The Gateway Grade: The Ninth Grade Academy Practice In Terms of Student Performance

Adam Robert Starke

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THE GATEWAY GRADE: THE NINTH GRADE ACADEMY PRACTICE

IN TERMS OF STUDENT PERFORMANCE

Adam Robert Starke

Doctoral Program in Educational Leadership and Administration

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Dedication

As I complete this final capstone of my education, I worry that words alone cannot convey the emotions I feel as I bring an end to my formal schooling. I dedicate this dissertation to the people who have been there with me through all of the challenges that I have faced and conquered up to this point.

I would like to thank you, Isela Reyna Starke, for saying “I do” when I asked on July 12, 2003. The love you demonstrate for me each and every day completes me in a way that I am so supremely blessed to have that I go through days when I wonder if I am deserving of such unconditional love, care, and support. Thank you for encouraging me to get back in and finish and for your undying understanding as I have traversed through this endeavor. The future is so bright for us and I cannot wait to see where we go together next on our life journey! I love you!

Nayely Isela Starke, June 8, 2006 at 8:07 AM MDT is a date and time that I think about every day and will continue to think about for all of the remaining days of my life. You complete me because it is a daily joy, blessing, and source of immense pride to be your father. I am proud of you every day, my little “heart pet.” I know you will do much more than I have because I have a front row seat to watch you grow by leaps and bounds every day. I love you!

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THE GATEWAY GRADE: THE NINTH GRADE ACADEMY PRACTICE

IN TERMS OF STUDENT PERFORMANCE

By

Adam Robert Starke, B.A., M. Ed.

DISSERTATION

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Abstract

The purpose of this study was to examine whether the concept of the ninth grade academy structure in Texas high schools affects a variety of variables indicative of student achievement. Data representative of performance by students served in 30 schools with a separately structured ninth grade academy were compared to data representative of performance by students served in ninth grade at 30 schools with a traditional high school setting. A group of six variables in the category of student assessment performance were analyzed, and a group of four variables that are related to college readiness or the risk of not being college-ready were analyzed.

A repeated measures multivariate analysis of variance (MANOVA) was used to analyze three years of TAKS reading/language arts and mathematics results, represented by grade nine, grade 10, and grade 11. A standard MANOVA was used for the variables indicative of college readiness, which stood alone and were not repeated. A statistically significant effect was not found for a majority of the variables analyzed in the study, but was found in the area of mathematics performance for all students and in the fact that non-economically disadvantaged students outpaced economically disadvantaged students in all variables in both settings.

Consistent implementation of such an instructional setting is possibly the key to further gaining a greater understanding as to whether the ninth grade academy concept is one that can work. It is an example of a program change that requires commitment and time, and while the researcher was able to provide groundwork for studying ninth grade academies in Texas with this quantitative study, more research is needed with respect to qualitative observation and the interviewing of and interaction with subjects affiliated with the ninth grade academy.
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Chapter One

Introduction

1.1 Dropping Out After Ninth Grade: A Typical Case

“Todd” is the older sibling in a two-child, single-parent household. His parents are divorced. Todd, his younger sister, and their mother live in Todd’s grandmother’s home because Todd’s mother, who did not graduate from high school, cannot afford to support Todd and his sister on her own. Todd’s grandmother receives a small amount of social security benefits due to the fact that her husband, Todd’s grandfather, is no longer living. Todd’s mother works one job and at times two, causing her to be away from home often.

As a student in the first grade at East Elementary School, Todd feels that school just moves too fast; he can never catch on to what he is supposed to be doing. At the end of his first grade year, Todd’s teacher recommends that he repeat first grade due to his lack of academic success. From then on, Todd receives mostly “C” grades on his report card, and his mother thinks that he is doing fine because he has not been held back again. When Todd is in the fourth grade, his teacher looks into the possibility of him having a learning disability, but after being tested, he does not qualify for special education services. At the end of his fifth grade year, Todd has not met the requirements to be promoted to middle school, but his principal sends him on to the sixth grade because he is already 12 years of age and turns 13 shortly after the start of the next school year. At the end of his eighth grade year, his principal at East Middle School does the same due to the fact that Todd is now 15 years of age and will turn 16 within the first nine weeks of the following school year.

Todd is now in high school, as a ninth grade student who will shortly turn 16 years of age. East High School has over 2,000 students, and Todd is just one of many. His schedule has a
number of remedial courses that he finds boring. The classes Todd takes that are grade-level appropriate are difficult for him to understand. At the end of the school year, Todd is asked to meet with his guidance counselor, who tells him that he passed only two out of seven courses and therefore will again be in grade nine the following year because he did not receive enough credits to be promoted to grade 10.

Todd returns to East High the following fall. He is again classified in grade nine and will turn 17 years of age in October. Since he was re-enrolled in freshman courses that he did not pass, he looks around his classes and sees students who are two to three years younger than he is. More and more, Todd sees school as a place where he does not want to be. He begins leaving school after one or two class periods, and some days does not go at all. Todd’s frequent absences draw the attention of the East High administration, and the truancy officer is sent to his grandmother’s home. Todd’s mother forces him to return to regularly attending school, and he finds himself even farther behind than he was before due to all of the school days he has missed. Todd’s second year in high school ends much like his first, as he has gotten nowhere with earning the credits that he needs to be promoted to grade 10. The following year, Todd does not even bother enrolling for school, and quickly turns 18 years of age. Contact from the school no longer occurs because Todd is at the age where he is no longer required to attend school. Todd has now become a high school dropout.

Seven years later, at age 25, Todd continues to live with his mother and grandmother and has never graduated from high school. His sister left to live with their father when she was in high school, citing Todd as the reason why she needed a change. His mother continues to work to get by and is constantly resentful of Todd, although his grandmother will not force him to leave her home. Todd moves from one job to another, and he never earns much more than the
minimum wage nor is he able to find full-time employment. Todd’s mother and grandmother do not understand why all of these events have happened, and Todd cannot articulate why his life has turned out in this fashion. One thing, however, is a certainty: While Todd’s elementary and middle school years left much to be desired, he gradually withdrew from school and eventually dropped out due to one particular experience, which is the lack of success in the ninth grade.

1.2 Statement of the Problem

Across secondary schools in Texas, on average, students repeat eighth grade at a rate of 1.5% of total students enrolled, but repeat ninth grade at a rate of 12.3% of total students enrolled (Stutz, 2010). Ninth grade students in urban schools across the United States are also prone to these negative outcomes (Neild & Balfanz, 2006), and those who repeat ninth grade are less likely to graduate (Swanson, 2006).

Most educators are aware that the ninth grade is a critical year for students, with it being a time of adjustment to greater academic and social demands, the notoriously bureaucratic environment of the comprehensive high school, and the possible need to travel to a school location far from the familiar neighborhood of the student (Johnston & Williamson, 2013). The fact that students are also exposed to a great deal of freedom in the face of an unknown environment presents itself as a difficult paradox to the ninth grade student, as referenced by Johnston and Williamson (2013) as part of the overall reasoning for the struggle of so many students entering the ninth grade.

