may be included in the Limited Data Set (LDS). The researcher will also not name the organization in the doctoral project report that is published in ProQuest. In preparing the LDS, Data Provider or shall include the data fields specified as follows, which are the minimum necessary to accomplish the research:

a. **Orientation Enrollment:** First-time online students enrolled in online orientation.
   First-time online students not enrolled in online orientation.

b. **Persistence:** Sustained enrollment after drop/add week.

c. **Academic Success:** First semester online course final grades.

d. **Retention:** Enrollment is next term (1term data)

3. Responsibilities of Data Recipient. Data Recipient agrees to:

a. Use or disclose the LDS only as permitted by this Agreement or as required by law;

b. Use appropriate safeguards to prevent use or disclosure of the LDS other than as permitted by this Agreement or required by law;

c. Report to Data Provider any use or disclosure of the LDS of which it becomes aware that is not permitted by this Agreement or required by law;

d. Require any of its subcontractors or agents that receive or have access to the LDS to agree to the same restrictions and conditions on the use and/or disclosure of the LDS that apply to Data Recipient under this Agreement; and

e. Not use the information in the LDS to identify or contact the individuals who are data subjects.

4. Permitted Uses and Disclosures of the LDS. Data Recipient may use and/or disclose the LDS for its research activities only.

5. Term and Termination.

a. Term. The term of this Agreement shall commence as of the Effective Date and shall continue for so long as Data Recipient retains the LDS, unless sooner terminated as set forth in this Agreement.

b. Termination by Data Recipient. Data Recipient may terminate this agreement at any time by notifying the Data Provider and returning or destroying the LDS.

c. Termination by Data Provider. Data Provider may terminate this agreement at any time by providing thirty (30) days prior written notice to Data Recipient.

d. For Breach. Data Provider shall provide written notice to Data Recipient within ten (10) days of any determination that Data Recipient has breached a material term of this Agreement. Data Provider shall afford Data Recipient an opportunity to cure said alleged material breach upon mutually agreeable terms. Failure to agree on mutually agreeable terms for cure within thirty (30) days shall be grounds for the immediate termination of this Agreement by Data Provider.

e. Effect of Termination. Sections 1, 4, 5, 6(e) and 7 of this Agreement shall survive any termination of this Agreement under subsections c or d.

6. Miscellaneous.

a. Change in Law. The parties agree to negotiate in good faith to amend this Agreement to comport with changes in federal law that materially alter either or both parties' obligations under this Agreement. Provided however, that if the parties are unable to agree to mutually acceptable amendment(s) by the compliance date of the change in applicable law or regulations, either Party may terminate this Agreement as provided in section 6.

b. Construction of Terms. The terms of this Agreement shall be construed to give effect to applicable federal interpretative guidance regarding the HIPAA Regulations.

c. No Third Party Beneficiaries. Nothing in this Agreement shall confer upon any person other than the parties and their respective successors or assigns, any rights, remedies, obligations, or liabilities whatsoever.

d. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

e. Headings. The headings and other captions in this Agreement are for convenience and reference only and shall not be used in interpreting, construing or enforcing any of the provisions of this Agreement.

IN WITNESS WHEREOF, each of the undersigned has caused this Agreement to be duly executed in its name and on its behalf.

DATA PROVIDER	**DATA RECIPIENT**
Signed: _____	Signed: _____
Print Name: _____	Print Name: _____
Print Title: _____	Print Title: _____