Differences in Student Retention and Academic Success Between and Among Faculty Status and Student Status Fall 2014 through Fall 2016

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Abstract

The focus of this study was to examine the impact of part-time versus full-time faculty on student academic success in an introductory liberal arts course as well as retention to the semester immediately following enrollment in the course. This study used a quantitative research design using archival data from a small, private, liberal arts institution in the Midwest. The sample size (n=1,616) included traditional and nontraditional students from one institution during the fall semesters 2014 through 2016. A three-way analysis of variance (ANOVA) was conducted to compare the effects of faculty status (full-time or part-time), student status (traditional, nontraditional), and retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course). Results from the study revealed students who received a 'B' average grade retained at a higher rate than students with a 'C' average grade. Nontraditional students taught by full-time faculty received higher average grades than traditional students taught by full-time faculty while the grade distribution between traditional and nontraditional students taught by part-time faculty was minimal. Even though nontraditional students scored higher grades on average than traditional students, the traditional students in this study retained at higher rates.

Dedication

This study is dedicated to my husband, Aaron. You have provided me with love, support, and encouragement throughout this incredible journey called life - you are my everything.

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Aaron for inspiring the end game

Haydon for keeping life real and making me smile

Mom and Dad for motivating me to do my best

Richard for inciting me to be more

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Table of Contents

List of Tables

List of Figures

Chapter 1

Introduction

Small private institutions of higher education are facing ongoing financial health and sustainability issues. The largest source of revenue in higher education is student tuition. Expenditures related to human resources are the greatest operating expense (National Center for Educational Statistics, 2017a). Demands to increase revenue at the same time as decreasing operational expenses are commonplace. In response, many institutions have reduced expenses through increased reliance on part-time instructional faculty. The institution in this study, University X, experienced a significant transition in faculty status (e.g., decreased full-time, increased part-time) over the last several years with no investigation of the longitudinal impact this shift may have had on students. This study used a three-way analysis of variance (ANOVA) to determine whether there were main effects within faculty status (full-time, part-time), retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course) of traditional and nontraditional students at University X.

Background

Small private institutions must continuously seek ways to combat mounting financial challenges. "The loss of students returning to campus for another year usually results in greater financial loss and a lower graduation rate for the institution…" (Lau, 2003, p. 127). Researchers have identified numerous variables that influence undergraduate student retention. Some of the most cited student-related variables include academic and social integration, as well as factors that are uncontrollable within the student's environment such as lack of finances, family responsibilities, and distance from

home. Higher education institutions also contribute to student retention and attrition through course offerings, course scheduling, academic and social interactions with faculty and staff, as well as curricular and co-curricular support services (Bean, 1990; Retention Task Force, 2010; Tinto, 2004). Being cognizant of these variables is not enough. Institutions are faced with the daunting task of determining where and how to be efficient and effective with retention practices.

University X, a small, private, liberal arts institution in the Midwest has approximately 1,500 undergraduate students who attend either the traditional residential campus, online, or at one of four nontraditional campuses across the nation. Undergraduate students who attended University X were required in their first term to take a writing intensive liberal arts course, which introduced them to the institution's four liberal arts learning outcomes (breadth, communication, critical thinking, and problem posing). Historically, full-time faculty taught a majority of the course offerings at the traditional campus while part-time faculty taught a majority of the course offerings at the nontraditional campuses (including online). The traditional campus offered the course every fall semester (Fall 2014, Fall 2015, Fall 2016). The nontraditional campuses offered the course six times per year. However, to control for equivalency in the current study, only fall term offerings were included for the nontraditional campus: Fall 1 (2014, 2015, 2016), and Fall 2 (2014, 2015, 2016). Between Fall 2014 and Fall 2016, budgets tightened at University X. To alleviate some of the budget concerns, many departing full-time faculty were replaced with part-time faculty in an effort to reduce operating expenses.

Student retention efforts at University X at the time of this study consisted of two active task forces (one for traditional students and one for nontraditional students). Membership of each task force included stakeholders across the institution. These task forces met regularly to address individual student issues as they surfaced. In addition, academic advisors with large student portfolios also endeavored to collect information on individual student retention each term. However, neither group reviewed categorical data for relationships that may have been present and there was no consolidation of findings or comprehensive data to effectively identify recurring issues for long-term planning. University X recognized this and formed a university-wide retention and persistence committee in March 2017 to begin sharing information between the traditional and nontraditional task forces. While these efforts were an improvement over prior practice, the institution lacked longitudinal categorical data on student retention.

Statement of the Problem

University X experienced significant fluctuation in faculty staffing fall 2014 through fall 2016. To inform academic administration and the university-wide retention committee, there was a need to identify the impact part or full-time faculty instruction has had on the academic success or retention of undergraduate traditional and nontraditional students. This study filled the gap of knowledge and provided an assessment of the shift in full vs. part-time faculty on traditional and nontraditional student academic success and retention fall 2014 through fall 2016.

Purpose of the Study

This study was conducted at University X, a small private liberal arts institution in the Midwest. The purpose of the study was to determine whether there were main effects

between (1) faculty status (full-time or part-time); (2) student status (traditional, nontraditional); and (3) retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course). A second purpose of the study was to determine whether there were interaction effects between and within (1) faculty status (full-time or part-time) x student status (traditional, nontraditional) x retained status (retained, not retained); (2) faculty status (full-time or part-time) x student status (traditional, nontraditional); (3) faculty status (full-time or part-time) x retained status (retained, not retained); and (4) student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course).

Significance of the Study

Many researchers have studied the effects of faculty status on student retention and student academic success (Deutsch, 2015; Hutto, 2013; Jaeger, 2008; Ronco & Cahill, 2004; Schibik & Harrington, 2004). However, the current study focused on examining potential differences between traditional residential students and nontraditional adult students and the impact faculty status (full-time or part-time) had on student academic success and retention. Historically, the institution has diligently maintained data on faculty status and academic success and retention. However, there has been minimal review and analysis of these data. This lack of data analysis regarding retention was a concern expressed in the Higher Learning Commission's Comprehensive Evaluation Visit Report for University X in Spring 2014 (Brougher et al., 2014). The results of this study may be of interest to members of the governing board, administrators, faculty, and students at University X as they aspire to efficiently increase

retention and persistence of students. This study will also add to the existing body of literature on faculty status, student retention, and student academic success.

Delimitations

According to Lunenburg and Irby (2008), "Delimitations are self-imposed boundaries set by the researcher on the purpose and scope of the study" (p. 134). The delimitations set by the researcher for this study included the following:

(a) This study was conducted at a single institution; therefore, generalizability of this study is limited to institutions with similar characteristics.

(b) This study examined student retention from the first to second term and did not take into account future term enrollment.

(c) This study examined academic success in the first required liberal arts course.

(d) Student characteristics in this study were limited to whether they were traditional or nontraditional students.

(e) Faculty characteristics in this study were limited to whether they were employed full-time or part-time.

(f) This study was limited to first time enrollees (traditional and nontraditional) in the fall 2014, fall 2015, and fall 2016.

Assumptions

"Assumptions are postulates, premises, and propositions that are accepted as operational for purposes of the research" (Lunenburg & Irby, 2008, p. 135). The current study was based on the following assumptions:

(a) Data included in this study were collected from the Office of Institutional Research and Assessment at University X and were assumed to be complete and accurate.

(b) Students attending the residential campus were of traditional age and background.

(c) Students attending a nontraditional campus were nontraditional in age and background.

(d) Students attending online were nontraditional in age and background.

Research Questions

The following research questions were used to guide this study:

RQ1. To what extent were there main effects observed?

H1. Significant main effects were found for faculty status (full-time or part-time) on academic success (4-point scale numeric grade in the first liberal arts course);

H2. Significant main effects were found for student status (traditional, nontraditional) on academic success (4-point scale numeric grade in the first liberal arts course);

H3. Significant main effects were found for retained status (retained, not retained) on academic success (4-point scale numeric grade in the first liberal arts course).

RQ2. To what extent were there interactions observed?

H4. Significant interactions were found for (1) faculty status (full-time or part-time) x student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success;

H5. Significant interactions were found for (2) faculty status (full-time or part-time) x student status (traditional, nontraditional) on student academic success;

H6. Significant interactions were found for (3) faculty status (full-time or part-time) x retained status (retained, not retained) on student academic success;

H7. Significant interactions were found for (4) student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success.

Definition of Terms

Academic Success. For the purposes of this study, academic success was defined as the student's 4-point scale numeric grade in the first required liberal arts course at either the traditional residential campus or one of the nontraditional campuses.

Faculty status. Faculty status was used to indicate whether an instructor was a full-time faculty member or part-time faculty member with the institution.

Faculty Load. Faculty load at the institution varied for nine and twelve month contract faculty members. Nine-month faculty members' course loads included teaching eight total courses for the academic year. These eight courses were typically spread evenly between the fall and spring semesters. A twelve-month faculty member's course load consisted of 10 total courses for the academic year.

Full-time faculty. Full-time faculty members were hired by the institution as permanent employees to teach their contracted load of courses each academic year. Appointment as a full-time faculty member included the guarantee of a full course load and benefits from the institution.

Nontraditional. Students enrolled in the adult education program at the institution were considered to be nontraditional. Nontraditional adult students normally

have been employed in the workplace for several years and were re-entering college. In this study, nontraditional students were taught in eight-week terms.

Online. This term was used to identify students who attended class in an asynchronous format where students participated via online discussion boards. In this study, online courses were taught in eight-week terms.

Part-time faculty. Part-time faculty consisted of temporary employees who were contracted by the institution to teach a single course per term. Part-time faculty members did not receive benefits from the institution as a part of their contract.

Retention. For the purposes of this study, retention was defined as continued enrollment with the institution the term following the initial required liberal arts course.

Student status. This term was used to identify whether a student was enrolled as a traditional or nontraditional student at the institution.

Traditional Students. This term referred to students enrolled at the residential campus. Traditional students were 18-24 year olds who came to college the fall immediately after high school graduation and had minimal full-time work experience. In this study, traditional students were taught in sixteen-week terms.