In the present day, high school graduation statistics present a picture that elicits euphoria on many levels. In Texas, 88.3% of the members of the graduating high school class of 2014 received their diploma in four years, the highest rate ever documented in that state (Texas Education Agency, 2015). Nationally, it was reported in spring 2014 by U.S. Secretary of
Education, Arne Duncan, that a record 80% of the members of the graduating high school class of 2012 received their diploma in four years (Layton, 2014). That percentage increased to 81% of students in the class of 2013 graduating on time (U.S. Department of Education, 2015). However, despite the gains, Duncan also proclaimed that gaps need to be closed, and that the focus needs to continue to be on those who drop out of high school in order to protect students who have dropped out from a life of poverty and misery (Layton, 2014).

What then must be taken on is the process of identifying the students who drop out of high school. Burrus and Roberts (2012) identified several characteristics of the modern high school dropout, to include that the student comes from a low-income family, is male, has poor attendance, has not earned the requisite credits needed for grade promotion, and is older than the average student in their class. Neild and Balfanz (2006) further indicated that the dropout problem is centered upon the ninth grade, offering risk factors of attending school less than 70 percent of the required time in the ninth grade and not being promoted to the tenth grade on time. Indeed, in research conducted by Neild and Balfanz (2006) in large-city public school systems, 80 percent of ninth grade students identified by the two risk factors did not graduate from high school.

Even with the higher modern-day graduation rates that the United States appears to enjoy, the costs of high school dropouts, both to themselves and to the greater society, are staggering (Burrus & Roberts, 2012). Over the course of a lifetime, a high school dropout will earn an average of $289,000 less than a high school graduate, and almost $950,000 less than a person who has graduated with a bachelor’s degree (Baum, Ma, & Payea, 2013). As such, unemployment and poverty are common themes among high school dropouts (Bridgeland, Dilulio, & Morison, 2006). Although high school graduation rates are higher than any other point
in American history, the cost of becoming a high school dropout is higher than it has been at any other time; the median earnings of a family headed by a high school dropout in 2012 were 37% less than what was earned by someone who did not finish high school in 1973 (Baum, Ma, & Payea, 2013).

Burrus and Roberts (2012) reported that 40 percent of high school dropouts between the ages of 16 and 24 received some form of government assistance, and Bridgeland, Dilulio, and Morison (2006) estimated that the involvement of high school dropouts in the criminal justice system comes at a cost of between $1.7 million to $2.3 million per person throughout a lifetime. Christenson and Thurlow (2004) estimated that when all costs are added together, high school dropouts represent billions of dollars of lost revenue for the economy each year, both in earnings that dropouts have lost for themselves and the money that the government spends in the process of dealing with the problem.

It has long been known that the lack of success in the ninth grade is the precursor to students dropping out of high school, but finding a solution that serves to reduce the ever-growing specter of this difficulty has proved elusory. The ninth grade academy is a concept that schools are increasingly implementing to attack the ever-pervasive problem of high school dropouts. As a practice, the ninth grade academy is becoming more popular with respect to its usage, but it is a new movement when looked at in terms of American public education. Therefore, a limited amount of literature exists on the topic. This study will add to the body of knowledge on ninth grade academies and whether or not their implementation positively impacts selected indicators of student achievement.
1.3  Purpose of the Study

The purpose of this study is to examine whether the concept of the ninth grade academy structure in Texas high schools affects a variety of variables indicative of student achievement. Data representative of performance by students served in a separately structured ninth grade academy will be compared to data representative of performance by students served in ninth grade through a traditional high school setting. A group of six variables in the category of student assessment performance will be analyzed, and a group of four variables that are related to college readiness or the risk of not being college-ready will be analyzed. These variables will be analyzed through the performance of all students, the economically disadvantaged population, the non-economically disadvantaged population, and between the economically disadvantaged population and non-economically disadvantaged population within the selected high schools with a ninth grade academy present and the selected high schools that are traditionally structured.

1.4  Theoretical Framework

A base will be established for this study through the conceptual framework of public policy analysis developed by Sabatier and Mazmanian (1980). This framework was constructed around extensive critiques by the authors of administrative policy-making behavior. Sabatier and Mazmanian (1980) identified the three main variables of the process being the tractability, or workability, of the problem at hand, the extent to which the decision to move forward structures the implementation effort so that the objectives of the policy have a chance to work, and the political factors at hand that could have an effect on the implementation of the policy. Furthermore, the implementation period is defined as being three to five years, in order to have enough observable data for a robust policy analysis; the commitment of the responsible agency
to see the policy through that recommended time period is also paramount to being able to properly conduct a policy analysis (Sabatier and Mazmanian, 1980).

This version of a policy analysis framework is applicable as a theoretical framework for this study because all of the variables match up to a significant policy change such as ninth grade academies in public high schools. First, a problem is present, which is that if students drop out of high school, they tend to do so after not being successful in the ninth grade. The ninth grade academy concept suggests that the problem is tractable as opposed to intractable. Second, the widespread implementation of such a concept must be given time to be analyzed and not immediately abandoned, and third, the political landscape will be a variable due to the inherent joining of public education and the political milieu at hand. Ultimately, this study will serve to assist as part of an expansion or a referendum on the implementation of ninth grade academies, through longitudinal data analysis of the 10 selected variables for the study.

1.5 Student Assessment Performance Variables in the Study

The six variables that will be used to analyze student assessment performance between the focal group and the reference group are the Texas Assessment of Knowledge and Skills (TAKS) reading and mathematics assessments that were used at the high school level for graduation requirements through the 2013-2014 academic year. The first and second assessment variables are the TAKS reading and mathematics tests that were administered in grade nine. The third and fourth variables are the TAKS English language arts and mathematics tests that were administered in grade 10. The fifth and sixth variables are the TAKS English language arts and mathematics tests that were administered in Grade 11, with those examinations referred to as the exit level due to the fact that satisfactory performance on the Grade 11 assessments was required for graduation in the state of Texas through the 2013-2014 school year. Additionally, each of the
six student assessment performance variables will be analyzed through the performance rates of all students in both the focal group and the reference group, through the performance rates of the economically disadvantaged and non-economically disadvantaged student populations in both the focal group and the reference group, and through the performance rates between the economically disadvantaged and non-economically disadvantaged student populations in both the focal group and the reference group.

1.6 College Readiness Variables in the Study

The first college readiness variable is the percentage of students in the class of 2014 who scored at or above the college readiness criterion on the American College Test (ACT) or the Scholastic Aptitude Test (SAT). The criterion is defined by the Texas Education Agency as an 1110 combined reading and mathematics score on the SAT or a score of 24 on the ACT composite (TEA, 2015). The second college readiness variable is the on-time graduation rate, or four-year graduation rate, of the class of 2014. The third college readiness variable is the percentage of students graduating from high school on the Texas Recommended High School graduation plan or the Texas Distinguished Achievement graduation plan in the class of 2014. The fourth college readiness variable is the dropout rate in the class of 2014.

For the four variables, the focal group will be comprised of groups of students served through the ninth grade academy concept in their freshman year of high school, and the reference group will be comprised of groups of students served in a traditional high school setting during their freshman year of high school. Additionally, each of the four college readiness variables will be analyzed through the performance rates of all students in both the focal group and the reference group, and also through the performance rates of the economically disadvantaged and non-economically disadvantaged student populations in both the focal group and the reference
group, and through the performance rates between the economically disadvantaged and non-economically disadvantaged student populations in both the focal group and the reference group.

