EFFICACY OF HYBRID COURSEWORK ON RETENTION

RATES IN ONLINE HIGHER EDUCATION


by

Kevin Daniel Struble

Liberty University




A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education




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ABSTRACT

Recent developments and technological advances in online education have provided the adult learner with new opportunities to obtain a college education. However, online coursework offers new challenges particularly for online student retention, as these rates are lower than traditional students on a college or university campus. The following research outlines a quantitative study for the perceived effect of social learning for adult online learners through hybrid coursework on undergraduate retention rates through two research questions using a causal-comparative design for research question one and a correlational design for research question two. This study examined retention theory in regards to social learning by comparing the participation of adult online learners who enrolled in a blended online and on-campus hybrid course to those who solely took online courses. It also studied the relationship between number of hybrid courses taken by online students and retention. It was found through a chi-square test of independence for research question one that there was a statistically significant difference between fully online and hybrid course students with retention rates, as hybrid students retained at a higher percentage. In addition, a bivariate correlation was conducted for the second research question and found there was no statistically significant relationship between the increased number of hybrid courses taken and student retention. The results of this study provided a better understanding of the effect that hybrid courses had on retention rates of adult online learners in higher education.

*Key words:* adult leaner, online education, retention, hybrid, blended, social learning

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**List of Abbreviations**

Administration Information Management (AIM)

Institutional Review Board (IRB)

National Center for Education Statistics (NCES)

Statistical Package for the Social Sciences (SPSS)

Structured Query Language (SQL)

**CHAPTER ONE: INTRODUCTION**

Institutions of higher learning have seen a dramatic increase in adult online learner enrollment due to the innovation and advancement of online education (Melkun, 2012). These students are able to access coursework and complete assignments through Internet based virtual classrooms without the requirement of attending class on a traditional college campus. Instructors and classmates are at a distance from each other but connect through a single web-based portal. This trend has allowed increasing numbers of nontraditional students access to higher education. However, online student retention rates are lower than traditional students who attend classes on a brick and mortar campus (Angelino, Williams, & Natvig, 2007). Research shows that retention rates for online students are typically 10-20% lower than residential students (Holder, 2007; Russo-Gleicher, 2013). Additionally, successful completion rates for online programs have been reported around 50% while residential programs have been between 70-75% (Jenkins, 2011; Willging & Johnson, 2009).

There are a variety of factors, such as motivation, environment, background, or educational history, as to why these retention statistics may differ, but an important aspect to learning found missing in online education is the concept of community through learner-learner, learner-instructor, and learner-institution relationships (Moore, 1993). The social interaction among peers, instructor, and institution can support overall student satisfaction, learning, and retention (Tinto, 1975). A hybrid course model for online education can help bridge the gap between the isolation of online coursework and benefits of social learning in the traditional classroom. Researchers have additionally stated the need for further research to compare online and hybrid courses on student retention (Dzuiban, Hartman, & Moskal, 2004; Vaughan & Garrison, 2006). The following research sought to find the perceived effect of hybrid

coursework on retention rates of adult learners in online higher education.

## Background

Online learning is defined as Internet based education through the use of technology for the purpose of providing curriculum and instruction (Sener, 2010). It has seen a transformation and major growth in recent years due to the advancement of technology and the attractiveness of its low cost and flexibility. As reported by Sener (2010), the United States alone saw an increase of online enrollment of 10% to 30% within higher education from the years 2002 to 2009. It is no longer viewed as a trend but common academic practice among institutions of higher learning. An online format provides a group of learners with the necessary curriculum through a web-based program that is facilitated by an instructor. It can be more cost effective to the student and allows nontraditional students to enroll in higher education. With the lower cost of online higher education and global accessibility through the Internet, the online classroom is more diverse than a traditional classroom because students come together for online instruction from a variety of backgrounds with varying degrees of personal and professional experience (Li & Irby, 2008).

According to a 2013 report by the National Center for Educational Statistics (NCES), more individuals are in higher education and receiving a degree than ever before. The enrollment in colleges and universities increased 11% between 1991 and 2001 and 32% between 2001 and 2011. The demands of the work force are increasing with the global economy and nontraditional learners are looking to go back to college to further their education. Additionally, the global economic impact and financial downturn in 2007 is considered another contributing factor to recent enrollment growth. Dellas and Sakellaris (2013) believe that matriculation in higher education is countercyclical to the economic cycle. Similarly, Long (2004) found a

positive correlation between increased unemployment rates and higher education admittance. The latest advancement of technology, evolution of distance learning programs, and economic instability has each provided an avenue for these individuals, who otherwise may not have, to obtain a college degree.

Individuals enrolled in online courses are typically provided, as a responsibility of the institution, the same academic rigor and quality of learning as the resident course equivalent for preparing students professionally, making online a more attractive learning format for adult learners (Garrison, 2000; Hong, 2002; Rovai, 2002). Recent developments in online education have worked to meet the needs, demands, and expectations of the adult learner, resulting in increased enrollment (Radda, 2012). These courses are designed with the adult learner in mind in an effort to incorporate collaborative and authentic instruction through self-directed learning (Ruey, 2010). As online education continues to expand, it is natural for the number and diversity of students enrolling in these programs to increase.

Dyrbye, Cumyn, Day, and Heflin (2009) attribute three main factors to the recent growth and acceptance of online education for adult learners: coursework flexibility, cost savings due to little institutional overhead resulting in low tuition rates, and the convenient format of online course delivery. The nontraditional student can utilize online learning to enroll in courses when it is most convenient for them with the benefits of lower tuition rates, while completing allocated readings, watching lectures, and submitting assignments either before work, after children are asleep, or during a specific time selected by the individual (Li & Irby, 2008). Due to these various factors, online schools have the ability to market themselves to a new population of students from diverse backgrounds and a broader age range. The trend towards online courses and the increase of adult learners has caught the attention of traditional brick and mortar

campuses, resulting in more colleges and universities offering courses or degree programs in an online format (Morris & Finnegan, 2009).

The adult online learner, also understood to be a nontraditional student, is defined as an individual seeking a degree in higher education who cannot attend regular on-campus courses because they have a fulltime job, are raising a family, are in the military, are at a distance from a college campus, or were not able to previously afford an education (Melkun, 2012). While these students are often 25 years of age or older (Bean & Metzner, 1985), students of a younger age may fall under this definition as circumstances have prevented them from enrolling in an on-campus program.

Adult online learners may also need additional motivation and determination to successfully complete their education, as they are facing a variety of pertinent responsibilities and obligations. Ruey (2010) describes these students as independent critical thinkers who are seeking new knowledge to enrich their personal and professional lives. In order to accommodate the needs of adult online learners and assist institutions in retaining the nontraditional student, course design and format needs to adapt. As adult online learners seek out programs that best fit their wants and professional aspirations, they do so in the context of their unique learning styles. Therefore, colleges and universities committed to adult online learning must focus on attracting students through innovative online programs while helping them overcome obstacles the traditional student does not necessarily face, or otherwise the nontraditional student will not matriculate or retain through graduation.

A major concern for higher education in general is the retention of students. Due to the nature of distance learning, online students are unable to socially interact with their peers and instructor face-to-face while their on-campus counterparts do so inadvertently. Tinto (1975)

discusses the importance that college environment plays in the role of traditional higher education. Interactions between classmates, faculty, and the institution ultimately help students engage in the learning process, with each social relationship playing an important role when an individual assesses the costs and benefits of higher education. As stated by Tinto (1975), "Social integration should increase the likelihood that the person will remain in college" (p. 107). Since online education is conducted without the social interactions that traditional college classrooms naturally afford, this aspect of learning becomes an obstacle that online educators must overcome to reduce attrition.

Although online education has its benefits, it can also be a struggle for students, as they may feel an increased sense of isolation from others during the learning process. Social learning theory, which was developed by Bandura (1977), touches on the importance that social interactions play in the learning process. He explains the positive influence that observation and modeling have when learning new concepts and ideas. Bandura (1977) describes his theory as a social cognitive theory because while external reinforcements are good, internal reinforcement through the cognitive process is similarly influential. The modeling aspect of his theory requires steps that involve attention, retention, reproduction, and motivation, with each playing a vital role in the behavioral and cognitive learning of an individual (Bandura, 1977). Online education can lack certain aspects of social learning theory, as addressed by Moore (1993) in his theory of transactional distance, which may result in students not being fully engaged in their education due to varying degrees of course dialogue, structure, and learning autonomy, which can potentially lead to lower retention rates of online programs.

**Problem Statement**

The following study reviewed the presumed effect of social learning within hybrid

coursework on the student in online higher education in respect to retention rates. Through the recent growth in online education and technology, a new opportunity is provided for adult learners to enroll in college (Melkun, 2012). However, the lack of face-to-face social interactions with classmates and instructors through online coursework can sometimes deter an adult learner's ability to comprehend course material, as individual learning needs cannot always be met from a distance, causing issues with student matriculation and retention (Angelino, et al., 2007; Tinto, 1993). Due to the distinct nature of online learning, it is beneficial for the field of educational research to define the social learning interaction between students and instructor from a distance. This can be done through implementing the principles of the theory of transactional distance. The theory of transactional distance purports that online education is more than a geographical separation but a communication gap that affects both the behavior of instructors and students and an individual's overall comprehension of the course material (Moore & Anderson, 2003).

As concerns with social interactions exist with learning in online education, an alternative instructional delivery, hybrid coursework, may help in this area. This format, sometimes referred to as a blended model, combines online learning with face-to-face instruction, strengthening the learning process through the benefits of both delivery methods (Wu, Tennyson, & Hsia, 2010). Through providing hybrid courses, an online school can offer adult learners the option of attending courses on-campus to utilize face-to-face instruction and social interaction with professors and classmates that aid in curriculum comprehension and reduce negative effects of transactional distance. Owston, York, and Murtha (2013) found that students, based upon their specific learning needs, who enroll in a hybrid course often see an increase in overall satisfaction and grade point average compared to exclusively traditional classroom learning.

Likewise, Castle and McGuire's (2010) research resulted in the understanding that increased online student-instructor interaction through the hybrid format provided the highest levels of student learning and satisfaction. This study used a quantitative method of inquiry to look at the perceived effect of hybrid courses on retention rates for the adult learners in online higher education.

## Purpose Statement

The purpose of this study was to examine Tinto's (1975) model of retention theory in regards to social learning through hybrid coursework. It compared the participation of adult online learners who enrolled in an undergraduate blended online and on-campus hybrid course to those who solely took undergraduate online courses and also compared students by the number of hybrid courses taken. The study controlled for those who were enrolled from 2007-2010 in an online program with optional hybrid coursework for adult online learners at a large southeastern university. The independent variables of interest of participation in an undergraduate formatted fully online or hybrid course were generally defined as an adult online learner who chose to either enroll in a class that was formatted as an 8-week fully online course or in one or more hybrid courses that took place on-campus for one week with some online coursework. The dependent variable of interest of retention rates was generally defined as adult online learners who had an enrollment status of retained, attrite, or graduated, and the control and intervening variables, enrollment from 2007-2010 in an undergraduate online program with optional hybrid coursework, classification level during enrollment of hybrid courses, and number of hybrid courses taken were statistically controlled in this study.

## Significance of the Study

The goal of this study was to understand the overall impact of social learning on retention

rates for adult online learners in hybrid courses compared to those who enrolled in solely online courses in institutions of higher learning, as well as the effect of how many hybrid courses taken by adult online learners had on retention. As attrition rates in colleges and universities are much higher for undergraduate online students than traditional residential students (Angelino, Williams, & Natvig, 2009; Hyllegard, Heping, & Hunter, 2008; Moody, 2004; Rovai, 2003), the significance of this study will help online institutions decide whether incorporating hybrid coursework into their programs would be beneficial in retaining their students. A hybrid format is understood to be an academic course design that incorporates both a face-to-face and online learning delivery for the adult online learner who does not attend a traditional on-campus college program (Phillips, 2013). This study sought to understand the perceived effect of social learning on overall retention rates for adult online learners that participated in an on-campus, face-to-face hybrid course during their time as an online undergraduate student.

The conclusions of this study benefit the administration and students of the online university, as well as the general field of online education as it gauged the potential effectiveness of on-campus coursework in retaining adult online learners in undergraduate programs. Results and data from this study help other administrators, faculty, and students make decisions on whether to offer or enroll in hybrid coursework. It is recommended that further research be conducted using an experimental research design to assist in the validity of this research, therefore encouraging other online institutions of higher education to implement similar programs to receive similar retention results. If the conclusions of this study point towards hybrid courses helping to aid in the retention of adult online learners, it would be recommended that higher education administrators create such programs or continue to utilize and expand their current hybrid course offerings to assist in retaining online students. Current and prospective

online students can see additional benefits to the course format and decide whether enrolling in hybrid courses is a good option in completing their degree. If no significant difference or positive correlation is found then the hybrid course format can continue to be used as a way to foster social interaction and help appeal to certain learning styles or preferences.

## Research Questions and Hypotheses

The following research questions and null hypotheses guided this study:

### Research Questions

RQ 1: Do adult online learner retention rates increase significantly after participating in an on-campus hybrid course as opposed to adult online learners who solely take online courses?

RQ 2: Is there a significant relationship between the number of hybrid courses taken by adult online learners and retention rates?

### Null Hypotheses

$H_0 1$: There is no significant difference between retention rates of adult online learners who attend one or more on-campus hybrid courses as opposed to adult online learners who solely take online courses.

$H_0 2$: There is no significant correlation between the number of hybrid courses taken by adult online learners and retention rates.

## Identification of Variables

The independent variables for this study were adult online learners who enrolled in an undergraduate program with optional hybrid coursework and chose to participate in courses in either the fully online or hybrid format. For research question one, the two comparison groups consisted of individuals who participated in a hybrid course, the treatment group, and those who enrolled in fully online coursework, the control group. For the second research question, the

independent variable was continuous, as it included the number of hybrid courses taken by an online student ranging from one to four. The institution of higher learning where this study took place offered 31 of the same courses, as either an 8-week fully online class or as a hybrid model with a one-week on-campus course component, with the option for students to select which format they would prefer to enroll.

The dependent variable for this study, and for both research questions, was the retention rate of adult online learners in undergraduate programs that offered optional hybrid coursework. The retention of students was categorized into three enrollment statuses: retained, attrite, and graduated. The enrollment statuses of retained and graduated express a positive connotation in that both showed students had continued their enrollment at the participating university, which is the desired outcome for online programs. The enrollment status of attrite expresses a negative connotation in that the students decided to leave the institution and discontinue their enrollment, which colleges and universities seek to avoid. Through research question one, each independent variable was compared based upon enrollment status to gauge the difference between retention rates with fully online and hybrid courses, while research question two analyzed the relationship between retention rates and the number of hybrid courses taken by online students.

**Definitions**

*Attrite* – A student who decides to drop out of coursework and not re-enroll into another course at a single institution within one academic year.

*Attrition* – Commonly referred to as a decrease in the number of students engaged in coursework. It is often used interchangeable with drop-rate (Ali & Leeds, 2009).

*Broken-enrollment* – The failure to re-enroll in a subsequent academic year.

*Classification Level* – A status that determines a student's academic standing towards graduation based upon earned credit hours.

*Dropout* – The abandonment of a course of study or degree program.

*Enrollment* – The continual participation in coursework from semester to semester.

*Hybrid Course* – A course format that delivers face-to-face teaching in online education by implementing both online web-based teaching and limited seat time in a residential classroom during enrollment of a single course (Brunner, 2006).

*Nontraditional Student* – An individual seeking a degree in higher education who cannot attend traditional college courses because of preexisting conditions or were not able to afford an education previously.

*Online/Distance Education* – Internet based education through the use of technology (Sener, 2010).

*Persistence* – The act of continuity in higher education, namely, on-time completion of degree (Martinez, 2003).

*Retained* – A student who has continued their enrollment each semester at a single intuition of higher learning.

*Retention* – Refers to the number of students who progress from one semester of a college program to the next. This assumes the successful completion of the course to allow for progression to the next course in sequence (Ali & Leeds, 2009).