Organization of the Study

This chapter provided background information related to this study, the statement of the problem, and purpose of the study, its significance, delimitations, assumptions, research questions, and definitions of terms. Chapter 2 includes a review of the literature on costs of student recruitment, history of retention in higher education, and increased reliance on part-time faculty and their impact on student retention and academic success. Chapter 3 contains the research design, selection of participants, as well as the

measurement of each of the study's variables, data collection and analysis procedures, and limitations. The fourth chapter summarizes the data analyses and results of the hypotheses testing. Chapter 5 includes a summary of the study, findings as they relate to the literature, the author's interpretation of the data, and recommendations for future research.

Chapter 2

Review of the Literature

The purpose of Chapter 2 is to provide a thorough review of the historic and current literature relevant to this study. This study examined the extent of main effects between (1) faculty status (full-time or part-time); (2) student status (traditional, nontraditional); and (3) retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course). The study also investigated the extent of interactions between and within (1) faculty status (full-time or part-time) x student status (traditional, nontraditional) x retained status (retained, not retained); (2) faculty status (full-time or part-time) x student status (traditional, nontraditional); (3) faculty status (full-time or part-time) x retained status (retained, not retained); and (4) student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course).

The review of literature in this study includes a history of student retention and the increased reliance on part-time faculty in higher education. Researchers have disputed whether this shift in hiring practices has had a positive or negative affect on students. Research regarding the impact of part-time faculty on student retention and academic success was also reviewed. This study focused on differences in the retention and academic success of traditional residential students (typically learners aged 18-24) and nontraditional adult students (typically non-residential learners who are re-entering college from the workforce). Therefore, the literature review also includes a review of

the research surrounding educational behavior patterns of the two groups with regard to retention and academic success.

This chapter is divided into three sections. The first section focuses on the history of retention in higher education. The second section reviews the shift in faculty hiring practices since 1969 with a concentration in research related to the impact on student retention and student academic success. Finally, the third section summarizes literature on the behavior patterns of traditional and non-traditional students related to retention and academic success.

History of Retention in Higher Education

Retention in higher education has been evolving since the early 1900's with one of the first extensive studies authored by McNeely (1937). Funded by the Office of Education, McNeely's study, *College Student Mortality*, was one in a series of fourteen bulletins based on more than 150 separate studies conducted by sixty institutions across the United States. In this first comprehensive synthesis of data, McNeely (1937) defined student mortality as "the failure of students to remain in college until graduation" (p. 1). McNeely examined demographic factors (age, gender, location and size of the student body, and size of the community) as well as multiple variables affecting students at the time including causes of departure (failure in coursework, financial difficulties, sickness, and general lack of interest), and other factors such as student academic achievement and credit hour load (McNeely, 1937). While the Office of Education funded this extensive research at the eve of the Second World War, the nation's resources were soon diverted from postsecondary education leaving limited support and focus on research for several decades.

Following the Second World War, the federal government stepped up again to support secondary education with what "has been heralded as one of the most significant pieces of legislation ever produced" (United States Department of Veteran Affairs, 2017, p. 1). The Servicemen's Readjustment Act of 1944, more commonly known as the G.I. Bill, was signed into law. This new legislation provided educational benefits and financial support to veterans. Numerous veterans returned home to this new educational benefit and opportunity causing enrollments in postsecondary education to surge. This movement continued through the 1950's and into the 1960's when simultaneous events began to cause dissention with traditional aged college students. The heart of this dissention began with the Civil Rights movement and ended with the Vietnam War (Berger, Blanco, Ramirez, & Lyon, 2012). By the late 1960's and early 1970's, student enrollments in postsecondary education continued to rise but at a slower rate as the mix of students began to change. Institutions saw older students begin to enroll (Snyder, 1993). At this same time, traditional college campuses began to experience stagnant enrollments, which led institutions and researchers to concentrate their efforts on the reasons for student departure and search for solutions to these new issues in retention.

In 1971, Spady published *Dropouts from Higher Education: An Interdisciplinary Review and Synthesis*. Spady's work considered specific student characteristics and the college environment suggesting, "if the student and the environment are congruent in their norms, the student will assimilate both socially and academically, increasing the likelihood of persistence" (Seidman, 2012, p. 23). Tinto (1975) extended Spady's work introducing a model of student retention identifying that when a student finds both a social and academic connection to an institution they are more likely to persist while

students who do not acclimate to the community are more likely to withdraw. Tinto's model contended that both academic and social integration was critical in the retention of students (Garza & Bowden, 2014). Many researchers have tested and confirmed Tinto's model (Horn & Nevill, 2006; Pascarella & Chapman, 1983; Pascarella & Terenzini, 1979) and it has become an extensively referenced and respected model for student retention and persistence. Bean and Metzner (1985) expanded Tinto's model to include the increasing population of nontraditional students and why they did not retain. Bean and Metzner's model (1985) considered additional external variables that impact student retention decisions including financial difficulties and involuntary academic dismissal.

Astin (1984) also significantly contributed to the foundation of research being developed at this time with his theory of student involvement. Astin acknowledged a direct relationship with student social and academic effort and student retention. His Input-Environment-Output Model (I-E-O Model), considered Inputs (student characteristics at college entry such as high school grades and test scores, gender, ethnicity, etc.), Environment (institutional characteristics, peer groups, campus experiences, place of residence, student involvement, etc.), and Outputs (student satisfaction with the institution, student beliefs, behavior, abilities, academic achievement, retention, etc.) and how these variables interrelate and influence students (Astin, 1993; Astin, 1999; Pascarella & Terenzini, 2005). In addition to the I-E-O Model, Astin developed a Theory of Involvement suggesting as students become actively involved in their institution (participating in curricular, co-curricular, and social activities), the more they will grow and develop and remain enrolled (Astin, 1999; Garza & Bowden, 2014). To sustain this growth and development in students, Astin's

involvement theory supported that institutions must provide students resources and activities including quality faculty interaction both inside and outside the classroom.

Student retention has been a significant focus for institutions and researchers for nearly a century. Institutions of higher education continue to face overwhelming financial pressures and increased accountability to consumers, government agencies, accrediting bodies, and the media (Leslie, 1998; Leslie & Gappa, 2002; Leveille, 2005). Finding balance between the cost and perceived value of a postsecondary degree has become incredibly difficult and secured job security for future researchers.

Higher Education's Reliance on Part-time Faculty

In 1969, the composition of faculty in the United States consisted of 78 percent tenure and tenure-track positions with 22 percent non-tenure-track positions (Schuster & Finkelstein, 2006). "Today, more than 50 percent of all faculty appointments are part-time" with non-tenure-track positions accounting for 70 percent of instructional faculty (American Association of University Professors, 2017, p. 1). The utilization of part-time faculty can provide institutions a less expensive alternative to full-time faculty through reduced compensation and no benefit support. However, the long-term effects of this considerable dependence on part-time faculty are not clear. There is extensive and contradictory research regarding whether the increased use of part-time instructional faculty positively or negatively impacts students and their progression toward degree completion (Bettinger & Long, 2010; Deutsch, 2015; Hutto, 2013; Kezar, Maxey & Eaton, 2014). The Association of Governing Boards encouraged institutional boards to raise questions about the institution's faculty composition and to hold its administrators

responsible for reporting on and analyzing any impact on the institution (Kezar & Maxey, 2013).

This shift in hiring practice does not come without criticism. Part-time faculty are often condemned for lack of commitment to the institution and its culture as well as time spent engaging with and mentoring students outside of class (Bettinger & Long, 2010). Unlike full-time faculty, most part-time instructors are not required to hold office hours, and are not contractually obligated to contribute to the academic community outside of the classroom. Inside of the classroom, part-time faculty are often forced to follow strict course guidelines that do not allow flexibility to adjust the curriculum to student capabilities and interests (Kezar, Maxey, & Eaton, 2014).

Working conditions vary across higher education institutions and many part-time faculty face less than adequate conditions. Reduced compensation, job insecurity, and lack of benefits are not the only obstacle for part-time faculty. They are often hired at the last minute leaving little time to prepare. Inadequate institutional resources including lack of office space, limited professional development opportunities, and minimal inclusion in academic decision-making and curriculum development may be the norm (Roney & Ulerick, 2013; Kezar, Maxey, & Eagen, 2014). Bean (1990) and Tinto (1993) associated student-faculty engagement inside and outside the classroom as having significant implications for student retention. This lack of resources provides little opportunity for part-time faculty to meet with students outside of the scheduled class time. "The cumulative impact of working conditions impedes the ability of individual instructors to interact with students and apply their many talents, creativity, and varied knowledge to maximum effect in the classroom" (Kezar, Maxey, & Eagen, 2014, p. 7).

McClenny and Arnsparger (2014) reported 39% of part-time faculty have 10 or more years teaching experience. This devotion to teaching suggests many part-time faculty maintain a greater motivation beyond financial compensation through the intrinsic rewards of sharing their knowledge and experience with students. Research has suggested part-time faculty bring valuable professional experience and applied perspectives to the classroom (Leslie & Gappa, 1995; Fruscione, 2014). Jaeger and Eagen (2011) found that purposeful development and integration of part-time faculty into the institution contributed to improved student success. Roney and Ulerick (2013) suggested continued appointments of essential part-time faculty combined with development opportunities and improved working conditions will result in improved student outcomes.

Dependence on part-time faculty has increased over the last several decades in response to financial stress on institutions. While there is an immediate cost-savings to this strategy, administrators must be cautious, as it may not be the most cost-efficient strategy for the institution. "Each student that leaves before degree completion costs the college or university thousands of dollars in unrealized tuition, fees, and alumni contributions" (DeBerard, Spelmans, & Julka, 2004, p. 66). Many institutions of higher education find themselves dissecting every line of their financial ledgers searching for opportunities to increase revenue and decrease operating expenses. The greatest operating expense in higher education is human resources with the average institution expending 75 percent of the annual budget on employee salaries and benefits (Dickeson, 2006). The largest revenue source for private institutions is student tuition and fees (National Center for Education Statistics, 2017b).

