

THE RELATIONSHIP BETWEEN SELECTED PREDICTOR VARIABLES AND  
SUCCESSFUL COMPLETION OF ONLINE COURSES

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The Relationship between Selected Predictor Variables and Successful Completion of  
Online Courses

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Abstract

Murray J. Williams. THE RELATIONSHIP BETWEEN SELECTED PREDICTOR VARIABLES AND SUCCESSFUL COMPLETION OF ONLINE COURSES. (Under the direction of Dr. Karen L. Parker) School of Education, March, 2008.

The purpose of this study was to investigate the relationship between selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and grade achievement of nontraditional, online students at a selected theological institution. Students who received a grade of A, B, or C were categorized as passing or successfully completing the online courses. Students who received a grade of D, F, W, WD, WP, or WF were categorized as failing or not completing the on line courses. Data for the study was collected from the institution's enrollment/student database. The participants in the study consisted of 899 students who enrolled in 37 online courses offered by the institution during the Spring 2007 semester. Logistic regression and descriptive analysis were used to analyze the data and determine which variables significantly impacted grade achievement for nontraditional, online students. The findings from the study showed that three of the independent variables (age, ethnicity, and number of previous online courses) were predictors of grade of achievement ( $p < .05$ ) for the nontraditional, online students included in this study. These findings are congruent with previous research which also found that these variables could predict whether or not students would be successful in completing online courses. Findings from the study also indicated that age and number of previous online courses had a positive correlation with the dependent variable, grades.

These research findings indicated that as the age of students increase, the odds of students passing an online course will also increase. Similarly, as the number of online courses previously taken increases, the odds of students passing an online course will also increase.

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## DEDICATION

This dissertation is dedicated to the memory of my mother, Mrs. Albert C. Williams. You were my greatest supporter, encourager, and counselor. You were my role model, best friend and the greatest educator I have ever known. The knowledge I gained from having you as a friend will never be forgotten. The wisdom I received from having you as a counselor will never be discarded. The love I received from having you as a mother will always remain with me. Your legacy and devotion to education lives on in me.

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## CHAPTER 1

## Introduction to the Study

During recent years, technology has dramatically impacted the lives of individuals and the functioning of organizations. The technological advancement in the Internet, computer hardware, and software has facilitated rapid and relatively easy communication between individuals and organizations.

Institutions of higher learning have embraced this advancement in technology and they are using rapid and relatively easy means of communication to deliver courses and degree programs from central locations to students located throughout the world. They have aggressively marketed on the basis of convenience and affordability. This is evidenced by the proliferation of print media, television, radio, and internet marketing designed by colleges and universities to recruit students. Further, there are a growing number of institutions of higher learning that do not offer traditional, campus courses but only offer online courses. Others offer a mixture of on-campus and online courses (Howell, Williams, & Lindsay, 2003).

Students have also embraced online instruction. Many students have used their technology coupled with the institution's technology to complete courses and degree programs, replacing on-campus classroom courses (Wojciechowski & Palmer, 2005). Online instruction is no longer rare as a delivery methodology. In fact, most states have institutions of higher learning that have utilized various forms of online technology for students who may never visit the campus (Dutton, Dutton, & Perry, 2002; Epper & Garn,

2003). Institutions which utilize online technology to offer courses provide students with the option of continuing and completing their education in their local environment (Wojciechowski & Palmer, 2005).

Online instruction assists students in reaching educational goals that may not have been attainable through other modes of instruction. This mode of instruction differs from the more rigid on-campus mode of instruction. For example, differences include the start/end times for semesters, days and times for interaction, and the ability to access the institution from any location having internet access (Carnevale, 2000; Dutton et al., 2002).

Lorenzetti (2005) contends that there are many students who either would not be able to continue their education at the postsecondary level or who would have to settle for less than adequate educational experiences if they were not able to take classes online. Lorenzetti also asserts that due to their seemingly endless array of obligations and responsibilities relating to their work schedules, family structures, and lifestyles, these students are invariably drawn to the less demanding yet highly functional routine of online classes.

For whatever reason, there has been growth in the number of nontraditional students engaging in online education and this much supported fact requires a better understanding about nontraditional learners and the predictors of academic success in their online programs. Administrators in theological institutions of higher learning can better serve students who are selected based, in part, on their likelihood of success.

#### Background of the Study

The number of nontraditional students continues to increase on college campuses across the United States (Bell, 2003). These students have various characteristics that

distinguish them from traditional age students. Horn (1996) provides the following descriptors for nontraditional students: Nontraditional students are generally over the age of 25. For various reasons these students have entered into postsecondary education at later stages in their lives. In addition to being older, nontraditional students are employed full-time. Work responsibilities are one of the reasons nontraditional students cannot commit to the rigor of the traditional classroom. Being older, nontraditional students are not dependent upon parents or other family members for financial support in their educational endeavors. Due to family and work responsibilities, nontraditional students do not often enroll in full-time course work. The majority of these students are enrolled as part-time students.

Institutions of higher learning that offer degree programs online are major attractions for nontraditional students. Online degree programs oftentimes offer the flexibility needed by nontraditional students who must hold down work and family responsibilities while pursuing a college education. Institutions of higher learning that are able to capitalize on this growing market of students have countless windows of opportunity open to them for providing quality, affordable education which meets the educational needs of nontraditional students.

The institution of higher learning selected for this study is a theological institution from the southeast region of the United States. This institution began pioneering work in the field of distance education over forty years ago. Before online instruction infiltrated the halls of higher education, institutions desiring to offer education at a distance did so through the mail. This institution began its journey in distance education by offering these courses to church pastors in various parts of the world. During this particular time



in the institution's history, correspondence courses were so innovative and nontraditional in nature that they garnered the interest and attention of thousands of students from across the United States as well as students from 52 other countries throughout the world (Self-Study Report, 2005).

In recent years, the selected institution successfully made the transition from offering distance education courses through the correspondence format to offering distance education courses through an online format. Bridging the gap between offering correspondence courses through print/mail options to offering online courses via modern technology required the institution to upgrade its technology and to provide training related to online instruction for administrators, faculty, staff and students of the institution. Faculty, in particular, were expected to learn how to teach courses online while continuing to teach the same courses on campus. Online versions of courses have been offered simultaneously with the on-campus versions, lasting for a period of fifteen weeks, or one trimester. Often students will take a combination of online and on-campus courses to maximize the number of courses they can take each semester to meet the requirements of the degree being sought and to reduce the number of obstacles they might face in fulfilling those requirements.

One study concluded that a sobering 78% of all students who are classified as adult learners have been involved in distance learning programs at some time during their educational endeavors (Parker, 2003). This statistic is indicative of the growth in enrollment of nontraditional students on college and university campuses which has occurred in recent years. Approximately 95% of the student enrollment at the theological institution selected for this study is comprised of nontraditional students—students who

are 25 years of age and older. The number of nontraditional students at this institution far exceeds the number of nontraditional students found at most universities across the country (Bell, 2003).

The institution selected for this study has experienced dramatic growth in enrollment in the last five years. This increase in enrollment has been largely attributed to the increase in the number of online students. More and more of the institution's student body are choosing to enroll in online classes. The institution's student body largely consists of adult learners. These students either work full-time or are serving full-time in a ministry-related area. The online course format is an easier fit for their demanding work schedules than the traditional on-campus format. Online enrollment data at this university for the past five years is presented below in Table 1.

Table 1

*Fall 2002 – Spring 2007 Online Enrollment Data (Part 1)*

Semester	Number of Students Enrolled	Number of Courses
Fall 2002	117	6
Spring 2003	133	9
Fall 2003	167	8
Spring 2004	189	8
Fall 2004	262	8
Spring 2005	327	14
Fall 2005	612	20
Spring 2006	756	22
Fall 2006	834	32

Spring 2007	899	37
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The online enrollment data taken from the institution's enrollment/student database presents an unduplicated headcount for this institution's enrollment figures. Students who enrolled in more than one online course during the same semester were only counted once in the institution's total enrollment figures. Enrollment increased from 117 students taking 6 online courses in Fall 2002 to 899 students taking 37 online courses in Spring 2007. The selected institution saw an increase in online student enrollment of 668% over the five-year period. The increase in online enrollment at the selected institution is typical of the increase in online enrollment at colleges and universities across the United States (Ausburn, 2004). In addition, the average number of courses in which students were enrolled showed a steady increase almost every semester during the five-year period. The average number of courses taken by students per semester for the past five years at this university is presented below in Table 2.

Table 2

*Fall 2002 – Spring 2007 Online Enrollment Data (Part 2)*

Semester	Number of Students Enrolled	Average Number of Courses Per Student
Fall 2002	117	1.14
Spring 2003	133	1.36
Fall 2003	167	1.20
Spring 2004	189	1.29
Fall 2004	262	1.24

Semester	Number of Students Enrolled	Average Number of Courses Per Student
Spring 2005	327	1.36
Fall 2005	612	1.60
Spring 2006	756	1.69
Fall 2006	834	1.89
Spring 2007	899	1.97

Although increases in enrollment are generally viewed as a positive for any theological institution, there is a negative side to the growing enrollment phenomenon. Increases in enrollment have generally been associated with increases in drop rates (Diaz, 2002). Institution administrators must figure out how to close this “back door” so that enrollment increases can be sustained over long periods of time. Although enrollment continues to increase in online courses each semester at the selected theological institution, institution administrators are concerned with the number of courses that are dropped by students before the semester ends (See Table 3).

Table 3

*Fall 2002 – Spring 2007 Online Course Withdrawals*

Semester	Number of Courses Taken	Number of Courses Dropped	Percentage of Courses Dropped
Fall 2002	133	13	9.77%
Spring 2003	181	10	5.52%
Fall 2003	199	21	10.55%

Semester	Number of Courses Taken	Number of Courses Dropped	Percentage of Courses Dropped
Spring 2004	243	19	7.82%
Fall 2004	326	62	19.02%
Spring 2005	444	61	13.74%
Fall 2005	975	213	21.85%
Spring 2006	1263	170	13.46%
Fall 2006	1590	275	17.30%
Spring 2007	1770	218	13.14%

Between Fall 2002 and Spring 2007, online students at the selected theological institution dropped an average of 106 courses per semester. The institution had an average drop out percentage of 13.22% each semester during the last five years. The institution experienced an increase in online student withdrawal from courses of 252% over the five-year period. In a study conducted by Diaz (2002), study results showed a drop rate of 13.5% for students enrolled in an online health education course. In a report by Carr (2000) in the *Chronicle of Higher Education*, the following statistics were reported concerning online drop rates:

Although there is significant variation among institutions—with some reporting course-completion rates of more than 80 percent and others finding that fewer than 50 percent of distance-education students finish their courses—several administrators concur that course-completion rates are often 10 to 20 percentage points higher in traditional courses than in distance offerings. (p. A39)

Although the selected institution's average drop rate over the five-year period is lower

than the figure reported at most institutions, 13.22% is a high drop rate for this institution considering the diminutive number of students taking online courses.

There are a number of reasons which can contribute to students deciding to drop a course. These reasons could be related to finances, family, work, or academics. Given the fact that nontraditional students have more responsibilities that are not related to the academic arena, these students have more reasons for dropping a course than the typical traditional-age student (McGivney, 1996; Kemp, 2002).

#### *Statement of the Problem*

The selected theological institution in the southeast region of the United States has a nontraditional student population of 95%. The students who attend this institution have a diverse demographic makeup and sometimes struggle academically with online classes for various reasons. The purpose of this study was to determine if any of the selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) were related to grade achievement of nontraditional, online students at the selected institution.

This study was designed to address the following research question:

1. Is there a relationship between any of the selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and grade achievement of nontraditional, online students at the selected institution?

#### *Statement of the Hypotheses*

This study explored the relationships among age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online

course load and grade achievement of nontraditional, online students. The hypotheses were as follows:

H<sub>1</sub>: There is a relationship between some of the selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and grade achievement of nontraditional, online students at the selected institution.

H<sub>0</sub>: There is no relationship between any of the selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and grade achievement of nontraditional, online students at the selected institution.

#### Professional Significance of the Study

A number of studies have examined variables that may predict the success of students in online classes. Irizarry's (2002) study identified self-efficacy and motivation as possibly being predictors of online success. Parker's (2003) study identified locus of control and self-motivation as predictors of academic persistence in distance education. Waschull's (2005) study identified self-discipline and motivation as being variables that may predict the success of students in online classes. Although research in this area has been plentiful, previous research has not consistently identified which variables influence online success.

This study will contribute to the existing body of knowledge by investigating variables which may be associated with grade achievement of nontraditional, online students. The number of nontraditional students continues to increase on college campuses across the United States (Bell, 2003). Prior research has shown that more and

more of these students are choosing to enroll in online courses rather than the traditional on-campus courses (Ausburn, 2004). Since nontraditional students constitute a sizeable proportion of the student body on many college and university campuses (Miller & Lu, 2003), it is important that specific variables be identified which may hinder online academic success. By identifying the unique variables which may hinder academic success of nontraditional online students, theological institutions can develop policies and programs which can encourage the success of this growing segment of its student body.

Although nontraditional students have an attraction for online courses, not all of these students are able to succeed in these type courses. Early identification of students who are at risk for failure in online courses can help academic advisors steer students in the right direction when it comes to developing an academic plan. According to Wojciechowski and Palmer (2005), “The identification of characteristics associated with successful online students could provide the necessary information for teachers and admissions personnel to suggest or discourage a student from registering for an online course” (p. 3). With the number of nontraditional students on college campuses continuing to increase, continual achievement by these students in online classes is imperative. Depending on the size of the institution, noncompletion of online courses can have a profound effect on the institution’s budget, especially on the budgets of smaller institutions like the one in this study.

The findings from this study will help theological institutions develop online learning experiences which are designed to help students over the age of 25 continue to achieve. Institutions must remain diligent in discovering which variables cause nontraditional, online students to postpone or end their pursuit of a college degree. The



discovery of these specific variables, along with the development of innovative, online educational programs, will have positive benefits for both the institution and the online student. In contrast, failure to identify specific variables which may influence academic success of online students and failure to design programs designed to help these students can have negative results for both the institution and the student (McGivney, 2004).

### Overview of the Methodology

This study was a quantitative analysis of variables which may have influenced grade achievement of nontraditional, online students at the selected institution. The data for this study were gathered from the enrollment/student database of students who enrolled in online classes during the Spring 2007 semester at the selected theological institution. The information stated below provided a description of the subjects, instruments, and procedures that was used in the study.

#### *Subjects*

The sample of subjects for this study was taken from students who enrolled in online classes at the selected institution during Spring 2007. The sample of students used in the study contained all of the students enrolled in online courses for the Spring 2007 semester. There were 899 students (706, male; 193, female) included in the study sample. The targeted sample allowed the researcher to provide the selected institution with statistical data and empirical information that was relevant and specific to its student body.

#### *Instruments*

The data for this research study were collected from the enrollment/student database of the selected institution. The theological institution providing data for this

study was an institution which has been accredited by the Transnational Association of Christian College and Schools (TRACS). TRACS was recognized by both the United States Department of Education and the Council for Higher Education as a national accrediting body for theological institutions, colleges, universities, and seminaries. Most institutions have a standard procedure for collecting demographic, enrollment, and course grade data from students. This data are normally collected at the time a student applies for admission to the institution as well as when grades are submitted at the end of each semester. Annual requests of enrollment data from TRACS and the Integrated Postsecondary Education Data System (IPEDS) compel these institutions to ensure the integrity of the data which are collected and maintained in their enrollment/student database.

### *Procedures*

The researcher identified a theological institution in the southeast region of the United States. The researcher contacted the President of the institution via telephone and written communication to request that data from the institution be released by the registrar's office to be used in the research study. The researcher provided the President with complete information regarding the study. The researcher requested information from the institution regarding the age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load and grades of students who were enrolled in online classes during the Spring 2007 semester.

### Terminology and Definitions

*Age* – Refers to the chronological age of the student.

*Theological Institution* – The Association of Theological Schools (2005) provides the following definition of a theological school: “A theological school is a community of faith and learning that cultivates habits of theological reflection, nurtures wise and skilled ministerial practice, and contributes to the formation of spiritual awareness and moral sensitivity” (p. 144). The Association of Theological Schools has accredited over 250 graduate schools in the United States and Canada.

*Ethnicity* – Students are categorized using the following ethnic descriptors (Horn, 1996, p. 52):

- “Asian/Pacific Islander: A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or Pacific Islands. This includes people from China, Japan, Korea, the Philippine Islands, Samoa, India, and Vietnam”;
- “African American (Black, non-Hispanic): A person having origins in any of the black racial groups of Africa, not of Hispanic origin”;
- “Caucasian (White, non-Hispanic): A person having origins in any of the original peoples of Europe, North Africa, or the Middle East (except those of Hispanic origin)”;
- “Hispanic: A person of Mexican, Puerto Rican, Cuban, Central or South America or other Spanish culture or origin, regardless of race”;
- Other: A person having origins in any ethnic group other than African American, Asian, Caucasian, or Hispanic.

*Financial Assistance* – Identifies students who receive financial aid such as federal loans or grants.

*Gender* – Students are categorized as either male or female.

*Grade Achievement (Pass/Fail)* – Grade achievement is indicated by a passing or failing grade in the online course. Students who received a grade of A, B, or C were categorized as passing or successfully completing the online courses. Students who received a grade of D, F, W, WD, WP, or WF were categorized as failing or not completing the on line courses. A numerical grade of at least 71 is required to receive a letter grade of at least a C at the undergraduate level. A numerical grade of at least 78 is required to receive a letter grade of at least a C at the graduate level.

*Marital Status* – Students are categorized as either single, widowed, divorced, or married.

*Nontraditional students* – Students who have attained an age of at least 25 and are now enrolled in a religious, post-secondary degree-granting institution.

*Number of Current Online Courses* – The number of online courses (taken at the selected institution) in which the student was enrolled during Spring semester 2007.

*Number of Previous Online Courses* – The number of online courses (taken at the selected institution) in which the student was enrolled prior to Spring semester 2007.

*Online Course* – A course offered by the selected institution in which the delivery method was done entirely through the Internet via the e-learning software, Blackboard. Students obtain and submit assignments via Blackboard as well as interact with the professor and other students via discussion boards, online chat rooms, and email.

*Student Status* – Students are categorized as either part-time students or full-time students.

### Organization of the Study

Chapter One contains an introductory discussion on online instruction. The background of the study discusses a brief history of online instruction at the selected

theological institution and a summary description of nontraditional students. The professional significance of the study explains why this study is important as well as its contribution to the existing body of literature on the subject. The research question and hypotheses, an overview of the methodology used in the study, and operational definitions conclude Chapter One. Chapter Two contains a review of the related literature. Chapter Three explains the methodology of the study including identifying the subjects and procedures used in the study. Chapter Four presents the data used to conduct the study. Chapter Five presents a summary of the findings of the study, a discussion of the implications of the study, and recommendations for future research.

## CHAPTER 2

### Review of Related Literature

In ever increasing numbers, secular and theological institutions of higher learning alike provide nontraditional students with an alternative means for completing degree programs. The proliferation of online courses, programs, and degrees has resulted in a growing interest and body of knowledge related to academic achievement. This Chapter specifically addresses the body of knowledge related to variables which influence grade achievement of nontraditional students enrolled in online courses at theological institutions.

With the recent advances in electronic technology related to communication, people and organizations are no longer constrained by location or time. For example, surfing the Internet from various locations (e.g., home, school, work, etc.) at all times of the day is common practice. Embracing this means for communication, many institutions of higher learning are using the Internet to provide educational opportunities. Students participate in courses with little regard to day of the week, time of day, or his/her location. The Internet is, among many things, a far reaching, communication bridge that links students and professors. “Universities across the United States are placing an increasing emphasis on offering courses online in order to educate students who are geographically dispersed without causing undue disruption to their daily activities, such as work and family responsibilities” (Thirunarayanan & Perez-Prado, 2002, p. 131). There are a number of dynamic forces impacting the demand and supply for online courses. “The rapid expansion of the Internet as a potential course delivery platform, combined with the

increasing interest in lifelong learning and budget restrictions, has created a significant incentive for universities to develop online programs” (Volery & Lord, 2000, p. 216)

In recent years, online education has become an attractive alternative to on-campus education for adults who are unable or who are unwilling to attend classes at a central location. In a survey conducted by Eduventures of approximately 2,000 college-bound individuals, survey results revealed that approximately 51% of the respondents either wanted to complete their entire degree program online or some percentage of the degree program online (Carnevale, 2006). Other research indicates that online education offers the flexibility that many adults need as they handle the responsibilities of work and family life (O’Lawrence, 2006).

It is widely acknowledged that nontraditional students (that is, working adults returning to school or students who are unable to attend classes on campus for other reasons) make up a rapidly growing population in education today. Their educational needs and demands are different from those of traditional students and it is these students to whom online distance education is geared. (Palloff & Pratt, 2001, p. 3).

Many institutions have designed online degree programs to serve the adult learner who desires to achieve his/her educational goals without ever visiting a traditional classroom and to meet the institution’s strategic goals. Specifically, these online programs are assisting colleges and universities in their efforts to increase overall student enrollment (Alstete & Beutell, 2004).