*Transactional Distance* – The theory that distance education is more than a geographical separation, but a communication gap that affects both the behavior of teachers and students and the individuals comprehension of the course material (Moore & Anderson, 2003).

**CHAPTER TWO: REVIEW OF THE LITERATURE**

Over the past decade, there has been a dramatic increase in the number of online education providers and the number of students enrolling in higher education. However, institutions are also battling with low retention rates of online learners (Hachey, Wladis, & Conway, 2012). Tinto (1975) developed the model of student retention that examines the relationship of dropouts in regards to student interaction with peers, instructors, and the institution. He found that student's retain at a lower rate when they are not involved with the academic and social aspect of college (Tinto, 1975). Astin (1993) found that learner interactions at both the physical and psychological level with the institution increase learning and student development while positively affecting retention. He developed this idea into the theory of student involvement, which emphasizes the importance of active participation, no matter how extensive or brief, by the student in the learning process through social interaction with the institution. This college involvement will ultimately lead to benefits in learning and individual growth and enhance retention (Astin, 1993). Both of these researchers initially studied the importance of retention for the traditional on-campus student.

Bean and Metzner (1985) added to Tinto's (1975) model by looking at the nontraditional student and how they often lack social involvement with the institution and developed the model of nontraditional student attrition. Their model includes environmental variables such as finances, employment, outside encouragement, family responsibilities, opportunity to transfer, grade point average, satisfaction, commitment, stress, and intent to leave and compared them to retention rates, as these are sometimes more important to the nontraditional student (Bean & Metzner, 1985). These learners face the challenge of being socially removed as they commute to campus and are primarily focused on just academic offerings.

As online education has developed and become more prominent, they can now be placed under the classification of a nontraditional student. These learners face the challenge of being socially and physically separated from each other and their professor, causing a sense of isolation, lack of support, and feeling of detachment (Angelino, et al., 2007). Hachey, Wladis, and Conway (2012) found when institutional support services build community among nontraditional online students and provide tools to help them successfully complete an online course, they are more likely to re-enroll the following semester.

Bandura (1977) introduced his theory on social learning by highlighting how learning takes place best when completed in a physical group setting. Although his theory is more dynamic than this single idea, his underlining argument is that learning can be very labor-intensive if undertaken in isolation. It is through observation and modeling that an individual can witness the human behavior of others to then internalize that demonstration to later serve as a guide for action (Bandura, 1977). Online education by definition lacks the full ability for students to interact socially and engage in this form of observation and modeling of others. While students at a distance can observe and model through online interactions or learn from instructor comments during the grading process while in isolation, the central physical aspect found in Bandura's (1977) theory is absent. Moore (1993) highlights this deficiency through his theory of transactional distance. He refers to the communication and psychological barrier found in online education through the interactive components of dialogue, structure, and learner autonomy. Due to the nature of distance learning, the three major educational relationships found in a traditional classroom are often hindered: the connection between learner-learner, learner-instructor, and learner-institution (Moore, 1993).

As a way to fill the social learning gap within online education, some schools have turned to the hybrid course model. As defined by Brunner (2006), a hybrid course is unique in its format as it seeks to utilize limited, yet beneficial, face-to-face class time as a convenience to distance learners while employing online web-based content with deadlines to ensure students properly learn the curriculum. This model should not to be confused with courses that seek to infuse web-based content and interaction within traditional courses for curriculum enhancement (Brunner, 2006). It must be noted that a hybrid course will strictly utilize online instruction for students at a distance but also require limited seat time in an on-campus classroom. While the ratio of online instruction to face-to-face teaching may vary, a hybrid course is best outlined as having reduced seat time to benefit the adult online learner (Brunner, 2006).

Each of these theories discusses the significance social interactions play between students and instructors. However, additional research on adult online learners and the impact their physical and social involvement with their institution has on retention would be beneficial for online institutions and their desire to reduce attrition. While retention measures whether a student successfully completes a course and progresses to the next course, attrition refers to student dropout rates or failure to re-enroll in the next course (Hagedorn, 2006). As a medium between the two, persistence refers to a student who continues on through graduation (Ali & Leeds, 2009). Administrators in online education must understand the trends of retention, attrition, and persistence rates for their students and what causes them to fluctuate. This research studied two questions within online education and the effects of hybrid coursework on retention: (1) if social interaction through hybrid coursework made a statistically significant difference in online student retention compared to fully online coursework and (2) if a statistically significant relationship exists between the increased number of hybrid courses and online student retention.

**Theoretical Framework**

This study is based on three leading theories.  The first is Tinto's (1975) model of student retention as it relates to the importance of social interactions and its development in higher education.  The second is Bandura's (1977) social learning theory and the effect that peer interaction plays in the learning process.  The third is Moore's (1993) transactional distance theory on psychological and communication barriers through three variables (dialogue, structure, and learner autonomy) and their effect on students in online education.

**Model of Retention**

When referring to student retention, one cannot overlook the important contributions to the model of retention by Tinto (1975), a pioneer in the field.  The beginnings of his model originated in connection to his work with Cullen in 1973 as they discussed student attrition and persistence.  However, the model evolved into his widely cited theory on student retention (Bean, 1981; Metz, 2005). Since he is frequently referenced due to his extensive work on the need for college student integration, both intellectually and communally, it has become the primary predicate for educators in gauging and discussing retention (Hagedorn, 2006).  To help place Tinto's model of retention into context, one must understand the early work of Emile Durkheim (1951) and his theory of suicide (altruistic, anomic, fatalistic, and egotistical) as it aimed to better understand why suicide rates differ among countries and time through the field of sociology.  Tinto (1993) connected Durkheim's theory, more specifically his egoistical interpretation on suicide, with institutional fit and student departure as it emphasizes the importance placed on lack of societal integration, sense of overall community by an individual, and inadequate relationships of one individual to another in helping measure a student's desire to persist in higher education.

Bean (1981) concludes Tinto's model reflects Durkheim's egoistic form of suicide in that assimilation into social communities should lessen the probability that an individual would commit suicide. In applying this to a model of student retention, the more a student participates in the social and academic settings of an institution, the less likely they will drop out (Tinto, 1975). Durkheim originally reviewed the principles of sociology and how suicide rates fluctuated between countries by understanding their different social environments (Tinto, 1993). His egoistical theory of suicide discusses two main aspects of integration that are important to human relationships, social and intellectual. Social refers to daily interactions with members of a community, while intellectual refers to the societal sharing of certain beliefs and values (Tinto, 1993). Though each relationship is separate, they are interconnected. It is through the inadequate integration or lack of community in one, which can then negatively affect the other, or both areas altogether that can lead to an increased sense of suicidal thoughts. In understanding how certain communities restrict or encourage such relationships, Durkheim theoretically supposed the restructuring of society in each area could help the individual. It is Durkheim's belief about the influence of community integration on the individual that permeates the discussion on student departure (Tinto, 1993).

The appropriate integration of community and academic experiences in college, both formally and informally, certainly play a joint role in student integration and overall persistence (Tinto, 1993). While each work together to affect retention, they can undermine each other individually if not suitably managed. If an intelligent student lacks the basic need for social engagement and community, it may hinder their academic performance and can eventually lead to that individual's attrition. On the other hand, a social extrovert may struggle academically, which causes the student to drop out. In essence, college is similar to other life communities in

that its parts are characteristically reliant upon one another, and an over emphasis on one aspect can cause a domino effect that leads to undesired results in one or more other areas (Tinto, 1993).

External forces and needs can also inadvertently cause student dropout (Tinto, 1993). This is common among nontraditional students who do not reside on or near campus. To these individuals, college classes are just one of many daily responsibilities. Although these areas (work and family obligations, support level from peers, and/or financial circumstances) are out of the control of an institution, when internal forces (academic and social systems) are not well supported for nontraditional students, it will more likely hinder their desire and capacity to continue their enrollment (Tinto, 1993). In linking this model of retention back to Durkheim's theory on suicide, it is important to note the overarching effect of societal integration on various human communities, whether in a particular culture, subgroup, organization, or within higher education (Tinto, 1993).

A fundamental question every institution must ask itself is what works best in retaining their students. In order to help answer this question, Tinto (1993) formulated the principles of effective retention to help colleges and universities take proactive measures in retaining students. While schools vary on mission, strategy, and structure, all are independently, yet contemporaneously, working towards the same goal of retention through certain resources and energies. Tinto (1993) identified the first principle as the institutional commitment of the student. It is when an institution places the welfare of the student above the goals of the school. This principle seeks to demonstrate the commitment of the institution to the individual with the aim of producing individual commitment to the institution. His second principle is identified as commitment to education. By providing a quality education and academic development through

active learning, otherwise described as strategies that actively involve individuals in the learning process, students are more likely to view their school as the right place to achieve their goals. The final principle emphasizes the importance of community. As colleges and universities create a social and academic atmosphere that encourages and values student integration into the overall community, the more invested and dedicated a student becomes about their time at that particular institution (Tinto, 1993).

Though widely cited, it should be noted that Tinto's theory is not without its critics. Guiffrida (2006) highlights a mutual criticism among some researchers in discussing how Tinto lacks the proper understanding and integration of cultural variables within his theory when applied to students who identify themselves as a minority. Tinto (1993) considers the natural breaking away from previous relationships and traditions as normal and an integral part in adapting oneself to college life. However, research has shown that minorities often succeed at a higher rate in higher education when preserving and cultivating their cultural heritage (Guiffrida, 2006; Tierney 1999). Though Tinto's theory does discuss the value of family on commitment prior to leaving for college, it is thought it should further develop its understanding on the effectiveness of family and friends from home and the role it plays in the support of minority students in higher education (Guiffrida, 2006). Tierney (1999) suggests Tinto's theory should adapt in its area of academic and social integration to include how minorities on predominately Caucasian campuses should be encouraged to affirm and develop who they are as individuals and within their own culture rather than conform to the social norms already established at the institution.

Other researchers have worked to further develop Tinto's theory. Bean (1980) is another early pioneer with his student attrition model and similar emphasis on retention being linked to

student interaction with an institution. He differed from Tinto by placing a more direct emphasis on individual background, external factors, and the effect each student's social-psychological development has on attrition (Cabrera, Castañeda, Nora, & Hengstler, 1992). Astin (1993) similarly touches on the importance of social and academic relationships in higher education by defining two prominent community subgroups, student-student and student-instructor interactions. The depth and development of each relationship is seen as a strong precursor for college satisfaction. Braxton (2000), a more recent researcher on retention models, has revised these theories in an attempt to redirect the conversation to more relevant suggestions that reflect the needs of a diverse and ever growing population of college students. Braxton and McClendon (2002) also agree that the impact of student social integration is key to retention. However, they place more emphasis on the significance of faculty development in the area of active learning to prepare educators with the skills necessary to engage the learner in educational activities that foster peer interaction (Braxton & McClendon, 2002). As theories on retention have continued to develop, the underlining theme has been if an institution can determine what causes student departure, then they can seek to confidently shape individuals' beliefs in that area to assist in retention.

As student retention is of common interest to colleges and universities, Tinto (2007) has continued to stay relevant in the changing field of student retention while working to advance the cause of better understanding student dropout, its origins, and how to reverse it. The concept of raising retention within higher education has even provided a market for firms and consultants to assist schools in trying to curve retention rates upwards (Tinto, 2007). Needless to say, it is not always the recommendations provided by these third party organizations that lead to decreased student attrition. Institutions must take an active role through proven strategies while utilizing

all faculty, staff, and student communities.  Student retention concerns were first viewed through

the field of psychology by student ability and motivation (Tinto, 2007).  If a student did not

retain it was due to their lack of inspiration or willingness to succeed.  It was not viewed as

institutional failure but individual student failure (Tinto, 2007).  Over the years, a new emphasis

in the model occurred by attributing dropout from individuals to the social and academic

environment created by an institution.  The first year of college was viewed as most crucial to

whether a student would re-enroll the following years based upon programs or systems set up by

the school.  The model then advanced by articulating the role of how active involvement by the

individual in readily available institutional communities was viewed as most vital to retention.

More recently, the focus has been on student-faculty relationships and the role they play within

the first year of enrollment (Tinto, 2007).  While this model of retention has advanced over the

years, the core of its theory has essentially remained the same.  In order for students to retain,

they must be engaged in their school through intentional, individual actions and institutionally

established relationships.  This holds true as student diversity increases, instructional formats

change, learning environments become less traditional, and more people are enrolling in higher

education (Tinto, 2007).

Tinto's (1975) original theory on the model of retention has slightly developed over the

years but still emphasizes the importance of institutions constructing an engaging social and

academic community that encourages students to persist. Jones (2013) states that Tinto has gone

as far as to claim that schools should be held responsible for whether or not they create a sense of

community among their students and institution in a way that will increase satisfaction and

retention.  Although Tinto (1993) does view voluntary student departure as best for some

individuals when personal needs arise, if institutions work to implement effective preventive

measures, then overall attrition should decrease. Exactly how this is done depends upon the structure and mission of each institution. Tinto's (2007) underlining premise is that student involvement is key to student retention and can be closely related to Bandura's (1977) social learning theory, which provides additional insight as to why social interactions play an integral part in student persistence.

**Social Learning Theory**

Bandura first introduced his social learning theory, though contemporary terminology refers to it as social cognitive theory, in 1977 as a means of explaining how people learn best while observing others' behaviors and attitudes through forms of modeling and imitation. It seeks to clarify learning strategies by connecting behaviorists and cognitive learning theories while focusing on individual responsiveness, memory, and motivation (Bandura, 1977). Within Bandura's developing theory, Grusec (1992) emphasizes four components that make up the significance of his approach in the learning process: observational learning, self-regulation, self-efficacy, and reciprocal determinism. Observational learning deals with the acquisition of knowledge and how one is to apply it behaviorally. Self-regulation and self-efficacy refer to an individual's ability to determine for oneself whether an observed behavior is worthy of replication. More specifically, self-efficacy has been a focus of Bandura's in academic achievement, as a person's beliefs about personal ability, not necessarily their level of knowledge, is a large predicator as to what an individual will try or put effort towards achieving (Grusec, 1992). Lastly, reciprocal determinism focuses on the interdependency of relationships between the individual, classroom environment, and observed behaviors with how they either positively or negatively affect personal achievement (Grusec, 1992).

Bandura (1977) stresses the importance that observation and modeling play in social learning. He believes that neither internal forces nor environmental factors independently drive social learning through human interactions. Instead, Bandura (1977) considers the psychological inclusion of both, along with the observation of others' behaviors as a means to better explain how individuals understand or learn best. These do, however, have varying degrees of influence depending on the setting but are generally reliant upon one another. While traditional psychological theories heavily emphasize learning as an individual process where one needs to interpret the results or effects of personal actions, Bandura (1977) concludes that learning phenomena results from the observation of others and how the individual interprets the effects of those consequences. The intent and purpose of social learning theory is to highlight how observation and modeling are better avenues of learning so students do not need to conduct a series of trial and error sessions to come about information and knowledge but rather learn from the demonstration and experience of others (Bandura, 1977).

Social learning is not isolated to just internal factors or environmental motivations alone, but through the merging of the two through observation and experience (Bandura, 1977). These internal and environmental factors are co-dependent in the learning process. The theory of social learning itself seeks to explain human behavior through the direct relationship of cognitive, behavioral, and environmental factors (Tu, 2000). In order for learning to occur, a social interaction between individuals must take place. However, in the online course environment students have limited modeling experiences, which social learning theory deems necessary (Beldarrain, 2006). While geographically separated, social presence between student-instructor and student-student relationships must be integrated or student learning is limited (Tu, 2000). Though social learning is more complex in online education due to the nature of its format, an

adequate amount of social presence and interaction is needed to ensure student success. Online programs often seek to fill this gap through collaborative learning with web-based communication tools, prompt feedback on coursework, group assignments, or video conferencing (Beldarrain, 2006).