Since the mid-1970s, researchers have projected significant cost efficiencies when institutions leverage student retention as an enrollment management tool as compared to concentrated efforts solely on the recruitment of new students (Astin, 1975; Tinto, 1975). Retention of students is critical to financial stability. "For institutions, attrition represents a direct loss of tuition income and, in other things being equal, a failure to accomplish their educational mission" (Bean, 1990, p. 170). Institutions must escalate their retention efforts if they are to continue operation.

Retention and Success Behaviors in Traditional and Nontraditional Students

Students are categorized as traditional or nontraditional based on their age. Traditional students are typically 18-24 years old and nontraditional students are age 25 and older. There are many additional characteristics that differentiate these two student groups. Nontraditional students are characteristically financially independent, work full-time and commute to class while traditional students are typically financially dependent on their parents, they may work part-time, and usually live on or near campus. Nontraditional students also often hold multiple additional roles with significant responsibility such as being a spouse, parent, employee, etc. (Eppler, Carsen-Plentl, & Harju, 2000). Institutions providing services to each of these student populations must acknowledge the various factors that influence the retention and success of each population.

Traditional and nontraditional students have differing perspectives and expectations for college life. Traditional students prioritize social activities, sports and Greek life while nontraditional students are more likely to focus on the academic experience (Bean & Metzner, 1985). Levine (1993) suggested nontraditional students

view higher education as consumers with no interest in receiving or paying for additional services outside of efficient and quality educational experiences and they "place a premium on time and money" (p. 4). College is one of many activities they are engaged in each day with work and family often prioritized over their education. This commitment to work and family can create additional stress and barriers for the nontraditional student's retention and degree completion (Dill & Henley, 1998).

Research suggests nontraditional students routinely maintain higher grade point averages than traditional students. Reasons sighted include life experience, cognitive development and motivation as the main factors for success (Eppler & Harju, 1997; Harju & Eppler, 1997; Justice & Dornan, 2001). Nontraditional students are often returning to college with a clear purpose having already gained work, life and career experiences that traditional students have yet to experience. Hoyert and O'Dell (2009) found that nontraditional students focus more on learning goals while traditional students focus on performance goals. This is consistent with Eppler and Harju's (1997) findings that nontraditional students tend to place a higher value on learning whereas "younger, traditional students are more concerned with external evaluations and living up to the expectations of others" (p. 569). These nontraditional students understand the level of commitment an advanced degree requires in light of their other nonacademic obligations (Johnson & Kestler, 2013).

The motivations of traditional and nontraditional students in pursuing a higher education are also different. Traditional aged students are exploring their newfound independence from parents, expanding social circles and participating in extra-curricular activities. Academically, traditional students are focused on a future career path while

nontraditional students primarily attend college to gain new knowledge or skills to enhance their careers (Eppler et al., 2000). While research supports nontraditional students being more successful academically compared to their traditional counterparts, only one third of these adult students complete a degree after six to eight years (National Association of Student Personnel Administrators, 2014). Nontraditional students are more likely to leave school due to conflicting responsibilities, financial stress and lack of support (Eppler et al., 2000; Park & Choi, 2009; Grabowski, Rush, Ragen, Fayard, & Watkins-Lewis, 2016). Some of the most cited reasons for dropout by traditional students include lack of discipline, preparation and direction as well as social and financial stresses (Tinto, 1993; Symonds, Schwartz, & Ferguson, 2011; Turner & Thompson, 2014). In order to increase the success and retention of all students, institutions must carefully consider their student populations and modify their support services to meet the needs of each population.

Summary

While researchers have studied the effects of part-time faculty on student retention and academic success, there have been limited studies associating these variables with traditional and nontraditional student populations within the same institution. The current study investigated the main effects within faculty status (full-time or part-time), retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course) of traditional and nontraditional students at University X. Chapter 3 explains the methodology used in this study including the research design, selection of participants, data analysis and hypothesis testing as well as the limitations of the study.

Chapter 3

Methods

This study was conducted at University X, a small private liberal arts institution in the Midwest. The purpose of the study was to determine whether there were main effects within faculty status (full-time or part-time), student status (traditional, nontraditional), and retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course). A second purpose of the study was to determine whether there were interactions between faculty status (full-time or part-time), student status (traditional, nontraditional), and retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course). Figure 1 below illustrates main effects and interactions between the three independent and one dependent variable.

Figure 1

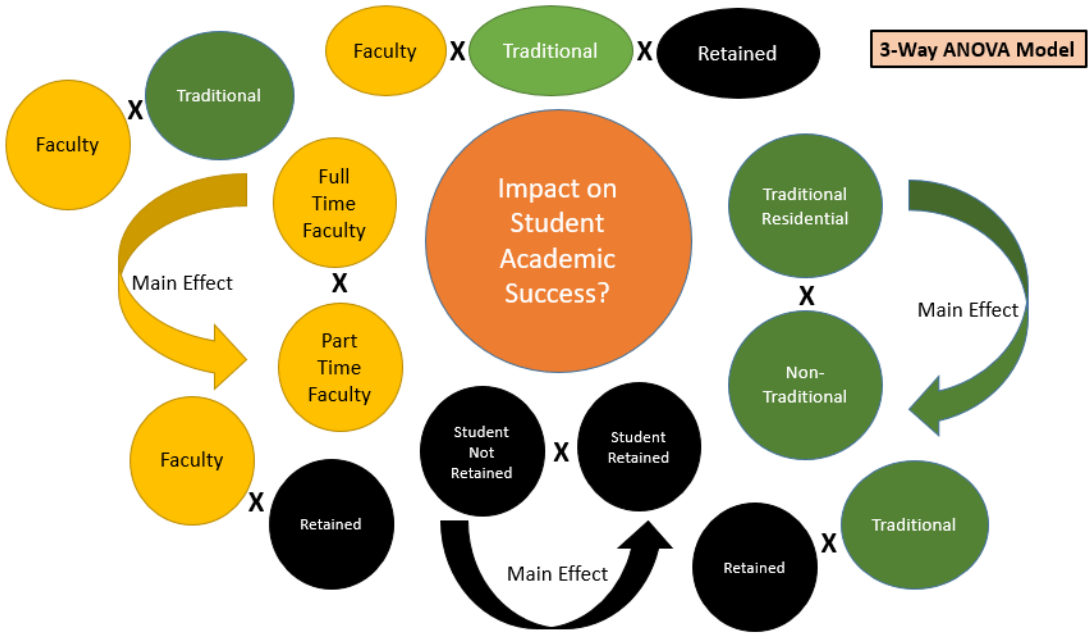

Figure 1. 3-Way ANOVA Model; Relationship between Three Independent and One Dependent Variable.

Research Design

A quantitative research design guided this study using a three-way analysis of variance (ANOVA), which "will allow you to determine the effect of the independent variable, as well as the control variable (separately and combined), on the dependent variable" (Lunenberg & Irby, 2008, p. 47). The dependent variable was student academic success (4-point scale numeric grade in the first liberal arts course). The independent variables were faculty status (full-time, part-time), student status (traditional, nontraditional), and retained status (retained, not retained) from first to second term. This three-way model allowed the researcher to determine if a three-way interaction effect existed between the three independent variables in explaining student academic success (Laerd Statistics, 2017). Archival data from University X were analyzed to compare the

impact full-time or part-time faculty had on the academic success (4-point scale numeric grade in the first liberal arts course) and first to second term retained status (retained, not retained) of traditional and non-traditional students.

A three-factor ANOVA was conducted to test the hypotheses. The three categorical variables used to group the dependent variable, academic success, which was defined as the student 4-point scale numeric grade in the first liberal arts course, were (1) faculty status (full-time and part-time); student status (traditional, nontraditional); and (3) retained status (retained, not retained). A three-factor ANOVA was used to test seven hypotheses including a main effect for faculty status, a main effect for student status, a main effect for retained status, a three-way interaction effect (faculty status x retained status x student academic success), a three-way interaction effect (faculty status x student status x student academic success), a three-way interaction effect (student status x retained status x student academic success), and a four-way interaction effect (faculty status x student status x retained status x student academic success). Each hypothesis was challenged using alpha=.05.

Selection of Participants

This study included a purposive population of all incoming undergraduate traditional and non-traditional (573 traditional and 1,043 nontraditional) students enrolled at University X from the fall 2014 semester through the fall 2016 semester. Incoming freshman students at the traditional, residential campus were required to take LAS 12525 First Year Seminar, which was offered as a sixteen-week course in the fall semester each academic year (Fall 2014, Fall 2015, Fall 2016). The nontraditional undergraduate students in this study included new students enrolled at one of the four nontraditional

campuses or online. The first required liberal arts course for these students was LAS 30012 Writing and Critical Thinking in the Liberal Arts. Courses at the nontraditional campuses were offered in an 8-week format with six terms per academic year with this course being offered every term. The nontraditional campuses offered two fall terms, fall 1 and fall 2. For comparative purposes, only the nontraditional fall terms were included: Fall 1 (2014, 2015, 2016), and Fall 2 (2014, 2015, 2016). The selected courses (LAS 12525 and LAS 30012) were designed to be complementary writing intensive courses to introduce the institution's four liberal arts learning outcomes (breadth, communication, critical thinking, and problem posing).

Data Collection Procedures

The data collection process began with the submission of a request to conduct research to the Baker University Institutional Review Board (IRB) on July 11, 2017 (see Appendix A). The University IRB approved the research study on July 19, 2017 (see Appendix B). After receiving permission from Baker University, a second request was submitted to the University X IRB on July 19, 2017 (see Appendix C). Approval to conduct research at University X was granted on July 21, 2017 (see Appendix D).

The researcher obtained archival data from the Office of Institutional Effectiveness at University X from fall 2014 through fall 2016. Archival data included faculty status (full-time, part-time), student status (traditional, nontraditional), retained status (retained, not retained), and student 4-point scale numeric grade in LAS 12525 First Year Seminar (traditional students), or LAS 30012 Writing and Critical Thinking in the Liberal Arts (nontraditional students). All identifying student information was removed from the database and the Administrator for Assessment and Effectiveness

assigned a randomly generated identification number to each student prior to the researcher receiving the data. Data were stored in a password-protected file by the researcher.