Numerous studies (Hannay & Newvine, 2006; Schumm, Webb, Turek, Jones, & Ballard, 2006; Coma Del Corral, Guevara, Luquin, Pena, & Otero, 2006; Allen, Bourhis,

Burrell, & Mabry, 2002) have examined whether online instruction is as effective as instruction provided in the traditional on-campus classroom. Hannay and Newvine found that students preferred online instruction over classroom instruction. The researchers examined 217 adult learners in a distance education course and found that these learners chose distance education over the traditional classroom because the online courses fit better with their schedule and the students were able to better achieve academic goals. Schumm, Webb, Turek, Jones, and Ballard also found that instruction offered through the distance education format was as effective, and in some cases more effective, than instruction offered through the traditional classroom format.

A study by Allen, Bourhis, Burrell, and Mabry (2002) found that instruction offered through the traditional classroom format was slightly more appealing to students than instruction offered through the distance education format. In their study of doctoral students, Coma Del Corral, Guevara, Luquin, Pena, and Otero (2006) found no difference in course outcomes between the students who took a course through distance education and the students who took the same course in the traditional classroom. The issue of “no significant difference” between courses taught through distance education and courses taught in the traditional classroom education received much attention in Thomas L. Russell’s book, *The No Significant Difference Phenomenon*. In his book, Russell examined the findings from 355 studies that were conducted between 1928 and 1998 and determined that there was no significant difference in the effectiveness of courses taught using the two methods.

The inability to provide substantial, consistent evidence whether online instruction is as effective as traditional classroom instruction has not hurt the popularity



of online instruction at most institutions of higher learning. In a report by Eduventures, almost one million students were enrolled in online courses during 2004 and the number of students enrolled in online courses in 2005 was projected to be substantially higher (Carnevale, 2005). According to a report by the Sloan Consortium (2006), “There has been no leveling of the growth rate of online enrollments; institutions of higher education report record online enrollment growth on both a numeric and a percentage basis. Nearly 3.2 million students were taking at least one online course during the Fall 2005 term...” (p. 1).

#### *Online Education in Theological Institutions*

The Association of Theological Schools (2005) provides the following definition of a theological school: “A theological school is a community of faith and learning that cultivates habits of theological reflection, nurtures wise and skilled ministerial practice, and contributes to the formation of spiritual awareness and moral sensitivity” (p. 144). The Association of Theological Schools has accredited over 250 graduate schools in the United States and Canada. Theological institutions provide education which is biblically-based and which can be practically-applied in a multitude of ministry and real-life contexts. Historically, the methods by which this education has most often been provided to students are through correspondence (print mail) courses or in the traditional classroom setting. In the past decade, however, many theological institutions have discovered another way of providing theological education to students. These institutions are taking advantage of the benefits of modern technology and offering courses to students at a distance via the Internet.

Offering courses via distance education is not a new concept for most theological

institutions. However, modern technology provides new opportunities for theological institutions to teach at a distance.

While correspondence courses and radio and TV broadcasts are still in use, new technology has broadened such delivery mechanisms. Two-way audio-visual equipment allows for the simultaneous interaction among a number of physically separated locations. Computers, and particularly the Internet and the World Wide Web, have opened up a world of learning at a relatively inexpensive delivery cost. Many institutions are now looking to computer-mediated delivery of educational courses either as a supplement to face-to-face classes or as a means to deliver entire courses and, sometimes, the entire curriculum. (Ascough, 2002, pp. 17-18)

Theological institutions are utilizing e-learning applications (e.g., Scholar 360, Blackboard, Angel, WebCT, Moodle, etc.) to deliver courses to students throughout the world. E-learning software and hardware provides many benefits which make it comparable to the traditional classroom. “E-mail and chat rooms can be useful to involve people at their convenience. Students can interact with teachers and other students using sight (text, charts, maps, PowerPoint with video clips, LCD projectors), hearing (audio clips), and touch (dragging and dropping objects, creating pop-up boxes, checking answers online)” (Soukup, Buckley, & Robinson, 2001, p. 375). It is unlikely that online education will ever be able to fully replace the traditional classroom experience, especially in theological institutions; however, online education provides an alternative teaching method for faculty of theological institutions which can be an effective means of bringing the transformative value of theological education to millions of students around the world.

Online education has been strategically woven into the fibers of higher education. Its popularity among students of all ages has greatly impacted how university and college administrators are designing and assessing their educational programs. Online education has proven to be a technological phenomenon that continues to enjoy popularity. Institutions of higher learning that desire to reach as many students as possible must stay abreast of the technological changes in the environment which may impact online education and be prepared to make the necessary adjustments in their budgets and in their policies, procedures, and programs to continue offering this form of distance education to their student body.

#### Nontraditional Students

The National Center for Education Statistics (NCES) has categorized nontraditional students as adult learners over the age of 25. A 2006 report by the United States Census Bureau revealed that there were almost 192 million adults living in the United States who are twenty-five years of age and older. In addition, approximately 60.9 million of these individuals highest educational attainment was a high school diploma and approximately 8.7 million of these individuals have no education beyond an associate degree. Past research has shown that the number of nontraditional students continues to increase on most university campuses. Three times more students age twenty-five and older are enrolling on college campuses than students under the age of twenty-five (Taniguchi & Kaufman, 2005). “This increase is most dramatic in institutions offering online technology” (Coker & Majors, 2005, p. 21).

Nontraditional students makeup a large portion of the student body on most college and university campuses (Chao & Good, 2004; Evelyn, 2002; Kinsella, 1998;

Miglietti & Strange, 1998). “Many seminaries no longer expect their typical student to be the twenty-one-year-old single, White male. Indeed, in many cases the student is more likely to be older, undertaking training for a second career, and is as likely to be female as male” (Ascough, 2002, pp. 19-20). The 2002 *Condition of Education* report issued by the National Center for Education Statistics provided the following statistics on nontraditional students:

Today’s undergraduate population is different than it was a generation ago. In addition to being 72 percent larger in 1999 than in 1970 (with fall enrollment growing from 7.4 to 12.7 million), proportionately more students are enrolled part time (39 versus 28 percent) and at 2-year colleges (44 versus 31 percent), and women have replaced men as the majority (representing 56 percent of the total instead of 42 percent) (indicator 5). There are proportionately more older students on campus as well: 39 percent of all postsecondary students were 25 years or older in 1999, compared with 28 percent in 1970 (U.S. Department of Education 2002b). (p. 1)

Most nontraditional students enroll as part-time students and degree completion among these students is not always certain (Taniguchi & Kaufman, 2005). Many nontraditional students will not persist to graduation and many of them only view a college degree as a requirement of the job (Miller & Lu, 2003). Enrollment for nontraditional students may be suspended or postponed for a number of reasons. Because nontraditional students are older, they may have family, work, or even health challenges which cause them to stop attending college for a period of time. During any semester, institution administrators

should anticipate that up to 40% of nontraditional students may not enroll in a course (Hadfield, 2003).

Nontraditional students, especially those who participate in online courses, have special needs which cause them to select distance education over traditional education as a way of completing academic goals.

They see online technologies as providing new opportunities and preventing a drive to attend a class, so that they can remain in their homes or workplaces, and yet participate in learning activities, interact with most of the people in class, exchange information more frequently, and establish friendships with other students. (O'Lawrence, 2006, p. 48)

Although courses offered via distance education, in particular online education, are not the best choices for all nontraditional students, many of them select online courses over traditional courses because of the flexibility these courses provide. "Many colleges and universities have recognized the growth in their nontraditional adult market and the affinity of many of these students for the flexibility of online learning" (Ausburn, 2004, p. 2).

Nontraditional students are indeed the growing majority on most college and university campuses. Their continued participation in higher education is a foregone conclusion that higher education administrators have accepted. However, administrators of institutions of higher learning must find ways to predict consistent enrollment among this growing population of students. Institutions lose much needed operating capital by not being able to maintain consistent enrollment among students from admission to graduation. Depending on the size of the institution, inconsistent enrollment on the part

of nontraditional students can have a profound impact on the institution's budget and may be the determining factor in deciding if an institution remains open or closes.

Moreover, inconsistent enrollment among nontraditional students can make it difficult for colleges and universities to predict faculty workload. Life situations may cause nontraditional students to enroll in two classes, one class, or no classes at all during a semester. Institutions that desire to maintain a consistent workload among its faculty and whose student population is comprised of more than fifty percent nontraditional students must be proactive in providing academic counseling to nontraditional students to help them project their course participation at least one to two semesters in advance.

#### Grade Achievement

Grade achievement has been the source of many research studies. Educational institutions have put forth much effort to assess whether or not students are learning regardless of the delivery mode of instruction. Several studies were conducted to determine if grade achievement was impacted negatively in courses offered through distance education in comparison to courses offered in the traditional classroom setting. Findings from previous research have consistently shown that there is no significant difference in grade achievement for courses offered using the two methods.

Thirunarayanan and Perez-Prado (2002) compared the achievement of 29 students taking an ESOL course offered online and 31 students taking the same course in the traditional classroom setting. The researchers found no significant difference in achievement among students enrolled in the two sections of the course. According to Thirunarayanan and Perez-Prado, the students in the online course scored lower than the students in the traditional classroom on the pretest. However, the students in the online course improved

their scores on the pretest by more than 15 points when the post test was administered (Thirunarayanan and Perez-Prado). “The findings from the study suggest that the students in the online course learned slightly but not significantly more than the students who took the course in the traditional classroom setting” (Thirunarayanan & Perez-Prado, p. 136).

Both White (1999) and Davies and Mendenhall (1998) compared grade achievement in online and on-campus courses. White investigated grade achievement between an online and an on-campus communication technology and change course. The two courses consisted of forty students. The online course contained sixteen students whereas the on-campus course contained twenty-four students. No differences were found in the scores the students received on the midterm and final exams in both courses (White). Findings from the study indicated that “in all cases the classroom section performed slightly better than the Internet section, but in no case did the differences achieve statistical significance” (p. 6). Findings suggest that web-based instruction is as effective as classroom instruction as far as grades are concerned (White). Davies and Mendenhall compared grade achievement between an online and on-campus health education/physical education course. According to Davies and Mendenhall, the test scores from various lessons in both courses showed no statistical differences. The findings from this study indicated that either one of these methods would prove beneficial for offering instruction to students (Davies & Mendenhall).

Shelley, Swartz, and Cole (2007) conducted two studies in 2006 and 2007 comparing an online and traditional business course over a three-year period. The course was taught by the same instructor and included the same textbook and course materials. The only difference in the two courses was the delivery format. The course selected for

the study was one that was required for all business majors.

The first study conducted in 2006 compared data from four online sections of the course and two on-campus sections of the course. Fifty-eight students completed the four online courses and forty-six students completed the two on-campus courses. The sample for the study consisted of the total number of students from the six sections who responded to the survey. The sample size was forty-six (thirty-three students from the online courses and thirteen students from the on-campus courses) students.

The second study conducted in 2007 compared data from two online sections of the course and one on-campus section of the course. Thirty-nine students completed the two online courses and thirty-five students completed the on-campus course. The sample for the study consisted of the total number of students from the three sections who responded to the survey. The sample size was sixty-seven (forty students from the online courses and twenty-seven students from the on-campus course) students.

The results from both studies showed no significant difference in grade achievement between the two modes of course offerings (Shelley, Swartz, and Cole, 2007). “The final grades suggest that students in the online courses and the traditional courses mastered the material equally well (mean scores of 2.86 and 2.62)” (Shelley, Swartz, and Cole, 2007, p. 72). Fjermestad, Hiltz, and Zhang (2005) reviewed thirty empirical studies which compared the effectiveness of online delivery with traditional classroom delivery. The researchers concluded that there was “overwhelming evidence from the studies that online course delivery was just as effective as traditional course delivery” (p. 39).



### Recent Dissertations at Theological Institutions

Online education has infiltrated the halls of many theological institutions. More and more seminaries are taking advantage of the benefits of modern technology in providing theological education to their students. “Many theological educators have become convinced of the significant value of the online threaded discussion area as a space that promotes a much higher level of student-to-student interaction, a greater depth of theological reflection, and a more egalitarian environment than the live classroom provides” (Delamarter, 2005, p. 54). In addition, a growing number of theological institutions are utilizing online education to supplement instruction provided in the traditional classroom and some are even offering full degree programs online (Aschough, 2002).

Although the number of theological institutions utilizing online education continues to increase, very little research regarding online education in theological institutions is being conducted by theological institutions or other institutions of higher learning. A search in the Proquest Dissertations and Thesis database revealed that only ten dissertations were published between 1993 and 2007 on topics related to online education in theological institutions. The studies focused on readiness in online learning (Young, 2007), implementation of an online course or program (Wongthanathikul, 2007; Osborn, 2006; Roberson, 1993), factors influencing the online learning environment (Chong, 2006), learning strategies in online and traditional courses (Harlow, 2006), factors related to student satisfaction in online courses (Song, 2004), online student experiences (Baxter, 2004), perception of online education in seminaries (Eng, 2004), and teacher-student interaction in online courses (Heinemann, 2003).

In a study involving a sample of 184 theological seminary students enrolled in an online Greek or Hebrew course, Harlow (2006) investigated the social integration, motivational orientation, and self-regulated learning strategies of online and traditional classroom students. The researcher compared the mean scores of older, nontraditional students' perception of how well their environments fit with studying the Greek or Hebrew course online versus studying the course in the traditional classroom setting and the mean scores on their motivation and learning strategies (Harlow).

The study was conducted at a seminary which had "six campuses located in the South and Mid-Atlantic. The seminary offered face-to-face instruction at five of the campuses and online instruction at one of the campuses" (Harlow, 2006, p. 53). Harlow found that "the format in which students study Greek or Hebrew makes at least some difference in their motivational orientation and their employment of self-regulated learning strategies" (p. 96).

Another study investigated factors which are important in online education in theological institutions. Eng's (2004) study investigated "whether higher order learning, learning community, and spiritual formation can be achieved through Web-based theological education" (p. 3). Two seminaries accredited by the same accrediting body and that provide master's level, online theological education were selected to participate in this study.

The sample for this study was comprised of administrators, faculty, and students of the selected seminaries. "There were 33 participants included in the study: six administrators (includes two teachers), four teachers (includes two administrators), three staff, and six online students were selected from one seminary; five administrators, three

teachers (includes one administrator), three staff, and six students were selected from the other seminary” (Eng, pp. 46-47).

Eng’s (2004) study concluded that theological institutions which desire to cultivate higher order learning, learning communities, and spiritual formation in their online programs and courses must include different types of communication such as the online threaded discussion and cohort groups. The results of the study added to the existing body of knowledge on online, theological education by helping administrators and faculty of theological institution determine if quality education can be provided to students in the online distance education format (Eng).

In still another study conducted in a theological institution, Song (2004) examined the relationship of selected factors to satisfaction among students enrolled in online courses. The study responded to two research problems:

- (1) The relationship between overall student satisfaction scores and student expectation scale scores in online courses at the selected institution; and (2) The difference of overall satisfaction scores of online students among groups of students based on the categories of age, gender, marital status, employment status, number of previous online courses, current GPA, and reason for taking online course. (pp. 10-11)

The sample for the study consisted of all students who enrolled in at least one online course during a particular semester at the selected theological institution. All online students enrolled at the institution were included in the study which made for a sample size of approximately 230 students (Song). Of the 230 students, 95 students completed the survey instrument and 77 of these students were selected as participants in

the study (Song).

The results of the study showed that “vocational effectiveness and teaching/learning process were significant predictors of student satisfaction” (Song, p. 103). These results indicated that the students at the selected institution were satisfied with the online program at the institution in preparing them to be effective in ministry (Song). In addition, the study found a significant difference in the satisfaction scores of students based on marital status, reason for taking an online course, and perception of technology in enhancing learning (Song).

Although research regarding online, theological education is limited, the studies which are available are adding to the existing body of knowledge in this area. Based on the limited amount of research already conducted in theological institutions related to online education and the increase in the use of online education in theological institutions, more research needs to be conducted in theological institutions this area. The demand for online education in theological institutions is increasing. The more administrators and faculty understand about this growing phenomenon in theological institutions, the better prepared theological institutions can be to service those students desiring to partake in this form of education.

#### Recent Dissertations at Non-Theological Institutions

Dissertations related to online education in non-theological institutions are plentiful. A search of the Proquest Dissertations and Thesis database revealed over 800 dissertations related to online education in higher education were published between 1988 and 2007. These dissertations contribute greatly to the growing body of literature in online education. Although these dissertations were conducted by non-theological

institutions, the studies are indicative of and applicable to issues in which administrators and faculty of theological institutions encounter related to online education.

Five recent dissertations (Patterson, 2007; Plath, 2006; Fogerson, 2005; Wojciechowski, 2004; Mathes, 2003) conducted in non-theological institutions provide a wealth of information related to online education which is applicable to theological institutions. Patterson (2007) conducted a study which examined factors related to attrition in a master's degree program offered using two different modes of instructional delivery: traditional and online. The sample for the study consisted of 640 students. Several demographic (age, gender, ethnicity) and academic (program delivery mode, undergraduate grade point average, graduate grade point average at time of dropout or completion, admission test scores, and number of terms to degree completion or number of courses completed at time of dropout) variables were investigated to determine their degree of influence on attrition and dropout rate among graduate students (Patterson). The results of the study indicated that online students were more likely to dropout of courses than on-campus students (Patterson). The findings from the study can assist "institutional leadership in making informed decisions in the areas of enrollment planning, program development and resource allocation for online and campus based program formats" (p. 6).

Plath (2006) compared the success rate of students enrolled in a college mathematics course offered using two different modes of instructional delivery over a three-year period. Findings from the study indicated that students who enrolled in the traditional mathematics class fared better academically than the students who enrolled in the online mathematics class (Plath). In addition, the success of males (especially Blacks

and Hispanics) and students between the ages of 18 and 25 enrolled in the online mathematics course were of particular concern (Plath).

Fogerson (2005) explored readiness factors related to student satisfaction in online courses. The sample consisted of 823 online students. The average age of these students was 35. Age was considered an important factor in students being ready to learn in online classes (Fogerson). The researcher correlated six readiness factors with five satisfaction variables. The results of the study showed a negative correlation between the readiness and satisfaction factors among the older adults participating in the study (Fogerson). The results of the study also revealed that “experience with computers and elements of the online environment were significantly related to confidence in online distance learning. A stepwise regression analysis revealed that two factors, experience with online courses and computer-related experience, are significant predictors of confidence in online distance learning” (p. 119).

Wojciechowski (2004) investigated student characteristics related to academic success in an online business course. Selected demographic and student characteristics were examined. One hundred and seventy-nine students participated in the study and their average age was twenty-five (Wojciechowski). Students were considered successful in the online course if they received a grade of “C” or better. “The variables found to be statistically significant for the general population include age, previous online courses, ACT English, ASSET Reading, grade point average, previous withdrawals, and attendance at orientation” (p. 70). The findings from the study indicated that successful students were older and had taken online courses previously (Wojciechowski). The findings from the study can help faculty and administrators assist students in selecting

courses which are congruent with the characteristics of the student (Wojciechowski).

Mathes (2003) also investigated factors which might influence the success of students taking online courses. The factors were categorized into five areas: online student attitudes, online student behaviors, online student demographics, instructional characteristics, and academic outcomes (Mathes). Like Wojciechowski (2004), Mathes also examined demographic variables such as age, gender, and ethnicity. The study also examined marital status, student status, previous online courses and other background variables. The study results revealed several factors which influence the success of online students in online courses including age (Mathes). This is important information for institution administrators because it can help them to develop intervention plans to help older students who enroll in online courses (Mathes). The findings from the study “will allow other institutions of higher education to identify factors in their own students that may justify interventions and allow for more students to successfully complete online courses or counsel students to take a course offered in a more traditional format” (p. 98).

#### Selected Variables

A vast amount of research has been conducted to determine factors which may influence the achievement of students in higher education. A few of the variables that have been investigated in previous research are self-efficacy, motivation, gender, ethnicity, age, educational background, previous computer experience, marital status, class attendance, and locus of control. Since online education has become an integral part of higher education, it is imperative that institutions of higher learning, in particular theological institutions, be able to identify those variables which may predict the success of students who enroll in online courses.

### *Age*

Past research has shown that age is related to academic performance in the classroom. Other studies (Didia & Hasnat, 1998; Wojciechowksi & Palmer, 2005) found that older, distance education students perform better than younger, traditional students. Didia and Hasnat found that “the older the student, the better the grade” (p. 105). Research conducted by Wojciechowksi and Palmer reinforced the findings of Didia and Hasnat. These researchers found that older students faired better in online courses than the younger students in that the older students received higher grades in the courses. However, Peiperl and Trevelyan (1997) found a negative relationship between a student’s age and academic performance. In their study, younger students outperformed older students in the classroom. Fjortoft (1995) also found that age was a determining factor in whether or not students would persist in distance education courses. Fjortoft’s study found that older students were less likely to continue in distance education courses than younger students.

Sulaiman and Mohezar (2006) investigated key predictors of students’ academic performance in a Master of Business Administration program. The goal of the study was to identify factors that may have a relationship to academic performance of graduate students. After a review of literature, the following independent variables were selected to be studied in relation to academic performance: age, gender, ethnicity, work experience, undergraduate discipline, and undergraduate cumulative grade point average (Sulaiman & Mohezar).

Data were collected from the student records in the Master of Business Administration office. The sources for the data were the Student Information Systems



database and the Applications database (Sulaiman & Mohezar). Four hundred and eighty-nine student records were included in the study. Students selected for the study were admitted into the program between 2000 and 2004 (Sulaiman & Mohezar).