1.7 Significance of the Study

It has been more than 30 years since the release of *A Nation at Risk* (1983). The argument continues to be made that the same issues exist in the American educational system today as did in the early 1980s. Poor academic performance by students in the ninth grade and the subsequent need to repeat the ninth grade have become the main indicators of a student dropping out of high school (Willens, 2013).

In Texas, the student population in the public school districts has grown dramatically in recent years, making accountability for year-to-year success and graduation a more challenging endeavor. The total number of students served in Texas public schools has grown from 3,828,975 in 1997 to 5,135,880 in 2014 (Texas Education Agency, 2014). Of this number of students, 1,841,185, or 48%, were economically disadvantaged in 1997, with that number increasing to 3,092,125 or 60%, in 2014 (TEA, 2014). While race and ethnicity will not be used as variables in this study, the researcher notes statistics provided by the TEA that student demographics in Texas have changed significantly from 1997 to 2014, with the Hispanic student population increasing from 37% in 1997 to 52% in 2014 and the white student population decreasing from 45% in 1997 to 29% in 2014 (TEA, 2014). Additionally, the percentage of Texas students who are identified as having limited English language proficiency has increased from 13.4%, or 514,139 students, in 1997 to 17.5%, or 899,780 students, in 2014 (TEA, 2014).

Texas faces major challenges in the present time with respect to the number of students who must be provided a free and appropriate public education on a daily basis and the increasing number of students enrolling who have economic disadvantages. The ability of Texas public
school districts to graduate a maximum number of students and ensure that they are college-ready upon graduation is put to the test and called into question regularly. The ninth grade has been proven to be the critical year between students being on track to graduate from high school or dropping out of high school. With that, the researcher contends that the concept of the ninth grade academy is worthy of study as a possible blueprint for helping freshmen through the most difficult time of high school, with the overall null hypothesis being that such restructuring efforts may not be a necessity.

1.8 Exploratory Questions that Guide the Study

The first question that will guide the process of this study is whether the implementation of a ninth grade academy is an indicator of more positive academic outcomes for all students in Texas high school reading/English language arts and mathematics student assessments. The second question that will guide the process of this study is whether the implementation of a ninth grade academy is an indicator of more positive outcomes for all Texas students in the areas of SAT and ACT scores, Texas graduation rates, dropout rates, and advanced graduation plan rates. The third question that will guide the process of this study is whether the implementation of a ninth grade academy is an indicator of more positive outcomes for economically disadvantaged students in all variables of the study. The fourth question that will guide the process of this study is whether the implementation of a ninth grade academy is an indicator of more positive outcomes for non-economically disadvantaged students in all variables of the study. The fifth question that will guide the process of this study is whether the implementation of a ninth grade academy is an indicator of more positive outcomes between the economically disadvantaged and non-economically disadvantaged populations within the selected schools in the focal group and the reference group.
1.9 **Scope and Delimitations of the Study**

The ninth grade academies and the high schools to which they are affiliated are all located within the state of Texas. The study will incorporate a sample of 30 Texas ninth grade academies and the high schools to which they are affiliated as the focal group in the research. Additionally, the study will incorporate a reference group of 30 Texas high schools that are traditional in nature, meaning that ninth grade students attend these schools in a regular fashion with no ninth grade academy structure present. Each ninth grade academy and corresponding high selected for the focal group will have a traditional high school that is demographically similar in the 30-school reference group. Each school in the focal group and each school in the reference group will have a population of at least 35% of students who are economically disadvantaged.

Furthermore, the researcher has chosen not to study the race or ethnicity of students with respect to success rates on the variables to be analyzed. It is inferred that the growth of the economically disadvantaged student population to being the majority in Texas correlates with the growth of the minority student population, in particular the Hispanic population, being the majority in Texas. Additionally, the study will be entirely quantitative in nature, focusing on graduation rates, dropout rates, graduation plan rates, college entrance examination results, and state reading and math assessment results. Contact with persons affiliated with the selected schools will not occur.

Of the 30 Texas schools identified in the focal group as having a ninth grade academy, 11 were located in Region 4 (Houston), five were located in Region 11 (Fort Worth), four were located in Region 10 (Dallas), and two each were located in Region 15 (San Angelo) and Region 18 (Midland). Region 1 (Edinburg), Region 5 (Beaumont), Region 12 (Waco), Region 13
(Austin), Region 19 (El Paso), and Region 20 (San Antonio) each had one ninth grade academy represented. The concept appears to have taken a more significant hold in the largest Texas metropolitan areas, but the locations of several ninth grade academies in different parts of Texas points to the possibility of a concept that is increasing in practice.

1.10 Limitations of the Study

The researcher understands that limitations are inherent in the structure of the study. Limitations of this study include the following factors:

1) The students attending the schools will not be known, and therefore their specific academic, social, and emotional needs cannot be determined.

2) The teachers, administrators, and other staff members working in the schools will not be known, and therefore their teaching styles, leadership styles, and management styles cannot be determined.

3) Students, teachers, administrators and other staff members in the schools will not be known, and therefore the level of cultivation of the relationships between and among these groups cannot be determined.

4) The assignments of students to teachers, such as at-risk students being placed with certain teachers, cannot be determined.

5) The schedules and activities of the students and faculty cannot be determined, examples being whether students will be in interdisciplinary blocks or traditional scheduling, or whether teachers will receive additional planning time or minimum planning time.
6) The academic expectations of teachers at each school and in each classroom cannot be determined, such as grading practices and allowances for makeup work to be completed.

7) Administrative practices at each school, to include scheduling, discipline, and parental involvement strategies, cannot be determined.

8) In the statistical methodology that was used to analyze the data sets collected for the study, all dependent variables that were used to determine statistical significance or the lack thereof for the population of “all students” in the 60 chosen schools were able to be appropriately weighted for comparative purposes. However, the researcher was not able to apply the same weighting formula to the “economically disadvantaged” and “non-economically disadvantaged” populations in the 60 chosen schools. That data was also analyzed for findings, but with that difference.

9) The unit of analysis in the study is the school, as that is the constant value once the focal group and reference group were assembled. The data are analyzed year by year, but the students are not known. Therefore, the concept of a true cohort of students moving from grade to grade cannot be satisfied.

1.11 Definitions of Key Terms

The following terms were used throughout the study as central tenets and data sources used to structure the focus of the study:

**Academic Excellence Indicator System (AEIS).** The AEIS is an annual report that was published annually for each Texas public school district and campus from 1994 through 2012. AEIS reports from those years include information on state assessment results, graduation rates, college readiness indicators, student demographics and grade levels, characteristics of teachers
and staff, operating expenditures, and student participation rate in various educational programs (TEA, 2014).

**Adequate Yearly Progress (AYP).** AYP is the accountability provision of the NCLB Act of 2001. All public school districts and campuses in states that receive federal entitlement dollars are required to meet annual AYP proficiency targets on state assessments in mathematics and reading, and either graduation rate (for high schools and districts) or attendance rate (for elementary schools and middle schools). Additionally, 95% of all students enrolled in a district or a campus must participate in the required state assessments under NCLB/AYP (USDE, 2014).