Data Analysis and Hypothesis Testing

This study was guided by the following research questions and hypotheses:

RQ1. To what extent were there main effects within (1) faculty status (full-time or part-time); (2) student status (traditional, nontraditional); and (3) retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course)?

H1a. There was a significant main effect within faculty status on student academic success.

H1b. There was a significant main effect within student status on student academic success.

H1c. There was a significant main effect within retained status on student academic success.

RQ2. To what extent were there interactions between and within (1) faculty status (full-time or part-time) x student status (traditional, nontraditional) x retained status (retained, not retained); (2) faculty status (full-time or part-time) x student status (traditional, nontraditional); (3) faculty status (full-time or part-time) x retained status (retained, not retained); (4) student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course).

H2a. There was a significant interaction between faculty status, retained status on student academic success.

H2b. There was a significant interaction between faculty status, student status on student academic success.

H2c. There was a significant interaction between student status, retained status on student academic success.

H2d. There was a significant interaction between faculty status, student status, retained status, on student academic success.

Limitations

Limitations of this study included the following:

1. This study was conducted at a small, private, liberal arts institution in the Midwest; therefore, the findings may only be relevant to the institution in this study.
2. The length of each faculty member's teaching experience was not considered nor was teaching ability measured.
3. Individual student demographics such as gender, ethnicity, and grade point average were not included in this study.
4. Additional variables beyond the control of the researcher such as level of social and academic engagement, socioeconomic status, and family support were not included in this study.

Summary

This chapter summarized the methodology and research design of the current study. It also included a description of the population, data collection procedure, guiding

research questions, data analyses, hypotheses testing, and limitations. The results of the hypothesis testing are presented in Chapter 4.

Chapter 4

Results

In response to financial demands and during the time of this study, University X modified its instructional model to include greater dependence on part-time faculty to teach first-year students. Using archival data from University X, the first purpose of this study was established to advance the institution's knowledge of the influence this transition had on the retention and academic success of its first-time students. The research and analysis focused on determining whether there were main effects between (1) faculty status (full-time or part-time); (2) student status (traditional, nontraditional); and (3) retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course). A second purpose of the study was to determine whether there were interaction effects between and within (1) faculty status (full-time or part-time) x student status (traditional, nontraditional) x retained status (retained, not retained); (2) faculty status (full-time or part-time) x student status (traditional, nontraditional); (3) faculty status (full-time or part-time) x retained status (retained, not retained); and (4) student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course).

Descriptive Statistics

This study included all new undergraduate traditional and non-traditional students enrolled (573 traditional and 1,043 nontraditional) at University X during the fall semesters 2014 through 2016. As shown in Table 1, there were 115 students taught by full-time faculty and 370 students taught by part-time faculty during fall 2014 for a total

of 485 students. Fall of 2015, full-time faculty taught 201 students, while part-time faculty taught 229 for a total of 430 students. Fall 2016, full-time faculty taught 375 students, while part-time faculty taught 181 for a total of 556 students. The total number of unduplicated students in the study was 1,471 with 573 traditional students and 1,043 nontraditional students.

Table 1

Student Count by Faculty Status

Faculty Status	*2014*	*2015*	*2016*
Full-time	115	201	375
Part-time	370	229	181
Total(s)	485	430	556

Table 2 illustrates the breakout of frequency and percent of participants by student status (traditional and nontraditional). There were 485 students (177 traditional and 308 nontraditional with 203 in Fall 1 and 105 in Fall 2) during fall 2014 taking their first liberal arts course at University X. Fall of 2015 there were 430 students (170 traditional and 260 nontraditional with 174 in Fall 1 and 86 in Fall 2) taking their first liberal arts course at University X. During Fall 2016, there were 556 students (213 traditional and 343 nontraditional with 216 in Fall 1 and 127 in Fall 2) students taking their first liberal arts course at University X.

Table 2

Student Count by Student Status

Student Status	*2014*	*2015*	*2016*
Fall T	177	170	213
FA1-NT	203	174	216
FA2-NT	105	86	127
Total(s)	485	430	556

Note. T = Traditional student. NT = Non-traditional student.
FA1 = 8 week Fall 1 term. FA2 = 8 week Fall 2 term.

Retained status (retained, not retained) is summarized in Table 3. Fall 2014, 151 traditional students retained while 26 did not retain which resulted in 85.3% retention of traditional students enrolled in the first required liberal arts course at University X to the next term. Retention for fall 2015 students was 87.6%. Traditional students in fall 2016 were retained at 85.0%.

Table 3

Traditional Student Count by Retained Status

Retained Status	*2014*	*2015*	*2016*
Retained	151	149	181
N-Retain	26	21	32
Total(s)	177	170	213
Retained Percentage	85.3%	87.6%	85.0%

Note. R = Student retained to the next term.
N-Retain = Student did not retain.

Crosstab analysis was conducted to identify the percent of nontraditional students enrolled in liberal arts courses retained by semester. As shown in Figure 2, 86.2% of nontraditional students taking the first required liberal arts course at University X during Fall 1 2014 retained to the next term. Fall 2 2014, 76.2% of students taking the first required liberal arts course at University X retained to the next term. Retention of nontraditional students in Fall 2015 was 86.2% while in Fall 2 retention was 90.7%. Nontraditional students in Fall 2016, retained at 93.1% whereas 82.7% of nontraditional students were retained in Fall 2 2016. It is interesting to note that students who enrolled in the Fall 1 term retained at higher rates than those who enrolled in the Fall 2 term, with the exception of Fall 2 2015. As a whole, the retention of nontraditional students steadily improved Fall 2014 to Fall 2016.

Figure 2

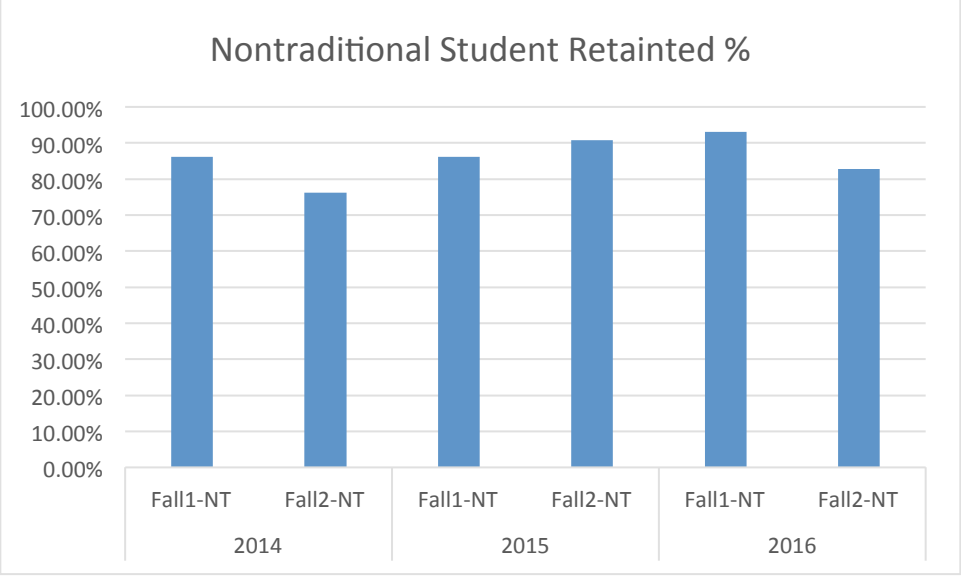

Figure 2. Distribution of percent retained from 2014 to 2016 for Nontraditional Students.

The grade distribution of traditional students who retained is shown in Figure 3 with the horizontal axis representing student course grades (0 = F, 1 = D, 2 = C, 3 = B, 4 = A). In Fall 2014, 85.3% of traditional students who took their first liberal arts course at University X retained to the next term. Fall 2015, retention improved slightly with 87.6% retaining to the next term; however, in Fall 2016, retention decreased to 85.0% indicating very little variance in the total year-over-year retention of traditional students. It is significant to note there was a difference in the year-over-year retention of students who failed the first required liberal arts course at University X. The retention of students who failed in Fall 2014 was 56.3%. The rate of retention increased in Fall 2015 to 65.4% and increased yet again in Fall 2016 to 73.9%.

Figure 3

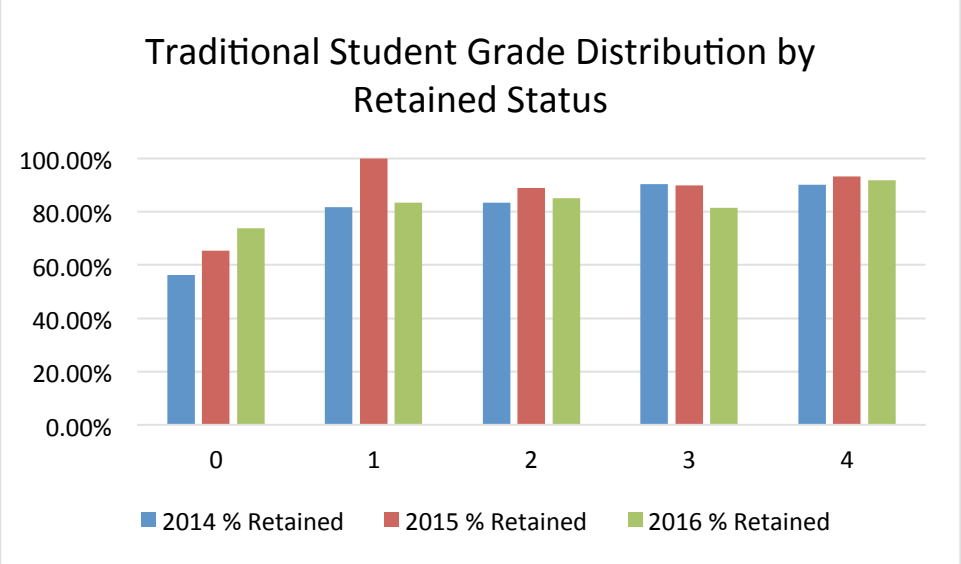

Figure 3. Traditional student grade distribution of percent retained from 2014 to 2016. The horizontal axis represents student course grade (0 = F, 1 = D, 2 = C, 3 = B, 4 = A).