Two of the selected variables were found to be predictors of graduate student performance. Results indicated a positive relationship between undergraduate cumulated grade point average, undergraduate discipline and student performance (Sulaiman & Mohezar). Age was not found to be a predictor of academic performance for graduate students. Researchers hypothesized that younger students would perform better than older students since “younger students had more recently been used to an academic environment, and therefore were better primed to perform in that environment” (Peiperl & Trevelyan, 1997, p. 361). Approximately 72.2 % of the students selected for the study were over age twenty-five (Sulaiman & Mohezar). Research results found the correlation between age and academic performance to be insignificant. The results of this study contradicts the results of studies conducted by Ekpenyong (2000), Peiperl and Trevelyan (1997), and Fjortoft (1995), which all indicate that age is a predictor of academic performance.

### *Gender*

Gender has been the focus of numerous studies which have investigated the relationship between student characteristics and academic performance. Studies investigating gender and its influence on academic performance have been inconsistent with some study results (Ekpenyong, 2000; Durden & Ellis, 1995; Hancock, 1999; Borde, 1998; Didia & Hasnat, 1998; Peiperl & Trevelyan, 1997; Bouillon & Doran, 1992) showing that gender has no influence on academic performance while other study results

(Cheung & Kan, 2002; Moskal & Dziuban, 2001; Launius, 1997; Anderson, Benjamin, & Fuss, 1994; Lipe, 1989) show that gender does influence academic performance.

Sullivan (2001) investigated the differences in online experiences between men and women. Sullivan collected data from 72 online courses in 15 institutions of higher learning. The majority of the students participating in the study was over age twenty-five. The study results were based on 195 (157 female responses and 38 male responses) responses to the following questions: “(1) Is there anything about the online classroom that has made it easier for you to learn, achieve your academic goals, or participate in class discussions (as compared to a traditional classroom)? (2) Is there anything that has made it harder?” (Sullivan, p. 806).

Both male and female students responded positively about the flexibility of online classes, indicating that online classes made it easy for them to complete their academic goals. On a not so positive note, only 5% of the men and 2% of the women indicated that they enjoyed interacting with faculty members and other students online (Sullivan). In regards to self-discipline or self-pacing related to online courses, 10% of female students responded negatively, whereas no negative comments were made by male students (Sullivan). Some of the female students commented that the self-discipline related to online courses made the courses more difficult and consumed more of the students’ time because the students were basically teaching themselves (Sullivan). Sullivan’s (2001) study demonstrates that men and women react to the online environment differently.

Launius’ (1997) study found that women outperformed men in the classroom. The researcher investigated the relationship among class attendance, gender and academic performance in an introductory psychology class of 374 students (Launius). The

psychology class consisted of four sections. In two of the four sections, women consistently performed better than their male counterparts on exams (Launius). In three of the four sections, women consistently performed better than their male counterparts on outside assignments and on the final exams (Launius).

Cheung and Kan's (2002) study also found that females performed better in the classroom than males. The researchers investigated the relationship between selected variables such as age, gender, marital status and academic performance in a distance education business communication course. The study consisted of a population of 168 students with 44% females and 56% males. "The statistical results indicate that the gender variable significantly correlated ( $\alpha = .000$ ) with student performance. In this study, women generally outperformed men" (Cheung & Kan, p. 260). Contrary to the findings by Launius (1997) and Cheung and Kan, Anderson, Benjamin, and Fuss (1994) found that men performed better than women in an introductory economics course.

In Moskal and Dziuban's (2001) study conducted at a university in the southeast, the researchers found that women are more successful in online classes than men. Women (73%) outnumbered men (27%) in enrollment in online classes by a ratio of 3:1 (Moskal & Dziuban). The average age of the online students participating in the study was 30 and "84% of the fully online students work at least part time, with 51% being employed full time" (Moskal & Dziuban, p. 166). Many of the students (92%) had previously taken online courses. There was a larger percentage of women passing the online courses than men. Approximately 77% of the men received a grade of C or better in online classes whereas 85% of the women received a grade of C or better (Moskal & Dziuban). In addition, more men (8%) withdraw from online courses than women (6%)

(Moskal & Dziuban).

Moskal and Dziuban's (2001) study indicated that women have a great attraction for online courses. "Most women enrolled in online courses have even less time to call their own than do most traditional students in face-to-face environments; in addition to taking their courses, many of them serve as primary caretakers of family members and also work at jobs outside the home" (Kramarae, 2003, pp. 262-263). Gender has become an important subject in distance education research. The more institutions conduct research in this area, the better prepared faculty and administrators will be to handle gender differences in the online classroom.

### *Ethnicity*

According to a report by the National Center for Education Statistics (2007), institutions of higher learning experienced an increase in enrollment among various ethnic groups such as Asians, Hispanics, and Blacks between 1980 and 2005.

The proportion of American college students who are minorities has been increasing. In 1980, 16.1 percent were minorities, compared with 30.9 percent in 2005. Much of the change can be attributed to rising proportions of Hispanic and Asian students. The proportion of students who are Black was 12.7 percent in 2005, an increase of 3.5 percentage points from 1980. The percentage of the total enrollment who are Hispanic rose by 6.9 percentage points during the same time period. (National Center for Education Statistics, p. 13)

With such an increase in enrollment among minority groups, ethnicity is an important variable to consider when investigating academic performance in online education (Sullivan, 2001).

Few studies (Graunke & Woosley, 2005; Clayton & Cate, 2004; Wolfe, 2000; Strage, 1999; Leman, 1999; Castellanos & Fujitsuho, 1997) have been conducted which examine the relationship between ethnicity and academic performance. Clayton and Cate found that ethnicity influences the academic performance of students. The sample in this study consisted of 189 students who had either been admitted into or graduated from a Master of Business Education program (Clayton and Cate). Results indicated that White and Hispanic students performed better than their Asian counterparts. Strage (1999) also found that ethnicity influences the academic performance of students. “The sample in this study consisted of 73 White students, 40 Asian-American students, and 37 Hispanic students” (Strage, p. 2). Results indicated that White students performed better than their Hispanic and Asian counterparts (Strage).

Graunke and Woosley (2005) investigated the influence of several demographic, academic experiences and attitude variables on the academic success of sophomore students at a public university in the Midwest. The sample consisted of 2,259 second semester sophomore students who had completed no fewer than 40 but no more than 60 credit hours (Graunke and Woosley). White students were coded using a “0” and all other students were coded using a “1”. Approximately 95% of the students in the sample were White. The findings from the study revealed that ethnicity had no influence on the academic success of sophomore students (Graunke and Woosley).

Leman (1999) conducted a study utilizing 6,610 graduates from a university in Europe. The study investigated the “relationship between degree class (or more properly, the class marks awarded to final year students) and four ‘social’ factors – gender, ethnic origin, school background and social class” (Leman, p. 232). The results indicated that

ethnicity had an influence on which race of students received degrees from the university. The study results indicated that Indian students performed better and received higher marks than White students. In addition, the study also indicated that Black students performed considerably lower than both the Indian and the White students. “Not only do Black students as a group achieve far fewer first classes than any other grouping (3.1 percent). Black students also receive many more third class marks (15.6 percent)” (p. 241).

Although not related to academic performance, Wolfe’s (2000) study found a disparity in how different ethnic groups react to classroom discussion. The researcher observed discussions in two computer-mediated discussions and two face-to-face discussions in three undergraduate English courses (Wolfe). The face-to-face discussions lasted a total of five hours during a ten-week period. The computer-mediated discussions lasted a total of eight and one-half hours (Wolfe). The results of the study indicated that Hispanic and White students reacted differently to the discussions. Hispanic female students participated more in the discussions than the White female students.

#### *Marital Status*

A few studies (Cheung & Kan, 2002; Peiperl & Trevelyn, 1997; Dille & Mezack, 1991; Powell, Conway, & Ross, 1990) investigated the relationship between marital status and academic performance. In previous research, married students have been shown to perform better in the classroom than their single or divorced counterparts. Several reasons have been provided to explain this difference in academic performance. Some of those reasons relate to the responsibilities of school, work, and family which may be more difficult for students who are single and divorced to handle than those

students who are married (Dille & Mezak).

Dille and Mezak (1991) found that marital status was related to academic performance. Approximately 81 percent of the married students were successful in telecourses offered by the community college compared to 62% of the single students and 55% of the divorced students (Dille & Mezak). The researches provided the following reasons to explain these statistics:

Single students are generally younger than those who are married or divorced.

Thus, marital status is related to age, which is a significant variable in determining success in telecourses. Divorced students might have the lowest level of telecourse success because of the emotional trauma divorce can bring. These emotional upheavals can certainly interfere with one's concentration and therefore adversely affect academic success. (Dille & Mezak, p. 33)

The parental responsibilities incurred by single and divorced head of households can also impact their ability to succeed in the classroom (Dille & Mezak).

Peiperl and Trevelyn (1997) found that marital status is a predictor of academic performance. In their study, the grades of the married students were much better than the grades of the single students. However, Cheung and Kan (2002) did not find marital status to be a predictor of academic performance. Their study found "no correlation between marital status and student performance...[Cheung and Kan]...attribute this difference to the Hong Kong culture" (p. 261).

In Hong Kong, both spouses in many marriages work full-time while pursuing part-time studies. Therefore, unlike the married students in Peiperl and Trevelyan's study, the married students in...[Cheung and Kan's]..study might not

have been able to benefit from extra support from their spouses. (Cheung & Kan, p. 261)

According to Peiperl and Trevelyan (1997), the married students in their study performed better than the single students because the “married students’ spouses provided any or all of financial, household, and emotional support to ease the corresponding stresses of being in a full-time...programme” (p. 362).

In describing the successful distance education student, Powell, Conway, & Ross (1990) listed marital status as one of the characteristics that makeup the student’s profile. Powell, Conway, & Ross concluded that married students had a greater chance of succeeding in distance education courses than their single counterparts because they had spouses or partners who were supportive of their academic endeavors.

#### *Financial Assistance*

Financial aid was created to help eligible students achieve their academic goals (Hart, 2003). Many traditional and nontraditional students rely on financial aid from the federal government to fund their college education. Students receive financial assistance from sources other than the federal government such as family, part-time employment, and scholarships. However, the federal government is the number one provider of student financial aid (Hatfield, 2003). Eligible students may receive financial aid in the form of work-study, grants, subsidized and unsubsidized loans.

The majority of college students today are over the age of twenty-five (Hart, 2003). In addition to the financial responsibilities that younger students have, older students also have financial responsibilities related to their families such as taking care of young children and aging parents (Hart, 2003). “Student financial aid is designed to assist



all students in obtaining access to higher education regardless of age and economic circumstances. Although no specific aid types are designed to fit the needs of adult learners, federal and state programs do not limit aid based on a student's age" (Hatfield, 2003, p. 33).

A search of several education databases found little research regarding the relationship between financial assistance and academic performance. Both Parker (1999) and Morris, Wu, and Finnegan (2005) found that financial aid combined with locus of control was a good predictor of whether or not students would complete distance education courses. In Parker's study, the combination of financial assistance and locus of control predicted student dropout with approximately 85% accuracy. In Morris, Wu, and Finnegan's study, the combination of financial assistance and locus of control predicted dropout with approximately 74.5% accuracy.

#### *Student Status*

The Integrated Postsecondary Education Data System (IPEDS), the data collection program for the National Center for Education Statistics (NCES), identified part-time students as those students enrolled in an undergraduate program who were taking less than 12 semester or credit hours and those students enrolled in a graduate program who were taking less than 9 semester or credit hours. A full-time student was identified as those students enrolled in an undergraduate program who were taking 12 or more semester or quarter hours and those students enrolled in a graduate program who were taking 9 or more semester or credit hours.

"Students who attend college part time are at a disadvantage relative to their full-time peers, according to a report released in June by the National Center for Education

Statistics, an arm of the U.S. Department of Education” (Walsey, 2007, p. A25). Based on the profile developed by NCES, part-time students have the following characteristics:

Those students tended to be older, financially independent, and first-generation students. They were also more likely to be female, Hispanic, and less academically prepared; to come from low-income families; and to have lower educational expectations than full-time students. A majority of part-time students attended two-year institutions—as compared with 25 percent of full-time students—and were enrolled in associate-degree or nondegree programs. Eighty-three percent worked while enrolled. Of those, more than half worked full time, and 47 percent considered themselves employees first and students second, the study found. (Wasley, p. A25)

In contrast, the profile of the full-time student was slightly different. The majority of these students continued with their studies and earned some type of degree within six years of starting a certificate or bachelor’s degree program (Wasley).

A diminutive amount of research has been conducted investigating the relationship between student performance and student status. Wojciechowski and Palmer (2005) investigated the relationship between student status along with several other variables and student performance. The sample in this study consisted of 179 undergraduate online students. Approximately 74.3% or 133 of the students were enrolled part-time and approximately 25.7% or 46 students were enrolled full-time (Wojciechowski & Palmer). The results of the study indicated that “no statistically significant relationship” (Wojciechowski & Palmer, p. 9) existed between student performance and student status.

Flatt's (1973) study investigated selected variables which may influence academic success of students in a theological institution. Student status (full-time vs. part-time) was one of the variables examined in the study. The sample in the study consisted of 121 graduate students. The results of the study indicated no differences in the academic performance of the students based on student status (Flatt).

#### *Previous Online Courses*

Recent studies in distance education provide information regarding previous online courses and grade achievement. Wojciechowski and Palmer (2005) investigated several variables related to the success of students taking an online business course at a community college. Using the Pearson product-moment, the researchers found correlations between student performance and several of the variables in the study, including previous number of online courses (Wojciechowski & Palmer).

The sample in this study consisted of 179 students who enrolled in the same online business course each semester during a three-year period. The course was taught by the same instructor utilizing the same course materials in each of the classes (Wojciechowski & Palmer). The course was offered via Blackboard and lasted for fifteen weeks. Approximately 38% of the students taking the course had not taken an online course previously (Wojciechowski & Palmer). The results of the study regarding the relationship between student performance and previous online courses are stated below:

Within the overall population, there was a positive statistically significant relationship between the number of previous online courses taken and the grade received in this online course ( $r = .177$ ;  $p = .018$ ), while this variable no longer served to distinguish their grades among those receiving a C or better ( $r = 0.70$ ;  $p$

= .438). This means that the more previous online courses a student enrolled in, the better the grade the student received in this subsequent online course.

(Wojciechowski & Palmer, p. 7)

The relationship between previous online courses and student performance was also investigated by Duplin-Byrant (2004) and Ridley and Husband (1998). In Duplin-Byrant's study, previous online course was found to have a positive association with student performance and, therefore, was identified by the researcher as a variable that could be used to distinguish which students would complete an online course (Duplin-Byrant). However, in Ridley and Husband's study, previous online courses were found to have no influence on academic performance.

#### *Current Online Course Load*

Three studies (Cheung & Kan, 2002; Didia & Hasnat, 1998; Dille & Mezack, 1991) investigated the relationship between current course load and academic performance. Didia and Hasnat found a significant relationship between semester course load and academic performance. Their study consisted of 210 students enrolled in seven sections of a business course. The researchers explained the study results by saying "the heavier the semester course loads, the better the grade in...[the business course]. It is possible that bright students take heavier semester loads than weak students hence, the observed positive relationship" (Didia & Hasnat, p. 104). In contrast, Dille & Mezack found that the number of courses taken during the semester had no influence on academic performance in a telecourse. These researchers provided the following as an explanation of their study results:

While a heavy course load might suggest a lack of adequate study time, there are

many intervening variables which may have a great impact on the amount of study time available: number of hours worked, the type of job held (some jobs may allow for more time to study at work), home and family responsibilities. Some students may have little time for study because of heavy home and family responsibilities. In such cases, a light course load does not guarantee adequate study time. (Dille & Mezak, p. 33)

Although Dille and Mezak's results differed from Didia and Hasnat's results, Cheung & Kan (2002) investigated the relationship between current course load and came to the same conclusions as Dille and Mezak.

Cheung and Kan's (2002) study included 168 students in Hong Kong who were taking a business course through distance education. Researchers examined the number of courses students took with the business course.

New students are usually allowed to take a maximum of three courses simultaneously, whereas returning students are allowed to take a maximum of six—unless special prior approval is obtained from the dean. Because...[the business course] is a foundation-level course, most students enrolled in it were new and thus were taking one to three courses at the same time. (Cheung & Kan, p. 259)

The researchers utilized the two-way cross-tabulation analysis with chi-square testing, the *t* test, and the one-way analysis of variance to analyze the data in the study (Cheung and Kan).

Cheung and Kan (2002) found that current course load had no affect on student performance. The researchers had two reasons to explain these findings. First, students in

Cheung and Kan's study may have enrolled in too many courses. In addition, due to restrictions of the institution's administration, the smarter students in the study were not allowed to overload in their courses (Cheung and Kan). Second, many of the students in the study had full-time jobs and their job responsibilities may have interfered with their studies, which would have an impact on academic performance (Cheung and Kan).

### Summary

Based on a review of the literature, a relatively small amount of research has been conducted in theological institutions which explained the influence of selected variables on student performance. Although numerous sources were examined in an effort to research the variables which may influence student performance in theological institutions, the available literature was limited. There is a gap in the literature regarding the investigation of certain demographic variables and other factors such as age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load and their influence on grade achievement for nontraditional, online students enrolled in theological institutions. Therefore, the purpose of this research was to fill that gap by investigating these variables and drawing conclusions relative to online, nontraditional students enrolled in theological institutions.

## CHAPTER 3

### Methodology

This chapter described the research methodology which the researcher used to carry out the present study. A quantitative perspective was utilized to collect and analyze the data on students enrolled in online courses at the selected theological institution. The study used pre-existing data collected by the institution and stored in the institution's enrollment/student database. This chapter included the following sections: (a) the general research perspective, (b) the research context, (c) the research participants, (d) the research design and the procedures used to collect the data, (e) data analysis and (f) summary.

#### *General Research Perspective*

This quantitative, correlational research study investigated the relationships among age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load, and grade achievement. "Although correlational research cannot demonstrate causal relationships, it is a necessary complement to experimental research" (Bauserman, 1996, p. 406). Correlational research has been described as nonexperimental quantitative research (Ary, Jacobs, Razavieh, & Sorensen, 2006). "In nonexperimental quantitative research, the researcher identifies variables and may look for relationships among them but does not manipulate the variables" (Ary et al., p. 29). Nonexperimental research differs from experimental research in that researchers are not able to control the data in nonexperimental research

studies. Researchers must simply take the data as they are presented and sort out the data (Kerlinger & Lee, 2000).

According to Ary et al. (2006), a significance level of .05 and .01 are used frequently in research studies. The level of significance for the analyses in this study was established at .05.

### *Research Question and Hypotheses*

This quantitative study was designed to address the following research question and test the following research hypotheses:

1. Is there a relationship between any of the selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and grade achievement of nontraditional, online students at the selected institution?

H<sub>1</sub>: There is a relationship between some of the selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and grade achievement of nontraditional, online students in the selected institution.

H<sub>0</sub>: There is no relationship between any of the selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and grade achievement of nontraditional, online students in the selected institution.

The researcher utilized logistic regression analysis and descriptive statistics to answer the research hypotheses since it has been hypothesized that eight independent variables (age, gender, ethnicity, marital status, financial assistance, student status,



number of previous online courses, current online course load) may influence one dependent variable (grade achievement).

### *Research Context*

The research activities in this study covered a four-month period, from January 16, 2007 to May 5, 2007. The research took place at a small, four-year theological institution in the southeast region of the United States. The institution has been in existence for 45 years. The institution has a long history of being involved with distance education. For almost 40 years, this institution has been offering courses in a distance education format to supplement the course offerings in the traditional classroom format. In the late 1960s the institution began offering correspondence (print mail) courses to pastors around the world who could not relocate to take courses at the institution's main campus.

Correspondence courses became popular with the institution's distance learning students and these courses became a major source of course delivery for the institution. The institution continues to offer courses through distance learning to supplement its course offerings in the traditional classroom format. However, the distance learning courses are now being offered entirely online rather than through print mail.

The selected institution utilizes Blackboard software to offer online courses to its students. Through Blackboard students are able to access their online courses and interact with the professor and other students taking the course via a live chat room and a discussion board. Students are also able to obtain course materials such as announcements, course syllabus, course schedule, online lectures, lecture notes, quizzes, exams, discussion questions, and external links which help students in fulfilling online course requirements. Online courses are offered in an asynchronous format which means

that the professor and the students are not required to be online at the same time in order to communicate with each other. Students may post and respond to online discussions at anytime during a 24-hour day. This institution has been utilizing Blackboard to offer online courses to its students for the past five years.

The courses offered by the theological institution are identical, regardless of the format used to deliver the courses. The on-campus and online version of the courses have the same course descriptions, objectives, assignments, and are normally taught by the same professor. The selected institution offers six degree programs: one at the bachelor's level, four at the master's level, and one at the doctoral level. The four master's level programs can be obtained entirely online.