The overarching theme found within social learning theory is that humans find it difficult to learn alone (Bandura, 1993). Through the observation of and interactions with others, the learner has the ability to refine skills and advance their education. Likewise, it will also cause a person to become self aware of individual strengths or weaknesses. For the student, the impact of self-efficacy on overall academic performance through memory performance and cognitive capability can rely heavily on an individual comparing their abilities to other students (Bandura, 1993). In watching peers perform educational tasks, a student can gain the confidence needed to accomplish the same task. For online education, the learner is isolated from their peers and may find completing a specific course or their degree challenging. However, through an outlet that provides cognitive interaction and social learning both inside and outside of the online classroom, the distance learner can build connections and model the success of others in a similar situation (Bandura, 1993).

Social learning theory is widely accepted and viewed as a valid model for understanding, predicting, and identifying human behaviors (Wu, Tennyson, & Hsia, 2010). It views the learning environment as a means that affects an individual's learning behavior and performance. Though learning environment has been traditionally defined as a physical social setting through time, place, and space, it has since been extended to include online learning with the areas of technology, content, and interaction (Piccoli, Ahmad, & Ives, 2001). Human interaction, whether face-to-face, in a classroom, or through a web-based learning environment, helps

cultivate and support the development of social learning (Hill, Song, & West, 2009). Cognitive development is not done individually but through the social interactions of various individuals together. Pituch and Lee (2006) emphasize the importance that social interactions play through collaborative learning, between instructor and students, and on the learning process. The role of social interactions within online learning, no matter its length, is important. Such online interactions can be done through video chat or text interactions (Hill, Song, & West, 2009).

An important aspect to individual social learning is self-efficacy. Studies have shown that an increased sense of self-efficacy leads to better student performance and persistence (Miltiadou & Savenye 2003). Bandura (1986) discusses the effect that individual confidence has on a student's thoughts, feelings, and actions that are often influenced by previous experiences or through the observations of and interactions with others. Past disappointments or victories, positive encouragement, and personal fears can often be a good indicator for self-efficacy. However, simply observing another accomplish a specific task can have an even more positive influence on a person's confidence in accomplishing the same task (Bandura, 1986). In order for students to increase their self-efficacy within online education, instructors must combat the four principal sources discussed by Bandura (1986) in a positive manner: personal experiences, indirect experiences, verbal persuasion, and physiological indexes.

According to Miltiadou and Savenye (2003), applying Bandura's four principles to online education can improve self-efficacy. First, personal experiences with online technology and web-based content are not always easy. Students should be given ample time to review the course prior to the start date and have open communication with the instructor and technology department about the course where needed. Next, an indirect experience refers to a student virtually observing and modeling another student's behavior through an online course. This can

help encourage students who may be nervous about the online classroom and teach them how to succeed in this environment. Thirdly, verbal persuasion is when the student is given direct and continual positive reinforcement during instruction. This constructive feedback can help build student confidence. Lastly, physiological indexes refer to stress levels and anxiety associated with technological incompetence resulting in miscomprehension and late work. Constant and open communication between instructor and student can help alleviate high index levels (Miltiadou & Savenye 2003).

While Bandura (1977) discussed the interconnecting relationships between individuals, behaviors, and the environment as important factors for learning, Tinto (1975) similarly introduced the student integration model and the importance of social interaction among students and faculty members on retention rates. He states that student persistence and dropout are highly connected with social integration. Although he focused his attention on the traditional college student, his theory can also be examined in the context of online education. Moore (1989) took the social learning theory and student integration model and applied it to distance education by introducing the importance of learner-content interaction, learner-learner interaction, and learner-instructor interaction for the student who does not spend time on a college campus. Since attrition rates for undergraduate online learners are much higher than traditional students, a need for research based prevention measures is important to online educators (Angelino, et al., 2009). While early and frequent communication with online students can be time consuming for both instructors and higher education staff, it can ultimately assist in the prevention of attrition. As students engage in social interactions and become comfortable with their learning community, they may develop a stronger sense of relationships and look forward to engaging in the learning process.

One of the most influential factors of academic success is the effect of social learning with peers and interaction with faculty. Astin (1984) developed the student involvement theory, which not only stresses the importance of students engaging in campus life but working hard to develop relationships with students and faculty to help them in the learning process. Though his theory includes extracurricular activities that are not incorporated into online education, he does discuss the importance of time spent on-campus and the overarching focus of students being physically and mentally active in their education. Astin (1984) views the role of peer groups as instrumental in getting students to utilize their time and energy for academic success. Frequent interaction with faculty members also increases student satisfaction and retention more than any other higher education characteristic (Astin, 1984). The student who may struggle with an online course format should utilize their instructor and engage in an academic relationship to help foster a sense of community while receiving needed assistance. It should additionally be the intent of every online instructor to purposefully build relationships with their students to help foster social interaction through learning with the aim of increasing comprehension and overall student retention.

Producing a strong sense of community and social engagement is often difficult, though not impossible, for online education because of the physical distance between students and the instructor. A common obstacle for many online institutions is the lack of social features built into the software systems used to help educate students (Annala, Makinen, Svard, Silius, & Millumaki, 2012). By creating community among students a sense of belonging, networking, and active participation can take place. Educational research shows the importance of fostering collaboration and community among students to help further the learning process (Akyol & Garrison, 2008). However, the problem may arise in how to invoke a community among online

learners since they are by definition at a distance from each other, their instructor, and the

college campus. It is important for online institutions to understand the impact this can have on

student retention and determine ways to limit attrition by increasing social engagement.

The idea of a community of inquiry, originally developed by philosophers C.S. Peirce

and J. Dewey, looks to cognitive development, social interaction, and effective teaching

fundamentals as vital elements to the learning process (Ling, 2007). Developing this model in an

online community requires a social presence through open communication, cognitive presence in

the curriculum, and teaching presence resulting from proactive facilitation by the instructor over

the course. In research conducted by Akyol and Garrison (2008), cognitive and teaching

presence both had a large influence in online student learning and satisfaction. Meanwhile,

social presence was connected with student overall satisfaction with the program. Through these

results it is important to note with a proper integration of all three elements, students in an online

higher education program have a greater educational experience and satisfaction with taking

online courses when community of inquiry is designed and facilitated around the needs of the

student (Akyol & Garrison, 2008). By enhancing students' ability to socially interact with the

curriculum through the course design, online education can offer students a unique learning

environment that is conducive to how students learn best. While social interactions can assist the

learner in academic achievement and overall program satisfaction, online education must look at

the consequence distance plays on the ability of a student to retain.

**Transactional Distance**

The theory of transaction was originally formulated by Dewey in 1949 and involves the

interaction of individuals through an environment and the situational behavior patterns that come

as a result (Moore, 1993). In education, it centers on the relationships between teacher, student,

and environment.  Due to the nature of course delivery and physical separation of student and instructor in online education, teaching and learning is accomplished differently than in the traditional classroom setting.  Transactional distance looks at this physical separation and how a psychological and communication space is crossed where misunderstanding and confusion occur (Moore, 1993).  It is viewed as a continuous variable that changes based upon the individual student.  The theory can be broken down into three distinct variables: dialogue, structure, and learner autonomy.  Dialogue looks at an intentional interaction between the student and instructor that helps improve understanding for the student.  Structure refers to how a course is designed.  It looks at program flexibility, objectives, teaching methods, and evaluation strategies.  Lastly, learner autonomy refers to a student's ability to take ownership of their education and utilize what they are learning to obtain their personal goals (Moore, 1993).  For an educator in distance learning, transactional distance should be managed appropriately in each course or program to help ensure the success of each student.  The theory views transactional distance, not physical distance as the greatest underlining factor to be considered within online education.  According to Moore and Kearsley (2005), it can be defined as "the gap of understanding and communication between the teachers and learners caused by geographical distance that must be bridged through distinctive procedures in instructional design and the facilitation of interaction" (p. 223).

Transactional distance becomes a real concern within online learning because of the clear physical separation in the relationship between the instructor and learner.  Due to this separation, a varying degree of behavior patterns not typically seen within the usual residential classroom occur that greatly change how instructors teach and students learn (Moore, 1993).  The psychological and communication space brought about by transactional distance between each

individual student and instructor relationship differs, prompting the need for new approaches and methods of teaching in the online classroom. The variables, dialogue and structure, fall under the category of instructional practices while the third, learner autonomy, is labeled under student behavior (Moore, 1993). The degree of transactional distance found within an online institution, degree program, or specific course is dependent upon these three variables. The variables are not based solely upon technology, geography, or communication, but on the extent to which teaching and learning occur through instructor and student interactions at a distance as a distinct pedagogical approach (Moore, 1993).

Dialogue refers to the level of communication between the instructor and student, whether initiated by one party or the other (Garrison, 2000). It is synonymous with student-instructor interaction, as it deals with how one individual directs the conversation and the other responds (Moore, 1993). Within online education, initial dialogue takes the form of how a teacher provides instruction from a distance and the extent to which a student engages in the discussion. This dialogue can take place once or through a series of exchanges. Moore (1993) views the dialogue variable as a positive degree of communication where both individuals are considerate and provide a level of constructive viewpoints. While dialoguing, the instructor and student should engage in a way that each person is providing valuable contributions that are building upon each interaction. Although negative or neutral interactions do occur, Moore (1993) reserves the definition of the variable for positive interactions that help broaden the scope of education and improve the correlation of teaching and learning. As transactional distance focuses on the physical separation of the parties involved, the success of student-instructor dialogue relies heavily upon how the means of communication is structured and delivered (Moore, 1993).

The structure variable exposes the course format and how the institution chooses to display and disseminate information, curriculum, and course objectives (Garrison, 2000). It helps determine how teaching is conducted and can vary among schools. Certain programs may be asynchronous or synchronous, flexible or rigid, and even laborious or less demanding. Structure not only looks at how an online classroom is designed for instructor-student interactions, but also encompasses curriculum and instruction strategies, methods for evaluation, and whether individual student responsiveness is approximately observed (Moore, 1993). As with dialogue, the degree to which structure is properly maintained depends upon the design and delivery of the course, system of communication, and the behaviors and characteristics of the instructor and learner. For example, a video lecture based program is highly structured with every moment planned out ahead of time through a virtual instructor. This leaves no room for student input or interaction and little opportunity for certain needs of the learner to be met. This would produce a high level of transactional distance (Moore, 1993). Meanwhile, courses that rely heavily on web conferencing for instruction may find this format lacks enough structure and too much dialogue. This causes a low level of transactional distance. Institutions must manage a healthy variation of such practices to help the degree to which transactional distance can affect learning (Moore, 1993)

There is a strong relationship between dialogue and structure in online education where both the instructor and student must take personal responsibility to ensure teaching and learning occur on a level that delivers optimal success (Moore, 1993). Balancing the correct focus on each variable requires research and a proper understanding of the distance learner population. The traditional function of an instructor in the classroom must be adapted to fit the needs of the online learner. An institution that fully appreciates transactional distance should provide a

structure for each student that allows for the delivery of controlled learning material as well as opportunities to participate in open dialogue with the instructor (Moore, 1993). This does not mean the responsibility falls solely on the institution or its faculty, although taking proactive measures to design a program that is malleable enough to meet the learning needs of the student is best. Due to the nature of distance learning, the student must also take an active role in the education process through self-directed learning (Moore, 1993).

The final variable is learner autonomy. It takes into account the role of individual responsibility and self-direction in the learning process. It is the one variable connected to each individual's personal learning traits and requires a greater obligation when transactional distance is high (Garrison, 2000). Moore's theory on learner autonomy, when first presented in 1972, encountered a field dominated by two major educational philosophies, the humanistic tradition, which favored unstructured interactive dialogue between instructor and student, and the behaviorist tradition, which preferred structured teaching with little dialogue for utmost instructor control (Moore, 1993). The behaviorist tradition governed distance education at the time Moore (1972) emphasized learner autonomy. He argued that institutions often restrict the autonomy of the student and disregard their ability to share the responsibility of the learning process. As structure and dialogue are examined in online education, it becomes self-evident that student preference and learning needs must be taken into consideration.

Moore (1972) focused his earlier research on the impact that learner autonomy specifically has on the independent learner. While the independent leaner is not necessarily a distance learner, they are similarly defined as a student who has a particular amount of control and responsibility in the learning process, which is not generally seen in the traditional classroom setting (Moore, 1972). The truly autonomous student is one who has developed the tools over

time in their education and learned to research for themselves. No matter the instructional method, they recognize the learning objectives and devise an individualized plan to accomplish them. This does not mean that the instructor is insignificant in the learning process. It simply conveys that learner dependency is not as prevalent when learner autonomy is high (Moore, 1972). Most online education programs are geared towards the autonomous learner, but that does not mean the online learner is adequately prepared to learn in this format. The responsibility falls upon the teaching strategies of the instructor and preparation of content if institutions want to help train learners to flourish and persist in online higher education (Moore, 1972).

The autonomy of the learner in distance learning allows the individual to enroll in a program where the student, to achieve their personal goals in a way they deem appropriate, uses the teaching materials and learning modules provided. Moore (1993) describes learner autonomy as the student being the predominant decision maker within the instructor-learner relationship for what educational goals will be met, the way in which the learning experience will evolve, and how the overall program will be evaluated. Although the ideal autonomous learner is one who is confident enough to handle their education with limited need of an intervening instructor, not all online learners have the ability or experience to take a more self-directed approach to their education (Moore, 1993). Education has traditionally taught and been designed around the dependency on a teacher for comprehensive learning. This often requires online programs to retrain the adult learner on skills and practices of learner autonomy. While the autonomy of the leaner is important, it still relies on the other two variables of dialogue and structure for complete success within online learning (Moore, 1993).

The theory of transactional distance has a fundamentally counterproductive effect within itself (Falloon, 2011). If one of the three factors (dialogue, structure, or learner autonomy) becomes too prevalent than the other two relationships are more likely to diminish. Whether distance education is done through an asynchronous or synchronous format, if one of the relationships, for example structure, is too fixed then the quality of dialogue and positive sense of learner autonomy can decrease, leading to an increase in transactional distance (Falloon, 2011). Transactional distance theory itself looks at the interaction of three different environments within the broader distance education community and the effects they have on the student, instructor, and institution (Moore, 1993).

Gorsky and Caspi (2005) consider, while accepted both theoretically and logically, Moore's theory can be criticized for its lack of scientific validity, as the variables are a bit vague with no true operational definitions and dialogue and distance being inversely related. It is viewed that the philosophical problem within the theory of transactional distance is it predicts how people should relate during instruction and what the results should be but does little to provide ample descriptions of what real dialogue must look or sound like and how it works or fails in real scenarios (Gorsky & Caspi, 2005). Jung (2001) even implies that some research shows unreliable outcomes when applying transactional distance theory and all three variables. While Lowell (2004) found that dialogue played an important role in distance education but structure did not, Stein (2004) found that structure was the most important factor with less emphasis needed on learner autonomy for success. Though Moore's theory has been tested and at times questioned, the rapid growth of online education and wide acceptance of transactional distance has undoubtedly influenced the way researchers approach distance learning.

Transactional distance recognizes that more structure limits opportunities to challenge concepts while too much dialogue results in unplanned outcomes and unanticipated learning (Moore, 1993). While these may not necessarily be bad, if they do occur it can cause disruptions or delays in meeting learning objectives. A hybrid model can help elevate the issues of transactional distance by providing a face-to-face component to distance education. In providing web-based instruction, content can be organized through the instructor while accessed by the student at a convenient time. This allows students to take a self-directed approach to their education while giving them the relevant work and background needed for further discussions. In meeting face-to-face, social learning provides students with a sense of shared responsibility and identity while learning (Dron, Seidel, & Litten, 2004). A balance of dialogue, structure, and learner autonomy can be implemented by utilizing assets of the online and face-to-face learning format.