**At or Above Criterion.** “At or above criterion” is a measure of the percentage of students who met the established college readiness standard on either the SAT or ACT. For the SAT, the criterion is defined as a reading and mathematics combination score of 1110. For the ACT, the criterion is a composite score of 24.

**Cohort.** A cohort is defined as a group of students who begin school in ninth grade at the same time, and who are followed through their expected graduation date four years later (TEA, 2014).

**Dropout.** A dropout is a student who was enrolled in a Texas public school in grades 7-12 in the previous school year, did not return to school in the current school year, and who did not: graduate, receive a General Educational Development (GED) certificate, continue school outside of the Texas public school system, begin college, or die (TEA, 2014).

**ELA.** An acronym for English Language Arts, a TAKS test that was administered in grades 10 and 11 from 2004 to 2014 (TEA, 2014).

**Economically Disadvantaged.** The population of economically disadvantaged students is calculated as the percentage of students who are eligible for free or reduced-price lunch or
eligible for other types of public assistance out of the entire enrolled population of students (TEA, 2014).

**Focal Group.** The focal group is defined as the group whose performance is of primary interest in the study (Wainer & Braun, 1988). For the purposes of this study, the 30 schools in which a ninth grade academy was implemented comprise the focal group.

**Graduation Rate.** For the purposes of this study, the four-year longitudinal graduation rate will be used. This rate is calculated as the percentage of students who graduate from high school in four years out of all students in their assigned cohort, which enrolled four years earlier (TEA, 2014).

**Longitudinal Dropout Rate.** Dropout rates are calculated by the TEA for grades 7-8 and grades 9-12. For the purposes of this study, the grades 9-12 dropout rate will be used. The longitudinal dropout rate in grades 9-12 is defined as the percentage of dropouts in a given cohort out of the entire population of students who were in attendance over their cohort’s four-year period (TEA, 2014).

**Multivariate Analysis of Variance.** Multivariate analysis of variance (MANOVA) is an analysis of variance (ANOVA) with several dependent variables. ANOVA tests for the difference in means between two or more groups, while MANOVA tests for the difference in two or more vectors of means (French, Macedo, Poulsen, Waterson, & Yu, 2008).

**Ninth Grade Academy.** A ninth grade academy is a small learning community where groups of students are self-contained and take classes from a group of teachers in an interdisciplinary block, in an area of the school separate from the upper grades (Kemple, 2006). A ninth grade academy can also be housed in a facility that is entirely separate from the general high school campus (Mehta, 2008).
No Child Left Behind (NCLB) Act. The NCLB Act is a federal law that is the 2001 reauthorization of the Elementary and Secondary Education Act of 1965. As part of this legislation, school districts in states that receive federal entitlement dollars are required to administer state assessments in mathematics and reading in most grade levels, and are required to administer state assessments in science in selected grade levels (USDE, 2014).

Recommended High School Program/Distinguished Achievement Program (RHSP/DAP). For the purposes of this study, the four-year longitudinal RHSP/DAP graduation rate will be used. This rate is calculated as the percentage of students who graduate from high school in four years out of all students in their assigned cohort, which enrolled four years earlier, and who have satisfied the course requirements to graduate on the Recommended High School Plan or Distinguished Achievement Plan, which commonly are achieved by taking four years of mathematics, four years of science, and three years of a foreign language (TEA, 2014).

Reference Group. The reference group is defined as the group that is taken as the standard against which the performance of the focal group is compared (Wainer & Braun, 1988). For the purposes of this study, the 30 schools which were designated as “traditional high schools,” or those that had no ninth grade academy implemented, comprise the reference group.

Texas Assessment of Knowledge and Skills (TAKS). The TAKS was a comprehensive testing program for Texas public school students. TAKS tests were administered to all students in grades 3-11 from the 2002-2003 school year through the 2010-2011 school year. TAKS tests continued to be administered at the high school level as a graduation requirement through the 2013-2014 school year (TEA, 2014).

Texas Academic Performance Report (TAPR). The TAPR is an annual report that is published annually for each Texas public school district and campus. The TAPR replaced the
AEIS in 2013. The TAPR includes information on state assessment results, graduation rates, college readiness indicators, student demographics and grade levels, characteristics of teachers and staff, operating expenditures, and student participation rate in various educational programs (TEA, 2014).

**Traditional High School.** For the purposes of this study, a traditional high school is a campus in which ninth grade students are fully integrated into all courses with 10th, 11th, and 12th grade students (Styron & Peasant, 2010, p. 2).

**Unit of Analysis.** The unit of analysis is the level at which data are used to represent one data point in an analysis (Silverman & Solmon, 1998). For the purposes of this study, the level of the unit of analysis is represented as the school.

### 1.12 Organization of the Remaining Chapters

This study will be reported in five chapters. The first chapter contains the introduction to the study in the form of the statement of the problem, the purpose of the study, the significance of the study, the exploratory questions guiding the study, the scope of the study, the limitations of the study, the delimitations of the study, and the organization of the remaining chapters of the study.

Chapter two is a review of the literature pertaining to the topic of the study. This chapter begins with a historical review of the American educational system’s evolution from the turn of the 20th century, followed by a summary of the roots of educational reform in America and the beginnings of the role of the federal government in educational funding and mandates. The times of *A Nation at Risk* (1983) are then reviewed and a discussion on the development and staying power of accountability standards in state education systems then follows. The link to education and better-paying jobs is examined, with research that illustrates the financial plight of persons
who do not graduate from high school. Research gathered on the link to the ninth grade and high school dropouts is included, as well as references to the increased use of the ninth grade academy concept. Chapter two concludes with descriptions and citations of several ninth grade academy studies conducted in different areas of the United States; these are used to provide the groundwork for the researcher to embark on a Texas ninth grade academy study.

Chapter three presents the research design and methodology for this study. Chapter four presents the results and analysis of the research undertaken in the study, and chapter five provides a discussion of the results of the study as well as implications of the completed research and the spawning of possible future studies relating to this area.

1.13 Summary

Chapter one provided a statement of the problem, which was identified as high school dropouts in the United States and the personal and government costs of dropping out of high school. Students are often found to have made the decision to drop out of high school after not having success in the ninth grade. The purpose of the study indicated the intent to analyze the impact of the implementation of the ninth grade academy concept and described the specific variables to be analyzed for the determination of statistically significant outcomes resulting from that structure. The significance of the study focused on the increasing challenge that Texas public school districts have in educating and graduating an overall large number of students, of which the majority of the population is economically disadvantaged. The guiding questions of this study focus on the analysis of indicators relating to college readiness and indicators relating to student assessment performance. The limitations of the study largely dealt with the fact that this study would be quantitative in nature and that the intricacies of the school structures, students, and staff would not be able to be determined. The delimitations of the study related to
the study being limited to the state of Texas, with 30 schools selected for both the focal group and the reference group. Additionally, the performance of students who are economically disadvantaged and non-economically disadvantaged will be compared, but the race and ethnicity of students in the study will not be used as a part of answering the questions that the purpose of the study puts forward, due to the fact that an understanding exists that the majority of students who are economically disadvantaged are classified as racial and ethnic minorities. The chapter concludes with a listing of definitions of key terms that are relevant throughout the course of the study.
Chapter Two

Review of the Literature

2.1 Historical Summary of The American Educational Evolution, 1900-1957

As high school enrollment rates and graduation rates increased steadily during the second half of the 20th century, a look at educational attainment at the turn of the 20th century and before paints a vastly different picture. Prior to the 20th century, secondary education was on the small scale, reserved only for the elite and privileged. As late as 1910, only 35% of American youth attended high school (Conant, 1959, p. 6), and only 8% of high school students actually graduated (Tyack & Cuban, 1995, p. 48). Between 1900 and 1919, less than half of the American population had even an eighth-grade education (p. 69). Clark, Fraire, Laird, Marceau, Perlmutter, Reyna, Villarreal, West, White, Walker, and Yowell (2007) cited the notion that sociologists believe that the significance of high school was much greater in a previous period of time, providing the example that a high school diploma in the 1940s was equal to that of a college degree in the 1970s.