The institution has approximately 1,047 students. The institution has a diverse student body. The students' ages range between 19 and 77, with an average age of 41. The ethnic makeup of the student body population is as follows: 55% Caucasian, 32% African American, 9% Asian, 2% Hispanic, and 2% Other. Three hundred seventy-five (375) students are enrolled in the institution's undergraduate program (Bachelor of Arts in Religion). Six hundred thirty-eight (638) students are enrolled in the institution's four master's degree programs (Master of Divinity, Master of Arts in Biblical Counseling, Master of Arts in Christian Studies, and Master of Arts in Leadership). Thirty-four (34) students are enrolled in the institution's Doctor of Ministry program. The student body population at the selected institution is largely comprised of part-time, male students. Tables 4 and Table 5 provide a breakdown of the student body population by gender and student status.

Table 4

*Fall 2007 Enrollment at the Selected Theological Institution by Gender*

Gender	N	Percentage
Male	785	75%
Female	262	25%
Total	1047	100%

Table 5

*Fall 2007 Enrollment at the Selected Theological Institution by Student Status*

Student Status	N	Percentage
Full-time	303	29%
Part-time	744	71%
Total	1047	100%

Of the 303 full-time students, 210 are male students and 93 are female students. Of the 744 part-time students, 575 are male students and 169 are female students.

The institution is primarily a commuter institution. Students either drive to the campus to take courses or courses are offered to students via the World Wide Web. Classes are offered in the traditional classroom format five days and three nights each week during a 15-week semester. The institution also offers Saturday classes which take place five Saturdays during the 15-week semester. Each Saturday class lasts approximately eight hours. During the summer, the institution offers online classes during a 15-week semester.

The mission of the institution is to provide theological education to Christian ministers and leaders around the world. A major goal of the institution has always been to “graduate ministers who were competent in preaching and teaching the biblical message, in leading the church to obey the Great Commission, in counseling and guiding the confused, and in writing as an extension of ministry” (Witty, 1993, p. 32). The academic programs offered by the institution prepare students to serve in various leadership roles within the local church. Students receive training in Bible and theology, preaching, counseling, leadership, Christian education, and other ministry-related subjects.

The institution is governed by a seventeen-member board. The institution’s administration consists of the institution’s President, the Chief Academic Officer, the Chief Financial Officer, the Director of Student Affairs, the Director of Institutional Effectiveness, the Registrar, the Librarian, the Admissions Director, and the Director of Financial Aid. The institution has 14 full-time faculty members and 23 part-time faculty members. The institution has 17 full-time support staff. The facilities consist of three buildings which house the administrative offices, individual classrooms, and the library.

#### *Research Participants*

The research participants for this study consisted of all students enrolled in at least one online course offered at the selected institution during Spring 2007. The Registrar’s office provided a list of 37 online courses that were offered Spring 2007. All courses were offered for college credit and were offered entirely online with no face-to-face component. From these courses, a total of 899 students were selected for inclusion in the sample. There was an average of 24 students in each course. Since the number of students enrolled in online classes represented more than 80 percent of the entire student

body, the decision was made to include all of the students who enrolled in online courses for the Spring 2007 semester in the study. The institution has a diverse student body. The study consisted of 706 male students (79%) and 193 female students (21%). The students' ages ranged between 20 and 72 with an average age of 41. The study included 610 graduate students and 289 undergraduate students. The ethnic makeup of the study population is presented in Table 6.

Table 6

*Ethnic Makeup of Study Population at the Selected Theological Institution*

Ethnicity	N	Percentage
Caucasian	552	61%
African American	277	31%
Asian	44	5%
Hispanic	18	2%
Other	8	1%
Total	899	100%

The student characteristics of the study population mirror that of the general student body population. The description of the online learners at the selected institution fits well with Pallof and Pratt's (2003) and Gilbert's (2001) description of online learners:

There is an ongoing debate in the academic world about who is attracted to online learning. It has been assumed that it is predominantly adult learners who take online courses because online learning allows them to continue working full time

and attend to their family obligations through the delivery of anytime, anywhere education. The “typical” online student is generally described as being over twenty-five years of age, employed, a caregiver, with some higher education already attained, and equally likely to be either male or female (Gilbert, p. 74). Online students may be nontraditional undergraduate, graduate, or continuing education students. (p. 3)

In selecting which institution to include in the study, the researcher identified several theological institutions affiliated with the same accrediting body which accredits theological institutions. The researcher selected this particular institution due to the large number of nontraditional students which makeup the student body population.

Approximately 96% of the students who enrolled in online courses during the Spring 2007 semester were 25 years of age or older. Today, nontraditional students make up a large portion of the student body on most college and university campuses (Chao & Good, 2004; Evelyn, 2002; Kinsella, 1998; Miglietti & Strange, 1998). This institution had a sufficient number of students for this type of study enrolling in online courses each semester.

### *Research Design*

The research design implemented for this study was a quantitative, correlational design. Logistic regression analysis was performed to determine whether or not any of the eight independent variables influenced the dependent variable. “Logistic regression is used to predict a dichotomous criterion variable from a combination of several independent variables. Logistic regression also involves a situation where the criterion variable is categorical. In addition, logistic regression analysis is used when some or all

of the predictor variables are categorical” (Gliner & Morgan, 2000, p. 300).

The researcher was able to utilize the student database from the selected institution to obtain demographic and educational information for students enrolled in online courses during Spring 2007. Every student enrolled in the program during that particular semester was included in the study. There were a total of 37 online courses with an enrollment of 899 students.

The researcher used a correlational logistic regression analysis to study the relationship of the independent variables with the dependent variables.

#### *Data Collection*

The researcher identified and selected a theological institution in the southeastern region of the United States from a list of theological institutions accredited by the same national accrediting agency. The researcher contacted the President of the institution via telephone and written communication to schedule a meeting to discuss the proposed study. The researcher provided the President with complete information regarding the study and requested permission from the President to use the institution’s data in the research study. The researcher explained to the institution’s President that the following information from the institution’s enrollment/student database was needed for the study: age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load and grades of students who enrolled in online classes during Spring 2007.

After obtaining approval from the institution’s President to include the institution in the study, the researcher contacted the Institutional Review Board (IRB) of Liberty University to obtain approval to use human subjects in the proposed study. Approval was

granted by the IRB on May 31, 2007. Since research involving human subjects may have ethical issues associated, the pre-existing data collected for the study from the student/enrollment database was collected, recorded, and maintained in such a way that anonymity of the participants and confidentiality of the student information was preserved.

The selected institution collects demographic information on its students at the time students apply for admission. This information is transferred from an online student application to the institution's enrollment/student database. At the beginning and end of each semester, the institution also collects information regarding students' grades in its student database which includes information regarding grades students receive in courses, cumulative grade point average, withdrawals from courses, financial assistance, the current number of credit hours in which students are enrolled, and the previous number of credit hours students have already taken. All eight independent variables and the one dependent variable were extracted from the enrollment/student database

#### *Dependent (Response) Variable*

In this research study, grade was selected as the dependent variable. The dependent variable in this study is a categorical, dichotomous variable with two end results: (a) successful/pass or (b) unsuccessful/fail. A successful/passing grade is indicated by an A, B, or C. An unsuccessful/failing grade is indicated by a D, F, W, WD, WP, or WF.

#### *Independent (Predictor) Variables*

The eight independent variables in this study were selected based on previous research. These eight variables have been hypothesized in previous research as having an



influence on the success of online students.

Age – Students were to input their date of birth on the online application which would be used to calculate the student’s chronological age.

Ethnicity – Students identified their ethnic background as Caucasian, African American, Asian, Hispanic, or Other on the online application.

Gender – Students were given a choice of male or female to select on the online application.

Marital Status – Students identified their marital status as single, married, divorced, or widowed on the online application.

Financial Assistance – Information on students who utilized financial assistance such as federal grants and loans were entered into the student database by the Financial Aid Director.

Student Status – Student status was determined based on the number of credit hours in which the student was enrolled at the time of the research study. Full-time undergraduates enroll in 12 or more credit hours and full-time graduates enroll in 9 or more credit hours. Students who do not meet these criteria are considered to be part-time students.

Previous online courses – Previous online courses was determined by the number of online courses the student had taken prior to the semester in which the research was conducted.

Current online course load – Current online course load was determined by the number of credit hours in which students enrolled during the semester in which the study was conducted. The theological institution offered thirty-seven online courses during

Spring 2007. Students could enroll in online courses related to their particular degree program.

### *Data Analysis*

The analysis began with descriptive statistics. Summary statistics, such as means and standard deviations, were computed and histograms were generated for quantitative variables. Frequencies were tabulated and bar graphs were generated for categorical variables.

One of the first steps in conducting a logistic regression was to check for multicollinearity. “Multicollinearity occurs when there are high intercorrelations among some set of the predictor variables. In other words, multicollinearity happens when two or more predictors contain the same information” (Morgan, Leech, Gloeckner, & Barrett, 2004, p. 127). The measures which were utilized to assess collinearity were the tolerance value and the variance inflation factor (VIF) (Hair, Anderson, Tatham, & Black, 1998).

These measures tell...the degree to which each independent variable is explained by the other independent variables. In simple terms, each independent variable become a dependent variable and is regressed against the remaining independent variables. Tolerance is the amount of variability of the selected independent variable not explained by the other independent variables. Thus very small tolerance values denote high collinearity. The VIF is equal to  $1/\text{tolerance}$ . (Hair, Anderson, Tatham, & Black, p. 193).

VIF greater than 10 is generally considered to be an indication that multicollinearity exists in the data (Hair, Anderson, Tatham, & Black).

A logistic regression model is frequently used when the dependent variable is

dichotomous. Let  $Y$  be the dependent variable, which takes on values 1 (event) and 0 (nonevent). Further, let  $p$  denote the probability that an observation is an event, that is,  $p = P(Y = 1)$ . The logistic regression models the log-odds of an event as a function of a linear combination of the intercept and slope parameters:

$$\ln\left(\frac{p}{1-p}\right) = \alpha + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k.$$

Unlike the ordinary regression, there is no closed-form solution for the parameters. Therefore, these parameters must be obtained by an iterative process using a computer (e.g., SPSS).

With the obtained estimates, it can be shown that

$$\hat{p} = \frac{\exp\{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \cdots + \hat{\beta}_k x_k\}}{1 + \exp\{\hat{\alpha} + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \cdots + \hat{\beta}_k x_k\}},$$

which gives the estimated probability that an observation is an event. Usually, when this probability is greater than 0.5, the observation is classified as event. Otherwise, it is classified as nonevent.

Like the ordinary regression, there are several options for variable selection. In the present study, a backward-elimination method is used. The advantage of this method is that it can include a variable that does not have a strong association with the dependent variable by itself but has some contribution in the model with the presence of other variables. Of course, such a variable will not be detected when a forward-selection method is used.

To check the model fit, the correct classification rate was considered and the Hosmer-Lemeshow test was used. The Hosmer-Lemeshow test statistic measures the correspondence of the actual and predicted values of the dependent variable. A better

model fit was indicated by a smaller difference in the observed and predicted classification (Hair, Anderson, Tatham, & Black, 1998). The significance of the test was assessed by a chi-square distribution. A good model fit was indicated by a nonsignificant test result (Hair, Anderson, Tatham, & Black).

### Summary

This chapter provided an overview of the research methodology used in this study. The research designed consisted of a quantitative analysis of selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and their influence on grade achievement of nontraditional, online students at the selected institution. The study used pre-existing academic and demographic data collected by the institution and stored in the institution's enrollment/student database. The researcher utilized logistic regression analysis and descriptive statistics to answer the research hypotheses. "Logistic regression is used to predict a dichotomous criterion variable from a combination of several independent variables. Logistic regression also involves a situation where the criterion variable is categorical. In addition, logistic regression analysis is used when some or all of the predictor variables are categorical" (Gliner & Morgan, 2000, p. 300). Chapter 4 presented the results of the data analysis.

## CHAPTER 4

## The Results of the Study

As stated in Chapter 1, the purpose of this study was to investigate the relationship between selected independent variables and grade achievement for nontraditional, online students at a selected, theological institution. The following independent variables were selected for the study: (a) age, (b) gender, (c) ethnicity, (d) marital status, (e) financial assistance, (f) student status, (g) number of previous online courses, and (h) current online course load. This chapter was organized in terms of eight specific independent variables posed in chapter 1. This chapter provided a brief description of the participants in this study, presented the data and the statistical tests corresponding with the eight independent variables including a discussion of multicollinearity and logistic regression, and also included a summary of the results.

## Description of Participants

During Spring 2007, there were 899 students enrolled in 37 online courses at the selected, theological institution. Table 6 provides a brief description of the 899 online students. Table 7 illustrates that the majority of the participants in the study were male.

Table 7

*Description of Participants*

	Male	Female	Total
Pass	563	149	712
Fail	143	44	187
Total	706	193	899

Of the 899 students who were enrolled in online courses at the selected, theological institution during Spring 2007, there were 706 males (79%) and 193 females (21%). At the end of the semester, 712 (79%; 563 male, 149 female) students passed the online courses and 187 (21%; 143 male, 44 female) students failed the online courses.

#### Descriptive Statistics for Independent Variables

Table 8 shows the descriptive statistics (minimum, maximum, mean, and standard deviation) of the three quantitative, independent variables (age, previous online courses, and current online courses). Descriptive statistics illustrate how the variables in the study are distributed. In addition, histograms (Figures 1 – 3) for the quantitative, independent variables are also included. “A histogram is used to indicate frequencies of a range of values. A histogram is used when the number of instances of a variable is too large to want to list all of them” (George & Mallery, 2006, p. 84).

Table 8

#### *Descriptive Statistics for Quantitative Variables*

	N	Min	Max	Mean	Standard Deviation
<b>All Participants</b>					
Age	899	20	72	40.65	9.977
Previous Online Courses	899	0	24	4.33	3.967
Current Online Courses	899	1	7	1.97	.996
<b>Participants who failed</b>					
Age	899	20	72	38.33	10.137

	N	Min	Max	Mean	Standard Deviation
Previous Online Courses	899	0	24	3.79	3.854
Current Online Courses	899	1	6	2.09	1.059
<b>Participants who passed</b>					
Age	899	20	67	41.26	9.852
Previous Online Courses	899	0	23	4.47	3.987
Current Online Courses	899	1	7	1.94	.977

*Note.* N = 899.

Table 8 demonstrates that students who failed the online courses were slightly younger than those who passed the online courses. Furthermore, the students who passed the online courses had more experienced taking online courses than those who failed and they took fewer courses during the current semester than those who failed.

Figure 1 shows a clearly-defined peak in reference to age for students who passed the online courses and students who failed the course. The peaks in both instances are fairly close in value to the mean. There are no obvious outliers with this particular quantitative variable.

Figure 1. Histogram for Age

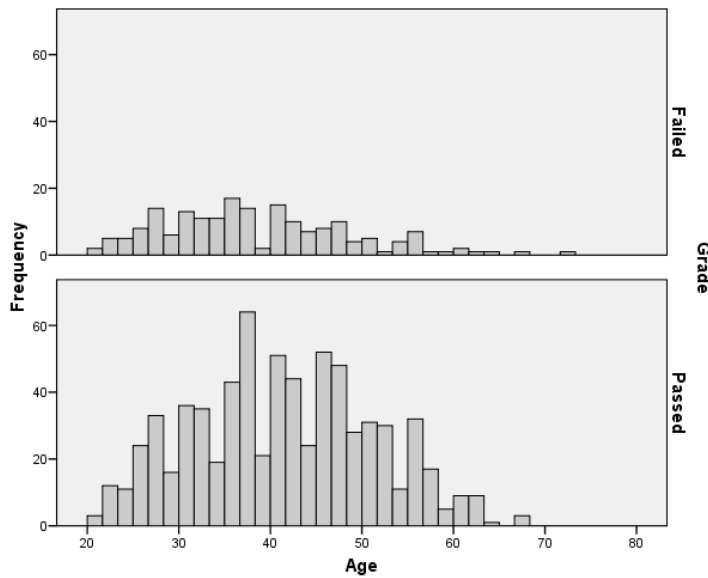


Figure 2 shows a clearly-defined peak in reference to previous online courses for students who passed the online courses and students who failed the course. The peaks in both instances show a high percentage of students who had no previous experience taking online courses. There are no obvious outliers with this particular quantitative variable.

Figure 2. Histogram for Previous Online Courses

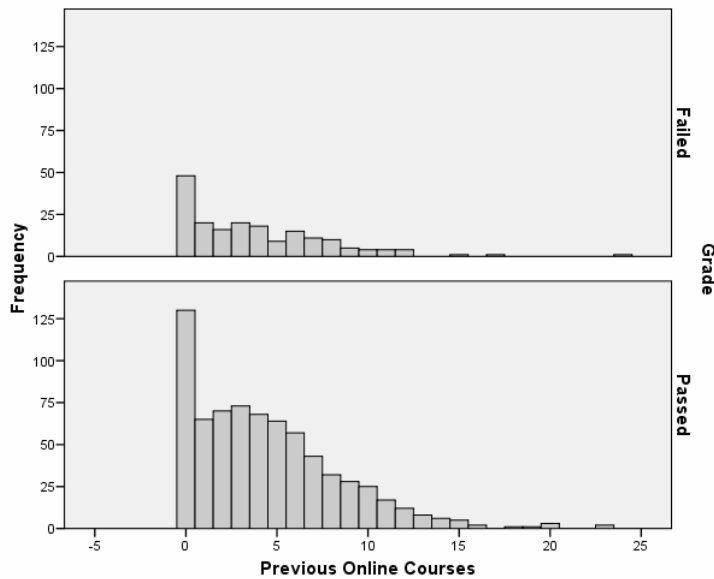
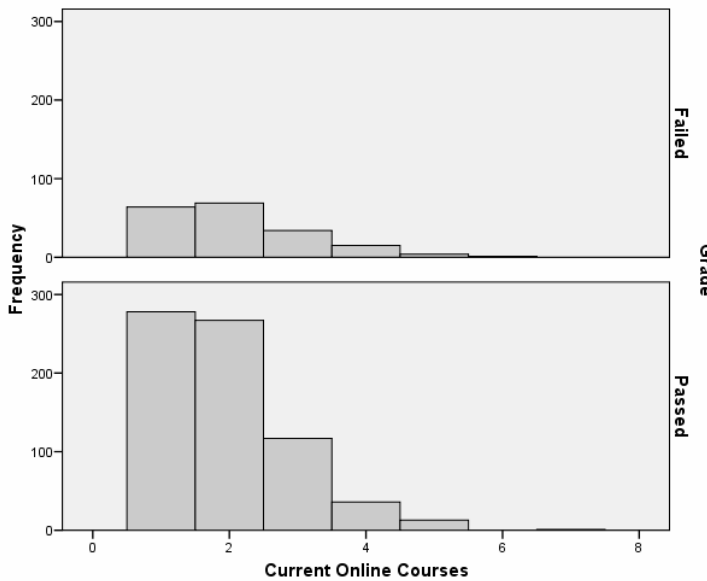




Figure 3 shows a peak in reference to current online courses for students who passed the online courses and students who failed the courses which is not as clearly defined as the peaks in Figures 1 and 2. The peaks for students who passed the online courses and students who failed the courses are fairly close in value to the mean. There are no obvious outliers with this particular quantitative variable.

Figure 3. Histogram for Current Online Courses



Tables 9 – 13 show the descriptive statistics utilizing crosstabulation for the five categorical, independent variables (ethnicity, gender, marital status, financial assistance, and student status). In addition, bar graphs (Figures 4 – 8) for the categorical, independent variables are also included.

Table 9

Descriptive Statistics for Categorical Variables (Gender\* Grade Crosstabulation)

Grade	
	Total

		Failed		Passed	
Gender	Female	Count	44	149	193
		% of Total	4.9%	16.6%	21.5%
	Male	Count	143	563	706
		% of Total	15.9%	62.6%	78.5%
Total		Count	187	712	899
		% of Total	20.8%	79.2%	100.0%

*Note.* N = 899.

Table 9 shows that more males enrolled in and passed the online courses than did females.

Table 10

*Descriptive Statistics for Categorical Variables (Ethnicity\* Grade Crosstabulation)*

		Grade			
			Failed	Passed	Total
Ethnicity	Caucasian	Count	90	462	552
		% of Total	10.0%	51.4%	61.4%
	African American	Count	83	194	277
		% of Total	9.2%	21.6%	30.8%
	Hispanic	Count	0	18	18
		% of Total	.0%	2.0%	2.0%
	Asian	Count	12	32	44
		% of Total	1.3%	3.6%	4.9%
	Other	Count	2	6	8

		Grade		
		Failed	Passed	Total
	% of Total	.2%	.7%	.9%
Total	Count	187	712	899
	% of Total	20.8%	79.2%	100.0%

*Note.* N = 899.

Table 10 shows that more Caucasians enrolled in and passed the online courses than did any other ethnic group. Furthermore, no Hispanics failed any online courses taken.

Table 11

*Descriptive Statistics for Categorical Variables (Marital Status\* Grade Crosstabulation)*

			Grade		
			Failed	Passed	Total
Marital Status	Married	Count	133	567	700
		% of Total	14.8%	63.1%	77.9%
	Single	Count	46	117	163
		% of Total	5.1%	13.0%	18.1%
	Divorce	Count	8	24	32
		% of Total	.9%	2.7%	3.6%
	Widowed	Count	0	4	4
		% of Total	.0%	.4%	.4%
Total		Count	187	712	899
		% of Total	20.8%	79.2%	100.0%

Note. N = 899.

Table 11 shows that more married students enrolled in and passed the online courses than did any other group. Furthermore, no widows failed any online courses taken.