An important part to transactional distance is the ability of an instructor to effectively facilitate dialogue among students. It is a challenge to ensure the quality of dialogue and not just its quantity. Recent technology has allowed online education to make use of interactive web-based programs to foster communication among students and instructors. However, communication based solely through a computer still results in a lack of personal interaction and removes the benefits of social learning. By allowing students to participant in a hybrid course, individuals can establish relationships with peers and the instructor that, in theory, increases and deepens course content dialogue (Shannon, 2002). Institutions can lessen the negative impact of psychological and communication barriers by understanding the effects of transactional distance and applying what is learned from it into a hybrid course. The amount of time one spends on-campus during a hybrid course should be long enough to meet the social learning needs of the

online student.  However, the face-to-face component must also take into consideration time constraints and life responsibilities of the nontraditional student.  It is due to these factors that balance must take place to ensure the online learner still receives the benefits of being a distance education student while engaging in hybrid coursework.

## Related Literature

### Online Education

In recent years, online education has seen a significant increase in student enrollment. Not only have technological advances allowed for improved online education, but also economic and demographic shifts have played a part in this enrollment.  According to Betts, Hartman, and Oxholm, (2009), ten economic factors can attest to the trend towards online and hybrid education from residential including: "(1) tuition, (2) state funding, (3) credit crisis, (4) financial aid, (5) endowments, (6) fundraising, (7) construction, maintenance, and deferred maintenance, (8) energy, (9) room and board, and (10) technology" (p. 5).  There are also ten demographic factors which Betts, Hartman, and Oxholm, (2009) list as important contributors ranging from: "(1) national demographic shifts, (2) population shift, (3) diversity, (4) decreases in high school graduates, (5) increase in high school graduates, (6) adult learners, (7) global competition, (8) employment expectations, (9) online program inventory, and (10) market acceptance" (p. 5). Dyrbye, Cumyn, Day, and Heflin, (2009) emphasize major reasons for the growth and appeal of online education as being adaptable, convenient, and less expensive.  Online learners have the ability to take a variety of courses at their own pace, at a more cost effective rate, all from the comfort of their own home and personal computer.  The accessibility of online courses is one of its largest benefits, because it allows the learner to access curriculum and submit coursework through the Internet (Li & Irby, 2008).  Due to the advancement of technology, education is now

readily available to people who may not have otherwise had the opportunity to enroll in higher education.

With the convenience of online programs, the distance learning student body is made up of a variety of nontraditional students. The demographics of these courses are regularly composed of learners who possess fulltime jobs and wish to advance their careers, are frequent travelers for business, pleasure, or the military, have young children and families to care for, or are not able to attend a traditional college campus (Li & Irby, 2008). Online institutions have the ability to market themselves to a diverse population and retain students who might have too hectic of a daily schedule to spend hours in a traditional classroom. Coryell (2011) highlights this fact as another academic benefit to online courses in that online learner enrollment consists of students from a variety of different backgrounds and professional experiences, making the online classroom a more diverse learning experience. In these instances, online students have the opportunity to learn not only from the instructor and through the curriculum but also from the professional experience of classmates. This helps make the online learning experience even more beneficial to each individual as relevant and applicable professional skills are discussed and connections made. The traditional classroom cannot always offer the same combined professional experience to its students, as the natural demographics of the traditional student does not permit it.

Virtual classrooms also deliver a course environment that offers a higher student to faculty ratio while ensuring the academic standards and quality similar to their traditional classroom course equivalents (Castle & McGuire, 2010). The intent of online coursework is to provide the same content and academic rigor as a traditional classroom but with the accessibility and flexibility of learning at an individual pace from a convenient location (Garrison, 2000).

Communication between the professor and learner is vital to the success of student retention and comprehension. Through the use and expansion of wireless internet and smart phones, institutions are able to offer relevant courses online and professors can provide timely communication and feedback on student questions and assignments (Li & Irby, 2008).

The recent growth and advancements in online education have also made it a reliable option for a variety of schools to begin offering online coursework and programs (Li & Irby, 2008). New technologies, from Internet and satellite based handheld tablets to interactive online classroom software, allow for academic resources to be accessed from almost anywhere in the world. They provide students with online libraries and academic research material through any Internet-connected device. Choosing an institution of higher learning is no longer limited by physical location, because online schools allow for a student to select from courses anywhere they are offered no matter the student's locality (Li & Irby, 2008). The learner now has the ability to enroll in college courses from an institution that is located across the world without having to commute, switch jobs, or change physical address. This type of education works to deliver an environment which allows students more time to learn concepts while self-reflecting on the material from a variety of locations (Dyrbye, Cumyn, Day, & Heflin, 2009).

As online students are considered nontraditional, it is important to have a proper understanding of how an online student can be defined as nontraditional. An accepted definition for the nontraditional student was presented by Bean and Metzner (1985), which identified the most common factor as being older than 24 years of age and not living on a residential campus. Online learners can be considered nontraditional because they meet this criterion while living at a distance but do not commute to campus. In essence, these students are unable to attend traditional classes on a brick and mortar campus because of a variety of personal responsibilities

or reasons. This category of learners can also be characterized as part-time students and full-time employees (Rovai, 2003). Nontraditional students are becoming more noticeable in higher education. Since these students live away from campus it should also be noted that they are typically not engaged in social interactions with other college students, their instructors, or the institution.

The nontraditional student who enters online education after years away from the classroom will often struggle to retain in their program (Jaggars, Edgecombe, & Stacey, 2013). Outside of needing a basic knowledge of technological proficiency to succeed in an online program, students additionally need well-developed academic and non-academic skills. These include areas of, but not limited to, time management, organizational skills, learner autonomy, and study habits (Jaggars, et al., 2013). As discussed by Melkun (2012), recent research has found when this type of learner enters an online undergraduate bachelor's degree program they have a higher likelihood of not completing their degree within five years and are at a higher risk of dropping out than the traditional student entering a residential program. A potential way to combat this problem would be to provide collaborative group work in the online classroom to foster a community of inquiry and decrease a sense of student isolation (Melkun, 2012). Jaggars, et al. (2013) furthermore recommend that institutions integrate programs that foster interactive readiness activities, online tutoring, and professional development to train online instructors to better prepare and engage the online student in a learning environment that is challenging.

According to a 2011 report by the National Center for Educational Statistics (NCES), during the 2007-08 academic year, about 20% (about 4.3 million) of undergraduate students took at least one online course while 4% (about 800,000) took courses through a program that was conducted entirely online. In the same academic year, approximately 66% of all Title IV schools

offered a form of distance learning courses for their students.  In viewing recent trends, online

education will not disappear, but if or when it levels off in the future is still in dispute.  Sener

(2010) states that by the 2017-18 academic year, the majority of students in higher education will

have taken at least one online course during their college career.  Moloney and Oakley (2010)

believe that although the Internet plays a major role in the lives of current on-campus students,

nontraditional adult learners, and those looking to advance their careers through additional

education, it has become an everyday tool in the lives of current K-12 students and the next

generation to enter higher education.  Prior to starting kindergarten, nearly one-third of children

have used the Internet under adult supervision (Moloney & Oakley, 2010).  This data and

information shows the demand and proves the need for online higher education and its further

expansion to accommodate the new education standard.

**Online Student Retention**

The most common unit of measurement that educational researchers use in better

understanding current trends consists of student retention and dropout rate (Hagedorn, 2006).  As

stated by the National Center for Education Statistics (NCES) in 2011, institutions of higher

education are increasing the amount of online courses they offer.  However, the retention rates of

online students are lower than students in traditional residential programs (Angelino, et al.,

2007).  It is important for online institutions to put resources into better understanding what

causes student attrition and how to overcome the issue.  If a large amount of students drop out of

an online program, it results in a negative reflection of the institution's quality of education and

student services.  In recognizing pertinent causes for student attrition, online schools can work to

determine what can be done to ensure successful completion of individuals in online programs

(Angelino, et al., 2007).  Interestingly enough, some factors as to why students take online

coursework, which were previously listed (p. 45), also factor into retention and why institutions can sometimes have little to no control (life situations, financial changes, new job, etc.).  It should also be noted that retention rates between online institutions might vary depending on how each measures retention and persistence.  When comparing school retention rates, a proper understanding of how it is being defined is important for valid research.

Within higher education in general it is a challenge to properly define retention, as student enrollment and degree completion vary depending on what is being measured (i.e. four-year rates, six-year rates, transfer students, re-enrollment, broken enrollment, etc.).  According to Hagedorn (2006), the field of higher education will likely never completely agree upon a single and acceptable definition for retention because of the complexity and dynamics of the subject matter.  On an basic level, a retained student can be defined as one who remains enrolled until degree conferral while an attrite student is one who leaves college without degree conferral or any intention of returning.  Student dropout, or attrition, has a variety of causes that make planning and directing preventative measures for educators problematic (Hagedorn, 2006).  When looking at online students, not only are they at a distance, but also at times the events that take place externally from the institution play a larger responsibility in attrition than school community and social integration (Tinto, 1993).

Various researchers and theorists have articulated the importance of defining retention over the years along with the impact it plays in higher education, but no definitive formula has been formally produced (Hagedorn, 2006).  Through the Student Right-To-Know and Campus Security Act of 1990, federal and state governments require institutions of higher learning to submit graduation and completion rates as a means of allowing current and prospective students the ability to gauge their individual institution-fit.  These numbers specifically look at first-time,

full-time degree seeking students who have been enrolled since freshman year.  If these rates are published as consistently down or increasing, they not only affect revenue but an intuition's reputation.  Students are less likely to enroll or persist in a school that has a high percentage of dropouts, as it will likely be viewed that others did not enjoy their time and experience at that institution.  Nonetheless, the problem with Student Right-To-Know and Campus Security Act is it has a broad formula, and a specific definition is still not adequately defined.  It also primarily focuses on graduation rates, not retention rates.  Their rates do not typically include a number of students who are defined as either transfer, part-time, inactive, or who initially enrolled in a semester other than fall of their freshman year (Hagedorn, 2006).

Numerous themes arise when discussing characteristics of online learners and retention. Learning styles and needs often affect how well a student will do in an online program, but individual engagement, student approach, learning community, institutional initiated student services, and the support from friends and family can provide either the help needed to persist or bring about certain challenges that cause the attrition of an online learner (Angelino, et al., 2007).  Different strategies can help decrease online student dropout rates if purposefully implemented.  The respected model of retention theory within higher education, proposed by Tinto (1975), refers to student integration and engagement in both the academic and social setting of a college or university.  The more planned communication had between the faculty member and other students, the more likely an individual will retain in an online program. Learning communities are a way to provide distance students with collaborative groups to foster a sense of community in the online classroom.  Working to implement ways to support and provide services for online students has shown to specifically assist in higher retention rates (Angelino, et al., 2007).

Persistence is a way in which online schools can gauge retention. It is viewed as a continuous action that an individual does even though they may face varying obstacles (Rovai, 2003). For online education it is the length of time that a student enrolls in coursework at a single online institution. Depending on how online courses are administered by the school, persistence can be described in different forms (Rovai, 2003). If a school offers two 8-week courses consecutively during a 16-week semester then enrollment in just one 8-week course per semester can be counted as persistence. Other schools may only record persistence if continuous enrollment in each sub-term, two 8-week courses consecutively, is completed. It is important to note these differences and to outline how a study will define the term. Either way, persistence rates and continued enrollment are largely connected to student satisfaction and a schools ability to meet expectations (Rovai, 2003).

Varying ideas have come about as to why some online students persist and others do not. A number of theorists view psychological needs as a model and base a student's decision to continuously enroll in courses on preceding actions, attitudes, and personal drive (Rovai, 2003). Motivation is viewed as an adequate step in getting a person to enroll, but once academic and outside challenges occur it often begins to decline as a major factor. Another model from Tinto (1975) looks at student-institutional fit and how the values, ideals, and themes of both groups match up to help determine whether the relationship will result in positive retention rates. Tinto (1975) further explains this model of student-institutional fit and persistence and places them into two categories: (a) experiences gained prior to college and (b) experiences gained during college. The experiences and personal characteristics before an individual enters college cannot be changed by the institution and therefore are seen as near impossible to adjust. However, experiences during college can greatly affect persistence. This second category suggests that the

more connected a student is with a university, the more likely they will retain and persist to graduation (Tinto, 1975).

Bean and Metzner (1985) formulated a model that links nontraditional student retention rates with institutional fit. While social interaction among peers and faculty for traditional students aid in retention, different variables affect the online learner. They have been identified as (a) study habits, (b) background (age, socioeconomic status, and academic goals), (c) environmental variables (finances, family, and outside support), and (d) academic and psychological progress (Bean & Metzner, 1985). Most of these variables that affect student retention are outside the control of an online school. Even when online learners are doing well academically, if one or a variety of these outside variables occur in a negative manner then students are less likely to persist. It is common for other responsibilities and hardships to take precedence over education unless a student has a high commitment level, vested interest in completion, or is social engaged with the institution. In order to better ensure online student persistence from semester to semester, a school must seek ways to help students limit negative personal and external factors while increasing institutional support and commitment levels through social learning (Rovai, 2003).

It is also vital to understand the predictive causes of student dropout and persistence. Research has shown that demographic characteristics such as age, gender, previous education, and grade point average often indicate student success in an online program (Morris, Wu, & Finnegan, 2005). It was found as age increases so did attrition rates. Also, students who had a higher grade point average in high school tend to do better as first time undergraduate online students than others. While each of these factors can help determine enrollment patterns, outside influences such as work and family can also play a significant role in student persistence (Morris,

Wu, & Finnegan, 2005). When reviewing these characteristics, online institutions must research ways to help retain students who are statistically at risk from the beginning of enrollment. They can use this information to create support services, programs, and design coursework that will help aid in student retention and program completion at a more predictive rate.

**Hybrid Coursework**

The hybrid model is a combination of two different delivery methods and learning styles into one course using the learning approaches of traditional classroom teaching and online learning (Wu, Tennyson, & Hsia, 2010). It blends face-to-face and online instruction into a class format to help students complete their degrees (Koehler et al., 2013). It also allows students to interact with their peers and instructor while aiding in the cognitive process through social learning. Time may vary for how long students are required to attend the face-to-face course component, lasting anywhere from 6-8 hours per day for a week or over nights and weekends. The online component of a hybrid course can last between 8-16 weeks (Koehler et al., 2013). A varying degree of online coursework can occur both before and after a student attends the face-to-face instruction time depending on the design and content of the course. Since the student taking a hybrid course is an online student, it is understood that they may have full time jobs or other responsibilities that could hinder when the face-to-face component takes place. Koehler et al. (2013) believe it is important for online schools to provide hybrid coursework when it is conducive to student needs. In meeting these needs and by providing quality education that matches the rigor of traditional resident programs, distance-learning programs can increase success and online student retention rates by offering curriculum in a convenient format that fosters social learning (Koehler et al., 2013). While offering these courses may not be cost effective for strictly online schools, as they do not have a brick and mortar campus with

residential professors, it is worth considering if it will decrease attrition and subsequently, increase institutional revenue.

While online education has increased in popularity over the last two decades, this format of education has also introduced new challenges not seen in a traditional format. Student attrition is much higher in online courses than face-to-face classes, making retention one of the biggest problems for online instruction (Ali & Leeds, 2009). This has resulted in a need for online institutions to seek new ways to retain students. As previously discussed, the basic human need of physical interaction is a challenge for online courses and often results in the online student feeling isolated. Not only are the students isolated from the physical presence of the classroom but also from the instructor and their peers. Ali and Leeds (2009) provide literature and research on facing this problem of social interaction after they conducted a study that required online students to attend an on-campus orientation to help establish a feeling of community. They found that students who engaged in a face-to-face pre-course orientation on-campus retained at 91% while those who did not retained at fewer than 18%. Their results indicate that face-to-face interaction among online students and their institution positively impact retention rates for online programs (Ali & Leeds, 2009).

The role of higher education within culture is important and will continue to be as it influences individuals and communities. However, due to the changing needs of society and the impact that national and global economics can have on the individual and communities, institutions must adapt in order to stay relevant and accessible to the masses. Many colleges and universities are seeing a declining or revenue neutral budget while expenditures are increasing due to rising costs (Betts, et al., 2009). The Chronicle of Higher Education has published multiple articles on financial concerns, and how it is common to see schools affected by budget

constraints, growing operational costs, shrinking endowments, declining donations, and economic downturns (Facione, 2009; Masterson, 2009; Shieh, 2009). In an effort to meet the needs of prospective students, cover costs, and add revenue while increasing enrollment, institutions can offer online and hybrid course formats (Betts, et al., 2009). While traditional college campuses and residential programs will always play a significant role of learning, the world is becoming more technologically competent and searching for a style of learning that follows this trend. Higher education can be done face-to-face, online, or hybrid as long as students can see the quality and rigor of the program.