Shown in Figure 4 is the grade distribution of nontraditional students who retained. The horizontal axis represents student course grades (0 = F, 1 = D, 2 = C, 3 = B, 4 = A). In Fall 2014, 82.8% of nontraditional students taking their first liberal arts course at University X retained to the next term. Nontraditional student retention improved to 87.7% in Fall 2015, and continued to improve in Fall 2016 with 89.2% of students retained to the next term. It is interesting to note a substantial increase in the percentage of retained students in Fall 2016 who received "D" and "F" grades.

Figure 4

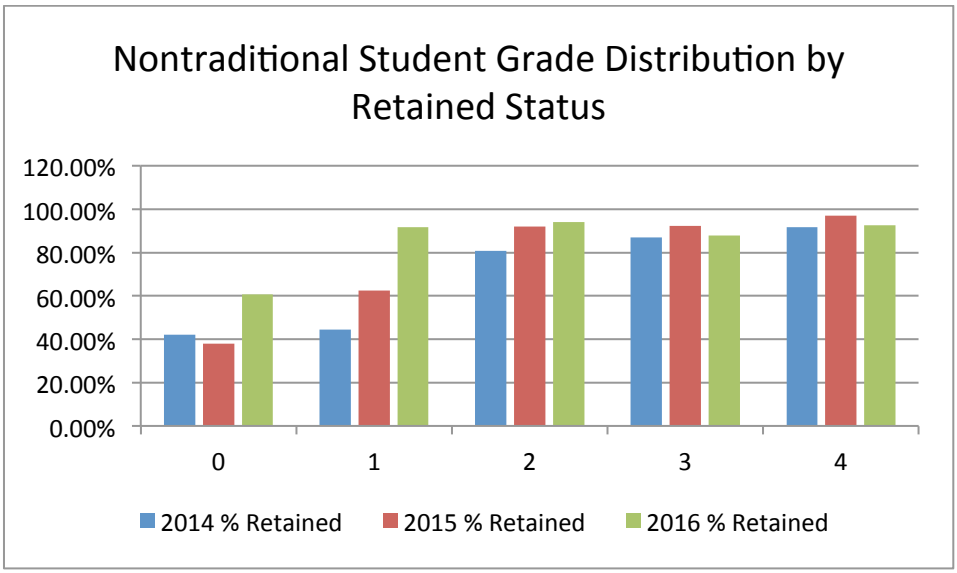

Figure 4. Distribution of percent retained by course grade for nontraditional students from 2014 to 2016. The horizontal axis represents student course grade (0 = F, 1 = D, 2 = C, 3 = B, 4 = A).

Hypothesis Testing

This section presents statistical analysis results generated to challenge each hypothesis. Two research questions and seven accompanying hypotheses defined the study. A three-way ANOVA was conducted to test the hypotheses. The three-way

ANOVA was used to measure the effect of the independent variables and the control variable on the dependent variable separately as well as combined. Student academic success was the dependent variable. The three independent variables were faculty status, student status, and retained status. Computer software results were organized by main effects and interaction effects. Examination of main effects allowed the researcher to consider the influence of each independent variable (faculty status, student status, retained status) on the dependent variable (student academic success) individually the same as a one-way ANOVA. Examination of interaction effects allowed the researcher to consider the interaction of all combinations of independent variables (faculty status x retained status, faculty status x student status, student status x retained status, faculty status x student status x retained status) on the dependent variable (student academic success). The research questions and results of the seven hypotheses are included below.

Main Effects

RQ1. To what extent were there main effects within (1) faculty status (full-time or part-time); (2) student status (traditional, nontraditional); and (3) retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course)?

H1a. There was a significant main effect within faculty status on student academic success.

H1b. There was a significant main effect within student status on student academic success.

H1c. There was a significant main effect within retained status on student academic success.

In Table 4, a significant main effect for "Retained Status" on student academic success was identified ($F(1,1463) = 116.584$, *Sig.* = <.001, $\eta^2 = .073$). A review of the effect size suggests the error between retained status categories accounted for only 7.3 percent of the variance measured with the eta squared. This value approaches the η^2 criteria for 10 percent practicality. "Student Status" ($F = 3.337$, *Sig.* = 0.068) on student academic success approached significance; however, no main effect was found for "Faculty Status" ($F = 0.2$, *Sig*. = 0.643) on student academic success. Of the three main effects, only "Retained Status" was statistically significant. There was a significant main effect within retained status on student academic success, supporting Hypothesis H1c. Hypotheses H1a and H1b were not supported, as no significant main effects within faculty status on student academic success or student status on student academic success were found.

Table 4

ANOVA - Main Effects on Student Academic Success by Hypothesis

Main Effects	*df*	*F*	*p*	η^2
Faculty (H1a)	1	0.215	0.643	0.000
Student Status (H1b)	1	3.337	0.068	0.002
Retained Status (H1c)	1	116.584	< .001*	0.073#

Note.

*=*Significant*

#=*Approaching Practicality*

Table 5, illustrates the significance of the main effect “Retained Status”. Retained students had a ‘B’ average with a higher mean grade (m=3.026 +/- 0.18) than students who were not retained who had a ‘C’ average (m=1.986).

Table 5

Marginal Means - Retained Status

Retained Status	*Marginal Mean*	*SE*	*Lower CI*	*Upper CI*
Not Retained	1.986	0.09	1.81	2.162
Retained	3.026	0.035	2.956	3.095

As recommended by Creswell (2010), a post hoc comparison was conducted. Table 6 summarizes the post hoc comparison between those who retained versus those who did not retain indicating a difference. However, neither faculty status nor student status appeared to have an effect on student grade. It can be concluded there is a relationship between student retention and student grade confirming hypothesis H1c. The Mean Difference of -1.04 indicated a full letter grade difference between the average grade of students who retained and the average grade of students who were not retained. Hypothesis H1a and H1b were not supported through this test, which confirmed there was no significant main effect within faculty status on student academic success or student status on student academic success. Therefore, neither faculty status nor student status influenced student academic success.

Table 6

Post Hoc Comparison - Retained Status Student Success Mean Difference

		Mean Difference	*SE*	*t*	p_{tukey}
Not Retained	Retained	-1.04	0.096	-10.8	< .001

Interaction Effects

RQ2. To what extent were there interactions between and within (1) faculty status (full-time or part-time) x student status (traditional, nontraditional) x retained status (retained, not retained); (2) faculty status (full-time or part-time) x student status (traditional, nontraditional); (3) faculty status (full-time or part-time) x retained status (retained, not retained); (4) student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course)?

H2a. There was a significant interaction between faculty status and retained status on student academic success.

H2b. There was a significant interaction between faculty status and student status on student academic success.

H2c. There was a significant interaction between student status and retained status on student academic success.

H2d. There was a significant interaction between faculty status, student status, and retained status on student academic success.

Four interaction studies were conducted, one to answer each of the research hypotheses. Two interactions were significant and two were not. As shown in Table 7, a

significant two way interaction effect for "Faculty Status x Student Status" was found ($F(1,1463) = 8.943$, *Sig.* = <.001, $\eta^2 = .006$) with $a = 0.05$.

Table 7

ANOVA - Interaction Effects on Student Academic Success by Hypothesis

Interaction Effects	*df*	*F*	*p*	*η²*
Faculty Status x Student Status	1	8.943	0.003*	0.006#
Faculty x Retained Status	1	0.573	0.449	0.000
Student Status x Retained Status	1	10.579	0.001*	0.007#
Faculty x Student Status x Retained Status	1	0.105	0.746	0.000
Residual	1463			

Note. Type III Sum of Squares

*=*Significant*

#=*Approaching Practicality*

As shown in Table 8, it was observed that the interaction of faculty status and student status had an effect on student performance. Differences between the columns confirmed this observation. Non-traditional students taught by full-time faculty received higher grades on average a 'C+' (m=2.715) than traditional students (m=2.251) receiving a letter grade of 'C-' nearly half a letter grade difference (.464) between the two categories of students. Whereas, the difference for part-time faculty was small, it can be concluded that the combination of faculty status and student status had an influence on student academic success. This finding confirms the finding reported in Figure 3. Part-time faculty graded traditional and non-traditional students similarly. Full-time faculty were more likely to support nontraditional students.

Table 8

Marginal Means – Faculty Status x Student Status on Student Academic Success

Faculty	Student Status	*Marginal Mean*	*SE*	*Lower CI*	*Upper CI*
FT	Non-Traditional	2.715	0.097	2.525	2.906
	Traditional	2.251	0.099	2.057	2.446
PT	Non-Traditional	2.472	0.075	2.325	2.619
	Traditional	2.584	0.111	2.367	2.801

Note. FT = Full-time Students. PT = Part-time Students.

As shown in Table 9, a second significant two-way interaction effect for "Student Status x Retained Status" was found ($F(1,1463) = 10.579$, *Sig.* = 0.001, $\eta^2 = .007$) with $a = 0.05$. It was observed that student status x retained status had an effect on student academic performance as shown in Table 9. Differences between the columns confirmed this observation. Non-traditional students who retained earned higher grades on average (m=3.27) than non-traditional students who were not retained (m=1.917) with more than a full letter grade on average between the two (1.353). Nontraditional students who retained received a grade of 'B' while nontraditional students who did not retain received a grade of 'C'. Traditional students who retained also received higher grades on average a 'C+' (m=2.781) than traditional students who did not retain (m=2.055) and received on average a 'C-'; however, the difference was less than the non-traditional students with just more than half a letter grade on average between the two (.726). It can be concluded that the combination of student status and retained status has an influence on student academic success especially for nontraditional students. Nontraditional students will

more likely dropout if they have low success. This finding confirmed the significance of findings reported in Table 7.