Table 12

*Descriptive Statistics for Categorical Variables (Financial Assistance\* Grade Crosstabulation)*

			Grade		
			Failed	Passed	Total
Financial Assistance	Yes	Count	117	520	637
		% of Total	13.0%	57.8%	70.9%
	No	Count	70	192	262
		% of Total	7.8%	21.4%	29.1%
Total		Count	187	712	899
		% of Total	20.8%	79.2%	100.0%

Note. N = 899.

Table 12 shows that more students who received financial assistance enrolled in and passed the online courses than students who did not receive financial assistance.

Table 13

*Descriptive Statistics for Categorical Variables (Student Status\* Grade Crosstabulation)*

			Grade		
			Failed	Passed	Total
Student Status	Part-time	Count	118	517	635
		% of Total	13.1%	57.5%	70.6%

	Full-time	Count	69	195	264
		% of Total	7.7%	21.7%	29.4%
Total		Count	187	712	899
		% of Total	20.8%	79.2%	100.0%

Note. N = 899.

Table 13 shows that more part-time students enrolled in and passed the online courses than did full-time students.

Figure 4. Bar Graph for Gender

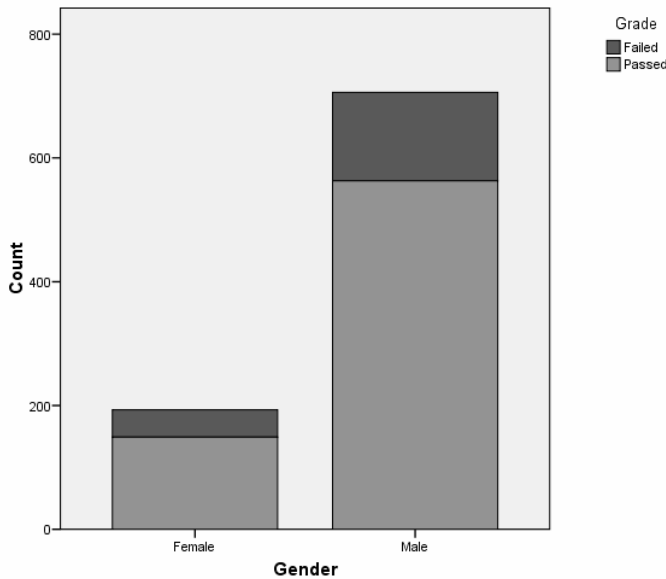


Figure 4 shows that the majority of students who enrolled in and passed the online courses were male.

Figure 5. Bar Graph for Ethnicity

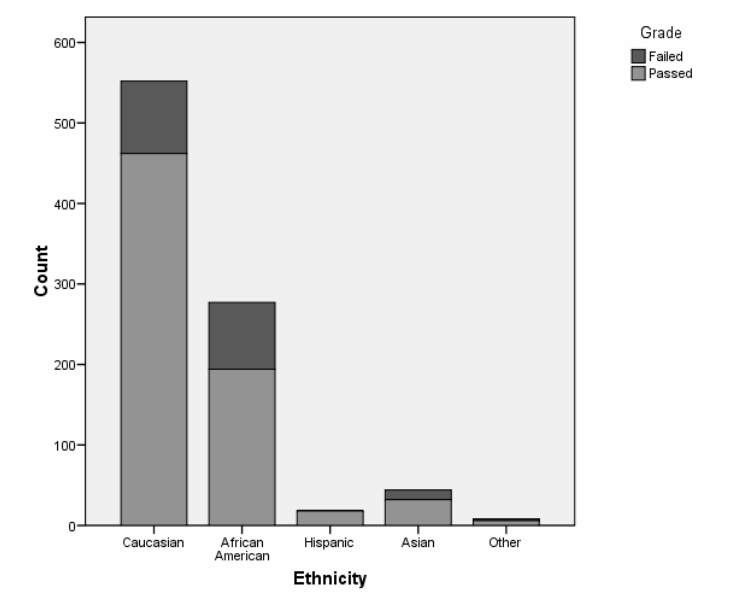


Figure 5 shows that the majority of students who enrolled in and passed the online courses were Caucasian.

Figure 6. Bar Graph for Marital Status

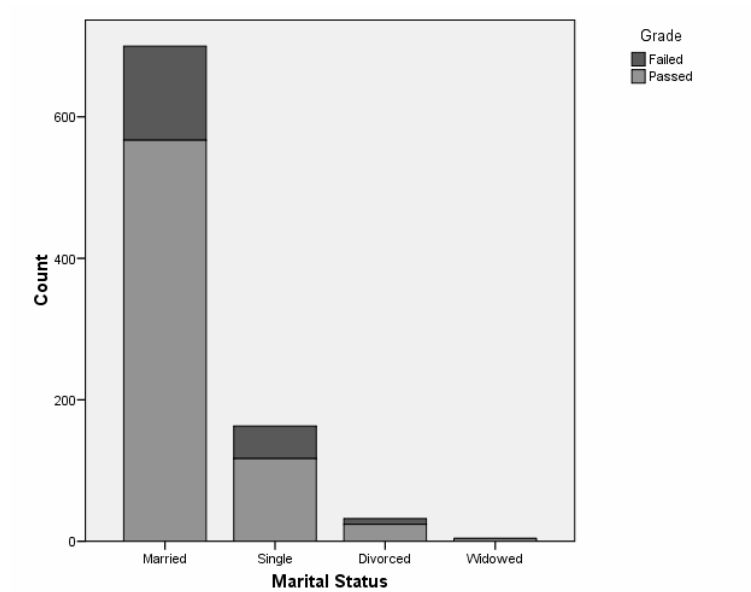


Figure 6 shows that the majority of students who enrolled in and passed the online courses were married.

Figure 7. Bar Graph for Financial Assistance

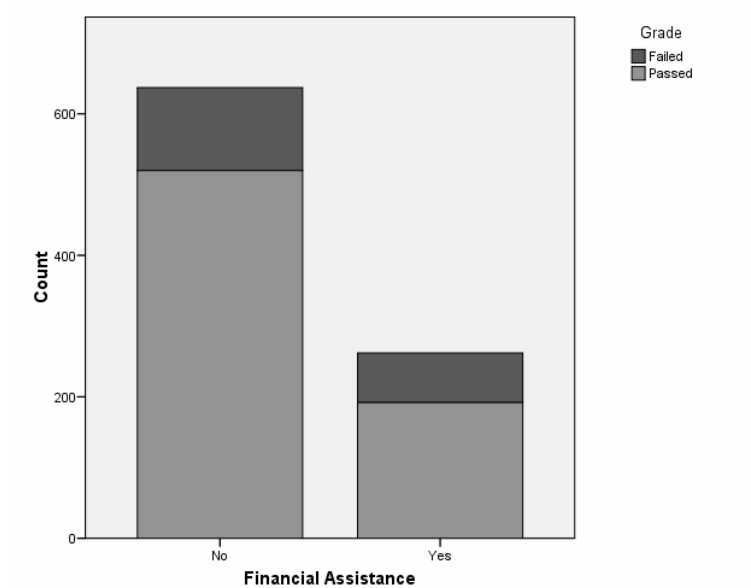


Figure 7 shows that the majority of students who enrolled in and passed the online courses received financial assistance.

Figure 8. Bar Graph for Student Status

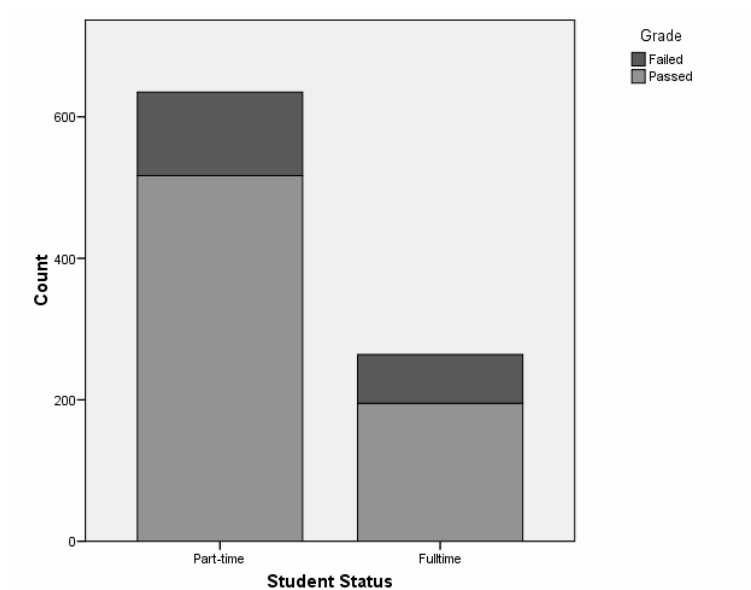


Figure 8 shows that the majority of students who enrolled in and passed the online courses were enrolled part-time.

### Multicollinearity

As stated in Chapter 3, one of the first steps in conducting a logistic regression was to check for multicollinearity. “Multicollinearity occurs when there are high intercorrelations among some set of the predictor variables. In other words, multicollinearity happens when two or more predictors contain the same information” (Morgan, Leech, Gloeckner, & Barrett, 2004, p. 127). The measures which were utilized to assess collinearity were the tolerance value and the variance inflation factor (VIF) (Hair, Anderson, Tatham, & Black, 1998).

When performing the descriptive analysis on the eight independent variables, it was discovered that no Hispanic and no widowed students failed any of the online courses. This observation caused a problem for conducting a logistic regression. To resolve this problem, the Hispanic and the Other categories were combined for ethnicity and the divorced and widowed categories were combined for marital status. New variables for ethnicity (“ethnicity2”) and marital status (“marital2”) were created as follows:

“ethnicity2”: (1 = Caucasian; 2 = African American; 4 = Asian; 6 = Hispanic or Other)

“marital2”: (1 = Married; 2 = Single; 5 = Divorced or Widowed)

To assess multicollinearity (i.e., interdependence) among the independent variables, an ordinary multiple-regression analysis was conducted. In so doing, both “ethnicity2” and “marital2” variables were converted into sets of indicator variables (variables that take on only 0s and 1s). For example, for “ethnicity2,” the indicator variables were:

$U_1 = 1$  if Caucasian



$U_1 = 0$  otherwise

$U_2 = 1$  if African American

$U_2 = 0$  otherwise

$U_4 = 1$  if Asian

$U_4 = 0$  otherwise

No indicator variable was created for the Hispanic-or-Other category because this group can be defined by setting all three  $U$ s to zero.

A multiple-linear regression was conducted to compute the variance inflation factors (VIFs). The dependent variable, grade, was used for the purpose of assessing multicollinearity (i.e., VIF values do not change regardless of what dependent variable is selected). Table 14 shows the computed VIFs.

Table 14

*VIF Computations*

Model		Collinearity Statistics	
		Tolerance	VIF
1	Age	.777	1.287
	Gender	.780	1.267
	u1 Caucasian	.116	8.635
	u2 African American	.120	8.304
	u4 Asian	.378	2.646
	v1 Married	.203	4.920
	v2 Single	.202	4.939
	Financial Assistance	.843	1.186
	Previous Online Courses	.901	1.110
	Current Online Courses	.545	1.835
	Student Status	.567	1.763

*Note.* Dependent Variable: Grade.

All VIFs are less than the conventional criterion value of 10. This suggests that there is no significant interdependence among the independent variables.

### Logistic Regression

As stated in Chapter 3, logistic regression analysis was performed to determine whether or not any of the eight independent variables influenced the dependent variable. “Logistic regression is used to predict a dichotomous criterion variable from a combination of several independent variables. Logistic regression also involves a situation where the criterion variable is categorical. In addition, logistic regression analysis is used when some or all of the predictor variables are categorical” (Gliner & Morgan, 2000, p. 300).

#### *Model Selection*

A logistic regression analysis was conducted using grade as the dependent variable and age, gender, ethnicity2, marital status2, financial assistance, previous online courses, current online courses, and student status as the independent variables. A backward-elimination method was used to select the best predictors of grade. A significance level of 0.05 was used for the removal of the least significant variable at each step. The backward-elimination method removed a total of five independent variables, which were marital status2, gender, current online courses, financial assistance, and student status, in that particular order. The independent variables which remained in the model were age, ethnicity2, and previous online courses. These variables are presented in Table 15.

Table 15

#### *Variables Remaining in Model*

	B	S.E.	Wald	df	Sig.	Exp(B)
age	.037	.009	17.432	1	.000	1.038

	B	S.E.	Wald	df	Sig.	Exp(B)
ethnicity2(1)			30.002	3	.000	
ethncity2(1)	-.832	.750	1.231	1	.267	.435
ethnicity2(2)	-1.772	.753	5.531	1	.019	.170
ethnicity2(3)	-1.425	.816	3.053	1	.081	.240
preonline	.054	.023	5.553	1	.018	1.055
Constant	.811	.822	.972	1	.324	2.249

As shown in the table, both age and ethnicity2 have *p*-values near zero, indicating that these variables have large degrees of contributions in the current logistic regression model. The *p*-value for previous online courses was .018.

The logistic regression model utilized in this study, with three predictors, was:

$$\ln\left(\frac{p}{1-p}\right) = \alpha + \beta_1x_1 + \beta_2x_2 + \beta_3x_3$$

With the obtained estimates for the parameters, the fitted model was as follows:

$$\ln\left(\frac{\hat{p}}{1-\hat{p}}\right) = 0.811 + 0.037(\text{age}) + 0.054(\text{preonline}) - 0.832(\text{caucasian}) - 1.772(\text{africanamer}) - 1.425(\text{asian})$$

To illustrate this fitted model, for a 35-year-old Caucasian person who has previously taken 6 online courses, the estimated log-odds of passing the course were:

$$\ln\left(\frac{\hat{p}}{1-\hat{p}}\right) = 0.811 + 0.037(35) + 0.054(6) - 0.832(1) - 1.772(0) - 1.425(0) = 1.598$$

Therefore, the estimated probability of passing the course for this person was:

$$\hat{p} = \frac{\exp\{1.598\}}{1 + \exp\{1.598\}} = 0.832$$

Because this probability was greater than 0.5, this person would be classified as passing the course.

*Predictive Power and Model Fit*

One way to assess the fit of a model is to examine its predictive power. This may be done by considering the model’s correct classification rate. The classification rate for the model in this study is illustrated in Table 16.

Table 16

*Classification Rate*

Observed		Predicted			
		Grade		Percentage	
		Failed	Passed	Correct	
Step 6	Grade	Failed	2	185	1.1
		Passed	1	711	99.9
Overall Percentage					79.3

*Note.* The cut value is .500.

Based on the current model, 711 out of the 712 individuals who passed the online courses were classified correctly as passing. Thus, “sensitivity” was  $711/712 = 99.9\%$ . However, only 2 out of the 187 individuals who failed the online courses were classified correctly as failing. Thus, “specificity” was  $2/187 = 1.1\%$ . “False positive” was  $185/896 = 20.6\%$ , and “false negative” was  $1/3 = 33.3\%$ . The overall rate of correct classification was

$713/899 = 79.3\%$ .

It is evident that the current model classifies individuals who passed the course well but not those who failed the course. This was due, in part, to the fact that the number of individuals who failed was very small in the data (only 20.8% of the total sample size).

The current model classifies a large number of individuals as passing and a very small number of individuals as failing the online courses. Thus, one may use the cut value of 0.75 instead of the conventional 0.5. This point was illustrated in Table 17.

Table 17

*Classification Rate (Using Cut Value of 0.75)*

		Predicted			
		Grade		Percentage	
Observed		Failed	Passed	Correct	
Step 6	Grade	Failed	79	108	42.2
		Passed	185	527	74.0
Overall Percentage				67.4	

*Note.* The cut value is .750.

By using this higher cut value, “sensitivity” is  $527/712 = 74.0\%$ , “specificity” is  $79/187 = 42.2\%$ , “false positive” is  $108/896 = 17.0\%$ , and “false negative” is  $185/264 = 70.1\%$ . The overall correct classification rate is  $606/899 = 67.4\%$ .

In addition, a Hosmer-Lemeshow test (Table 18) was conducted to assess the fit of the current model. The null hypothesis for the Hosmer-Lemeshow test was “ $H_0$ : Model fits,” and the alternative hypothesis was “ $H_1$ : Model does not fit.” For the current model, the result of the Hosmer-Lemeshow test was  $\chi^2(8) = 9.592$ ,  $p = 0.295$ . At the 0.05 level

of significance, this test was nonsignificant, which indicates that there was no substantial evidence of lack of fit.

Table 18

*Hosmer-Lemeshow Test*

Step	Chi-square	df	Sig.
6	9.592	8	.295

### Summary

This chapter presented a brief description of the participants in this study and the data and the statistical tests corresponding with the eight independent variables including a discussion of multicollinearity and logistic regression. Descriptive analysis for the eight independent variables was displayed in Tables 8 – 13 and in Figures 1 – 8. Logistic regression was performed to determine whether or not any of the eight independent variables influenced the dependent variable. Of the eight independent variables used in the model to test the research hypothesis, three (age, ethnicity, and previous online courses) were found to have a significant influence on grade achievement of nontraditional, online students at the selected institution. Regression analysis provided a prediction equation using the following independent variables: age, ethnicity, and previous online courses. Furthermore, regression analysis and the Hosmer-Lemeshow test were conducted to test the predictive power of the model and model fit.

## CHAPTER 5

### Summary and Discussion

This final chapter of the dissertation restated the research problem presented in Chapter 1 and provided a review of the methodology used in the study. The study was conducted to determine if selected variables had an impact on the final grades received by nontraditional, online students at the selected, theological institution. Investigating variables which may impact a student's ability to pass an online course is important. With the number of nontraditional students enrolling in online courses on university campuses across the United States continuing to increase, the results of such a study have relevance for college and university administrators who allocate a large percentage of their budgets in developing online programs. The major sections of this chapter elucidated and summarized the findings related to the study as well as discussed their implications and suggested recommendations for future research in the area.

### Review of Methodology

As explained in Chapter 1, this study was a four-month study of nontraditional, online students at a theological institution located in the southeast region of the United States. The institution has been in existence for 45 years and has a long history of being involved with distance education. The institution has been offering courses in a distance education format to supplement the course offerings in the traditional classroom format for nearly 40 years.

The research problem investigated whether or not any of the selected variables were related to grade achievement (dependent variable) of nontraditional, online students

at the selected theological institution. The dependent variable in this study was a categorical, dichotomous variable with two end results: (a) successful/pass or (b) unsuccessful/fail. A successful/passing grade was indicated by an A, B, or C. An unsuccessful/failing grade was indicated by a D, F, W, WD, WP, or WF. The independent variables investigated were age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, and current online course load. The eight independent variables in this study were selected based on previous research. These eight variables have been hypothesized in previous research as having an influence on the success of online students.

The research design implemented for this study was a quantitative, correlational design. Logistic regression analysis and descriptive statistics were performed to determine whether or not any of the eight independent variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) influenced the dependent variable (grade achievement). Summary statistics, such as means and standard deviations, were computed and histograms were generated for quantitative variables. Frequencies were tabulated and bar graphs were generated for categorical variables.

The researcher was able to utilize the student database from the selected institution to obtain demographic and educational information for students enrolled in online courses during Spring 2007. Every student enrolled in online courses during that particular semester was included in the study. There were a total of 37 online courses with an enrollment of 899 students.

The institution collects demographic information on its students at the time



students apply for admission. This information is transferred from an online student application to the institution's enrollment/student database. At the beginning and end of each semester, the institution also collects information regarding students' grades in its student database which includes information regarding grades students receive in courses, cumulative grade point average, withdrawals from courses, financial assistance, the current number of credit hours in which students are enrolled, and the previous number of credit hours students have already taken. All eight independent variables and the one dependent variable were extracted from the enrollment/student database.

#### Summary of the Research Findings

The results of the findings supported the research hypothesis which stated that there was a relationship between some of the selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and grade achievement of nontraditional, online students at the selected institution. A logistic regression, backward-elimination method was utilized to determine which of the eight independent variables were the best predictors of grade achievement. A  $p$ -value of  $p < .05$  was utilized to determine the removal of the least significant variables. Five of the variables (gender, marital status, financial assistance, student status, and current online course load) had  $p$ -values greater than .05 and thus were removed from the model. Three of the eight independent variables (age, ethnicity, and number of previous online courses) were found to have a statistically significant relationship with the dependent variable (grade achievement). Age and ethnicity had  $p$ -values near zero, indicating that these variables had large degrees of contribution in the current logistic regression model and number of previous online courses had a  $p$ -value

of .018. In addition, approximately 79% of the students enrolled in the online courses for the selected semester were male and approximately 21% were female.

### Discussion of the Research Findings

This research sought to discover if certain variables influenced the grades of nontraditional, online students at a particular theological institution. Although online courses are becoming more popular with nontraditional students on university campuses, past research has shown that these students do not always have success in completing these type courses. High drop out rates among online students have been consistently reported on college and university campuses across the United States. By discovering the variables which may impede the academic success of nontraditional online students, theological institutions can develop policies and programs which can help these students consistently succeed.

### *Interpretation of the Findings*

The research findings indicated that a student's age, ethnicity, and the number of previous online courses the student had taken has an impact on whether or not the student will pass an online course. In the model developed for this study, age had a strong association with grade achievement, having a positive slope coefficient of (+0.037). In general, this indicates that as a student's age increases, the likelihood that the student will pass an online course also increases. Table 19 (See Appendix 1) shows that the older students were more inclined to pass the online courses while the younger students were more inclined to fail the online courses. This finding concerning age was consistent with earlier findings by Didia and Hasnat (1998) and Wojciechowski and Palmer (2005). Didia and Hasnat found that "the older the student, the better the grade" (p. 105).