The parallel to the above sociological observation is seen when it is considered that in the early 20th century, the school year was only 99 days long and only half of the school-age population was actually enrolled in school (Tyack & Cuban, 1995, p. 21); the demands of the era of the Industrial Revolution required much labor and little education. As a need began to be recognized to provide common people, including the influx of immigrants, a basic education, “factory schools” were created to provide working adults elementary educational skills, with seven states adopting this approach prior to 1920 (Cook, 1977, p. 17). During the first two decades of the 20th century, the need to educate the masses began to be taken seriously, with John Dewey’s philosophies of the child-centered, creative self-expression approach (Cremin,
1968, p. 183) and Edward Thorndike’s approach as education as a “science,” spawned from the scientific management theories and practices of the day (Levin, 1991, p. 71).

Despite Dewey’s advocacy for schools that were failure-free and that gave students opportunities to explore topics of interest (Lagemann, 1989, p. 205; Clifford, 1978, p. 182), Thorndike’s application of F.W. Taylor’s scientific management practices to education won out as the way mass education would be administered (Levin, 1991, p. 71). The change to the American education system known as the “professionalization of education” is credited to Charles Judd (Lagemann, 1989, p. 205), who became the head of the preeminent college teacher education program of the time, the University of Chicago, in 1909. During and after Judd, F.W. Taylor’s scientific management reigned in the practice of education (Eisner, 1983). School administrators began to make efficiency the “name of the game,” with teachers becoming workers who were supervised by specialists whose job it was to ensure that goals were being attained, that teachers were performing as prescribed, and that the public who paid for the schools were getting their money’s worth. The task was to get teachers to follow the one best method, a method that scientific management of education would prescribe (Eisner, 1983, p. 7).

Indeed, Thorndike’s scientific management approach, influenced by Taylor’s industrial model, would be the example that was followed with little question for the next seventy years (Eisner, 1983, p. 6). Thorndike was a proponent of control who believed that the variables that needed to be controlled were the teachers and students, with teachers delivering instruction under supervision and students learning in a classroom environment under full direction from the teacher (Getzels, 1978, p. 490). Thorndike is also credited with the beginning of standardized testing in education (Clifford, 1978). In December of 1910, Thorndike pitched the idea of
objective, quickly scored standardized tests at a meeting of the American Federation of Teachers of Mathematics and Natural Science, and after a substantial amount of interest from a number of education groups, samples of these new tests were reprinted for public viewing in early 1912 (Clifford, 1978, p. 114).

By the 1920s, all American states had passed compulsory education laws, with Massachusetts being the first to do so in 1852 and Mississippi being the final state to adopt compulsory education in 1918, with most states passing their laws in the late 1800s and just after 1900 (Pearson Education, 2007). In addition to public education being legally required, laws restricting child labor that were passed in the 1920s assisted the effort to keep more children in school for a longer period of time (Tyack & Cuban, p. 71). However, the American high school graduation rate in 1920 remained at only 17% (p. 48). Through the 1930s, the Great Depression caused many teenaged students to drop out of school and look for work due to the poverty-stricken times (Clifford, 1978, p. 174), but the 1940s, particularly after the end of World War II in 1945, laid the blueprint for the modernization of American public schools as large increases of enrolled students were seen, particularly in the secondary levels (Tyack & Cuban, 1995, p. 71). The 1940s also represented the time that many one-room schoolhouse districts were consolidated into larger and more centralized districts, in the name of making educational opportunity equalized for the masses (Weinstein, 1954, p. 79).

The 1950s were at first seen as a high point for public education, as the school year had increased to 158 days of instruction from the 99 days offered at the turn of the 20th century (Tyack & Cuban, 1995, p. 21). Moreover, secondary education enrollment had skyrocketed, with 70% of 17-year olds enrolled in high school and 35% of high school graduates attending college in 1959 (Conant, 1959, p. 6). More students were enrolled in school than ever before, and the
importance of secondary education and a high school diploma was taking hold. For all of these increases, one major world event is considered to be responsible for what Barnes and Cohen (1999, p. 20) called the “era of re-examination” of public education. It could be argued that the questioning of the public school system was always a part of its growth, most notably by John Dewey and his philosophy of educating and embracing the individual (Cremin, 1968), but through the advocacy of different points of view, mass education moved forward. In 1957, amongst all of the growth and gains in American education, the Soviet Union launched Sputnik into space. This watershed moment sent Americans into a panic as they questioned whether our nation’s schools were good enough to compete with the scientific advances of other nations (Cremin, 1968, p. 185).

### 2.2 The Roots of Education Reform-Sputnik

It could be said that American public education is arguably one of the most hotly debated issues of our time. Too often, the focus of the debate is on the ineffectiveness and shortcomings of the American public education system, either real or perceived. The first seeds of the fear that the United States was falling behind in the global education race are thought to have been planted in 1957 with the Sputnik launch (Clark et al, 2007), prompting the call for more rigorous math and science instruction in public schools and the creation of programs such as Advanced Placement and National Merit Scholarship examinations.

As American education was decried on a national scale for the first time, the response by policymakers and education officials was to pour money into high schools, adding more courses and fully implementing what is viewed as the modern American secondary education institution (USDE, 2003). Worth noting is that in 1950, prior to Sputnik, approximately 6,000,000 students were enrolled in American high schools, and by 1970, that number exceeded 13,000,000
In the same 20-year period between 1950 and 1970, the percentage of American adults with a high school diploma increased from 35% to 55%, the largest jump in that percentage for any time period dating to 1910 (NCES, 2002). High school graduation rates continued to increase beyond 1970, but academic achievement in reading, math, and science was found to be inconsistent as measured by the National Assessments of Educational Progress (NAEP) (Campbell, Hombo, & Mazzeo, 2000).

### 2.3 1960-1980: The First Understanding of “Dropouts”

As the United States moved into the 1960s, a focus began to take place for the first time with respect to students who were educationally disadvantaged (Barbe, 1967, p. 97), and who were a part of the 31% of students who did not graduate from high school (Tyack & Cuban, 1995, p. 48). Barbe (1967, p. 101) noted that characteristics of these students included negative attitudes toward school, a lack of success and motivation with respect to academics, and poor attendance. As the watershed historical moment related to American education in the 1950s was Sputnik, it could be said that 1960s educational policies were geared toward the beginning of the decline of the industrial section of the U.S. economy. Schriber (1967, p. 213) noted that the high school dropout rate had not been such a great concern in earlier times because a large demand for unskilled or semiskilled workers existed, and students without a high school diploma could fill those job openings. Schriber (1967, p. 213) plainly said that the 1960s was a time that no one would hire anyone without a high school diploma, something never before seen in American educational and economic history to that point.