Table 9

Marginal Means - Student Status x Retained Status on Student Academic Success

Student Status	Retained Status	*Marginal Mean*	*SE*	*Lower CI*	*Upper CI*
Non-Traditional	Not Retained	1.917	0.115	1.692	2.142
	Retained	3.270	0.043	3.185	3.355
Traditional	Not Retained	2.055	0.138	1.784	2.325
	Retained	2.781	0.056	2.672	2.890

However, two of the interaction combinations were not significant. As indicated in Table 7, neither faculty status x retained status nor faculty status x student status x retained status appeared to have an effect on student academic success. These findings confirmed that there were only two interaction effects. It can be concluded that faculty status x retained status had no effect on student academic success. It can also be concluded that faculty status x student status x retained status had no effect on student academic success. Hypotheses H2a and H2d were not supported through this test; however, hypotheses H2b and H2c were confirmed.

University X's decision to increase the number of part-time faculty and decrease the number of full-time faculty over the last several years has had a positive outcome. Retention of non-traditional students has gradually increased while retention of traditional students has held steady. Both traditional and nontraditional students with lower grades also have a higher retention rate than noted in 2014.

Summary

The research questions and hypotheses were presented in Chapter 4. Results of the hypotheses tests were presented through data analysis. Chapter 5 will summarize the study and review the research, purpose statement, and research questions. The major findings of the study will be outlined along with recommendations for future research.

Chapter 5

Interpretation and Recommendations

Chapter 1 of this study presented background information related to the study including the statement of the problem, and purpose of the study, its significance, delimitations, assumptions, research questions, and definitions of terms. A review of the literature on the history of retention in higher education and increased reliance on part-time faculty, the impact of part-time faculty on student retention and academic success as well as the differences in the retention and academic success of traditional and non-traditional students was presented in Chapter 2. Chapter 3 included the research design, selection of participants, as well as the measurement of each of the study's variables, data collection and analysis procedures, and limitations, while Chapter 4 presented the data analyses and results of the hypotheses testing. Chapter 5 provides a summary of the study, findings as they relate to the literature, the author's interpretation of the data, and recommendations for future research.

Study Summary

Higher education has seen a significant increase in its reliance on part-time faculty. Research regarding the effects of this shift on student retention and academic success has mixed results. This study was conducted to determine whether there were main effects between (1) faculty status (full-time or part-time); (2) student status (traditional, nontraditional); and (3) retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course). A second purpose of the study was to determine whether there were interaction effects between and within (1) faculty status (full-time or part-time) x student status (traditional,

nontraditional) x retained status (retained, not retained); (2) faculty status (full-time or part-time) x student status (traditional, nontraditional); (3) faculty status (full-time or part-time) x retained status (retained, not retained); and (4) student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course).

Overview of the problem

As financial resources have diminished in higher education, institutions quickly found savings by hiring part-time rather than full-time faculty. While hiring part-time faculty can provide institutions some financial relief, the effects of their limited obligations to the institution and its students are uncertain. During the time of this study, University X experienced a significant shift in the number of part-time faculty instructing first-year students. University X had conducted no studies to ascertain how student academic success had been impacted. This study examined the impact of part-time versus full-time faculty on student academic success in the introductory liberal arts course as well as retention to the semester immediately following enrollment in the course.

Purpose statement and research questions

The purpose of this study was to determine whether there were main effects between (1) faculty status (full-time or part-time); (2) student status (traditional, nontraditional); and (3) retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course). A second purpose of the study was to determine whether there were interaction effects between and within (1) faculty status (full-time or part-time) x student status (traditional, nontraditional) x

retained status (retained, not retained); (2) faculty status (full-time or part-time) x student status (traditional, nontraditional); (3) faculty status (full-time or part-time) x retained status (retained, not retained); and (4) student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course).

The following research questions were established to guide the study.

RQ1. To what extent were there main effects within (1) faculty status (full-time or part-time); (2) student status (traditional, nontraditional); and (3) retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course)?

RQ2. To what extent were there interaction effects between and within (1) faculty status (full-time or part-time) x student status (traditional, nontraditional) x retained status (retained, not retained); (2) faculty status (full-time or part-time) x student status (traditional, nontraditional); (3) faculty status (full-time or part-time) x retained status (retained, not retained); (4) student status (traditional, nontraditional) x retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course)?

Review of the methodology

Archival data from University X were used in this quantitative research design. A three-way analysis of variance (ANOVA) allowed for separate and combined analysis of the variables. The dependent variable was student academic success (4-point scale numeric grade in the first liberal arts course). The independent variables were faculty status, student status, and retained status.

Student academic success was determined based on a 4-point scale numeric grade in the first liberal arts course. Faculty status was determined based on whether the instructor of record was contracted to teach a full course load each academic year or contracted to teach a single course per term. Student status was determined based on whether the student was enrolled at the traditional residential campus or in one of the adult education programs. Retained status was determined based on whether the student retained from first to second term at University X.

Major findings

A three-way analysis of variance (ANOVA) was conducted to determine if main and interaction effects existed between the three independent variables in explaining student academic success. Detailed results of the ANOVA relative to the two research questions and hypotheses can be found in Chapter 4.

Several major findings emerged from the analyses. There were statistically significant results indicating an effect on student grades. Students with a "B" average retained at a higher rate than students with a "C" average grade. It is interesting to note the average student who did not retain received a passing grade in the first required liberal arts course.

There was not a statistically significant result for faculty status (full-time or part-time) or student status (traditional, nontraditional) affecting student academic success. Irrespective of whether the student was taught by a full-time or a part-time faculty member, the average student grade in the introductory liberal arts course was a "C". While student status (traditional, nontraditional) approached statistical significance, the average student grade was also a "C".

With regard to interaction effects, there was not a statistically significant result indicating a connection between faculty status (full-time or part-time) and retained status (retained, not retained) on student academic success. There was also no statistically significant result indicating a three-way relationship between faculty status (full-time or part-time), student status (traditional, nontraditional) and retained status (retained, not retained) on student academic success. While the variable combinations lacked significance, the results were informative. The faculty staffing changes implemented by University X did not impact student retention or student academic success.

There was a statistically significant result indicating an interaction between faculty status (full-time or part-time) and student status (traditional or nontraditional) as well as between student status (traditional, nontraditional) and student retention on student academic success. Even though nontraditional students taught by full-time faculty maintained the highest average grades in the initial liberal arts course, the nontraditional student group retained at a lower rate. While the average grade for traditional and nontraditional students was a 'C', the variation in faculty grade distribution between traditional and nontraditional students was an interesting result with half a letter grade difference between the two. Non-traditional students scored a high 'C' while traditional students scored a low 'C' when taught by full-time faculty. The variance in grade distribution for traditional and nontraditional students taught by part-time faculty was minimal with both student types receiving mid-'C' grades.

Findings Related to the Literature

It was no surprise to find a connection between student academic success and student retention. Students must make academic progress in order to retain (DeBerard,

Spelmans, & Julka, 2004). Ronco and Cahill (2004) found high school grade point average (GPA) and cumulative college GPA to be strong predictor variables. Academic success and grade point average are regularly considered as variables within academic research related to student retention. "There is a consistent relationship between college academic achievement and retention, with higher performing students persisting in their studies to a greater degree than their lower achieving cohorts" (DeBerard, Spelmans, & Julka, 2004, p. 67). When considering the entire population of students in the DeBerard et al. study, students who received higher grades on average retained at higher rates. Contrary to this result, the current study found that even though nontraditional students on average received higher grades than their traditional counterparts, they retained at lower rates. When separating academic success by student type, the nontraditional student distinction approached statistical significance.

Research suggested students taught by part-time faculty tended to receive higher grades than students taught by full-time faculty (Mcarthur 1999, Sonner 2000). However, this did not align with the finding in this study that a connection existed between faculty status (full-time or part-time) and student status (traditional, nontraditional) on academic success. This study found that on average, traditional and nontraditional students taught by part-time faculty received similar grades, while traditional students taught by full-time faculty received lower grades on average than nontraditional students taught by full-time faculty.

Literature has shown that irrespective of the reason, students who delay enrollment in college face a much higher risk of dropping out and completing a degree (Adelman 2006; Feldman 1993). Speaking about institutional type (traditional vs. adult

campus) as compared to student type (traditional vs. nontraditional), Horn and Premo (1995) found traditional campus institutions where students attended full-time and lived on campus had higher retention rates than nontraditional adult commuter students who attended school part-time and worked full-time. The current study found that traditional students at University X retained at a higher rate than their nontraditional counterparts even though the nontraditional students on average maintained higher grades.

Conclusions

University X's decision to modify its instructional model to meet financial demands has influenced the academic success and retention of its first-time students. The institution now has comprehensive data to make informed decisions on future instructional hiring practices. The following conclusions can be drawn from this study:

- Students who are academically successful are more likely to retain than those who are not.
- Faculty status at University X does not have an effect on student academic success. In this study, full-time and part-time faculty consistently scored traditional students similarly with an average final course grade of 'C'.
- Student status does not have an effect on student academic success. Both traditional and nontraditional students in this study received an average final course grade of 'C'.
- Academic success does not guarantee retention. In this study, nontraditional students tended to receive a higher final course grade than traditional students. However, traditional students were retained at a higher rate than nontraditional students.

The following section includes implications for action, followed by recommendations for future research and concluding remarks.

Implications for action

The adjustments in staffing that were implemented by University X during the time of this study have had a positive effect on the retention and success of traditional and nontraditional students. Hiring an increased number of part-time faculty did not have a negative impact on the grades traditional and nontraditional students received in the initial liberal arts course. There was also no impact on retention.

Based on the findings of this study, the following future actions are recommended:

1. The adjusted staffing model improved student success and retention results. University X should continue with this model being mindful of a potential tipping point where results may begin to decline.
2. When enrolling nontraditional students, faculty status should be taken into consideration.

Recommendations for future research

This study was delimited to the first required liberal arts course at a single institution. Based on the findings of this study, there is support for additional research in the following areas:

1. Studying all required liberal arts courses would provide a more comprehensive analysis of student academic success at University X.
2. Due to the current limited research comparing traditional and nontraditional students, the study of these two student groups across multiple liberal arts

institutions would provide benchmarking data for these institutions to determine how they compare to one another.