Research conducted by Wojciechowksi and Palmer found that older students fared better in online courses than the younger students in that the older students received higher grades in the courses.

Furthermore, in the model developed for this study, ethnicity was also found to have a strong association with grade achievement among nontraditional, online students. Overall, ethnicity had a *p*-value near zero, indicating that this variable contributed greatly to the success of online students. This finding concerning ethnicity was consistent with earlier findings by Clayton and Cate (2004) and Strage (1999) who also found that an individual's ethnicity impacted the person's ability to pass an online course.

Table 20 (See Appendix 2) shows that the Hispanic/Other category (with a *p*-value of 0.019) had the highest percentage of students passing the online courses, followed by the Caucasian category, the Asian category, and the African American category. The slope coefficients for the indicator variables related to ethnicity were all negative (−0.832 for Caucasian; −1.772 for African American; −1.425 for Asian). The results indicate that these three ethnic categories of students were less likely to pass online courses compared to Hispanics/Other category of students. In particular, Hispanic/Other students were more likely to pass online courses than African American students. These results were supported by other studies by Clayton and Cate (2004) and Strage (1999) who also found that a particular ethnic group performed better than others in online courses. Clayton and Cate found that White and Hispanic students performed better than Asian students, while Strage found that White students performed better than Hispanic and Asian students.

Finally, the model showed that previous online course was the third variable

which had a positive association with grade achievement among nontraditional, online students, having a positive slope coefficient of (+0.054). This finding suggests that the more previous experience a student has in taking online classes, the greater the likelihood of the student passing subsequent online courses. Table 21 (See Appendix 3) shows that an overwhelming majority of the students who had previously taken a large number of online courses passed their current online courses. This finding concerning previous online courses was consistent with earlier findings by Duplin-Byrant (2004) and Wojciechowski and Palmer (2005). Wojciechowski and Palmer found that there was “a positive and statistically significant relationship between the number of previous online courses taken and the grade students received in online courses” (p. 14). Duplin-Byrant found that previous online courses had a positive association with student performance and, therefore, was identified by the researcher as a variable that could be used to distinguish which students would complete an online course.

Although logistic regression demonstrated that both age and previous online courses have a positive impact on whether or not nontraditional students would pass online courses, correlational analysis (Appendix 4, See Table 22) showed that these two variables are not significantly correlated with each other ( $r(897) = -.006, p = .851$ ). Further analysis (See Appendix 4) of these variables individually demonstrated that as the age of students increase, their chances of passing online courses also increase. Similarly, as the number of previous online courses increases, the probability of a student passing subsequent online course also increases.

### *Implications for Practice*

As institutions of higher learning increase their understanding of how certain

demographic and academic variables influence grade achievement, institutional administrators may discover ways to enhance their academic programs and student support services to overcome barriers which may hinder a student's success in online courses. In addition, the discovery of specific variables which may influence grade achievement of nontraditional, online students may also impact the way professors design online courses and the various teaching methods professors utilize when delivering online courses. "Instructor preparation, course development, instructor accessibility, and course monitoring are all critical elements of effective online courses" (McEwen, 2001, pp. 101-102).

The study results revealed that students between the ages of 20 and 34 did not fair as well as the older students when taking online courses. The study results also revealed that students who had taken four or fewer online courses were more likely to fail subsequent online courses. Students who are younger and/or have no previous online course experience may "lack the necessary independence and time management skills needed for persistence" (Wojciechowski & Palmer, 2005, p. 12). Based on these results, institutional administrators may want to consider whether or not it would be beneficial to require some form of online placement testing or possibly a prerequisite course related to online instruction and computer technology before allowing younger students and those students who have no previous online experience or very little online experience to enroll in online courses.

A standardized set of guidelines could be constructed that require attendance at an orientation session, or block a student from taking the online version at all (if a more traditional format was available). No one wants to prevent students from

taking their choice of classes, but prerequisites are already in place for many higher education courses, and placement tests are commonly used to place students into remedial and other courses. Results from this study indicate that a set of uniform prerequisites could be created for online courses as well to help enhance student success rates. (Wojciechowski & Palmer, p. 13)

These measures may serve to better familiarize younger students as well as students who are new to online course work with the rigors of online study and provide these students with an opportunity to begin their online experiences with a greater chance of succeeding.

In reference to the ethnicity of students taking online courses, African American students and Asian students did not perform as well as the Hispanics/Other and the Caucasian students. Institutional administrators may consider requiring all faculty members (full-time and adjunct) to incorporate an online component in all traditional, face-to-face courses offered by the university. Although this idea has been suggested by institutional administrators, it has not been made a mandatory requirement for all faculty members and therefore some traditional courses have been developed with no online component. Including an online component in all traditional, face-to-face courses may serve as a less intimidating introduction to the online environment for African American and Asian students, provide a smoother transition into online course work, and possibly help these students perform better in future online courses.

Prior research has proven that not all students are suited for the online environment. Therefore, institutional administrators may want to consider providing additional training for academic counselors who provide academic counseling to students related to online courses. This training may assist academic counselors in helping

students select the learning environment which is most appropriate for their learning needs. “With a variety of course venues available, it is important to select the format that provides the greatest opportunity for each individual student” (Wojciechowski & Palmer, 2005, p.11).

### *Limitations of the Study*

The following limitations may impact whether or not the findings from this study are applicable to the general public:

1. The study was limited to one theological institution with a majority student population of nontraditional students. Approximately 95% of the students enrolled at the selected institution were 25 years of age or older. Approximately 96% of the participants in the study sample were 25 years of age or older.
2. The study was also limited to one dependent variable (grade achievement) and the following independent variables: age, gender, ethnicity, marital status, financial assistance, student status, current online courses, and previous online courses.
3. The participants in the study were limited to the students who enrolled in online courses at the selected institution during Spring 2007. This semester was selected because the institution had its highest online enrollment (899 students) in the institution’s history and the institution offered the highest number of online courses (37 courses) in its history.
4. The sample size of the Hispanic/Other students can also be considered a limitation of the study. Even though the data suggest that Hispanic/Other students perform better than the other ethnic groups in online courses, given the small number of Hispanic/Other students included in the study, this could have occurred by

chance.

5. The study was limited to courses which were offered completely online, with no face-to-face component. No hybrid courses were included in this study.

#### *Recommendations for Future Research*

Based on the findings from this study, the following recommendations are suggested for areas of future research related to nontraditional, online students:

1. The majority of the participants in this study were part-time, nontraditional students. Future research should be conducted to determine if the findings from this study can be replicated in other theological institutions with full-time, traditional students.
2. Approximately 21% of the students who enrolled in online courses at the selected theological institution during Spring 2007 failed the courses in which they were participating. A qualitative study should be conducted to determine the reasons students were not academically successful in these courses. Interviews conducted with actual online students could provide institutional administrators with factors related to online course failures from a student perspective.
3. Approximately 23% of students who had no previous online course experience or very little online course experience failed the online courses in which they participated. Further research should be conducted to determine what factors caused these students to perform poorly in their initial experiences with online course work. Could the student's poor performance be related to a lack of computer skills, a lack of motivation (either internal or external), a lack of discipline, the structure of the online course, or some other factors?



4. The study results revealed that the performance of African American students and Asian students in online classes was not equivalent to the performance of Hispanic/Other and Caucasian students. Further research should be conducted to determine if there are any problems specific to these two ethnic groups such as language barriers which may hinder their success in online courses.
5. The study results revealed that older students perform better in online courses than younger students. Further research should be conducted to determine if the maturity level of the students significantly impact their success in online courses. Further research should also be conducted to determine if the older students were graduate or undergraduate students.
6. Online courses traditionally have high drop out rates. For the past five years, the selected institution has had an average online drop out rate of 13.22% per semester in its online courses. Further research should be conducted to determine if there is a relationship between the institution's online drop out rate and the academic and/or career goals of the online students. The retention of online students is a prevailing concern at most institutions. Given the size of the student body at this particular theological institution, the retention of its students, in particular its online students, should be of utmost importance.

### Summary

This study was a four-month study of nontraditional, online students at a theological institution located in the southeast region of the United States. As stated in Chapter 1, the purpose of the study was to determine which of the selected variables, if any, impacted grade achievement of nontraditional, online students at the selected

theological institution. Overall, the results of the research conducted in this study may have important implications for online education and nontraditional students.

Determining which variables impact the success of online students can assist online faculty in designing online courses as well as assist them in selecting the best teaching methods to utilize when delivering online courses. In addition, the research results can assist the selected institution in designing academic programs and students support services which may help online students continue to achieve.

Chapter 2 provided a review of the literature related to nontraditional, online students. Based on a review of the literature, a relatively small amount of research has been conducted in theological institutions which explained the influence of selected variables on student performance. Although numerous sources were examined in an effort to research the variables which may influence student performance in theological institutions, the available literature was limited. There is a gap in the literature regarding the investigation of certain demographic variables and other factors such as age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load and their influence on grade achievement for nontraditional, online students enrolled in theological institutions. Therefore, the purpose of this research was to fill that gap by investigating these variables and drawing conclusions relative to online, nontraditional students enrolled in theological institutions.

Chapter 3 provided an overview of the research methodology used in this study. The research designed consisted of a quantitative analysis of selected variables (age, gender, ethnicity, marital status, financial assistance, student status, number of previous online courses, current online course load) and their influence on grade achievement of

nontraditional, online students at the selected theological institution. The study used pre-existing academic and demographic data collected by the institution and stored in the institution's enrollment/student database. The researcher utilized logistic regression analysis and descriptive analysis to answer the research hypotheses. "Logistic regression is used to predict a dichotomous criterion variable from a combination of several independent variables. Logistic regression also involves a situation where the criterion variable is categorical. In addition, logistic regression analysis is used when some or all of the predictor variables are categorical" (Gliner & Morgan, 2000, p. 300).

Chapter 4 presented a brief description of the participants in this study and the data and the statistical tests corresponding with the eight independent variables including a discussion of multicollinearity and logistic regression. Descriptive analysis for the eight independent variables was displayed in Tables 8 – 13 and Figures 1 - 8. Logistic regression was performed to determine whether or not any of the eight independent variables influenced the dependent variable. Of the eight independent variables used in the model to test the research hypothesis, three (age, ethnicity, and previous online courses) were found to have a significant influence on grade achievement of nontraditional, online students at the selected institution. Regression analysis provided a prediction equation using the following independent variables: age, ethnicity, and previous online courses. Furthermore, regression analysis and the Hosmer-Lemeshow test were conducted to test the predictive power of the model.

Chapter 5 restated the problem statement, summarized the methodology used in the study, presented the major findings from the study, discussed implications for practice, revealed the limitations of the study, and made recommendations for further research.

Successful completion of online courses was shown to be greater among Hispanic/Other and Caucasian students. In addition, successful completion of online courses was also shown to be greater among older students and students with more previous online course experience. Implications for practice related to these and other areas were discussed and recommendations for future research in the area of nontraditional, online students were made. Although the findings from this study do not fully explain all the reasons why nontraditional, online students do not always succeed in online courses, the findings from the study do help advance the research in this area, especially as it relates to theological institutions.

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Appendix 1

Age – Grade Crosstabulation

Table 19

*Age Grouped \* Grade Crosstabulation*

			Grade		Total
			Failed	Passed	
Age	20 to 34	Count	75	189	264
Grouped		% within Age Grouped	28.4%	71.6%	100%
	35 to 49	Count	87	375	462
		% within Age Grouped	18.8	81.2%	100%
	50 to 64	Count	23	145	168
		% within Age Grouped	13.7%	86.3%	100%
	65 to 79	Count	2	3	5
		% within Age Grouped	40.0%	60.0%	100.0%
Total		Count	187	712	899
		% within Age Grouped	20.8%	79.2%	100%

Appendix 2

Ethnicity – Grade Crosstabulation

Table 20

*Ethnicity (combined) \* Grade Crosstabulation*

		Grade			
		Failed	Passed	Total	
Ethnicity (combined)	Caucasian	Count	90	462	552
		% within Ethnicity (combined)	16.3%	83.7%	100%
	African American	Count	83	194	277
		% within Ethnicity (combined)	30.0%	70.0%	100%
	Asian	Count	12	32	44
		% within Ethnicity (combined)	27.3%	72.7%	100%
	Hispanic/Other	Count	2	24	26
		% within Ethnicity (combined)	7.7%	92.3%	100.0%
Total		Count	187	712	899
		% within Ethnicity (combined)	20.8%	79.2%	100%

Appendix 3

Previous Online Courses – Grade Crosstabulation

Table 21

*Previous Online Courses Grouped \* Grade Crosstabulation*

			Grade		Total
			Failed	Passed	
Previous Online	0 to 4	Count	122	406	528
Grouped	% within Previous		23.1%	76.9%	100%
Online Grouped					
	5 to 9	Count	50	224	274
	% within Previous		18.2%	81.8%	100%
Online Grouped					
	10 to 14	Count	12	68	80
	% within Previous		15%	85%	100%
Online Grouped					
	15 to 19	Count	2	9	11
	% within Previous		18.2%	81.8%	100.0%
Online Grouped					
	20 to 24	Count	1	5	6
	% within Previous		16.7%	83.3%	100%
Online Grouped					
Total	Count		187	712	899
	% within Previous		20.8%	79.2%	100%

---

			Grade		
			Failed	Passed	Total
<hr/>					
Online Grouped					
<hr/>					

## Appendix 4

## Correlational Analysis

Table 22

*Correlational Analysis of Age and Previous Online Courses*

		Age	Previous Online Courses
Age	Pearson Correlation	1	-.006
	Sig. (2-tailed)		.851
	N	899	899
Previous Online Courses	Pearson Correlation	-.006	1
	Sig. (2-tailed)	.851	
	N	899	899

*Further Analysis of the Influence of Age and Previous Online Courses on Grade*

To further demonstrate the relationship of age and previous online courses on grade, an individual may consider the “odds of passing the course.” The odds of an event are a ratio of the event probability to the nonevent probability. For example, if there is a 25% chance of winning a lottery (with a 75% chance of losing), then, the odds of winning this lottery will be  $0.25/0.75 = 0.333$ .

The fitted model developed in this study was:

$$\ln\left(\frac{\hat{p}}{1-\hat{p}}\right) = 0.811 + 0.037(\text{age}) + 0.054(\text{preonline}) \\ - 0.832(\text{caucasian}) - 1.772(\text{africanamer}) - 1.425(\text{asian})$$

Exponentiating the slope coefficient for age,  $\exp\{0.037\} = 1.038$  is obtained. The interpretation of this value is that, as the age increases by 1 year, the odds of passing the

course will increase by 3.8%. This itself may not seem a large change, but, if the age increases by 18 years (e.g., 30 years old vs. 48 years old), the odds of passing the courses will nearly double:  $\exp\{0.037(18)\} = 1.946$ . Similarly, for previous online courses,  $\exp\{0.054\} = 1.055$  is obtained. This implies that, as the number of online courses previously taken increases by 1, the odds of passing the course will increase by 5.5%. Comparing, for example, students who have taken 15 online courses and those who have taken only 5 online courses, the odds of passing the course for the former group of students are higher by 72%:  $\exp\{0.054(10)\} = 1.716$ .

Appendix 5

Approval Letter from LRU President

**LUTHER RICE**  
**UNIVERSITY**

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*Preparing Tomorrow's Leaders for Tomorrow's Challenges through Christian Higher Education*

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May 9, 2007

Murray J. Williams  
5725 Wells Circle  
Stone Mountain, GA 30087

RE: Approval of Request to use Luther Rice University Student Data

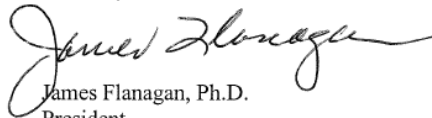
Dear Ms. Williams:

Your request for approval to conduct a study using data from Luther Rice University's registration database for students enrolled in online distance education courses is hereby approved. I agree that you can use data from online students enrolled during the Spring 2007 semester, and if necessary, the Summer, 2007, semester.

It is understood that you will not at anytime know the identity of any student used in this study and that you will work closely with the registrar who will provide you with the data needed to conduct this study. In addition, to acquire the course grade and the current GPA of participating students, you will use a three digit code assigned to each student, coupled with the course number and present this information to the registrar who will provide you with the student's grade(s).

It is my understanding that this data will be used in research on your dissertation at Liberty University, School of Education, Lynchburg, Virginia.

Sincerely,



James Flanagan, Ph.D.  
President  
Luther Rice University



## Appendix 6

## IRB Approval from Liberty University

<b>Subject:</b>	IRB Approval 534 The Relationship between Selected Variables and Grade Achievement of Nontraditional Online Students at a Conservative Theological Institution
<b>Date:</b>	Thu, 31 May 2007 16:50:15 -0400
<b>From:</b>	"Garzon, Fernando L." <fgarzon@liberty.edu>
<b>To:</b>	murrayjwilliams@yahoo.com
<b>CC:</b>	"Parker, Karen (School of Education)" <kparker@liberty.edu>

Dear Murray,

We are pleased to inform you that your above study has been approved by the Liberty IRB. This approval is extended to you for one year. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must resubmit the study to the IRB. See the IRB website for appropriate forms in these cases.

Thank you for your cooperation with the IRB and we wish you well with your research project. We will be glad to send you a written memo from the Liberty IRB, as needed, upon request.

Sincerely,

Fernando Garzon, Psy.D.  
 IRB Chair, Liberty University  
 Center for Counseling and Family Studies  
 Liberty University  
 1971 University Boulevard  
 Lynchburg, VA 24502-2269  
 (434) 592-4054  
 Fax: (434) 522-0477