While traditional classrooms can more easily ensure student engagement through weekly meeting times, the online student often struggles with this aspect of learning because students and instructor do not share physical space or time of learning (Hege, 2011). Online education has the ability to combine distance learning with on-campus coursework by introducing a hybrid model into higher education. Hege (2011) explains this model as being one that allows for a period of split time instruction where students conduct coursework online but converge together at a specific time and place to continue the learning process. The concept of social learning and engagement in hybrid courses is utilized in a physical classroom under the direction of the same faculty member instructing the online component of the course. By incorporating face time between students and faculty, a hybrid course design helps to alleviate the frustration that online students have with a lack of community engagement (Hege, 2011). As social beings, experiencing and seeing both verbal and nonverbal communication helps in instruction and comprehension. It helps to generate and sustain relationships that aid in commitment and persistence (Hege, 2011).

It is important to establish a community both online and face-to-face through this format. Hybrid courses allow for introductions and ongoing communication to begin online while students are at a distance. Although at times difficult, social presence is important in online education. Effective strategies must be implemented to make certain that each student is engaged in the online learning process (Hege, 2011). Once face-to-face, students and faculty can put a face to a name and build community on a deeper level. However, time on-campus must be used strategically so students gain the most out of the experience. This component should be used to not only build relationships but also provide time for lectures on important topics while leaving time for content driven discussions. Since students have already gained a general knowledge of the course content through the online component, residential class time allows for group work, observation, interaction, presentations, modeling, and building of community (Hege, 2011).

Delamarter and Brunner (2005) state that research has shown the hybrid model is just as effective, and in many cases more effective, than just online or face-to-face instruction. In 2000, the president of Pennsylvania State University, Graham Spanier, commented that the combination of online and traditional education into a hybrid format was one of the greatest trends for institutions of higher learning to implement (Delamarter & Brunner, 2005). The same research discussed studies conducted at the University of Central Florida, which showed increased student performance and satisfaction through the hybrid model. It allows for a degree of flexibility through online learning with the structure of a traditional classroom. In order for the course format to be successful, the instructor must be proactive in facilitating learning while designing a course that utilizes the benefits of both the online and face-to-face component. Through this integration, instructors can make social learning a priority and deepen the

community of engagement as it has shown to increase both performance and persistence among students (Delamarter & Brunner, 2005).

The hybrid model is viewed as an effective pedagogical approach to education that improves student learning and increases retention better than online courses and equal to traditional courses (Brunner, 2006). Additionally, students view this in a satisfactory light because it allows course work to be done independently at convenient times without losing the sense of community and interaction with others. Faculty and institutions have also shown appreciation for the flexibility of hybrid courses because they allow for more alternatives in accomplishing educational goals. Online courses can only use certain mediums to teach curriculum. Although seat time is limited in a hybrid course, instructors can utilize that time to draw on the strengths of social learning and community engagement. Since online courses help to develop written communication, face-to-face instruction can provide students with the ability to advance their verbal and listening skills (Brunner, 2006).

One of the leading advantages of providing hybrid courses is its ability to utilize the strengths of both online and traditional education in community learning (Brunner, 2006). It should be understood that both formats in and of themselves provide some sense of community conducive to students' needs. However, the hybrid model can make use of both and provide a positive influence on academic performance and cognitive learning (Brunner, 2006). Colleges and universities can implement hybrid courses to help meet the demands of online education without limiting or softening the importance that social learning has within education. The faculty member who teaches a hybrid course will become less like a dispenser of knowledge and more of a facilitator of learning (Brunner, 2006). It also requires students to take ownership of

their education and engage themselves in the material to ensure they have a full understanding of the content prior to face-to-face interactions and discussions.

As stated by Moore (1989), there are three types of relationships that both online and traditional programs encounter in higher education: learner-content, learner-learner, and learner-faculty.  Hybrid courses have the potential to allow for the improvement and development of all three.  Requiring online students to take a self-directed approach to their education enhances the learner-content interaction (Moore, 1989).  While on-campus, the learner-learner interaction and community is viewed as a benefit to online education and is improved through the hybrid structure (Brunner, 2006).  The online student also participates in face-to-face instruction as they receive lectures filled with rich content from the instructor.  Student interactivity increases through both the quantity and quality of time that individuals spend together during the online and face-to-face components of the hybrid format.  The learner-instructor relationship benefits from this model because a greater faculty presence is presented, which allows for academic and professional feedback on a more personal level (Brunner, 2006).  The integration that a hybrid course offers can meet the academic, social, and personal needs of the student while working to improve the retention rates of those individuals at an online institution.

**Summary**

The material from this literature review shows the benefits of online education and where it falls short in student retention.  However, offering face-to-face instruction in conjunction with online coursework can help reduce problems of attrition.  Through the advancement of technology, online education will continue to grow and develop, allowing more individuals to enroll in higher education.  Understanding the obstacles which result from distance education will provide schools that offer online courses the ability to target those specific factors and work

to reduce them.  Although online education is convenient because it can be done from home and at one's own pace, it is also a challenge because the online learner lacks a sense of community and academic engagement with others.  The impact of social learning on education has been proven successful.  By implementing a face-to-face component to online education through a hybrid course, online students and instructors can take advantage of the benefits of both the online and traditional classroom format in a single course.  Since providing traditional students with a sense of community through social interactions has proven to reduce attrition, implementing this component into online education through hybrid coursework is a practical model to help online schools increase retention rates.

# CHAPTER THREE: METHODOLOGY

Online education has allowed for an influx of nontraditional students to enroll in higher education through a flexible format, cultivating success for self-directed and collaborative learning while removing geographical obstacles, yet it lacks peer or instructor social interactions and proper multimedia tools within the online classroom for effective communication (Wu, Tennyson, & Hsia, 2010).  While these students are able to access coursework and complete assignments separately through an Internet based virtual classroom, both the instructor and students are at a disadvantage because of their distance from one another.  Though this recent trend allows nontraditional students to access education without the requirement of attending class on a traditional college campus, online students often feel a sense of isolation (Wu, Tennyson, & Hsia, 2010).

While enrollment in higher education has increased over the years, student attrition itself is one of the biggest problems that colleges and universities face (McCubbin, 2003).  Even more alarming for online education is the fact that adult online student retention rates are lower than traditional students who attend class on-campus (Angelino, et al., 2007).  There are a variety of reasons as to why these numbers may be different, but an important aspect to learning missing or limited in online education is the aspect of social learning interactions (Moore, 1993).  The social interaction among peers and instructor in a classroom or by being on-campus can support overall student satisfaction and increased retention (Tinto, 1975).  A hybrid course model for online education can help bridge the gap between the isolation of online coursework and benefits of social learning in the traditional classroom (Hege, 2011).  This research sought to measure and interpret the presumed effect of social learning through hybrid coursework for the adult online learner on retention rates.

Tinto (1975) formulated the model of retention for college students that discuss the importance of both formal and informal academic and social integration of students to aid in retention.  Astin (1984) later developed the theory of involvement that emphasized the increased involvement of students with college will increase the likelihood of their persistence.  Bean and Metzner (1985) added to these theories with their model of nontraditional student attrition which looks at outside factors, such a job and family responsibilities, as having a large impact on adult online learner departure as well.  All of these concepts point to Bandura's (1977) social learning theory in that social interaction reduces attrition by providing a sense of community through interaction with peers, instructor, and institution.  More recently, Moore's (1993) theory of transactional distance adds to the implications of social learning by discussing the impact of dialogue, structure, and learner autonomy in distance education and how it can widen the communication gap between students with the instructor and institution.  Theoretically, if the adult online learner were to increase their social involvement with their online school through hybrid coursework, they would be more likely to retain as an online student.

The purpose of this study was to review the retention rates of adult online learners who had participated in courses that were formatted as both fully online and as a hybrid model.  This research also looked to determine if the hybrid format and increased number taken by adult online learners had better results for retaining students.  The basis for this research was to determine whether a significant difference (research question one) or positive correlation (research question two) was found and if so, then online institutions of higher learning would want to consider implementing optional hybrid courses into their class offerings to help with retention rates.  This chapter reviews and justifies the research design, research questions and null hypotheses, participants, study setting, instrumentation, procedures, and data analysis.

**Design**

This quantitative study was a combination of a causal-comparative and correlational research designs through two research questions.  For research question one, a causal-comparative research design was utilized.  The purpose of this design is to identify cause-and-effect relationships by forming two or more comparison groups of individuals where the independent variable is present or absent and determining how they differ on the dependent variable (Gall, Gall, & Borg, 2007).  This design is used when the researcher cannot manipulate the independent variable because the desire is to observe its presumed effect on the dependent variable.  The presumed cause in this design is the independent variable, while the presumed effect is the dependent variable (Gall et al., 2007).  As this is a non-experimental study, a causal-comparative design is appropriate because observations of comparison groups are being made based upon naturally occurring variations of the presumed independent and dependent variables. Additionally, the independent and dependent variables are being measured in the form of categories, more specifically a nominal scale, which aides in the statistical methods for analyzing the data.  Since the comparison groups that make up the independent variable cannot be manipulated as they had already occurred, this research design was most suitable for the study (Gall et al., 2007).

For research question two, a correlation research design, also being ex-post facto, was utilized to further the investigation of and conduct this study.  The purpose of a correlational study is to identify the cause and effect relationship of important educational phenomena (Gall et al., 2007).  More specifically, this design is used to understand the causal relationship between variables by correlating the data on a measured independent variable score (presumed cause) with the dependent variable score (presumed effect) through the use of correlational statistics

(Gall et al., 2007). A benefit to doing correlational research instead of other research designs is it permits the researcher to investigate the relationship among a sizeable group of participants in just one study (Gall et al., 2007). By conducting this design for research question two the data can be analyzed on how the independent variable affects the certain patterns of behavior of the dependent variable. Another advantage to conducting correlational research is its ability to provide the degree of the relationship (positive, negative, or found absence) between the variables being studied (Gall et al., 2007). More specifically, this important aspect is the correlational coefficient, which is used to provide a mathematical expression for the direction and magnitude of the degree of the relationship between the variables (Gall et al., 2007).

## Research Questions and Hypotheses

The following research questions and null hypotheses guided this study:

### Research Questions

RQ 1: Do adult online learner retention rates increase significantly after participating in an on-campus hybrid course as opposed to adult online learners who solely take online courses?

RQ 2: Is there a significant relationship between the number of hybrid courses taken by adult online learners and retention rates?

### Null Hypotheses

$H_0 1$: There is no significant difference between retention rates of adult online learners who attend one or more on-campus hybrid courses as opposed to adult online learners who solely take online courses.

$H_0 2$: There is no significant correlation between the number of hybrid courses taken by adult online learners and retention rates.

**Participants**

The participant population consisted of adult online learners from a large non-profit southeastern university that offers coursework to over 100,000 students with nearly 90,000 enrolled in online programs and an additional 13,000 enrolled in residential programs. This research only assessed retention rates of online undergraduate students as participants in this study. Of the online population, 50,400 are enrolled in an undergrad, program. Natural and preexisting variations in the independent variables (RQ1 – participation in an undergraduate formatted fully online or hybrid course; RQ2 – number of hybrid courses taken) were utilized to determine the comparison groups (Gall et al., 2007). For the first research question, a total group of 34,368 adult online learners made up the sample size with a breakdown of 34,273 fully online course format learners and 95 hybrid course format learners. For the second research question, the 95 learners who took a hybrid course used in research question one were compared by the number of hybrid courses taken (1-4) by each participant and their retention status.

The sample for this study was drawn from an accessible population at the participating university. The sampling frame used to identify the comparison groups consisted of student enrollment in any of the 31 undergraduate courses offered at the online institution during three consecutive academic years as either fully online or as a hybrid format. Nonprobability sampling, or convenience sampling, was conducted to select the appropriate sample, as participants were not chosen by chance but for their enrollment in courses during a specific time span (Gall et al., 2007). The sample was not randomly drawn from a population but contained all students who met the criteria for this study. This type of nonprobability sampling allowed the researcher to use participants that fit within the context of this study and collected archived data that was convenient to access. It also allowed the researcher to use the largest sample possible

and the scores on the measured variable to be representative of the population (Gall et al., 2007).

The results could be used to infer generalizations about the overall population of adult online

learners enrolled in programs that offer hybrid coursework.  The comparison groups were made

up of students who had participated in any of the 31 undergraduate courses that were offered at

the participating university as either the fully online and hybrid course format.  The comparison

group of students who took one or more hybrid courses also contained the number of hybrid

courses taken by each participant.  All participants had enrolled in at least one of these courses

between the Fall 2007 and Spring 2010 semesters.  Individuals and their dependents that

received tuition assistance or benefits for working at the University were excluded from this

study, as they had a higher likelihood of retaining due to their professional and social

involvement with the institution.

Coursework in the fully online format was offered in an 8-week module.  The institution

had also formatted 31 of the online courses as one-week on-campus classes with limited pre- and

post-online coursework between the 2007-08 and 2009-10 academic years.  These classes are

considered a hybrid format and are equivalent in nature to their fully online counterpart.

Students were given the same course objectives, measureable learning outcomes, and curriculum

in either format.  The first research question sample consisted of two comparison groups of adult

online learners who had either participated in the fully online course or the equivalent as a hybrid

course.  Only students who had participated in these courses were used for this study.  This

provided the researcher with a control group (fully online students) and a treatment group

(hybrid course students).  This sample allowed for homogeneity of comparison groups with one

defined variant being that of a hybrid course format (Gall et al., 2007). The second research

question sample consisted of one continuous variable (number of hybrid courses taken), the

independent variable, and was broken down by participants per number of hybrid courses taken ranging from 1-4.  This sample also allowed for practical homogeneity of participants (Gall et al., 2007).

The chosen causal-comparative research design for question one required a minimum of 20 participants per subgroup in each sample, while the correlational research design for question two required a minimum of 30 participants within the sample (Gall et al., 2007).  Through the large enrollment of the selected online university, a large sample size of 34,368 total participants was selected to help the measured variable be more representative of the population.  The below tables provide the demographics, by gender, age, and ethnicity, of the sample size used for this study as well as the overall online university student population.

Table 1

*Gender of Sample Size within the University and Population of the Overall University*

| Student Type | Female % | Male % |
|---|---|---|
| Hybrid | 53.70 | 46.30 |
| Online | 52.60 | 47.40 |
| University | 59.00 | 41.00 |

Table 2

*Age of Sample Size within the University and Population of the Overall University*

| Student Type | Average Age |
|---|---|
| Hybrid | 30.6 |
| Online | 33.7 |
| University | 38 |

Table 3

*Ethnicity of Sample Size within the University and Population of the Overall University*

| | Student Type | | |
|---|---|---|---|
| **Ethnicity** | Hybrid % | Online % | University % |
| Asian | 3.20 | .90 | * |
| African American | 11.60 | 19.60 | 23.00 |
| Caucasian | 70.50 | 59.00 | 57.00 |
| Hispanic | 6.30 | 4.40 | 4.00 |
| International | * | .20 | * |
| Pacific Islander | * | .30 | * |
| Multi-race | * | 1.10 | * |
| Unknown | 8.40 | 13.90 | 16.00 |

*Note.* * Indicates none reported.

The sample size was selected based upon enrollment in specific courses in one of the 31 online or hybrid courses during the specific enrollment period of three academic years. It is expected through the nonprobability sampling that the selected sample size can be representative of the overall online student population (Gall et al., 2007).