The 1960s did not mark the first time that the federal government had an opinion on American public education, but that decade was unique because it was indicative of our nation’s leaders acknowledging the high school dropout problem. Both President Kennedy, in 1963, and
President Johnson, in 1965, publicly noted the severity of this problem (Schriber, 1967, p. 212). President Johnson’s Elementary and Secondary Education Act (ESEA) of 1965, a key component of Johnson’s Great Society and War on Poverty, was designed to assist struggling schools by providing federal supplemental dollars in hopes of improving the product offered (Tyack & Cuban, 1995, p. 27). Through the passing of ESEA and Johnson’s strong recommendation to schools to pay attention to pertinent research and use it to effect positive change, schools began to undertake that task (Getzels, 1978, p. 477).

Professional development was made a priority for teachers (Dillon, 1976, p. 167), and the Adult Basic Education Act of 1966 marked the first federally passed law specifically aimed at educationally reaching out to persons aged between 16 and 25 in urban areas (Cook, 1977, p. 86). The struggle to implement the new ideas of reform continued for the rest of the 1960s and throughout the 1970s, as reform was slow to take hold and clashed with a campaign to go “back to basics” with scientific management, business models, and the efficiency concept again finding a voice (Tyack & Cuban, 1995, p. 115).

2.4 The 1980s-A Nation at Risk

By 1980, the American high school graduation rate was at 70% (NCES, 2002), but satisfaction with the doubling of high school graduates in a 30-year period was not to be found. In 1981, the National Commission on Excellence in Education was formed and led by Terrell Bell, then the U.S. Secretary of Education, and 18 months later, in April 1983, the Commission released the report titled A Nation at Risk. While change in American education had been called for in the past, A Nation at Risk brought the sobering statistics forward. Among the findings of the Commission’s study were that 13% of 17-year old students were functionally illiterate, that Scholastic Aptitude Test scores had declined in every year from 1957 to 1983, and a 72%
increase in remedial college mathematics courses had occurred between 1975 and 1980 (NCEE, 1983). The high school dropout rate in 1980 was 14%, and in 1985 it was 12% (“High School Facts”, 2005, December 14, para. 5). Vocational education, notably, also experienced an enrollment decline in the 1980s (NCES, 2006). Interestingly, it came to pass that the findings of *A Nation at Risk* became highly contested, with many of the signature points of that report contradicted through other studies such as the 1990 Sandia Report (Ansary, 2007). However, whether the content of *A Nation at Risk* is true, false, or simply has one approach to its methodology that is different from other studies, it cannot be overstated that its 1983 release was the beginning of the modern focus on education reform through accountability (Ansary, 2007).

The signature quote of *A Nation at Risk* is the one that most likely describes the lack of consolation found in a greater number of higher school graduates in light of the negative findings: “It is important, of course, to recognize that the *average citizen* today is better educated and more knowledgeable than the average citizen of a generation ago—more literate, and exposed to more mathematics, literature, and science. The positive impact of this fact on the well-being of our country and the lives of our people cannot be overstated. Nevertheless, *the average graduate* of our schools and colleges today is not as well-educated as the average graduate of 25 or 35 years ago, when a much smaller proportion of our population completed high school and college. The negative impact of this fact likewise cannot be overstated” (NCEE, 1983). Indeed, the message of this quote, along with the survey finding that more than 75% of the public believed that all students should take four years of English, mathematics, social studies, and science whether they planned to go college or not (NCEE, 1983), was an indication that the American public education system was graduating more students from high school, but that these students were increasingly unprepared for college and/or life in the workforce. Again showing *Sputnik* as
a harbinger of future debate, the 1980s were a time in which the United States had focused on competing with Japan in particular, and another era of great fear arose that America was falling behind other nations in academic achievement (Tyack & Cuban, 1995, p. 44).

2.5 The 1990s and 2000s: The Push for School Improvement and Accountability

In the 1990s, the percentage of Americans over the age of 25 with a high school diploma was 83% (National School Boards, n.d., p. 119), and the average high school dropout rate was between 11 and 12% (NCES, 2006, para. 3). By 1990, 90% of persons between the ages of five and 19 were enrolled in school (Tyack & Cuban, 1995, p. 21). Similar to past decades, the increase in graduation rates and the decrease in dropout rate was not a consolation due to continued issues and uncertainties. The public continued to fear that American students were not measuring up to students in other countries (Cohen & Barnes, 1999, p. 21), and the acknowledgement was made that the most serious and neglected problems in the American educational system existed in large urban areas dominated by a student population that was mostly minority and economically disadvantaged (Biggs, 1992, p. 11).

The higher graduation rate and lower dropout rate seen in the 1990s was partially due to the understanding of state governments that students needed to stay in school. All states have compulsory attendance laws up to the age of 16, with eight states setting compulsory school attendance through age 17. Additionally, 19 states, including Texas, require students to attend school until age 18 (Pearson Education, 2007). While these laws and a focus on high school dropouts have succeeded in keeping more students in school, teachers and administrators at the secondary level found a challenge in educating students who in earlier times would have dropped out of school. Minority students were found to have particularly been left behind by the educational system, and teachers were faulted for not adjusting to differences and refraining from
viewing those as deficits (Biggs, 1992, p. 14). Also of major concern in the 1990s was the profound increase in school violence, with 77% of public high schools having reported a criminal incident to police during the 1996-1997 school year, to include serious violent crimes involving weapons (“High School Facts,” 2005, December 14, para. 9).

With the reauthorization of ESEA in 2001 as The No Child Left Behind Act (NCLB) by President George W. Bush, an attempt was made to make all states and all schools responsible for the performance for all students. Under NCLB, the mandate of Adequate Yearly Progress (AYP) requires that specific performance targets be met each year for the student groups of All Students, Economically Disadvantaged, African-American, Hispanic, White, Special Education, and Limited English Proficient (USDE, 2008). Additionally, graduation rates for cohorts over four years and five years began to be measured as indicators under AYP (USDE, 2008). For states to receive federal funding through ESEA, AYP must be rated through approved state standardized tests; increasing stages of school improvement are assigned to campuses and districts that fail to meet yearly standards (USDE, 2008).

As of 2014, almost all states have negotiated conditional “flexibility waivers” that allow some relief from rising AYP standards, but these waivers are renegotiated on a yearly basis with state departments of education, including Texas (USDE, 2014). President Barack Obama began this version of ESEA/NCLB, stating that “in exchange for that flexibility, states approved for waivers have agreed to raise standards, improve accountability, and undertake essential reforms to improve teacher effectiveness” (CNN, March 15, 2010). As of December 2013, 47 states and the District of Columbia have their own school accountability rating system in addition to AYP or a conditional NCLB waiver; Montana, North Dakota, and Vermont use AYP only (Education Commission of the States, 2013).
Moving forward, 94% of students of age to be in grades 9-12 were enrolled in high school in 2005 (High School Facts, 2005, para. 2), and the overall graduation rate from American public high schools was 84 percent in 2005 (High School Facts, 2005, para. 6). In spite of all of the state and federal mandates that require progress and accountability, the perception that high schools continue to be “broken” continues to exist (Perkins-Gough, 2005, p. 88). As in the time of *A Nation at Risk* in 1983, employers and college instructors continue to report that students are not prepared for success in the workplace and in higher learning (Perkins-Gough, 2005, p. 88). As in the school violence-riddled time of the 1990s, it was reported that by high school, “as many as 40 to 60% of all students, urban, suburban, and rural-are chronically disengaged from school” (Klem & Connell as cited in Blum, 2005, p. 16). Scherer (2005, p. 7) has described this phenomenon in which city schools are not the only affected schools, as the “blurring of the 2000s,” in which students classified as being at risk of not graduating from high school appear to be present in all parts of the country and at all income levels.