Appendix 7

Raw Data

Table 22

*Raw Data Collected for the Study*

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1001	49	2	1	1	2	4	1	1	0
1002	28	2	2	2	1	5	1	1	1
1003	43	2	4	2	2	4	3	2	1
1004	38	2	1	1	2	3	1	1	1
1005	39	2	2	1	2	1	1	1	1
1006	46	2	1	1	2	9	1	1	1
1007	46	2	1	1	2	2	1	1	1
1008	49	1	2	1	2	8	2	2	0
1009	60	1	2	1	2	5	2	1	1
1010	49	2	1	1	2	5	1	1	1
1011	48	2	1	1	2	5	1	1	1
1012	38	2	1	1	2	3	1	1	1
1013	44	2	2	1	1	9	2	2	1
1014	55	2	1	1	2	1	1	1	1
1015	43	2	1	1	2	5	1	1	1
1016	25	2	1	2	2	10	4	2	1
1017	38	2	2	1	2	4	2	1	1
1018	44	2	2	1	1	6	1	1	1
1019	52	2	1	1	2	7	2	1	1
1020	45	2	2	1	2	2	2	1	1
1021	58	2	1	1	2	4	1	1	1
1022	37	2	1	1	2	7	3	2	1
1023	36	2	1	1	2	7	1	1	1
1024	38	2	1	1	2	10	1	1	1
1025	44	1	1	2	2	1	1	1	1
1026	41	2	1	1	1	12	3	2	0
1027	36	2	2	1	2	23	3	2	1
1028	44	2	1	1	2	6	1	1	1
1029	46	2	1	1	2	10	1	1	0
1030	39	2	1	1	2	1	1	1	0
1031	47	2	1	1	2	2	1	1	1
1032	63	1	1	1	2	2	1	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1033	56	1	2	2	2	4	2	1	0
1034	61	2	2	1	2	4	1	1	1
1035	36	2	2	1	2	14	3	2	1
1036	55	2	2	1	2	2	1	1	1
1037	46	2	1	1	2	12	2	1	1
1038	56	2	1	1	1	1	1	1	1
1039	62	2	1	1	2	3	2	1	1
1040	52	1	2	1	2	5	4	2	1
1041	53	1	1	3	2	10	2	1	1
1042	28	2	1	2	2	9	3	2	1
1043	35	2	2	1	1	5	2	1	0
1044	30	1	2	1	1	7	2	1	0
1045	48	2	2	1	2	2	2	1	1
1046	53	1	1	3	2	4	1	1	1
1047	49	1	1	2	2	11	2	1	1
1048	55	2	1	2	2	5	1	1	1
1049	36	2	1	1	2	1	2	1	0
1050	55	2	1	1	2	10	1	1	1
1051	34	2	1	1	2	2	1	1	0
1052	31	2	1	1	2	8	3	2	1
1053	55	2	3	1	2	4	1	1	1
1054	41	2	1	1	2	3	1	1	1
1055	52	2	1	1	2	4	1	1	1
1056	44	2	2	1	2	5	3	1	1
1057	46	2	1	1	2	9	1	1	1
1058	48	2	1	1	2	15	3	2	1
1059	53	2	2	1	2	6	2	1	1
1060	39	2	1	1	1	8	2	2	1
1061	63	1	2	1	2	5	1	1	1
1062	46	2	1	1	2	6	1	1	1
1063	41	2	2	1	1	8	3	1	1
1064	51	1	1	1	2	5	3	2	1
1065	51	2	2	1	1	9	3	1	1
1066	55	1	2	1	1	7	3	2	1
1067	61	1	1	1	2	2	1	1	1
1068	48	1	1	1	2	2	1	1	1
1069	59	2	1	1	2	4	1	1	1
1070	26	2	1	2	1	8	3	1	1
1071	42	2	1	1	2	11	5	2	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1072	53	2	1	1	2	3	1	1	1
1073	33	1	4	2	2	1	1	2	0
1074	38	1	2	1	2	11	1	1	1
1075	39	2	1	1	2	8	1	1	1
1076	52	2	1	1	2	6	2	1	1
1077	27	2	4	2	2	1	1	2	0
1078	41	1	4	1	2	6	1	1	0
1079	28	2	1	2	1	13	3	2	1
1080	51	2	1	1	2	3	2	1	1
1081	44	2	2	1	2	1	2	2	1
1082	39	2	1	1	1	23	3	1	1
1083	40	2	1	1	1	3	1	1	1
1084	38	2	2	1	2	2	2	1	1
1085	55	2	1	1	2	1	1	1	1
1086	41	2	1	1	2	2	1	1	1
1087	56	1	1	1	2	2	2	1	1
1088	46	2	1	1	2	1	1	1	1
1089	47	2	3	2	2	1	1	1	1
1090	49	2	1	1	2	1	1	1	1
1091	46	2	5	1	2	3	1	1	1
1092	38	2	1	1	2	1	1	1	0
1093	42	2	2	1	2	9	2	1	1
1094	55	2	2	1	2	8	3	1	0
1095	37	2	1	2	2	12	1	1	1
1096	62	2	1	1	2	5	1	1	1
1097	33	2	5	1	2	3	1	1	1
1098	48	2	1	1	2	1	1	1	1
1099	61	2	1	1	2	4	1	1	0
1100	35	2	1	1	2	1	1	1	0
1101	62	2	1	1	2	11	2	1	1
1102	33	2	1	2	2	8	2	1	1
1103	60	2	1	1	1	10	1	1	1
1104	57	2	1	1	2	6	2	1	1
1105	43	2	1	1	2	5	2	2	1
1106	40	2	2	1	2	3	1	1	1
1107	55	2	2	1	2	8	2	1	1
1108	57	2	1	1	2	2	1	1	1
1109	42	1	2	2	1	6	3	2	0
1110	51	2	1	1	2	1	2	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1111	37	1	1	2	2	9	2	1	1
1112	44	2	1	1	2	8	1	1	0
1113	56	2	2	1	2	1	1	1	1
1114	46	2	2	3	2	4	1	1	1
1115	41	1	4	2	2	3	3	2	0
1116	47	2	2	2	1	11	2	2	1
1117	61	1	2	1	2	12	1	1	0
1118	47	2	2	1	2	6	2	1	1
1119	58	2	1	1	2	3	1	2	1
1120	48	2	1	1	2	2	1	1	1
1121	40	2	1	1	2	3	2	1	1
1122	41	2	1	1	2	5	3	1	1
1123	49	1	1	1	2	8	2	1	1
1124	44	1	2	2	1	9	3	2	0
1125	67	2	1	1	2	6	2	1	1
1126	39	2	1	2	2	13	3	1	1
1127	37	2	1	2	1	11	4	2	1
1128	51	1	2	1	2	5	2	2	1
1129	36	2	2	1	1	8	2	1	1
1130	46	2	1	1	2	1	1	1	1
1131	33	2	2	2	2	8	3	2	0
1132	59	2	1	1	2	3	1	1	1
1133	34	2	2	1	2	10	2	1	0
1134	43	2	1	1	2	5	1	1	1
1135	51	1	2	1	1	5	1	1	1
1136	26	2	1	1	2	11	1	1	1
1137	54	1	2	3	1	6	2	1	1
1138	54	2	2	1	2	2	1	1	1
1139	60	2	1	1	2	1	1	1	1
1140	38	2	2	2	1	5	1	2	1
1141	56	2	1	1	2	2	1	1	1
1142	48	2	1	1	1	11	4	2	0
1143	53	2	1	1	2	3	1	1	1
1144	44	2	1	1	2	9	3	2	1
1145	37	2	1	1	2	4	1	1	1
1146	40	2	1	2	2	3	1	1	0
1147	38	2	1	1	1	10	1	2	0
1148	48	2	1	1	1	1	1	1	1
1149	37	2	2	1	2	11	2	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1150	47	2	1	1	2	6	1	1	1
1151	53	2	1	1	2	7	1	1	1
1152	34	2	1	1	1	8	3	1	1
1153	30	2	1	1	2	1	1	1	1
1154	56	2	1	1	2	10	2	1	1
1155	52	2	1	1	2	5	1	1	1
1156	43	2	1	1	2	2	2	1	1
1157	38	2	1	1	2	5	2	2	1
1158	38	2	1	1	2	4	1	1	1
1159	49	2	1	1	2	1	1	1	0
1160	40	2	1	1	1	4	2	2	0
1161	48	2	1	1	1	3	3	2	0
1162	46	2	1	1	2	4	1	1	1
1163	28	2	1	1	2	10	2	1	1
1164	32	2	1	1	2	8	2	1	1
1165	37	1	1	1	1	10	4	2	1
1166	36	2	2	1	2	9	1	1	1
1167	59	2	1	1	2	3	1	1	1
1168	50	1	2	2	2	6	2	2	0
1169	34	1	1	2	2	7	1	1	1
1170	38	1	2	2	1	5	2	1	0
1171	49	2	1	1	1	1	1	1	1
1172	50	1	2	2	1	5	1	1	1
1173	45	2	1	1	2	3	1	1	1
1174	58	2	1	1	2	3	1	1	1
1175	33	2	1	1	1	8	3	1	1
1176	44	1	2	1	1	3	2	2	1
1177	49	2	1	1	2	8	3	2	1
1178	58	2	1	1	2	2	2	1	1
1179	36	1	2	1	2	4	1	1	0
1180	50	2	2	1	2	3	1	1	1
1181	23	2	1	2	2	15	4	2	0
1182	38	2	1	1	2	9	4	2	1
1183	49	2	1	1	2	1	1	1	1
1184	55	2	1	1	2	2	1	1	1
1185	48	2	1	1	2	8	1	1	1
1186	46	2	1	1	2	3	1	1	1
1187	54	2	2	1	1	8	3	2	0
1188	32	2	1	1	2	1	2	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1189	43	1	2	2	1	6	2	1	1
1190	27	2	1	2	2	7	2	1	1
1191	30	2	1	2	2	3	2	1	1
1192	49	2	2	1	2	8	1	1	1
1193	45	2	1	1	1	9	2	1	1
1194	57	2	1	1	2	12	2	1	1
1195	47	2	1	1	2	4	2	1	1
1196	34	2	2	1	1	3	3	2	0
1197	48	2	1	1	2	7	1	1	1
1198	49	2	1	1	1	1	1	1	1
1199	34	2	1	2	2	3	1	1	0
1200	67	1	2	1	2	10	3	2	1
1201	44	2	1	1	2	2	3	2	1
1202	42	1	2	2	2	10	2	1	1
1203	30	2	1	1	2	2	1	1	1
1204	39	2	1	2	2	4	1	1	1
1205	57	1	3	2	2	7	2	1	1
1206	63	2	1	1	1	1	2	1	1
1207	38	2	1	1	2	4	1	1	0
1208	45	2	3	1	2	4	2	1	1
1209	29	1	1	1	2	24	1	1	0
1210	47	1	2	2	2	4	2	1	1
1211	56	2	1	1	2	3	1	1	0
1212	54	1	1	2	2	7	1	1	1
1213	64	2	1	1	2	4	1	1	1
1214	38	2	2	1	2	2	2	1	0
1215	49	2	2	1	1	7	3	2	1
1216	47	1	2	1	1	13	3	2	1
1217	44	2	1	1	2	1	1	1	1
1218	41	2	1	1	2	4	1	1	1
1219	58	2	1	1	1	7	3	2	1
1220	51	2	2	1	2	3	2	1	1
1221	44	2	1	1	2	3	2	1	1
1222	54	2	1	1	2	3	1	1	1
1223	42	2	1	1	2	7	3	2	1
1224	49	2	2	1	1	3	1	1	0
1225	64	2	1	1	2	2	1	1	0
1226	51	2	2	1	1	5	2	2	0
1227	42	2	1	1	2	1	1	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1228	30	1	4	2	2	3	1	2	1
1229	34	2	1	1	2	2	1	1	1
1230	27	2	2	2	1	6	2	1	0
1231	56	2	2	1	2	4	1	1	1
1232	45	2	1	1	2	7	1	1	1
1233	22	2	1	2	2	1	2	2	0
1234	23	2	1	2	2	4	2	1	0
1235	49	2	1	1	2	6	2	1	1
1236	27	2	1	2	2	2	1	1	0
1237	47	2	1	1	2	4	2	1	1
1238	45	1	1	1	2	13	3	2	1
1239	30	2	1	2	2	2	2	1	1
1240	50	2	1	1	2	5	2	1	1
1241	42	2	2	1	1	16	3	2	1
1242	35	2	2	1	1	4	2	1	1
1243	43	2	2	1	1	4	2	1	1
1244	45	2	1	1	2	7	2	1	1
1245	43	2	1	1	2	12	2	1	1
1246	51	1	2	1	2	3	4	2	1
1247	53	1	1	1	2	6	1	2	1
1248	39	2	1	1	2	7	1	1	0
1249	58	1	2	1	1	4	2	1	1
1250	32	2	1	1	2	3	1	1	1
1251	28	2	1	2	2	8	1	2	1
1252	30	2	1	2	1	4	4	2	1
1253	36	1	2	1	1	3	4	2	1
1254	32	2	1	1	1	6	2	1	1
1255	26	2	1	2	2	6	2	1	1
1256	29	2	1	2	2	4	5	2	1
1257	33	1	1	1	1	9	2	1	0
1258	40	2	1	1	2	7	3	2	1
1259	33	2	1	1	2	7	2	1	1
1260	42	2	1	1	2	9	2	1	1
1261	40	2	1	1	2	6	1	1	1
1262	41	2	1	1	2	12	5	2	1
1263	53	1	2	1	1	6	1	1	1
1264	28	2	1	2	2	7	2	2	0
1265	42	2	1	1	1	4	1	1	1
1266	32	2	1	1	2	3	1	1	1



<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1267	30	2	4	2	2	1	1	1	1
1268	46	1	2	1	2	4	2	1	1
1269	45	2	1	1	2	10	3	1	1
1270	51	1	2	1	1	10	2	1	1
1271	40	1	2	2	2	7	3	2	1
1272	32	2	3	1	2	6	2	1	1
1273	40	2	1	1	1	6	2	1	1
1274	37	1	2	2	1	10	4	2	1
1275	38	2	1	1	2	1	1	1	1
1276	55	2	1	1	2	14	2	1	1
1277	68	1	2	2	2	4	3	2	0
1278	55	2	2	1	1	11	1	1	0
1279	45	1	1	1	2	7	2	1	1
1280	46	1	2	2	1	5	2	2	1
1281	41	2	1	1	2	7	1	1	1
1282	55	1	2	2	1	14	2	2	1
1283	43	1	2	1	1	20	2	1	1
1284	47	2	1	1	1	11	2	1	1
1285	49	1	1	1	1	7	2	1	1
1286	47	1	2	1	1	13	2	2	1
1287	27	2	1	2	2	4	1	1	1
1288	51	1	2	1	2	2	1	2	1
1289	40	2	4	1	2	1	1	1	1
1290	37	2	1	1	1	9	2	1	1
1291	58	2	3	1	2	7	1	1	1
1292	47	2	1	1	2	11	2	2	1
1293	30	2	1	1	2	4	1	1	1
1294	50	2	1	1	2	7	4	2	1
1295	42	2	2	1	1	1	2	2	0
1296	33	2	1	1	2	4	2	1	1
1297	38	2	1	1	2	2	1	1	1
1298	44	2	1	1	2	19	3	1	1
1299	54	1	1	1	2	1	1	2	0
1300	52	2	1	1	2	9	2	1	1
1301	45	2	1	1	2	4	2	1	1
1302	28	2	1	1	2	16	1	1	1
1303	44	2	2	1	2	11	2	2	0
1304	28	2	1	2	2	8	1	1	0
1305	40	1	2	1	2	10	1	1	1

id	Age	Gender	Ethnicity	Marital Status	FA	Previous Online	Current Online	Student Status	Grade
1306	51	2	1	1	2	5	2	1	1
1307	41	2	1	1	2	15	2	1	1
1308	28	1	1	2	2	3	1	1	1
1309	39	E	5	2	2	2	1	2	1
1310	36	2	1	1	2	12	3	2	1
1311	51	1	1	1	2	8	2	1	1
1312	37	2	1	1	1	15	4	2	1
1313	42	2	2	1	2	9	1	1	0
1314	49	1	2	3	1	18	2	2	1
1315	36	2	2	1	2	2	1	1	0
1316	29	1	1	2	2	5	5	2	1
1317	47	1	4	1	2	2	2	1	1
1318	35	1	2	1	2	12	3	2	1
1319	37	1	1	1	1	6	2	1	1
1320	49	2	2	1	2	6	1	1	1
1321	22	2	1	2	2	5	3	2	1
1322	47	2	1	1	2	9	1	1	1
1323	46	2	1	1	2	5	1	1	0
1324	44	1	2	2	2	3	2	1	1
1325	36	2	1	1	2	3	2	1	1
1326	38	2	2	1	1	12	2	2	1
1327	21	2	2	2	2	6	2	2	1
1328	50	1	2	1	2	8	1	1	1
1329	46	2	2	1	2	3	2	1	1
1330	35	2	4	2	2	3	2	2	1
1331	30	2	1	1	1	1	2	2	1
1332	28	2	1	1	2	6	1	2	1
1333	24	1	1	2	1	12	1	1	1
1334	49	2	1	1	2	6	2	1	1
1335	22	2	1	2	1	9	1	1	1
1336	36	2	1	1	1	7	2	1	1
1337	42	2	1	1	2	10	5	2	1
1338	36	2	1	1	2	13	4	2	1
1339	30	2	1	1	2	12	1	1	0
1340	26	2	2	2	1	12	1	1	1
1341	30	2	1	1	1	10	3	1	0
1342	56	1	2	3	1	6	1	1	1
1343	45	2	2	1	2	5	1	2	1
1344	27	2	2	2	2	8	2	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1345	37	2	1	2	1	13	3	2	1
1346	25	2	1	2	2	3	3	2	1
1347	38	1	2	2	2	8	3	2	1
1348	41	2	1	1	2	8	2	1	1
1349	34	2	1	1	2	9	5	2	1
1350	42	2	3	4	2	1	1	1	1
1351	47	2	1	1	2	9	2	1	1
1352	45	1	2	1	2	8	2	1	1
1353	31	1	1	1	2	10	2	1	1
1354	54	1	1	3	2	3	1	1	1
1355	34	2	1	1	2	1	1	1	1
1356	55	1	1	3	2	4	3	2	1
1357	43	2	2	1	2	3	1	1	1
1358	35	2	2	1	2	9	2	1	1
1359	30	2	1	1	1	10	2	1	1
1360	47	2	2	1	2	14	2	1	1
1361	35	1	1	1	2	10	3	2	1
1362	41	2	2	1	2	9	2	1	1
1363	38	2	1	1	2	1	1	1	1
1364	45	2	4	1	2	10	2	1	1
1365	24	2	1	2	1	6	2	2	1
1366	33	2	1	1	2	10	3	2	1
1367	46	2	1	1	2	4	1	1	1
1368	42	2	1	1	2	9	2	1	1
1369	54	1	2	3	2	4	1	1	0
1370	44	1	2	3	1	7	1	1	1
1371	48	2	1	1	2	3	1	1	1
1372	53	1	2	4	2	4	2	1	1
1373	36	2	1	1	1	4	5	2	0
1374	42	1	2	1	1	9	3	2	1
1375	31	2	1	2	2	10	5	2	1
1376	23	1	1	2	2	5	1	1	1
1377	27	2	2	2	1	11	4	2	0
1378	39	1	2	2	2	2	2	1	1
1379	55	1	1	1	2	11	2	1	1
1380	48	2	1	1	2	3	2	1	1
1381	37	1	1	1	2	4	1	1	1
1382	33	2	2	1	1	6	2	1	0
1383	53	1	2	1	1	2	1	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1384	27	2	2	2	1	6	3	2	1
1385	42	2	1	1	2	4	2	1	1
1386	28	2	1	1	2	15	2	1	1
1387	50	1	2	1	2	5	2	1	0
1388	38	1	2	1	2	3	1	1	1
1389	40	2	2	2	1	5	3	2	0
1390	31	1	2	1	2	6	2	1	0
1391	40	1	2	3	1	7	2	1	1
1392	49	2	1	1	2	7	2	1	1
1393	27	2	1	2	1	7	3	2	1
1394	37	1	2	2	1	11	1	2	1
1395	62	2	2	1	2	6	2	1	1
1396	32	2	1	1	2	3	2	1	1
1397	31	1	2	2	1	15	3	2	1
1398	27	2	1	1	1	3	1	1	1
1399	50	1	2	1	2	4	2	1	1
1400	36	2	1	1	2	11	3	2	1
1401	32	2	2	1	2	10	3	2	1
1402	31	2	1	1	2	1	2	1	1
1403	51	2	2	1	1	2	2	2	1
1404	42	2	2	1	1	11	1	1	1
1405	25	2	1	1	2	1	1	1	1
1406	41	2	1	1	2	2	1	1	1
1407	33	2	1	1	2	3	1	1	1
1408	30	2	1	1	2	2	2	1	1
1409	45	2	5	1	2	3	1	2	0
1410	31	2	1	1	2	7	3	2	1
1411	28	2	1	1	1	4	2	1	1
1412	47	2	2	2	1	4	2	1	1
1413	33	2	1	2	1	2	2	1	1
1414	47	2	1	1	1	4	4	2	0
1415	38	2	2	1	1	4	3	2	1
1416	54	2	4	1	2	1	1	2	1
1417	27	2	1	1	2	1	1	1	1
1418	20	2	1	2	2	4	2	2	1
1419	49	2	3	1	2	6	2	1	1
1420	39	2	1	1	1	3	3	2	1
1421	44	2	2	1	2	4	2	1	1
1422	46	2	2	1	1	8	2	2	0

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1423	38	2	1	1	2	2	2	1	0
1424	24	1	1	2	1	2	2	1	0
1425	26	2	1	1	1	2	2	1	1
1426	30	2	1	1	1	5	4	2	1
1427	32	2	1	1	1	3	3	2	1
1428	48	2	1	1	2	3	1	1	1
1429	59	2	2	1	2	6	1	1	0
1430	33	1	2	2	2	2	2	1	1
1431	34	1	2	3	1	6	3	1	1
1432	45	1	1	1	2	2	2	1	1
1433	38	2	1	1	1	3	4	2	1
1434	43	1	2	3	1	3	2	1	0
1435	34	2	1	1	1	6	3	2	1
1436	38	2	1	1	2	7	2	1	1
1437	25	2	1	1	2	5	2	1	0
1438	49	1	2	1	2	3	1	1	1
1439	22	2	1	2	2	5	5	2	1
1440	26	2	4	2	2	2	1	2	1
1441	44	1	2	1	1	7	2	1	0
1442	37	2	1	1	1	7	2	1	1
1443	56	1	1	2	2	5	1	1	1
1444	52	1	2	2	1	1	1	1	1
1445	36	2	1	1	1	2	2	1	0
1446	30	1	2	2	2	7	2	2	1
1447	53	1	2	1	1	8	1	1	1
1448	39	1	2	3	1	1	2	1	1
1449	24	1	2	2	1	3	4	2	1
1450	53	2	2	1	2	1	1	2	1
1451	28	2	4	1	2	7	3	2	0
1452	50	1	1	1	2	8	4	2	1
1453	44	2	1	1	2	1	1	1	1
1454	52	2	1	1	1	6	3	1	1
1455	35	2	2	2	1	12	4	2	0
1456	40	2	2	2	1	6	1	1	1
1457	41	2	2	1	2	4	1	1	1
1458	50	2	1	1	2	3	3	2	1
1459	44	2	1	1	1	9	3	2	1
1460	49	2	1	1	2	4	1	1	1
1461	53	2	1	1	2	1	1	1	0