**Setting**

The setting of this research took place at a large non-profit southeastern university that offers both residential and online programs to nearly 100,000 students and is fully accredited by the Southern Association of Colleges and Schools. The institution has offered distance-learning programs since 1985. The adult online learner participants enrolled in undergraduate courses that were offered as either an 8-week fully online or hybrid course were selected for this study. The university offered 31 undergraduate courses that adult online learners could choose to take as either fully online or hybrid. For research question one, the treatment group consisted of students who completed a hybrid course and the control group was comprised of students who completed the fully online course. The treatment setting required an online university that offered the same courses as either an 8-week fully online web based format or an on-campus hybrid format with limited pre- and post-online coursework and allowed the adult online learner to select the format in which they preferred to enroll. There was not a required enrollment for either format, as it allowed for student preference of course design. It was important to utilize sample comparison groups who varied on only one defined variable, course format, and were representative of the population (Gall et al., 2007). For the second research question, the continuous variable group consisted of students who had enrolled in 1-4 hybrid courses that were offered through the distance-learning program. The participating online university needed a

brick and mortar campus that offered on-campus hybrid courses for adult online learners in order for this study to be conducted.

**Instrumentation**

The data collected was anonymous information containing adult online learner participation in one of the 31 undergraduate courses offered in either a fully online or hybrid format during an enrollment period spanning three academic years from Fall 2007 to Spring 2010, the number of hybrid courses taken, and retention status.  Participants were identified as either a retained student (continuously enrolled), attrite student (dropped out of the university), or graduated student (completed coursework) and identified as one who took courses fully online or took one or more hybrid courses.  For the purpose of data analysis, retained and graduated students were grouped together as one to show positive retention numbers.  The participating university defines online retention as a student being retained if they had taken at least one course each semester in an academic year and then returned to take another course each semester in the following academic year.  An attrite or non-retained student, is one who had taken at least one course during a semester in an academic year then did not return to take another course in the following academic year.  This data was provided to the researcher from the university's Administration Information Management (AIM) office through the University Registrar.  The instruments used to obtain and measure data consisted of computer software programs.  Student information is stored through a university data base program called Oracle version 11g.  In order to retrieve this data, a report request must be executed using specified Structured Query Language (SQL) through the software program Argos 4.2.1. The SQL executes a report using the criteria listed in the participant section above and returns accurate student information that is necessary for such a study.  This data is then placed into a Microsoft Excel document by the

AIM office and given to the researcher. This information was coded and uploaded into the most commonly used statistical analysis software in educational research, Statistical Package for the Social Sciences (SPSS) version 21.0. The SPSS program was used to manage, analyze, and display the data in the subsequent chapter (Gall, et al., 2007).

These instruments provided the researcher with statistical data to help in analyzing the relationship of fully online and hybrid courses on retention rates of adult online learners. The researcher's personal computer hardware was used to store the obtained data. For research question one, comparison groups were placed in nominal categories of fully online coursework and hybrid coursework. For research question two, the independent variable consisted of the continuous score of 1-4 hybrid courses taken. The individual's enrollment status was provided and divided into two nominal categories: retained or graduated student and attrite student. Each of these enrollment statuses was compared using results in a ratio score, or percentages, per comparison group. A category value was used to measure nominal scales in which numerical scores represented the different categories of student enrollment status and course classification to aid in data analysis (Gall et al., 2007).

In assessing validity, the software programs Oracle, Argos, Microsoft Excel, and SPSS were the instrumentation used for this quantitative study. Oracle is used extensively as a database management system in academic communities. It allows the user to create and maintain integrity of the database and populates data using SQL for reports (Smith, Smith, & ASCU, 2005). To help reduce threats to internal validity, the comparison groups were matched using related variables listed in the participant section above and retrieved through the execution of SQL in Argos. The Argos software program effectively meets the operational and strategies reporting needs of educational institutions through simple web-based queries. The comparison

group samples were homogeneous outside of the course format or number of hybrid courses taken variables to help control for an extraneous variable. The report was provided to the researcher through Microsoft Excel and loaded into the statistical software program SPSS to analyze the data.

**Procedures**

In order to ensure ethical research standards were met, the researcher provided each approving body with full details of the study, what was needed, and how the study would be conducted so the research would be valid, accurate, and measureable. The researcher worked with their university's Institutional Review Board (IRB) to obtain approval for the study. Through the approval process of the IRB, permission from the desired participating university was sought. Once approval from the university administration had been given, the researcher worked with the Administration Information Management (AIM) office within the university Registrar Office to obtain the report from the software Oracle using structured query language (SQL) through Argos from appropriate student files. The participant data contained enrollment history in selected courses, the number of hybrid courses taken when applicable, and retention status for the comparison groups. The AIM office provided the researcher with the requested data in a coded Microsoft Excel document. The AIM office provided the data in a report with no identifying information of participants to ensure the anonymity of individuals. The data sets identified the 34,273 fully online students as Group A with corresponding numbers 1-34,273. It additionally identified the 95 hybrid course students as Group B with corresponding numbers 1-95. Group B also contained the number of hybrid courses taken. Group A and B participants were also identified with an enrollment status of R (retained), A (attrite), or G (graduated). With the data sets, the researcher used the compiled coded data and administered the study. The

Microsoft Excel spreadsheet was uploaded and run through the Statistical Package for the Social Sciences (SPSS).  Statistical analyses through SPSS provided the researcher with displayed quantifiable data.  The results from SPSS were used to confirm or deny the null hypotheses and the findings are presented in the final chapters of this dissertation.

**Data Analysis**

For the first research question and null hypothesis, the researcher conducted a chi-square test of independence analysis.  It was most appropriate because the researcher sought to test the existence or nonexistence of a significant difference between two variables.  The following assumption tests were confirmed prior to statistical analysis:

1. Convenience sampling used to include the entire collection of students that met the criteria for the study;

2. the sample size was sufficiently large enough to conduct the study, which helped the researcher avoid a Type II error;

3. the expected cell frequency count for each variable was more than five for the 2x2 cross tabulation table; and

4. the observations within each variable were found independent, as the measurements did not influence one another.

A nonparametric test of statistical significance was used for research question one because the scores did not have equal intervals, as they were not continuous, but had been categorical in nature.  Additionally, these measured variables cannot rely on any assumptions about the shape or variance of population scores through statistical or graphical methods (Gall, et al., 2007).  Therefore, Pearson's chi-square ($\chi^2$) test of independence using a 2x2 cross tabulation was used through methods of frequency counts by means of the distribution patterns per

comparison groups (Gall, et al., 2007). Results of a chi-square test do not provide statistical data through the typical form of mean scores and standard deviations but as quantitative categorized items through the approach of frequency counts and percentages. The researcher compared the retention status (retained or graduated student and attrite student) of each comparison group (fully online and hybrid format), which provided frequency data grouped into four cells. A chi-square test is used to determine the statistical significance of the difference between such variables. The test results compute a phi coefficient and provide an estimate of the strength of the relationship between the variables in the chi-square table (Gall, et al., 2007). This method was used to determine whether the null hypothesis for research question one could be rejected.

For the second research question and null hypothesis, bivariate correlation was used to examine the strength and direction of the linear relationship between the two variables using the product-moment correlation coefficient. At the beginning of the research, the following assumption tests were conducted prior to statistical analysis:

1. Normality was assumed as population distributions were found normal through a histogram;

2. the observations within each variable were found independent, as the measurements did not influence one another;

3. linearity was assumed linear through a scatterplot; and

4. homoscedasticity was found tenable as the scatterplot indicated a cigar shape.

The parametric statistical procedure, product-moment correlation coefficient ($r$), or Pearson $r$, was used to compute statistical findings as one variable in this study was expressed as a continuous score and the other variable as a categorical score (Gall et al., 2007). The Pearson $r$ was an appropriate correlational statistic to administer as it helped determine the correlation

coefficient, or the degree of the relationship between the number of hybrid courses taken by students and retention rates and whether that relationship was positive, negative, or found absent. It is a widely used technique because educational research typically involves continuous scores and *r*, having a small standard of error, can be used to calculate any two scores whether continuous or not (Gall et al., 2007). Additional items that are reported in the proceeding chapter includes descriptive statistics, number per cell, degrees of freedom, observed *r* value, and significance level.

### Summary

The purpose of this study was to determine if adult online learner retention rates of those who participated in hybrid coursework increased at a higher percentage than those who solely took fully online coursework, and if an increased number of hybrid coursework completed showed a significant relationship with retention rates. In order to complete this study, a combination of two different research designs was needed to test each of the research questions statistical significance through a chi-square test of independence and bivariate correlation. The participants for this study consisted of individuals enrolled in certain courses offered in either a fully online or hybrid format during three academic school years. The researcher obtained data through the participating university that contained course enrollment format, retention status, and the number of hybrid courses taken if applicable. Statistical analyses were conducted using SPSS to provide the researcher with results, which are displayed and interpreted in the following two chapters.

**CHAPTER FOUR: FINDINGS**

This chapter provides a summary of the results for each of the stated research questions and a description of the outcomes on the hypotheses in this study. As previously discussed, the purpose of this study was to test the relationship of retention rates for adult online learners between fully online students and those who took a hybrid course, as well as whether there is was correlation between retention rates of those who took a hybrid course and the number of hybrid courses each participant took. A methodology for how this quantitative study was conducted and how the data was analyzed is detailed in the previous chapter. Presented first in this chapter are the results of the chi-square test of independence preformed to test whether a statistically significant difference existed between retention rates for fully online and hybrid course students. Presented second are the results of the bivariate correlation test to analyze whether a statistically significant relationship existed between retention rates and the number of hybrid courses taken by adult online learners. The following findings are presented and organized into sections containing data analysis, results, and a conclusion and summary.

**Data Analysis**

**Research Question 1**

**RQ 1**: Do adult online learner retention rates increase significantly after participating in an on-campus hybrid course as opposed to adult online learners who solely take online courses?

**$H_0 1$**: There is no significant difference between retention rates of adult online learners who attend one or more on-campus hybrid courses as opposed to adult online learners who solely take online courses.

The first null hypothesis for this study was evaluated using the chi-square test of independence. Assumptions include nonprobability sample, a large enough sample, independent

observations, and appropriate cell count of more than 5 cases per cell in a side-by-side cross tabulation table. For adult online learners, those who attended a hybrid course more often retained than those who did not take a hybrid course. Of the hybrid students, 77.90% retained compared with 22.10% of those who dropped out, while fully online student retained at 49.30% compared to 50.70% of those who dropped out. This difference shows a relationship between variables shown, $\chi^2$ (1, $N$=34,368) = 31.00, $p$ = 0.00, as seen in Table 4. Since $p < 0.05$, it showed there is a statistical significance, or the researcher can be at least 95% confident, that online students who took a hybrid course are more likely to retain than online students who do not. The effect size for this finding through phi shows little to no association between variables, $\varphi$ = .03. The researcher was able to reject the null hypothesis.

Table 4

*Chi-Square Tabular Test Results*

|  | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | 31.006[a] | 1 | .000 | | |
| Continuity Correction[b] | 29.873 | 1 | .000 | | |
| Likelihood Ratio | 32.766 | 1 | .000 | | |
| Fisher's Exact Test | | | | .000 | .000 |
| N of Valid Cases | 34,368 | | | | |

[a] 0 cells (0.0% have expected count less than 5. The minimum expected count is 46.90).
[b] Computed only for a 2x2 table.

Table 5

*Cross Tabulation Frequency Count Chart*

| | Retained | | Attrite | |
|---|---|---|---|---|
| Category | Frequency | % | Frequency | % |
| Online[a] | 16,894 | 49.30 | 17,379 | 50.70 |
| Hybrid[b] | 74 | 77.90 | 21 | 22.10 |

[a]$N = 34{,}273$
[b]$N = 95$

## Research Question 2

**RQ 2**: Is there a significant relationship between the number of hybrid courses taken by adult online learners and retention rates?

**H₀2**: There is no significant correlation between the number of hybrid courses taken by adult online learners and retention rates.

The second null hypothesis for this study was evaluated using the bivariate correlation test. Preliminary analyses were administered and normality found through a histogram shown in Figure 1 and that the assumption of homoscedasticity was tenable, as the cluster of points on the scatterplot forms a cigar shape, shown in Figure 2. A straight line can be drawn creating a slightly positive direction and relationship between the increased courses of hybrids taken with more retained hybrid students. A Pearson product-moment correlation coefficient was computed to assess the relationship between the number of hybrid courses taken ($M = 1.44$, $SD = .71$) and retention status ($M = 1.79$, $SD = .41$). As seen in Table 6, there had been 94 observations ($N$) for each of the two variables. The significance level, $p = .55$ or $p > .05$, indicates there is no statistically significant correlation between the two variables. This means a change in levels of

hybrid courses are not associated with a change in levels of student retention status in online higher education. Though a slightly positive linear relationship is present, the strength of the relationship between variables, $r = .06$, is small and weak based on Cohen (1988), or not strongly correlated. The coefficient of determination ($r^2 = 0.004$) indicated a 0.40% shared variance. That is, the number of hybrid courses taken by an online student helps explain 0.40% of the variance in student retention status. Overall, there was a weak, slightly positive correlation between number of hybrid courses taken and retention status. The researcher failed to reject the null hypothesis.
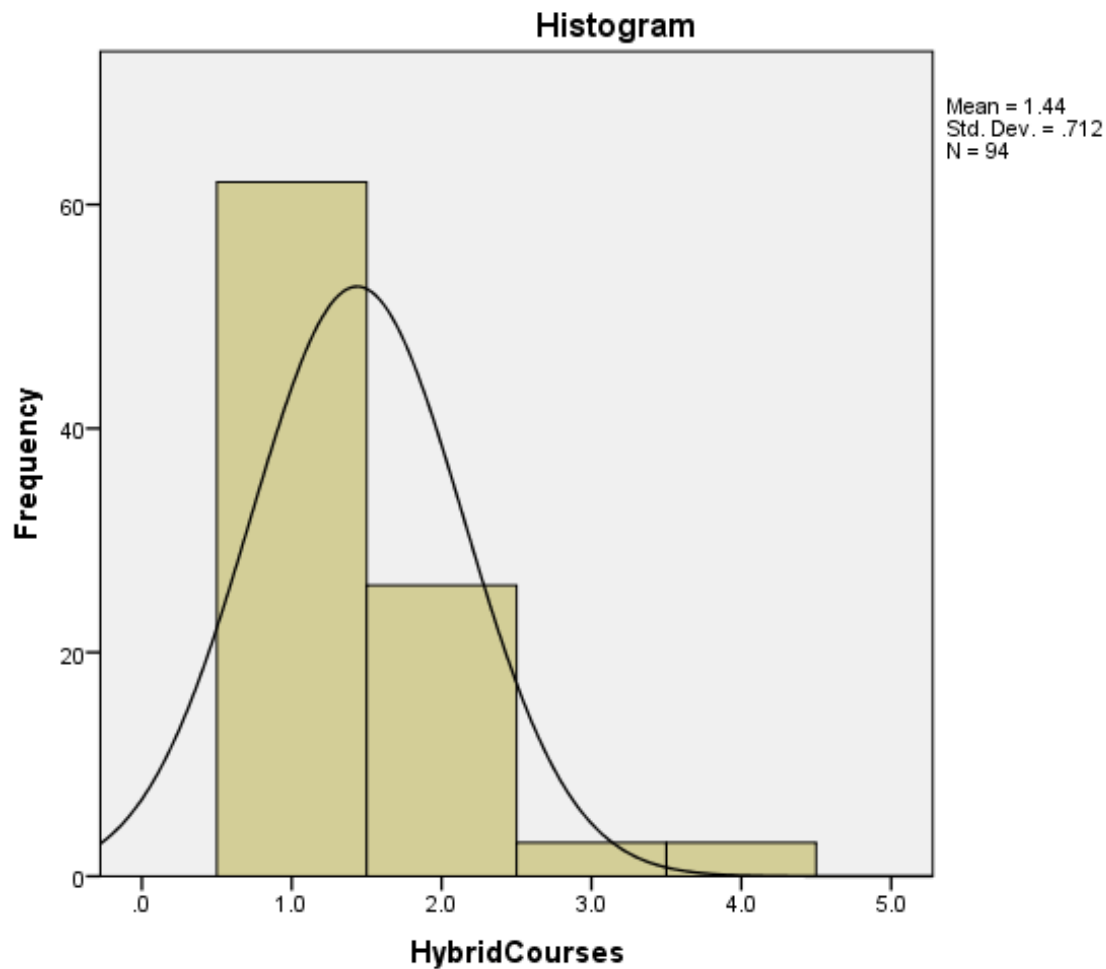