The task of combating a paradoxical situation where graduation rates are continually increasing but where at-risk factors are also continually increasing is indeed complicated. Suggestions to reconnect with a disengaged population are several; Perkins-Gough (2005, p. 88-89) called for a restoration of the value of the high school diploma through the implementation of higher standards and tougher courses. Others have championed the attention to the human factors inherent in education, such as Blum (2005, p. 17), who encouraged teachers to build relationships with students that are positive and respectful in nature, and Christman (2005, p. 18), who focused on the need for schools to allow more collaboration time for teachers as a factor critical to academic success. Finally, Phillip (as cited in Phillip, Krajewski, Aguirre, & Bailey,
2005, p. 15) discussed school restructuring as key, with a particular suggestion for the creation of specifically tailored learning communities and support programs for freshman students.

2.6 The Dropout Problem Today

As of October 2009, the national rate of people in the United States between the ages of 16 and 24 who lacked a high school diploma was 8.1%, or approximately three million people out of 38 million people between the ages of 16 and 24 (Chapman, Laird, Ifill, & Kewalramani, 2011, p. 8). Chapman, Laird, Ifill, and Kewalramani (2011, p. 8) noted that this number was down from 14.6% in 1972, and also found that 89.8% of Americans between the ages of 18 and 24 had received a high school diploma or an alternative credential such as a high school equivalency certificate.

Even with high school graduation rates at an all-time high and high school dropout rates at an all-time low, much concern remains with respect to students who drop out of high school today, and rightly so. Neild, Balfanz, and Herzog (2007) maintained that the United States has a high school graduation crisis, and that crisis does not stem from a drop in percentage high school graduates, instead acknowledging that American high school graduation rates are as high as they have ever been. The concern articulated by Neild, Balfanz, and Herzog (2007) is that it is practically impossible for individuals lacking a high school diploma to earn a living or participate meaningfully in civic life. Chapman, Laird, Ifill, and Kewalramani (2011, p. 8-9) found that today’s high school dropout is slightly more likely to be male, with 9.1% of males dropping out compared to 7.0% of females. Also, the modern high school dropout is more likely to be African-American (9.3% dropout rate in 2009) or Hispanic (17.6% dropout rate in 2009) than white (5.2% dropout rate in 2009); it must be noted that while the African-American and
Hispanic dropout rates exceed those of whites, dropout percentages of all groups have decreased significantly since 1972 (Chapman, Laird, Iffill, & Kewalramani, 2011, p. 9).

Leaving high school without a diploma is a costly event. The U.S. Department of Labor (2013) reported through its Bureau of Labor Statistics that in 2013, the unemployment rate of Americans who lack a high school diploma is 11.0%. With at least a high school diploma, the unemployment rate drops to 7.5%, and down to 4% for persons with a bachelor’s degree (Department of Labor, 2013). In terms of financial earnings, a high school dropout earns a difference of nearly $10,000 per year less than does a person who possesses a high school diploma (Department of Labor, 2013).

A finding also exists that pertains to the cost of high school dropouts on our nation’s economy and not only on the individuals who fail to graduate from high school. Lloyd (2007) cited that 1.2 million students did not graduate with their four-year class in 2007, and pointed out the increased earnings and decreased dependence on government services by high school graduates as opposed to the situation often facing high school dropouts. Five years following that, Levin and Rouse (2012) also reported that high school graduates are less likely to draw on public welfare and are less likely to be involved in the criminal justice system, and contribute a greater amount to the American tax base because of higher earnings. By 2012, 1.3 million students were estimated to drop out of high school each year, an increase of another 100,000 dropouts from 2007 (Levin & Rouse, 2012). A statistic that placed a money value on students who drop out of high school was provided by Levin and Rouse (2012), who estimated a gross domestic product increase of $90 billion per year if only half, or about 700,000, of these students were kept in high school and successfully graduated.
Evidence has further been established that is specific to the high school dropout cost to the American taxpayer. Rector, Kim and Watkins (2007) concluded through an extensive economics-based study that households headed by persons without a high school diploma impose a significant fiscal burden on other taxpayers because the cost of the government benefits they consume greatly exceeds the taxes that these households pay to governmental entities. The monetary ratio found by Rector, Kim, and Watkins (2007) was that households absent a person with at least a high school diploma paid a yearly average of $9,689 in total tax sources, and households headed by persons with a high school diploma or higher paid a yearly average of $34,129 in total taxes. The final main point of the study conducted by Rector, Kim, and Watkins (2007) was that not only do the households without a person with a high school diploma pay little in total taxes, but that they receive non-taxable direct government assistance that is approximated at a three-to-one ratio to their tax contributions. The aggregate estimate found was that each low-skill household costs American taxpayers $1.1 million over each 50-year adult life span, and that to minimize that excessive cost, education is key in reducing the current 15 percent of American households with no high school diploma (Rector, Kim, & Watkins, 2007).

2.7 Change in the United States Economy and Its Relationship to Educational Attainment

Clark et al. (2007) likened having a high school diploma in the 1940s to having a college degree in the 1970s. This statement was corroborated by the fact that in 1937, only 15% of high school students went on to college, and most of that group were from upper-income families (Hanford, 2015). American college enrollment surged after the end of World War II in 1945, in part due to the effect of the GI Bill and its intent to allow returning service personnel to pursue postsecondary education. Even with such developments, only 26% of workers defined as being a part of the middle class had any type of education beyond high school as late as 1970 (Hanford,
Greenstone and Looney (2011) illustrated that 96% of all American males who had graduated from high school were employed in 1970, and when women were included after their steady influx into the workforce in the 1970s and 1980s, 81% of all high school graduates were employed in 1989.

Today’s American workplace bears almost no resemblance to the one that existed 45 years ago or even 25 years ago. In 1973, the manufacturing sector was comprised of 24% of the American workforce, and by 2007, that share was only 10% (Lee & Mather, 2008). Conversely, the service sector made up 70% of jobs in 1973, increasing to 83% in 2007 (Lee & Mather, 2008). Presently, nearly 60% of all of jobs in the American economy require higher education, and it was estimated by Carnevale, Jayasundera, and Gulish (2015) that by 2018, 63% of American jobs would require some form of postsecondary education. Since the early 1980s, the wage gap between workers with bachelor’s degrees and those with a high school diploma has doubled (Hanford, 2015). Many jobs that require fewer skills are shipped overseas, and the ever-increasing sophistication of computers has eliminated the need for workers to complete mundane and repetitive tasks. Jobs that are available now lean toward the complex, with an emphasis on problem-solving and group work (Carnevale, Jayasundera, & Gulish, 2015).