3. In this study, the average student who did not retain, received a passing grade in the first required liberal arts course. This finding merits additional research to determine why students who do not retain leave University X.
4. The variance in student academic success in traditional and non-traditional students when taught by full-time faculty should be investigated. Additional student and faculty variables such as student course load, transfer GPA (high school or college), student use of available tutoring services, faculty credentials and years of experience, and individual faculty grading patterns are variables that could be studied.

Concluding remarks.

This study explored two research questions and seven accompanying hypotheses for determining main effects and interaction effects between and within faculty status, student status and retained status on student academic success at University X. Three of the seven hypotheses were confirmed with both main and interaction effects observed. Students are more likely to retain when they experience academic success (Ronco & Cahill, 2004). As several studies referenced in Chapter 2 indicated, nontraditional students performed at a higher rate academically than traditional students; however, the nontraditional students retained at a lower rate than traditional students. Academic success remains a very important indicator of student persistence in higher education. Institutions similar to University X must be diligent in their routine assessment and focus

on continual improvement to insure they are offering their students every opportunity to be academically successful.

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Appendices

Appendix A: Baker University IRB Form

BAKER UNIVERSITY

SCHOOL OF EDUCATION
GRADUATE DEPARTMENT

Date:

IRB PROTOCOL NUMBER _____
(IRB USE ONLY)

IRB REQUEST
Proposal for Research
Submitted to the Baker University Institutional Review Board

I. Research Investigator(s) (Students must list faculty sponsor first)

Department(s) **School of Education Graduate Department**

Name	Signature	
1. Tes Mehring	*Tes Mehring*	Major Advisor
2. Phil Messner	*Phil Messner*	Research Analyst
3. Gina Wyant	*Gina Wyant*	Doctoral Student

Principal Investigator: Gina Wyant
Phone: 913-981-3292
Email: ginalynn@kc.rr.com
Mailing address: 665 S. Elm Street, Gardner KS 66030

Faculty sponsor: Tes Mehring
Phone: 913.344.1236
Email: tmehring@bakeru.edu

Expected Category of Review: _X__Exempt ___ Expedited _ __Full

II: Protocol: (Type the title of your study)

Differences in Student Retention and Academic Success Between and Among Faculty Status and Student Status fall 2014 through fall 2016

Summary

In a sentence or two, please describe the background and purpose of the research.

The purpose of this research was to heighten the current knowledge of the case study institution regarding the retention and academic success of its first-time students.

Briefly describe each condition or manipulation to be included within the study.

There will not be a condition or manipulation included in this study as it uses only archival data.

What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

There will not be a questionnaire or other instrument used in this study as it uses only archival data.

Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

No

Will any stress to subjects be involved? If so, please describe.

No

Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

No

Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.

No

Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.

No

Approximately how much time will be demanded of each subject?

None

Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

Archival data for new students in fall 2014, fall 2015 and fall 2016 who enrolled in LAS 12525 First Year Seminar or LAS 30012 Writing and Critical Thinking in the Liberal Arts will be obtained from the case study institution. Since only archival data will be used, no script is needed.

What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

Only archival data will be used in this study. Subjects will not be aware of the study and no inducements will be offered. Archival data to be collected will be use a randomly generated student identification number assigned by the case study institution.

How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

Only archival data will be used in this study. Therefore, no individual consent will be requested. When the Office of Institutional Research pulls the data, a randomly generated identification number will be assigned to each subject ensuring data are unidentifiable with the individual subjects.

Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

No

Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher or employer? If so, explain.

No

What steps will be taken to insure the confidentiality of the data? Where will it be stored? How long will it be stored? What will be done with it after the study is completed?

The data will be stored on an external USB drive that is password protected. The data will be stored in the Office of Institutional Research until the researcher is ready for its use. Once data analysis is complete, the external USB drive will be returned to the Office

of Institutional Research for archiving or disposal. Only aggregated data will be reported in the dissertation.

If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

There are no risks involved in the study.

Will any data from files or archival data be used? If so, please describe.

All data for this study is archival. The Office of Institutional Research holds the data and has agreed to provide it in an excel spreadsheet with a randomly generated identification number assigned to each student upon approval of the local Institutional Review Board.

The following data points will be use in this study:

1. Randomly generated and unidentifiable ID for each student participant
2. Faculty status (full-time or part-time)
3. Student status (traditional or nontraditional)
4. Retained status (retained or not retained) For the purposes of this study, retention has been defined as enrollment the term following the student's first required liberal arts course at the case study institution.
5. Student Academic Success (4-point scale numeric grade in the first liberal arts course)

Appendix B. Baker University IRB Approval Form

BAKER UNIVERSITY
Over Confidence

Baker University Institutional Review Board

July 19, 2017

Dear Gina Wyant and Dr. Tes Mehring,

The Baker University IRB has reviewed your research project application and approved this project under Exempt Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.

Please inform this Committee or myself when this project is terminated or completed. As noted above, you must also provide IRB with an annual status report and receive approval for maintaining your status. If you have any questions, please contact me at EMorris@BakerU.edu or 785.594.7881.

Sincerely,

Erin R. Morris

Erin Morris PhD
Chair, Baker University IRB

Baker University IRB Committee
Joe Watson PhD
Nate Poell MA
Susan Rogers PhD
Scott Crenshaw

Appendix C. University X IRB Form

IRB App#_____
(to be assigned)

[redacted] UNIVERSITY

__Gina Wyant_____ ____Academic Affairs – Provost Office____
Name of Investigator Department Affiliation
__[redacted]_____
Campus or Home Mailing Address
ginalynn@kc.rr.com_ __913-981-3292_____ __913-266-8603_____
E-Mail Address Home Phone Number Campus Phone Number
____[redacted]_____ _[redacted]_____
Name of Faculty Member Responsible for Project Member's E-mail Address

Type of investigator and nature of activity **(Check appropriate categories)**

__X___ Faculty or staff of [redacted] University
_____ Project to be submitted for extramural funding:
(If checked) Agency _____
_____ Project to be submitted for intramural funding:
(If checked) Source _____
__X __ Project unfunded
__ ___ Other: _____
_____ Student at [redacted] University:___Grad___Undergrad___Special
_____ Class Project (number & title of class):_____
_____ Directed Study (faculty supervisor) _____
__X __ Other (please explain): __Data requested to complete dissertation
_____ Investigators not from the [redacted] campus but using participants obtained through [redacted] University *(If checked, please identify investigators and research group)*: _____
_____
_____ Title of investigation: _____
__X___ Title of sponsored project, if different from above: Differences in Student Retention and Academic Success Between and Among Faculty Status and Student Status fall 2014 through fall 2016

[redacted] project number:_____ **(to be completed by IRB**)**

By submitting this application via e-mail or hard copy, I am certifying that I have read, understand and will comply with the policies and procedures of [redacted] University regarding human participants in research. I subscribe to the standards and will adhere to the policies and procedures of the IRB, and I am familiar with the published guidelines for the ethical treatment of participants associated with my particular field of study.

_____ _____ _____ _____
First Investigator Date Third Investigator Date

_____ _____ _____ _____
Second Investigator Date Faculty Supervisor Date

Principal Investigator: __Gina Wyant_____
IRB#_____

Project Title: _Differences in Student Retention and Academic Success Between and Among Faculty Status and Student Status fall 2014 through fall 2016____

Please answer the following questions with regard to the research activity proposed. Does the research involve:

___YES _X_ NO Drugs or other controlled substances?
___YES _X_ NO Payment of participants for participation?
___YES _X_ NO Access to participants through a cooperating institution?
___YES _X_ NO Substances taken internally by or applied externally to the participants?
___YES _X_ NO Mechanical or electrical devices (e.g., electrodes) applied to the participants?
___YES _X_ NO Fluids (e.g., blood) or tissues removed from the participants?
___YES _X_ NO Participants experiencing stress (physiological or psychological)?
___YES _X_ NO Deception of participants concerning any aspect of purpose or procedures (misleading or withheld information)?
___YES _X_ NO Participants who could be judged to have limited freedom of consent (e.g., minors, developmentally delayed persons, or those institutionalized)?
___YES _X NO Any procedure or activities that might place the participants at risk (psychological, physical, or social)?
_X YES ___ NO Data collection over a period greater than one year?
__ YES _X_ NO Use of a written consent form? *Note: IRB makes the final determination on waiver of consent form.*
__ YES _X NO Receiving, accessing, collecting, compiling, and/or maintaining information that relates to the past, present, or future physical or mental health or condition of an individual, the provision of health care to an individual, or the past, present, or future payment for the provision of health care to an individual?

Approximate number of participants to be involved in the research?: ____1, 491_____

Use of ___ interviews, ___ focus groups, ___ questionnaires, ___ audio recordings, ___ video recordings?
(Check all that apply) –

N/A

Complete the following question. Please do not use continuation sheets.

Project Purpose(s):

This study is being conducted to fulfill doctoral degree requirements. A three-way ANOVA will be used to determine the extent to which there were significant main effects and/or interaction effects between and within the requested data points. The following two research questions will guide the study:

1. To what extent were there main effects within (1) faculty status (full-time or part-time); (2) student status (traditional, nontraditional); and (3) retained status (retained, not retained) on student academic success (4-point scale numeric grade in the first liberal arts course)?
2. To what extent were there interactions between and within (1) faculty status (full-time or part-time) x student status (traditional, nontraditional) x retained status (retained, not retained); (2) faculty status (full-time or part-time) x student status (traditional, nontraditional); (3) faculty status (full-time or part-time) x retained status (retained, not retained); (4) student status (traditional, nontraditional) x retained status (retained, not retained)?

Describe the proposed participants (age, sex, race, or other special characteristics). If there is a physical or mental health condition that characterizes the participants to be included in the study, please indicate this as well.

Participants in this study will be new students in fall 2014, fall 2015 and fall 2016 taking either LAS 12525 First Year Seminar or LAS 30012 Writing & Critical Thinking in the Liberal Arts. Students taking LAS 12525 will be categorized as traditional students (defined by the study as 18-24 year olds who came to college with minimal full-time work experience). Students taking LAS 30012 will be categorized as nontraditional students (defined by the study as adult students who have normally been employed in the workforce for several years and were re-entering college). Additional student demographic characteristics such as gender and race will not be requested or

considered. The researcher requests exemption from written consent as only unidentifiable archival data will be used in this study.