*Figure 1*. Histogram for normality which assumes that population distributions are normal.
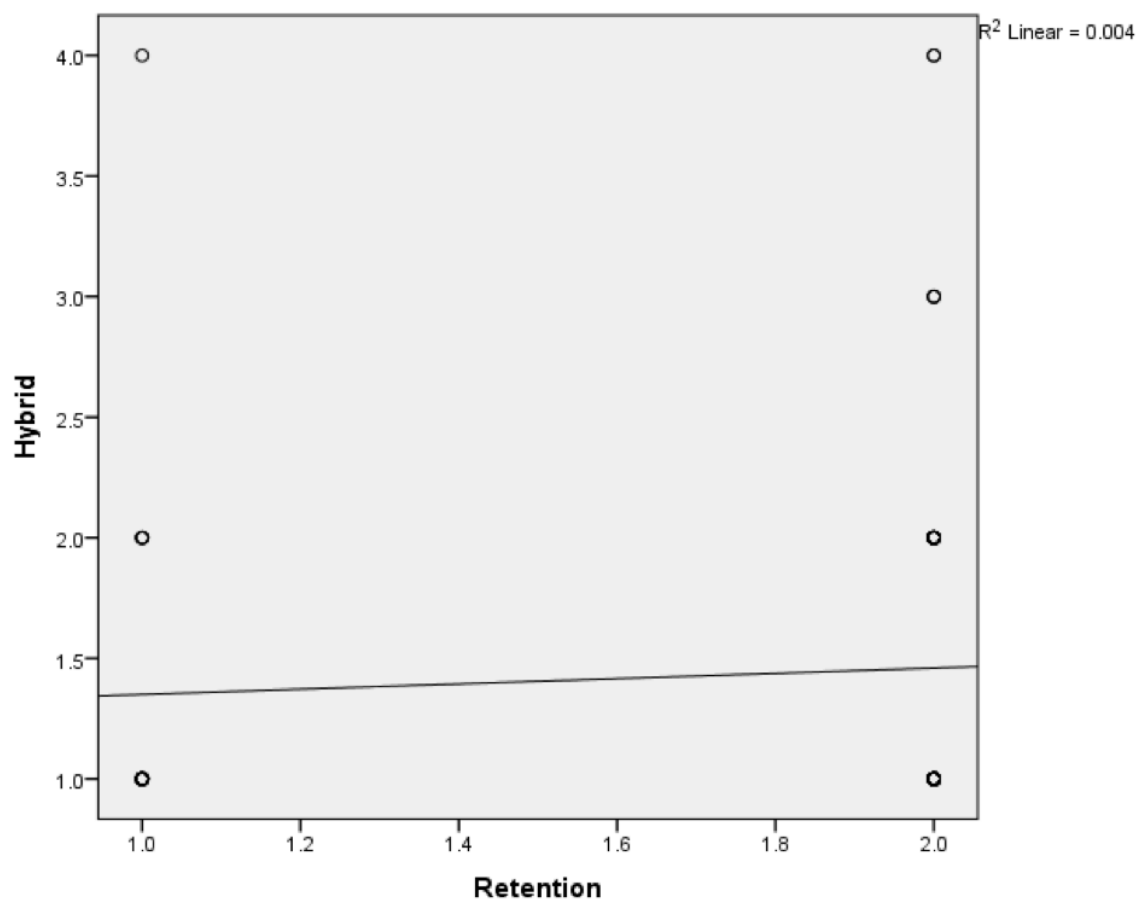
*Figure 2.* Scatterplot of increased number of hybrid courses taken in correlation to retention.

Table 6

*Descriptive Statistics*

|  | *M* | *SD* | *N* |
|---|---|---|---|
| Retention | 1.787 | .4115 | 94 |
| Hybrid | 1.436 | .7118 | 94 |

Table 7

*Pearson Correlation Matrix of Variables*

|  | 1 | 2 |
|---|---|---|
| 1. Retention |  | .545 |
| 2. Hybrid | .545 |  |

*Note.* The correlation was not statistically significant at the *p* < .05 level.

### Summary

The enrollment in course format and retention status of 34,368 adult online learners who participated in this study, through archived data over seven consecutive academic years, provided sufficient data to obtain statistically valid results. This chapter reported those results and organized them by research question. In research question one, a frequency chart was used and evaluated by a chi-square test of independence, which rejected the null hypothesis. The relationship between adult online learners who took a hybrid course and retained compared to fully online students who retained differed significantly. In addition, the second research question looked at the linear relationship between variables and was evaluated using the Pearson product-moment correlation coefficient, which failed to reject the second null hypothesis. The correlation between the increased numbers of hybrid courses taken by adult online learners with the retention status of retained did not differ significantly.

**CHAPTER FIVE: DISCUSSION**

This study was conducted to examine the efficacy of hybrid coursework on the retention of adult online learners. Individuals who participated in at least one hybrid course were compared to their fully online course equivalents for research question one. Those hybrid students were then compared to each other for research question two on the basis of whether an increased number of hybrid courses taken by adult online learners had a significant correlation on retention rates. This chapter reviews the research questions and null hypotheses in light of the data and results of the statistical analyses conducted through SPSS. A summary and discussion of the findings are given and lay the groundwork for implications of this study. Limitations are addressed to show the impact and influence that the methodology and research design had on the study. Based upon this study, recommendations for future research are provided to further the field of online higher education but more specifically to provide additional research opportunities to further investigate the effects of hybrid coursework on retention in online higher education.

**Summary of the Findings**

The findings displayed in chapter four show for research question one that there was a large difference between the observed and expected frequencies of fully online and hybrid coursework, which inclined the researcher to believe that the null hypothesis should be rejected. Through further analysis using SPSS, this was proven statistically true, and the data in the previous chapter is shown to support this claim. To do so, non-parametric testing was used to determine and imply cause rather than association. The assumptions for the chi-square test for independence were met to see if the two variables were related. The two populations, fully online students and hybrid online students, were independent of one another. The variables were in categorical form while the data output was nominal, or in frequency form. In general, a chi-

square test requires a sample larger than 20 participants with no accepted cutoff. Likewise, no cells can be observed with zero, and no cells of expected frequencies can be less than five. Such small samples would expose the researcher to an unacceptable rate of Type II errors. The lowest cell count in this study was 21, allowing for statistical validity.

The results for research question one showed that of the fully online students in the control group, 49.30% of participants retained while 50.70% dropped out. For the treatment group, or hybrid students, a total of 77.90% of participants retained while 22.10% dropped out. This showed that online students who participated in at least one hybrid course retained at a higher percentage than online students who only completed coursework in the fully online course format.

For the second research question, a point-biserial correlation analysis could have been conducted, as one of the variables was continuous (number of hybrid courses taken) while the other had been dichotomous (retained or attrite status for retention). However, in using SPSS to input and interpret data, a meaningful statistical analysis could still be accomplished using a bivariate correlation to evaluate the null hypothesis. Due to this fact and since a bivariate correlation is more commonly used and referenced in educational research, it was determined by the researcher that this type of design would be used to analyze the data, and it would not hinder or invalidate the results.

The initial results of research question two, shown through a scatterplot in Figure 2, provided the researcher with a slightly positive linear relationship between hybrid students who took an increased number of hybrid courses ranging from 1-4 per individual with higher retention rates. While the basic visual analysis indicated a slightly increased number of hybrid courses taken equates with higher retention rates, the number was not statistically significant.

While these results do not show a statistically significant positive correlation, they also do not show a statistically significant negative correlation between the variables. The results indicated that there was no statistically significant correlation, or a correlation was found absent, between the increased number of hybrid courses take and the retention of adult online learners.

### Discussion of the Findings

In reviewing the overall results of this research, the findings support the theory that social learning and physical interactions in a classroom with peers, instructor, and institution increases retention for online students (Tinto, 1975). However, the results showed that increased hybrid courses taken by adult online learners did not have a statistically significant correlation with retention. In order to ensure retention rates of the sample were reliable, the participants in this study took these courses over a period of three academic years and their retention status following those years for an additional four academic years. The participants were placed into comparison groups, and their retention status was compared to one another according to each null hypothesis. This was done to test the retention of online students over an ample period of time and to allow individuals to persist and graduate or drop out, over four to six academic years after one of the course formats were taken.

Results from the data were provided to address the first research question: Do adult online learner retention rates increase significantly after participating in an on-campus hybrid course as opposed to adult online learners who solely take online courses? The comparison groups used for this question, fully online and hybrid course format did not have an equal number of participants in each group. This was due to the nature of online education and the offering of optional hybrid coursework. A leading cause for the recent increase in online enrollment is the ability for students to complete courses from the convenience of their home,

meaning adult online learners are more likely to choose the option of studying fully online instead of taking time and spending money to come to a residential campus for hybrid formatted courses.  However, the optional enrollment into a hybrid course with an equivalent online format was essential to this study, as both a treatment group (hybrid course) and control group (online course) were needed to analyze a statistical relationship.  By using all of the students eligible who met the necessary criteria through convenience sampling, the researcher was able to report accurate results that reflected the specific comparison groups.

The chi-square test of independence for research question one required certain assumptions be met in order for the results to be found valid.  These were met and included a large enough sample size (34,273 fully online students and 95 hybrid students), two variables independent of each other (online verses hybrid format), and a cell count of more than five cases per cell (lowest cell count was 21).  Results were displayed in a 2x2 side-by-side cross tabulation frequency chart (Table 5) and showed that 77.90% of hybrid students retained while 49.30% of online students retained.  The results provided a $p$-value of 0.00, less than the standard value of 0.05, and gave the researcher the ability to claim the results were statistically significant.  The effect size, being independent of the sample size, indicated low association between variables with a phi of .03.  This number revealed the magnitude of the difference between the comparison groups.  As the effect size was close to zero, it indicated the difference was subtle.  While the results showed a statistically significant difference, the effect size clarified the differences as not being obvious to the naked eye.  The results show there was strong enough evidence against the null hypothesis and allowed the researcher, with a large degree of confidence, to reject the first null hypothesis: There is no significant difference between retention rates of adult online learners who attend one or more on-campus hybrid courses as opposed to adult online learners who solely

take online courses.  The results indicated that adult online learners who participate in a hybrid course are more likely to retain.

Results from the data were provided to address the second research question: Is there a significant relationship between the number of hybrid courses taken by adult online learners and retention rates?  The independent variable for this question consisted of online students who took one or more hybrid courses.  The researcher obtained a data set of 95 participants who took a hybrid course ranging from one to seven times.  However, only one of the participants took a hybrid course seven times while all others took one to four.  Due to this single participant's enrollment in the course format being outside of the main group, they were considered an outlier and removed from the statistical analysis.  This resulted in a total of 94 participants taking up to four hybrid courses for this study.

The bivariate correlation design used for research question two found that this study did meet necessary assumption testing.  The research data was found tenable through a cigar shaped scatterplot (Figure 2).  A straight line could also be drawn through the points on the scatterplot and provided the researcher with a slightly positive linear relationship.  This showed that the increased number of hybrid courses taken by adult online learners indicated a minor increase in retention.  However, the significance level was high at .55 and directed the researcher in determining that the results were not statistically significant.  The Pearson product-moment correlation coefficient, or $r$ value, was small at .06, which signified a weak correlation between variables.  Additionally, the results displayed a coefficient of determination of 0.004 shared variance.  This meant the increased number of hybrid courses taken by adult online learners could only explain 0.40% of the variance in retention.  These results failed to reject the second null hypothesis: There is no significant correlation between the number of hybrid courses taken

by adult online learners and retention rates. The results indicated for the sample studied, an increased enrollment in hybrid coursework by adult online learners did not result in a strong correlation with retention of participants.

The demographics of the sample participants and university population within the study warrant further discussion. Though fairly similar in percentage, the online undergraduate sample was 52.60% female and 47.40% male with the hybrid sample at 53.70% female and 46.30% male, compared to the overall university population of 59.00% female and 41.00% male. From this study, it appears females in general are more likely to enroll in online higher education. As stated in the review of literature and current research, online students are characteristically persons who were not able to previously attend college on-campus and are currently attending online courses as nontraditional students who are typically employed fulltime, taking care of a family, or tending to other major life responsibilities (Bean & Metzner, 1985; Li & Irby, 2008; Melkun, 2012). Though in each group there were more females than males, the sample demographics for this study show that slightly fewer females and more males studied as a fully online or hybrid student in specific courses compared to the overall university population.

The average age of the population at the participating university and sample size also varied. While the overall university average age was 38, the sample of fully online students was 33.7 years of age and the hybrid students was 30.7 years of age. These demographics indicate that not only are hybrid students typically younger than the overall university population, but that women have a higher tendency to attend a hybrid course on-campus than men during their education with an online institution.

The ethnicity of the sample size compared to the overall university population displayed noteworthy results. While the fully online student sample and overall university population for

those ethnicities reported had similar percentages, those of the hybrid sample varied

considerably. The online sample size displayed an ethnicity breakdown of students being

19.60% African American, 59.00% Caucasian, 4.40% Hispanic, and .90% Asian while the

overall university population was 23.00% African American, 57.00% Caucasian, 4.00%

Hispanic, and Asian as unreported. While these percentages varied slightly, they were

reasonably similar. However, the ethnicity breakdown of hybrid students showed 11.60%

African American, 70.50% Caucasian, 6.30% Hispanic, and 3.20% Asian. While the African

American demographic was the only ethnicity to decrease from the overall population and fully

online sample to the hybrid sample, the Caucasian, Hispanic, and Asian demographic increased

at a noticeable rate from the overall population and fully online sample to the hybrid sample.

It should be emphasized again that the hybrid courses were optional for the

undergraduate online students in this study and the format was not a requirement for degree

completion. This can help explain the sizeable variance between sample comparison groups.

The online students were given the opportunity to select their course format out of convenience

and learning preference. As online students generally enroll in online programs for their

accessibility at home and non-requirement to be on a college or university campus, it seems

reasonable that the fully online sample would be much larger than the hybrid sample. The

courses themselves, whether taken fully online or as a hybrid, were general education classes at a

liberal arts institution and were required for graduation. Individuals enrolled in these courses are

commonly classified as freshman or sophomores and within the beginning of their program. As

juniors and seniors are closer to graduating and more likely to retain at an institution, their

coursework was not studied and not offered as hybrids. In having online courses with optional

hybrid counterparts at the general education level, it provided the researcher with a control group and treatment group for more valid research in gauging retention.

## Limitations of the Study

All educational research studies have their limitations that must be addressed and discussed to ensure credibility and reliability of the research. This study was no exception and had several limitations that should be considered while reviewing its results. These involve threats to both the internal and external validity of the research. It should also be noted that some of these limitations could hinder the generalizability of results for this study to the overall field of online education. However, these limitations were necessary in order to conduct this study or were largely out of the control of the researcher.

When first considering limitations, the selected research designs for each question must be discussed. Though they are each considered greatly beneficial in educational research, they are not without their limitations (Gall et al., 2007). A casual-comparative design was used for research question one. A drawback to this non-experiential research "is that inferences about causality on the basis of the collected data are necessarily tentative" (Gall et al., 2007, p. 310). Though the results of this research question may be found statistically significant, its conclusions are not definitive, but merely a suggestion that taking hybrid courses as adult online learners will increase their retention rates. This type if research does lead the way for additional studies involving an experiential design which could provide conclusions that are interpreted as more absolute (Gall et al., 2007). Additionally, the use of a chi-square test of independence for this research question is a nonparametric test of statistical analysis. This form of testing is considered generally less powerful and requires very large sample sizes (Gall et al., 2007).