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1462	33	1	2	1	1	3	2	1	1
1463	43	1	2	1	1	5	2	1	1
1464	24	2	2	2	1	4	4	2	1
1465	27	2	2	2	2	8	3	1	1
1466	53	2	2	3	2	5	2	2	1
1467	46	2	1	3	2	2	2	1	0
1468	40	2	1	1	2	5	2	1	1
1469	25	2	1	2	1	3	3	1	0
1470	23	2	1	1	2	2	2	1	1
1471	38	2	1	1	2	2	1	1	0
1472	42	2	1	1	2	1	2	1	1
1473	41	1	2	2	1	1	1	2	1
1474	40	1	2	2	1	3	2	1	0
1475	35	2	1	1	1	6	2	1	1
1476	55	2	1	1	2	9	2	1	1
1477	41	2	1	1	1	8	2	1	1
1478	35	2	1	1	2	4	3	1	0
1479	45	1	1	2	2	4	2	1	1
1480	43	2	1	1	2	2	1	1	1
1481	31	2	1	1	1	4	2	1	0
1482	40	2	2	1	2	2	2	1	0
1483	34	2	1	1	2	2	1	1	0
1484	36	2	1	1	2	4	1	1	0
1485	46	2	1	1	1	5	2	1	1
1486	37	2	1	1	2	6	2	1	1
1487	41	2	1	1	2	1	1	1	1
1488	30	2	1	1	2	3	2	1	0
1489	44	2	1	1	2	1	1	1	1
1490	40	2	1	1	2	5	1	1	1
1491	36	2	1	1	2	2	1	1	1
1492	46	2	2	1	1	2	2	1	1
1493	35	2	1	1	2	4	2	1	1
1494	46	2	1	1	2	7	2	1	1
1495	22	2	1	2	2	3	3	2	1
1496	36	1	2	3	1	3	4	2	0
1497	47	2	4	1	1	2	2	1	1
1498	39	2	1	1	2	2	3	2	1
1499	33	2	2	1	2	6	2	1	0
1500	43	2	1	1	2	4	2	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1501	42	2	2	1	2	2	1	1	1
1502	49	2	2	1	2	1	3	2	1
1503	42	1	2	1	2	4	1	1	1
1504	44	2	1	1	2	6	1	1	1
1505	33	1	1	2	2	10	4	2	1
1506	37	2	1	1	2	3	2	1	1
1507	43	1	4	1	2	5	1	1	1
1508	22	2	1	2	2	5	3	2	1
1509	41	2	2	1	1	7	3	1	0
1510	30	2	2	1	1	1	1	2	1
1511	56	1	2	1	2	3	3	1	1
1512	33	1	1	2	2	2	1	1	1
1513	29	1	2	1	1	5	2	1	1
1514	60	1	1	1	2	5	2	1	1
1515	40	2	2	1	1	6	2	1	0
1516	36	2	1	1	2	4	1	1	1
1517	41	2	2	3	2	6	4	2	1
1518	29	2	1	1	2	4	2	1	0
1519	26	2	1	1	2	20	5	2	1
1520	29	2	1	1	1	3	3	2	1
1521	43	2	1	1	2	10	2	1	1
1522	33	2	5	1	2	3	1	1	1
1523	53	1	2	2	1	7	2	2	1
1524	32	2	1	1	2	8	2	1	1
1525	35	2	1	1	2	2	2	1	1
1526	53	1	3	1	2	6	2	1	1
1527	34	2	2	1	2	1	1	1	0
1528	40	2	1	1	2	2	2	1	1
1529	33	2	1	1	2	3	2	2	1
1530	29	2	1	1	2	4	2	1	1
1531	55	1	2	1	2	6	1	1	1
1532	41	2	1	1	2	4	2	1	0
1533	27	2	2	1	1	5	4	2	0
1534	36	2	1	3	1	8	4	2	1
1535	57	2	1	1	2	3	2	1	1
1536	28	2	2	1	2	4	1	2	1
1537	44	1	1	1	2	1	1	1	0
1538	36	2	1	1	2	3	1	1	1
1539	37	2	2	1	1	3	3	2	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1540	43	2	1	1	2	6	3	2	1
1541	43	2	1	1	2	3	1	1	1
1542	48	2	1	1	2	2	1	1	1
1543	36	2	2	1	1	1	1	1	1
1544	36	2	1	1	2	6	2	1	1
1545	27	2	1	1	1	4	3	2	1
1546	27	2	2	1	1	3	3	2	0
1547	25	2	1	2	1	1	2	2	1
1548	35	2	1	1	2	4	2	1	1
1549	28	2	1	1	2	7	3	1	0
1550	40	2	2	1	2	1	2	1	1
1551	37	2	1	1	1	2	2	1	1
1552	36	2	4	1	2	1	1	2	1
1553	36	2	3	1	1	4	3	1	1
1554	55	1	2	3	1	4	3	1	1
1555	26	2	1	1	1	6	2	1	1
1556	51	2	1	1	2	5	1	1	1
1557	29	2	1	2	1	3	2	1	1
1558	44	1	2	1	2	5	1	1	1
1559	29	2	1	1	1	6	2	1	1
1560	33	2	5	1	2	3	2	1	1
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1562	57	2	1	1	2	6	3	2	1
1563	38	2	1	1	1	2	1	1	1
1564	36	2	1	1	1	5	2	1	1
1565	42	2	1	1	2	4	1	1	1
1566	48	2	2	1	2	6	2	1	1
1567	34	1	4	1	2	3	2	2	1
1568	29	1	2	3	2	2	3	2	1
1569	32	2	2	1	2	8	2	1	0
1570	29	2	1	1	2	1	1	1	1
1571	43	2	2	1	2	2	1	1	1
1572	30	2	1	1	2	8	2	1	0
1573	26	2	1	1	2	4	2	1	1
1574	42	2	1	1	2	4	3	2	1
1575	34	2	1	1	2	5	1	1	1
1576	31	2	1	1	1	5	2	1	1
1577	40	2	1	1	2	5	2	1	1
1578	54	2	1	1	2	5	1	1	1



<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1579	46	1	3	1	2	2	3	1	1
1580	50	1	1	1	2	2	2	1	1
1581	42	2	1	1	2	2	1	1	1
1582	48	2	2	1	1	5	2	1	1
1583	39	2	4	1	2	4	2	1	1
1584	40	2	2	1	2	5	2	1	1
1585	34	2	1	1	2	6	2	1	0
1586	43	2	3	1	2	6	2	1	1
1587	28	1	2	2	1	6	3	2	1
1588	24	2	1	1	2	2	1	2	1
1589	36	2	1	1	1	9	4	2	1
1590	41	2	1	1	1	9	3	1	0
1591	39	2	1	1	2	2	2	1	1
1592	26	2	2	2	1	9	4	2	0
1593	38	2	2	1	1	7	4	2	1
1594	24	2	4	2	2	6	4	2	1
1595	37	1	2	1	1	2	1	1	0
1596	59	2	2	1	2	5	1	1	1
1597	52	2	4	1	2	7	3	2	1
1598	30	2	1	1	2	4	5	2	0
1599	23	2	1	2	2	6	5	2	0
1600	23	2	1	2	1	2	2	1	1
1601	47	2	1	1	2	3	2	1	1
1602	26	2	1	1	2	2	2	1	1
1603	37	2	1	1	1	11	1	1	1
1604	30	2	1	1	2	2	3	1	1
1605	49	2	2	1	1	1	1	1	1
1606	48	2	1	1	1	7	2	1	1
1607	50	1	1	1	2	1	3	2	1
1608	39	2	1	1	2	13	2	1	1
1609	49	2	1	1	2	3	3	1	1
1610	55	1	1	1	1	6	3	2	1
1611	48	2	2	1	1	6	2	1	0
1612	26	2	1	1	1	3	1		0
1613	48	1	2	1	2	3	2	1	1
1614	54	2	1	3	2	5	4	2	1
1615	29	2	1	1	2	1	1	1	1
1616	55	2	1	1	2	2	1	1	1
1617	57	2	2	1	1	1	2	2	0

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1618	23	1	4	2	1	5	1	2	1
1619	26	2	1	2	2	4	4	2	1
1620	29	2	3	2	1	1	5	2	1
1621	32	1	1	1	1	5	5	2	1
1622	38	2	1	1	2	5	2	2	1
1623	60	2	1	1	2	5	2	1	1
1624	40	2	1	1	2	4	3	2	1
1625	29	1	2	2	1	7	4	2	0
1626	32	2	2	1	1	12	3	2	1
1627	31	2	1	1	1	3	1	1	1
1628	27	2	1	1	2	1	2	1	1
1629	37	1	2	3	1	8	2	1	0
1630	33	1	2	1	1	8	2	2	1
1631	34	1	4	2	2	7	4	2	1
1632	40	1	2	2	1	14	4	2	1
1633	35	2	2	1	2	1	1	1	0
1634	25	2	1	2	2	5	2	1	1
1635	35	2	1	1	2	7	3	2	1
1636	37	1	1	2	2	6	2	1	1
1637	34	1	2	2	1	4	2	1	1
1638	47	2	1	1	2	7	2	1	1
1639	55	2	2	1	2	3	1	1	0
1640	30	2	1	1	2	2	3	1	1
1641	36	1	1	1	2	2	1	1	0
1642	44	2	3	1	1	9	2	1	1
1643	49	2	2	1	1	3	3	1	1
1644	36	2	1	1	1	11	3	2	1
1645	54	1	1	3	1	1	2	1	1
1646	36	2	1	1	2	5	2	1	1
1647	29	2	1	1	2	7	2	1	0
1648	26	2	1	2	1	9	2	1	1
1649	35	2	1	1	2	6	1	1	1
1650	33	1	2	2	2	1	1	2	1
1651	50	2	2	1	1	5	1	2	1
1652	55	1	2	1	1	3	2	1	0
1653	37	2	1	1	2	6	2	1	1
1654	31	2	1	1	2	6	3	2	0
1655	39	1	2	1	1	10	3	2	1
1656	31	2	1	1	2	1	1	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1657	45	2	1	1	2	5	2	1	1
1658	31	2	1	1	2	17	5	2	0
1659	37	2	1	1	1	2	2	1	1
1660	29	2	1	1	2	2	2	1	0
1661	46	2	1	1	2	1	1	1	1
1662	27	2	1	1	2	2	1	1	1
1663	43	2	2	1	2	1	3	2	0
1664	44	2	2	1	1	2	2	1	1
1665	35	2	1	1	2	8	1	1	1
1666	45	2	2	1	2	3	1	1	1
1667	34	2	2	1	1	1	2	1	1
1668	36	2	2	2	1	6	2	1	0
1669	37	2	1	1	2	1	1	1	1
1670	33	2	2	1	1	3	3	2	0
1671	34	2	2	1	2	1	2	1	1
1672	61	2	2	1	1	7	2	1	1
1673	40	2	1	1	2	6	2	1	1
1674	41	2	1	1	2	4	1	1	1
1675	37	2	1	1	2	9	3	2	1
1676	37	2	1	1	2	5	4	2	1
1677	31	2	2	1	2	1	1	1	1
1678	37	2	1	2	1	3	1	1	0
1679	25	2	1	1	2	14	4	2	1
1680	37	2	2	1	1	2	2	2	0
1681	47	2	1	1	2	2	2	1	1
1682	39	2	1	1	2	1	2	1	1
1683	29	2	1	1	2	11	2	1	1
1684	23	2	2	2	1	4	3	2	0
1685	46	2	2	1	2	5	2	2	1
1686	38	2	2	1	2	1	2	1	1
1687	47	1	2	2	1	7	2	1	0
1688	37	2	1	1	2	3	1	1	1
1689	41	2	2	1	1	4	3	1	1
1690	39	2	1	1	2	12	3	1	1
1691	21	1	1	1	1	3	5	2	1
1692	34	2	1	1	2	4	2	1	1
1693	24	1	1	2	1	6	3	2	0
1694	26	2	1	2	1	7	2	1	1
1695	45	1	1	1	2	7	1	1	0

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1696	33	2	1	1	2	7	3	2	1
1697	37	2	1	1	1	8	2	1	1
1698	32	2	2	1	2	1	3	2	0
1699	50	2	2	1	2	5	1	1	1
1700	53	2	1	1	1	5	2	1	1
1701	24	2	1	1	2	2	2	1	1
1702	36	2	2	1	2	4	3	2	1
1703	24	2	2	2	2	1	2	2	0
1704	40	2	1	1	2	6	3	2	1
1705	40	2	1	1	2	2	1	1	1
1706	42	2	1	1	2	2	3	1	1
1707	62	1	2	3	2	8	1	1	1
1708	58	1	2	3	2	2	2	2	1
1709	24	2	2	2	1	20	5	2	1
1710	31	2	1	1	2	1	1	1	1
1711	35	2	1	1	1	1	1	1	0
1712	39	2	1	1	2	4	1	1	1
1713	35	2	1	1	1	2	2	1	1
1714	46	2	1	1	2	6	3	1	1
1715	28	2	1	1	1	5	2	1	0
1716	30	2	1	1	2	3	1	1	0
1717	40	1	2	1	1	5	4	2	1
1718	41	2	1	1	1	6	2	1	1
1719	31	2	4	2	2	1	1	2	0
1720	58	2	1	1	2	6	4	2	1
1721	53	2	1	1	2	5	2	1	1
1722	33	2	1	1	2	0	1	1	1
1723	46	2	4	1	2	0	2	2	0
1724	34	2	1	1	1	0	4	2	1
1725	27	1	2	2	1	0	2	1	1
1726	56	1	2	2	2	0	3	2	0
1727	31	2	1	1	2	0	1	1	1
1728	32	2	1	1	2	0	2	1	1
1729	26	2	2	2	2	0	3	1	1
1730	30	2	4	2	2	0	1	2	1
1731	44	2	5	1	2	0	1	1	0
1732	59	2	1	1	2	0	1	1	1
1733	27	2	1	2	1	0	7	2	1
1734	46	2	2	1	2	0	2	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1735	36	2	2	1	1	0	1	1	1
1736	50	2	1	1	2	0	1	1	1
1737	46	2	2	1	2	0	1	1	1
1738	47	2	2	1	2	0	3	2	0
1739	45	2	4	1	2	0	1	1	1
1740	37	1	2	1	1	0	1	1	0
1741	43	2	1	1	2	0	2	1	0
1742	39	2	1	1	2	0	1	1	1
1743	30	2	3	1	1	0	1	1	1
1744	28	2	1	1	2	0	3	2	1
1745	35	1	4	2	2	0	2	2	1
1746	50	2	1	1	2	0	1	1	1
1747	28	1	2	2	1	0	3	2	0
1748	25	2	1	1	2	0	2	1	0
1749	22	2	1	2	2	0	1	1	1
1750	38	2	1	1	2	0	1	1	1
1751	43	1	2	1	2	0	2	1	1
1752	49	2	4	3	2	0	3	2	1
1753	45	2	2	1	1	0	3	2	1
1754	37	2	1	1	2	0	1	1	1
1755	29	2	1	1	2	0	2	1	0
1756	55	2	1	1	2	0	1	1	1
1757	44	2	1	1	2	0	1	1	0
1758	47	2	4	1	2	0	1	1	1
1759	21	2	1	2	2	0	4	2	0
1760	32	2	1	3	2	0	4	2	0
1761	48	2	1	1	2	0	1	1	1
1762	35	2	1	1	2	0	1	1	1
1763	41	2	2	1	1	0	2	2	0
1764	36	2	1	1	2	0	2	1	1
1765	49	2	2	1	2	0	2	2	1
1766	48	2	1	1	1	0	2	1	1
1767	33	2	1	1	2	0	3	1	0
1768	34	2	5	1	2	0	3	2	1
1769	31	2	1	1	1	0	2	1	1
1770	42	2	1	1	2	0	1	1	1
1771	48	2	1	1	1	0	2	2	1
1772	25	2	1	1	2	0	2	1	1
1773	46	2	1	1	2	0	1	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1774	34	2	1	1	1	0	2	1	1
1775	42	2	1	1	2	0	3	1	1
1776	37	2	1	1	2	0	3	2	1
1777	46	2	2	1	2	0	2	1	1
1778	63	2	2	2	2	0	2	1	0
1779	29	2	1	2	2	0	3	1	1
1780	37	2	1	1	1	0	3	2	1
1781	41	2	4	1	2	0	1	1	1
1782	52	2	1	1	2	0	1	1	1
1783	44	2	2	1	2	0	2	1	1
1784	29	2	1	1	2	0	1	1	1
1785	27	2	3	1	2	0	2	1	1
1786	45	2	2	1	2	0	2	1	1
1787	36	2	1	1	2	0	1	1	0
1788	51	2	4	1	2	0	1	1	1
1789	45	1	2	1	2	0	2	1	0
1790	72	2	4	1	2	0	2	2	0
1791	22	2	1	2	2	0	3	2	1
1792	34	2	1	1	2	0	2	1	0
1793	27	1	2	2	1	0	2	1	1
1794	37	2	1	1	2	0	1	1	1
1795	41	1	2	1	1	0	3	2	1
1796	43	2	2	1	1	0	1	1	0
1797	29	2	1	1	2	0	1	1	1
1798	37	2	2	1	2	0	1	1	0
1799	55	2	1	1	1	0	1	1	1
1800	28	2	1	1	2	0	1	1	1
1801	47	2	1	1	2	0	1	1	1
1802	47	2	4	1	1	0	1	1	1
1803	62	2	1	1	1	0	2	1	1
1804	41	2	4	1	2	0	1	1	1
1805	48	1	2	2	2	0	1	1	0
1806	41	2	1	1	2	0	1	1	1
1807	41	1	1	1	2	0	3	1	0
1808	25	2	2	1	1	0	3	2	0
1809	57	2	2	1	2	0	2	1	1
1810	30	2	1	1	2	0	1	1	1
1811	48	2	4	1	2	0	1	1	1
1812	38	2	1	1	1	0	2	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1813	55	1	4	1	2	0	1	1	1
1814	23	1	1	2	2	0	3	2	1
1815	48	2	2	1	2	0	3	2	1
1816	42	2	1	1	1	0	4	2	0
1817	37	1	2	1	1	0	2	1	1
1818	20	2	1	2	2	0	4	2	0
1819	40	2	1	2	2	0	1	1	1
1820	52	2	1	1	2	0	3	2	1
1821	45	2	1	1	2	0	3	2	1
1822	26	2	1	1	1	0	2	1	1
1823	24	2	4	1	2	0	1	1	0
1824	29	2	1	1	2	0	1	1	1
1825	54	2	2	3	1	0	3	2	0
1826	37	2	1	1	2	0	1	1	1
1827	49	1	1	3	2	0	1	1	1
1828	56	2	1	1	2	0	2	1	1
1829	26	2	1	1	2	0	2	1	0
1830	54	2	4	1	2	0	1	1	1
1831	31	1	1	1	2	0	1	1	1
1832	38	1	2	2	1	0	2	2	1
1833	34	1	2	1	1	0	4	2	0
1834	26	2	2	2	2	0	1	1	0
1835	39	2	1	1	2	0	2	1	1
1836	67	2	1	1	2	0	2	1	1
1837	41	2	2	4	2	0	3	2	1
1838	34	2	1	3	1	0	2	1	0
1839	50	2	2	2	1	0	2	1	0
1840	43	2	1	1	2	0	1	1	0
1841	47	2	2	1	2	0	2	1	0
1842	32	1	1	1	1	0	6	2	0
1843	26	2	1	1	1	0	4	2	1
1844	27	2	1	1	2	0	1	1	1
1845	30	2	2	1	1	0	4	2	1
1846	38	2	1	1	2	0	1	1	1
1847	28	2	1	1	2	0	3	1	1
1848	31	2	1	1	1	0	2	1	1
1849	43	2	2	1	1	0	2	1	0
1850	28	1	4	2	2	0	2	2	0
1851	31	2	1	1	1	0	3	1	1

<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1852	35	2	1	1	2	0	2	1	1
1853	51	2	1	1	2	0	1	1	1
1854	37	2	1	1	1	0	2	1	0
1855	40	2	1	1	2	0	1	1	1
1856	48	1	4	1	1	0	2	1	1
1857	27	2	1	1	1	0	2	1	1
1858	41	1	2	2	2	0	1	2	1
1859	38	2	2	1	1	0	1	2	1
1860	35	2	1	1	2	0	3	2	1
1861	48	2	1	1	2	0	4	2	1
1862	28	1	1	1	2	0	1	1	1
1863	49	1	3	1	2	0	1	1	1
1864	32	2	1	1	2	0	2	1	1
1865	54	2	1	1	2	0	1	1	1
1866	60	1	1	4	1	0	2	2	1
1867	24	2	2	1	1	0	3	2	1
1868	36	2	2	1	2	0	2	1	0
1869	40	2	2	2	1	0	2	1	1
1870	24	2	1	2	2	0	1	1	0
1871	28	2	2	2	2	0	4	2	0
1872	34	1	2	1	1	0	3	2	0
1873	45	2	3	1	2	0	1	1	1
1874	52	2	1	1	1	0	3	2	1
1875	26	2	1	1	2	0	1	1	1
1876	53	2	1	2	2	0	1	1	1
1877	33	2	1	1	2	0	1	1	1
1878	56	1	1	1	2	0	1	1	1
1879	37	1	2	1	1	0	1	1	1
1880	24	2	1	2	2	0	4	2	1
1881	24	2	1	2	2	0	2	1	1
1882	32	2	1	2	2	0	2	1	1
1883	30	2	1	1	2	0	2	1	0
1884	34	2	1	1	1	0	3	2	1
1885	34	1	1	1	2	0	2	1	1
1886	45	2	1	1	2	0	1	1	1
1887	51	2	4	1	2	0	1	1	1
1888	38	2	1	1	2	0	1	1	1
1889	39	2	2	1	2	0	3	2	1
1890	43	2	1	2	2	0	1	1	1



<b>id</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Marital Status</b>	<b>FA</b>	<b>Previous Online</b>	<b>Current Online</b>	<b>Student Status</b>	<b>Grade</b>
1891	44	2	1	1	2	0	2	1	1
1892	48	2	4	1	2	0	1	2	0
1893	45	2	1	1	2	0	1	1	1
1894	47	1	4	1	2	0	1	2	0
1895	50	2	1	1	2	0	3	2	0
1896	40	2	1	1	2	0	1	1	0
1897	58	1	1	3	2	0	2	1	1
1898	46	2	1	1	2	0	1	1	1
1899	46	2	2	1	2	0	1	1	1