Describe how the participants are to be selected. Please indicate how you will gain access to and recruit these participants for participation in the project. That is, will you recruit participants through word-of-mouth, fliers or posters, newspaper ads, public or private membership or employee lists, etc…? (If participants are to be recruited from a cooperating institution, such as a clinic or other service organization be aware that participants' names and other private information, such as medical diagnosis, may not be obtained without the participants' written permission).

There will be no recruitment of participants. This study will use archival data and participants will include students enrolled in the terms/courses above. [redacted], the Administrator for Assessment and Effectiveness has access to the data through the university's data management and reporting systems (CX and Cognos). Mrs. [redacted] has agreed to create an Excel spreadsheet to include the requested data points with random and unidentifiable student identification numbers. Once the spreadsheet is complete and IRB approval obtained, Mrs. [redacted] will provide the document to the researcher.

An abstract of the proposed procedures in the project must be complete on this page. The abstract should be a succinct overview of the project without jargon, unexplained abbreviations, or medical terminology. You must provide details about the Yes answers to items on page 2 of the application. Examples include drugs, cooperating institutions, medical information requested, security measures and post-project plans for tapes, questionnaires, surveys, and other data, and detailed debriefing procedures for projects involving deception of participants.

The purpose of this research is to add to the current knowledge of the institution regarding the retention and academic success of its first-time students. There will not be a condition or manipulation included in this study as it uses only archival data. Students will not be aware of the study and no inducements will be offered. There are no risks involved in the study and student information will be requested as unidentifiable through a randomly generated student identification number assigned by the Office of Institutional Research. The study will include data from fall 2014, fall 2015 and fall 2016. This study is being conducted to meet degree requirements and a copy of the IRB approval from that institution is attached. The Office of Institutional Research

will store all data until the researcher is ready for its use. Once the data analysis is complete, the external USB drive will be returned to the Office of Institutional Research for archive or disposal.

Requested data points:

A randomly generated and unidentifiable ID for each student participant

Faculty Status (Full-time or Part-time)

Student Status (Traditional or Nontraditional)

Retained Status (Retained, Not Retained) *For the purposes of this study retention has been defined as enrollment the term following the student's first required liberal arts course at the institution.*

Student Academic Success (4-point scale numeric grade in the first liberal arts course)

Submit one complete application and supporting documents with your application. Supporting documents may include consent forms, information statement, oral consent procedures, assent procedures, questionnaires/surveys/research measures, advertisements recruiting participants, e.g., flyers, classified ads, debriefing procedures. **You may send all materials via email attachment to [redacted].**

Appendix D. University X IRB Approval Form

Notice of Exemption IRB #17-A02

To: Gina Wyant, Director of Adjunct and Curriculum Administration and Effectiveness and Dr. [redacted], Associate Professor of Business, [redacted]

Dear Gina Wyant and Dr. [redacted],

Thank you for submitting the application for approval of the current study titled, "Differences in Student Retention and Academic Success Between and Among Faculty Status and Student Status Fall 2014 through Fall 2016" to [redacted] University's ([redacted]) Institutional Research Board.

On review of your research proposal to use [redacted] student archival data from Fall 2014, Fall 2015, and Fall 2016 to assess the retention and success of its first-time students for the years previously indicated, I have determined the research request is exempt from full IRB review given that:

1. The proposed research meets the following exemption based on Federal Register Title 45 46.101. *Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subject*.

2. Archival data will not be manipulated to serve a specific purpose or agenda and no participation incentives are attached. Additionally, student archival data will be kept secured on an external USB drive to be returned to the Office of Institutional Research for archive or disposal.

I note we have received the approval letter from Baker University's Institutional Review Board and your completed [redacted] IRB Form. If there any changes to the research proposal, you are under obligation to notify [redacted]'s IRB before any modifications are made and before research continues. Your research proposal has been approved.

Many thanks, and good luck with your investigation!

[redacted], Ph.D., CPA Assistant Professor, [redacted] School of Business Chair, [redacted] Institutional Research Board

Appendix E. Final Analysis Results

Results

ANOVA

ANOVA - Grade

Cases	Sum of Squares	df	Mean Square	F	p	η^2
Faculty	0.318	1	0.318	0.215	0.643	0.000
Student Status	4.934	1	4.934	3.337	0.068	0.002
Retention Status	172.390	1	172.390	116.584	< .001	0.073
Faculty ✻ Student Status	13.224	1	13.224	8.943	0.003	0.006
Faculty ✻ Retention Status	0.847	1	0.847	0.573	0.449	0.000
Student Status ✻ Retention Status	15.643	1	15.643	10.579	0.001	0.007
Faculty ✻ Student Status ✻ Retention Status	0.155	1	0.155	0.105	0.746	0.000
Residual	2163.306	1463	1.479			

Note. Type III Sum of Squares

Post Hoc Tests

Post Hoc Comparisons - Faculty

	Mean Difference	SE	t	p_{tukey}
0T FT	0.045	0.096	0.464	0.643

Post Hoc Comparisons - Student Status

	Mean Difference	SE	t	p_{tukey}
Non-Traditional Traditional	0.176	0.096	1.827	0.068

Post Hoc Comparisons - Retention Status

	Mean Difference	SE	t	p_{tukey}
Not Retained Retained	-1.040	0.096	-10.80	< .001

Marginal Means

Marginal Means - Faculty

Faculty	Marginal Mean	SE	Lower CI	Upper CI
0T	2.528	0.067	2.397	2.659
FT	2.483	0.069	2.347	2.619

Marginal Means - Student Status

Student Status	Marginal Mean	SE	Lower CI	Upper CI
Non-Traditional	2.594	0.061	2.473	2.714
Traditional	2.418	0.074	2.272	2.563

Marginal Means - Retention Status

Retention Status	Marginal Mean	SE	Lower CI	Upper CI
Not Retained	1.986	0.090	1.810	2.162
Retained	3.026	0.035	2.956	3.095

Marginal Means - Faculty Student Status

Faculty	Student Status	Marginal Mean	SE	Lower CI	Upper CI
0T	Non-Traditional	2.472	0.075	2.325	2.619
	Traditional	2.584	0.111	2.367	2.801
FT	Non-Traditional	2.715	0.097	2.525	2.906
	Traditional	2.251	0.099	2.057	2.446

Marginal Means - Faculty Retention Status

Faculty	Retention Status	Marginal Mean	SE	Lower CI	Upper CI
0T	Not Retained	1.972	0.124	1.729	2.214
	Retained	3.084	0.051	2.985	3.183
FT	Not Retained	2.000	0.130	1.746	2.254
	Retained	2.967	0.049	2.870	3.063

Marginal Means - Student Status Retention Status

Student Status	Retention Status	Marginal Mean	SE	Lower CI	Upper CI
Non-Traditional	Not Retained	1.917	0.115	1.692	2.142
	Retained	3.270	0.043	3.185	3.355
Traditional	Not Retained	2.055	0.138	1.784	2.325
	Retained	2.781	0.056	2.672	2.890

Marginal Means - Faculty Student Status Retention Status

Faculty	Student Status	Retention Status	Marginal Mean	SE	Lower CI	Upper CI
0T	Non-Traditional	Not Retained	1.744	0.138	1.474	2.014
		Retained	3.200	0.059	3.085	3.316
	Traditional	Not Retained	2.200	0.206	1.797	2.603
		Retained	2.968	0.082	2.807	3.129

Marginal Means - Faculty Student Status Retention Status

Faculty	Student Status	Retention Status	Marginal Mean	SE	Lower CI	Upper CI
FT	Non-Traditional	Not Retained	2.091	0.183	1.731	2.451
		Retained	3.340	0.064	3.215	3.465
	Traditional	Not Retained	1.909	0.183	1.549	2.269
		Retained	2.594	0.075	2.446	2.742

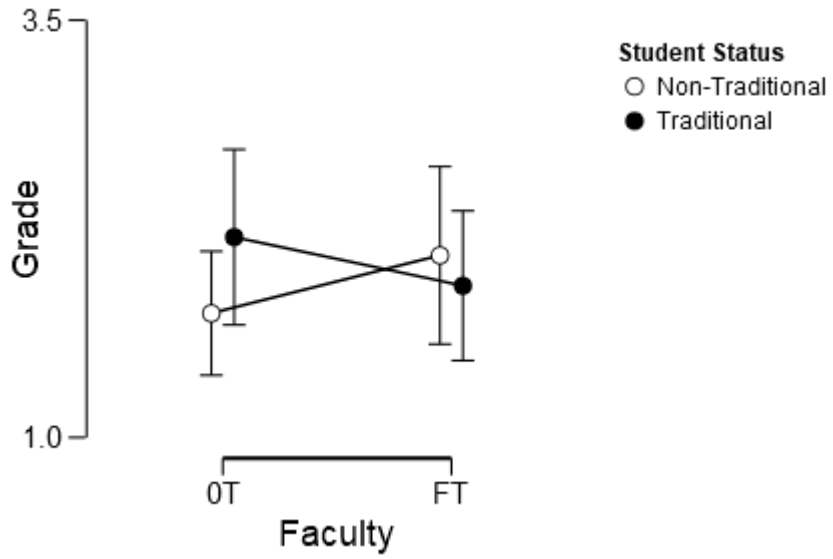
Descriptives

Descriptives - Grade

Faculty	Student Status	Retention Status	Mean	SD	N
0T	Non-Traditional	Not Retained	1.744	1.647	78
		Retained	3.200	1.096	424
	Traditional	Not Retained	2.200	1.530	35
		Retained	2.968	1.116	220
FT	Non-Traditional	Not Retained	2.091	1.750	44
		Retained	3.340	1.066	365
	Traditional	Not Retained	1.909	1.476	44
		Retained	2.594	1.323	261

Descriptives Plots

Retention Status: Not Retained



Retention Status: Retained