While a large sample was used for fully online students, there was a much smaller sample size of hybrid students.

As with the first research question, the second used a non-experimental research design, more specifically a correlational design. Researchers use this design to explore cause-effect relationships between independent and dependent variables. However, similar to causal-comparative studies, it does not produce strong results, as another variable could very well be the actual cause (Gall et al., 2007). If the results are found statistically significant, then an experimental design is recommended to produce stronger results. Correlational research is also criticized for over simplifying the complexity of variables (Gall et al., 2007). For this study, the cause of retention or attrition is multifaceted and may not be solely based upon course format or the amount of hybrid courses taken. While the researcher explored the cause and effect relationship for the amount of hybrid courses taken with retention, it does not stand alone as the sole potential cause.

Another limitation to this study was the lack of random probability sampling. According to Gall et al. (2007), it is more challenging for a researcher to make valid generalizations about a population from a sample when conducting research through nonprobability sampling. However, as mentioned in the methodology chapter, convenience sampling was used to assist the researcher in conducting this study by obtaining sample data that met specific criteria. This allowed the researcher to utilize the largest sample possible for both comparison groups in a way that would provide the most statistically significant results.

A few limitations to internal validity for this study must be examined. As previously mentioned, the independent variable comparison groups had unequal sample sizes for each research question. Research question one had 34,273 fully online students and 95 hybrid

students. Though an equal number of participants in each group would have been ideal for this study, it was highly unlikely due to the nature of optional hybrid coursework in online programs. Research question two also had unequal groups with 62 adult online learners who took one hybrid course, 52 who took two hybrid courses, 3 who took three hybrid courses, 3 who took four hybrid courses, and 1 outlier who took seven hybrid courses. As the number of hybrid courses taken increased, the amount of participants who took more hybrid courses decreased significantly. This may have caused the inability for the researcher to reject the null hypothesis. While having an equal number of each could have changed the significance of the statistical results or strength of the linear relationship, the researcher was unable to obtain such data.

Another limitation to internal validity was the data for this study being collected through one online institution. Perhaps utilizing similar programs and participants at other online schools could have assisted the researcher in collecting a larger sample of adult online learners who enrolled in hybrid coursework. This may have provided the researcher with a stronger study. Additionally, the time frame used to collect the sample at the participating university was during a specific time frame over three academic years. Though this is an overall short timespan, the participating university may have stopped offering some of the courses in either the online or hybrid format, as well as potential curriculum modifications that the researcher could not control may have affected retention. The data was also archival and only offered retention status. It did not provide the researcher with other information that could be considered potential reasons for the retention or attrition of adult online learners.

Additionally, there are limitations to external validity in this study. For example, the instructors of the fully online courses are typically at a distance and do not work on the brick and mortar campus of the participating university. This may have caused additional disconnect of

social engagement with the institution and sense of community for the online student and online instructor, as neither would have been on the physical campus of the institution. Likewise, the instructors teaching the hybrid courses were residential faculty and may have had a deeper involvement with the institution. The difference between the two might potentially cause varying degrees of social engagement and isolation in either course format that could hinder or assist in a student's desire to retain.

Other limitations to external validity in this study refer to issues outside the control of the participating university and why online students may or may not retain that are not due to course format. Some of these were previously discussed in chapter two and include areas surrounding student preferences, economic impact or financial issues, support or lack thereof from friends and family, job potential, new career path, personal commitment level, participant technological competency levels, or even unforeseen circumstances in their personal or professional life. This study did not interview participants so the researcher was unable to gauge if extenuating circumstances outside of course format caused retention or attrition. Even the social interactions that students make in a course formatted as fully online or hybrid can vary depending upon the learning preferences of each student or teaching styles of the instructor. The levels at which these occur vary and may or may not meet the expectations of the adult online learner resulting in the possible persuasion of a student's choice to re-enroll or dropout.

Another factor and limitation that should be taken into consideration when reviewing retention rates between these comparison groups is the commitment level of students to persist to graduation prior to enrollment in either course format. Institutions have a limited capacity to influence or change commitment levels of their distance-learning students. This is often persuaded by outside factors such as personal preference, academic experience, individual

confidence, and the amount of support given by friends and family. Hybrid students must take time out of their regular schedule to travel to the online institution's brick and mortar campus for a specific period of time. This requires the use of additional financial and personal resources and demands time away from work and family. The fully online student does not need to use these resources to complete another online course, as does the hybrid student. The simple fact of attending a hybrid course, when not required, tends to show a greater commitment level on behalf of an online student to their education because of the additional resources needed when it is not a prerequisite to graduate. This increased commitment level may help explain the rise in retention of hybrid students over fully online students.

### Implications of the Study

The results of this study can be applied to the theoretical framework laid out in the literature review of chapter two. While the researcher was able to reject the first null hypothesis but not the second, the implications of this study provide the field of online education with practical research that can be used to assist institutions in offering similar courses that were used in this study to aid in the retention of adult online learners. The result of this study showed social learning may be just one factor that affects the retention of students. This is consistent with the theories outlined in chapter two (Bandura, 1977; Moore, 1993; Tinto, 1975).

The researcher sought to assess the efficacy of hybrid coursework on retention rates of adult online learners in higher education through Tinto's (1975) model of retention. He suggests it is through the integration of community by means of social and academic relationships between peers, instructors, and the institution that best supports the satisfaction and persistence of students in higher education (Tinto, 1975). Since these social interactions are difficult for adult online learners to achieve, this study utilized the hybrid course format as a means to see if

these students did retain better than fully online students because of their social interaction with each other, the course instructor, and institution while on a campus for part of their coursework. The statistically significant results of research question one found that hybrid students did retain better than fully online students. This may in part be due to the hybrid students attending a course on campus and investing their time in social relationships and academic experiences in a physical setting. Though the results of research question two were not found to be statistically significant, they seem to imply that once an adult online learner attends one hybrid course, they may not need additional time on campus to feel more socially and academically connected.

For this study, the extent of which Tinto's social and academic interactions were conducted in the hybrid course format for adult online learners was linked to Bandura's (1977) social learning theory. It is explained through Bandura's theory that students learn best when they are engaged in social learning through the physical observations of others with opportunities for modeling, sharing, and imitation (Bandura, 1977). This research studied online students who chose to engage in social learning in a traditional classroom through a hybrid course that offered individuals the opportunity to foster a sense of community through observations and relationships in a physical setting while their fully online counterparts did not. The results of research question one showed that fully online students might have felt an increased sense of isolation during their course due to the physical separation of classmates and instructor. It is the lack of social engagement in education that often leads to student attrition (Dodge, Mitchell, & Mensch, 2009; Tinto, 1975; Wells, 2007). While this study did not interview participants to gauge student comprehension, overall satisfaction, learning style preference, or sense of isolation within each course format, it did show that adult online learners who participate in a hybrid course with social interactions are more likely to retain.

A theory that seeks to explain why adult online learners often struggle with sense of isolation and the inability to engage in social learning is based on transactional distance. Moore's (1993) theory of transactional distance focuses on the delivery of online learning and its physical separation of the student and instructor. It creates a psychological and communication gap that can hinder an online student's ability to succeed as dialogue or levels of communication vary depending upon the instructor and other students, course structure is not always consistent as curriculum, course objectives, and technology change, and online learning requires a certain level of self-directed learner autonomy that is not always understood by the learner or taught by the institution (Moore, 1993). If each of these three areas within transactional distance is not met to the satisfaction or needs of a student, there is a high likelihood they will not retain. The results of the research showed that of the fully online students who participated, 50.7% dropped out while just 22.1% of students who participated in at least one hybrid course dropped out. This suggests that Moore's theory of transactional distance may be a potential concern for online institutions, as the fully online course format did not lead to high retention rates of adult online learners in this study.

The large amount of participants used in this study, 34,368 adult online learners in selective coursework, from just one online institutions during three academic years ranging from 2007-2010 shows the significance of online learning in higher education and its continued growth due to accessibility and convenience (Dyrbye et al., 2009; Li & Irby, 2008; Betts et al., 2009). Even the demographics for the sample and overall online university used in this study, listed on Tables 1-3, confirm Coryell's (2011) claim that online institutions have a diverse student body that come to the classroom with varying personal and professional experiences. The demographics also showed that adult online learners, or nontraditional students, are on

average over the age of 24 as defined by Bean and Metzner (1985). Of the participants, hybrid students' average age was 30.6 years old, with fully online students' at 33.7 years old, and the overall participating university at 38 years old.

This study also resulted in the retention of the fully online students at 49.3%, supporting what similar research states about online student retention rates being low and often remaining at or below 50% (Angelino, et al., 2007; Jenkins, 2011; Willging & Johnson, 2009). With the average age in this study being 33 years old for fully online learners, this number supports the idea that nontraditional students who enter college after years of being away from the classroom tend to struggle with retaining in their online program (Jaggars, et al., 2013; Melkun, 2012). Morris, Wu, & Finnegan (2005) suggest that while age increases significantly in online education as compared to traditional education, so does student attrition as was seen in the data of this study. The results of this research additionally suggested a way to reduce attrition in older online students was to engage them in hybrid coursework as a means to enhance their confidence and involvement through social learning, similar to Rovai's (2003) research asserting increased institutional support and social engagement will help online students retain.

As the hybrid course format integrates social learning and community into online programs, this research resulted in the higher retention of hybrid students and aligns with related research that states this specific format is beneficial to learning, satisfaction, and retention (Ali & Leeds, 2009; Delamarter & Brunner, 2005; Hege, 2011; Koehler, 2013). As the hybrid student sample in this study retained at 77.9%, it also falls in line with Tinto's (1975) model of student-institutional fit that states the more connected a student feels with the school, the more likely they are to retain and persist to graduation. The statistically significant results of hybrid students retaining better than fully online students in this study further verifies the claim that face time

between students and instructor in a hybrid course can reduce the online students lack of community engagement and increase social learning as a means to benefit retention (Brunner, 2006; Hege 2011). While this study did not result in a strong relationship between increased hybrid courses taken by adult online learners with retention, the results did indicate that enrollment in at least one hybrid course contributes to greater student retention.

## Recommendations for Future Research

From the results and implications listed in this study, future research is recommended to help further the findings of this and other related studies in the field of online higher education with retention. While the literature review revealed retention is a major concern for colleges and universities, it appears to be an even larger issue for online institutions. Though it is difficult to point out solitary reasons for student retention or attrition into specific variables, as multiple causes at varying degrees may be more accurate, additional research utilizing some of these particular variables could help online intuitions better understand student trends as they seek to improve retention.

One hypothetical suggestion for a future study would be to conduct an experimental study instead of a non-experimental study. While this study was non-experimental, a future and potentially more powerful experimental study could be conducted where the presumed cause would be influenced by the researcher in an effort to better gauge the presumed effect (Gall et al., 2007). This inability to manipulate variables is a disadvantage to non-experiential research, as was with this study, but the ability to manipulate variables is a big benefit to experimental research. For example, a researcher could utilize a treatment group of online students who are enrolled in an upcoming hybrid course as well as a control group of online students who are enrolled in the equivalent online course. However, the researcher could manipulate the variables

by ensuring each comparison group contained an equal sample size with participants that meet specific qualifying characteristics. This could include age, gender, ethnicity, degree program, grade point average, educational background, or even a mixture of these or others. The researcher could take volunteers who are homogenous and place them into fully online courses and hybrid courses to study their outcomes on a number of factors. In making this a qualitative study, the researcher could additionally interview participants to study their thoughts on the impact of social learning and sense of isolation in both the fully online and hybrid course on their desire to retain.

Another recommendation would be to conduct a similar study with fully online and hybrid students that focuses on the grades earned in the course, grade point average after of the course, or overall satisfaction with the format. This would assist online institutions with understanding whether fully online or hybrid courses help students do better academically and whether the format is meeting the needs of the individual. As higher education seeks to produce graduates with specific skill sets and advanced levels of knowledge, this study would provide results on the differences of format and comprehension.

In recent years, there has been a large increase in social media outlets and the ability for individuals at a distance to interact and stay connected with one another. A study could be conducted on the potential effect of social media and its integration into courses or with the online institution in general for how it connects students, faculty, and the institution. It could study whether social media helps to alleviate the sense of isolation often seen in online education. This would be a more cost effective approach to building relationships than hybrid coursework and could be beneficial to online institutions that do not have a brick and mortar campus. It could theoretically lead to the development of new software programs or social

media outlets that are geared towards meeting the social needs of online students in an educational setting.

This study focused on asynchronous online learning compared to hybrid coursework. A recommendation for future research would be to study synchronous online learning compared to hybrid courses on student retention. As asynchronous is a learning approach that allows students to learn and obtain resources without meeting times or places, synchronous learning involves a learning environment that requires online students to participant in lectures or the dissemination of information during a specific time through the Internet. A researcher would need to find a synchronous online institution that offers hybrid coursework and conduct a similar study to gauge whether social learning and sense of isolation differs through synchronous or hybrid learning. It may even be beneficial to include asynchronous learning into the study to compare all three learning environments.

Similar to this study and the previous recommendation for future research, a study could be conducted comparing fully online, hybrid, and residential courses on student retention or another variable considered significant to the research. Variables could include retention, grade point average, course satisfaction, comprehension, community of inquiry, sense of isolation, or another variable deemed statistically appropriate. This would require the use of a college or university that has a brick and mortar campus and offers each of these three course designs. While students select course delivery based upon personal preference or out of necessity, it is mainly out of the control of the institution. However, this study could help institutions better understand student trends and help them focus resources in areas that meet the needs of their students.

There are online colleges and universities that require hybrid coursework of their students within certain degree programs. They are often required for licensure programs and some graduate or doctoral degrees. These adult online learners must attend an on-campus course in order to graduate even though enrolled in an online program. A study could be conducted to better understand the implications that required hybrids have on distance learners and how these courses might affect performance, comprehension, or retention. As optional hybrids can bring about the question of varying student commitment levels and access to additional needed resources to attend an on-campus course, conducting research on required hybrids may remove this limitation and allow the researcher to focus on the educational effects this format has within one or more degree programs. A qualitative research design can be administered to gain an in-depth understanding of required hybrid coursework through student interviews to better understand the varying educational phenomena within the specific context if that study.

More research should be conducted on the demographics of fully online and hybrid students based upon ethnicity, socioeconomic status, age, or gender. Though online higher education is typically less expensive than traditional higher education, it is still relatively costly and difficult for many to commit to financially. As this study showed varying percentages of demographics for fully online, hybrid, and overall university students, it would be beneficial to this study and the field of online education to conduct further research on the differences in student ethnicity, socioeconomic status, age, and gender. For this study, the percentage of African American participation in hybrids decreased while it increased for Caucasian, Hispanic, and Asian students compared to fully online and overall university students. It would be valuable to investigate this in greater detail and see if this is common among other online colleges and universities that offer similar programs.

**Conclusion**

As enrollment in online education continues to increase, institutions will struggle with the retention of these students. It has been hypothesized that the lack of social learning and sense of community for students within online education is a presumed cause for low retention rates (Bandura, 1977; Tinto, 1975). The purpose of this non-experimental study was to determine the efficacy of hybrid coursework on retention rates of adult online learners. Through the rejection of the first null hypothesis and failure to reject the second null hypothesis, the researcher was able to provide practical results for educators in online higher education. While the results for research question one showed that hybrid students retained better than fully online students, research question two did not show that participating in an increased amount of hybrid courses was necessarily beneficial to retention. However, the results of research question two might imply that social interaction through just one hybrid course is enough to help in the satisfaction of social community and retention of online students.

Additional research in the field of online higher education with retention should be conducted, as there may be a variety of reasons or variables that cause an online student to retain or drop out. This study only focused on one, course format, and the difference they have in regards to social learning and student sense of isolation on retention. From the findings of this research, online institutions should consider implementing hybrid courses to help meet the social learning and relational needs of their students. The results showed that online students who came to a brick and mortar campus to participate in hybrid coursework had increased retention rates over their fully online student counterparts. However, future research is recommended to add to this study and the general field of online higher education.

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