As such, the employment rate for males with a high school diploma has fallen from 96% in 1970 to 75% in 2011, and with males and females combined, the total employment percentage for workers with a high school diploma has fallen from 81% in 1989 to 71% in 2011 (Greenstone & Looney, 2011). Furthermore, when earnings analyses were adjusted to 2010 dollars, it was found that a high school diploma in 2011 generates just more than half of the income than was possible in 1970, underscoring the continued shrinking of the American middle class in the last several decades (Greenstone & Looney, 2011).
Of relevance to the dynamic of the continued disappearance of the middle class is the notion that American educational attainment kept up with the rising demand for skill that was present in the 1950s and 1960s, but that education levels and the content of the education provided to students did not match the skills that became a need for gainful employment in the late 1970s and early 1980s (Autor, 2010). While the transition from a manufacturing-based economy to a service-based economy in the United States has long been witnessed and understood, this change has brought along a phenomenon of polarization between high-skill, high-wage occupations and low-skill, low wage occupations, with the jobs that were the middle-class hallmarks of the manufacturing era all but gone by 1990 (Autor, 2010).

Lee and Mather (2008) noted a reduction in the number of jobs affiliated with labor unions between 1983 and 2007, from 20% to 12%, with only 7.5% of unionized jobs in the private sector. It is estimated that the erosion of labor unions has contributed to 65% of the wage polarization gap between blue-collar and white-collar workers between 1978 and 2005 (Lee & Mather, 2008). The decline of such jobs has been detrimental to the earnings and labor force participation rates of workers without a four-year college education, and Autor (2010) cited this decline as something that has long needed to have been addressed, with the Great Recession of 2008-2009 exacerbating the problem with educational gaps in the American workforce.

Cheremukhin (2014) analyzed the effects of the Great Recession of 2008-2009 along with the previous American economic recessions in 1990-1991 and 2001, and found that the middle-skill jobs that were lost in each of the last three recessions were the jobs that were never replaced as the economy recovered each time.

Indeed, as the United States staggered forward economically from the Great Recession, approximately 6.6 million new jobs had been created since 2010. Of these 6.6 million new jobs,
about 2.9 million, or 44%, were identified by Carnevale, Jayasundera, and Gulish (2015) as being “good jobs,” or those that pay at least $53,000 per year, are full-time, and have benefits and healthcare. Illustrating the importance of a higher education in today’s economic times, only 100,000 of the 2.9 million “good jobs,” or just above 3%, were filled by workers with less than a bachelor’s degree (Carnevale, Jayasundera, & Gulish, 2015).

A study by Baum, Ma, and Payea (2013) was similar in showing that the bachelor’s degree was the significant indicator in upward mobility, citing a 37% increase in annual income for workers with a bachelor’s degree versus those with a high school diploma. While college graduates have always earned more money than non-college graduates, the decline in value of a high school diploma and the necessity, rather than the option, of attending college began in 1980 and intensified in the 1990s and forward (Cheremukhin, 2014). Greenstone and Looney (2011) cited the dynamism and rapid change of the American economy as factors that have eroded the ability of workers with lower educational attainments to find jobs that provide livable incomes, and called for an increased focus on education and training that better mirrors the jobs that are available in today’s workforce. Baum, Ma, and Payea (2013) provided further statistical evidence that even some postsecondary education helps one’s livelihood even if a bachelor’s degree is not attained. An associate degree yields an approximate increase of 21% in annual income against that of a high school diploma, and even attending “some college” without completing a degree provides an average of 12.5% more annual income when compared with only graduating from high school (Baum, Ma, & Payea, 2013).

A high school diploma has clearly become an education level that serves as a beginning step in terms of annual household income and contributions to the greater economy in terms of paid taxes, with average earnings of $35,400 and $6,400 in paid taxes (Baum, Ma, & Payea,
2013). Often, economic comparisons point to the higher earnings associated with the acquisition of higher education after the completion of a high school diploma, but even more glaring is the lack of earning power and minimal tax contributions of high school dropouts. Baum, Ma, & Payea (2013) noted that even if students graduated from high school and chose to pursue no postsecondary education endeavors, the high school diploma alone provides an annual income increase of 29% over the average annual earnings of workers who did not complete high school, with high school dropouts earning only an average of $25,100 in annual income and paying only $4,100 in total taxes per year. Despite making up only 8 percent of the total U.S. population that is age 25 and older, high school dropouts struggle tremendously in many facets throughout their lives, and have a significantly negative effect on the American economy, both domestically and globally (Baum, Ma, & Payea, 2013; Department of Labor, 2013; Levin & Rouse, 2012; Lloyd, 2007; Rector, Kim, & Watkins, 2007).

2.8 The Focus On The Economically Disadvantaged As The Population of Concern

Statistical trends do point to high school dropouts being more highly represented in our country’s African-American and Hispanic populations than they are in our white population, but it has also been noted that minority dropout rates have been reduced significantly since 1972 (Chapman, Laird, Ifill, & Kewalramani, 2011). For African-American students, the dropout rate has decreased from 21.3% in 1972 to 9.3% in 2009; Hispanic students have made even greater gains in graduating from high school, with a decrease in dropout rate from 34.3% in 1972 to 17.6% in 2009 (Chapman, Laird, Ifill, & Kewalramani, 2011). While the white dropout rate was 12.3% in 1972 and had dropped to 5.2% in 2009 (Chapman, Laird, Ifill, & Kewalramani, 2011), African-American and Hispanic student dropout rate reductions show that significant progress is
being made in the closure of a gap that remains statistically disproportionate but which was far more so 40 years ago.

With respect to gender, literature can be found that normally points to male students having a higher dropout rate than female students (Burrus & Roberts, 2012). However, an understanding should be acquired that the characteristics of “male” and “typical dropout” are not synonymous in nature. Male high school students dropped out at a rate of 9.1% in 2009 compared with 7.0% of female high school students, a difference of only 2.1%. This difference actually dropped almost a full percentage point between 1998 and 2009, with 3.0% more males dropping out than females in 1998 (Chapman, Laird, Ifill, & Kewalramani, 2011). Furthermore, Burrus and Roberts (2012) noted that 40% of high school dropouts between the ages of 16 and 24 receive government assistance, and Gabe (2014) stated that well over half of the children living below the poverty line in the United States are from families headed by single mothers. Gabe (2014) also found that in 2013, 25% of single mothers were unemployed; while more than one factor likely exists for such a rate, a correlation between Gabe’s (2014) findings and those of Burrus and Roberts (2012) certainly would call into question the need to ensure attention on female students who drop out of high school as well as on male students who do so.

As the dropout percentage gap continues to close between white students and minority students and the male/female dropout percentage gap is not as significant as commonly believed, it then becomes necessary to shift the focus to a population that is rapidly rising in number in our country, particularly among our school-aged students. This population is that which is economically disadvantaged, and the increasing percentage of students who come to school from disadvantaged homes is a major cause for concern. In Texas, the total population of students increased by 40% between 1995 and 2015, but the percentage of students with economic
disadvantages increased by 82% during the same 20-year period of time, compared with only 4% growth in the number of students without economic disadvantages (Ramsey, 2015).

Students who are economically disadvantaged now make up 60% of the student population in Texas, up from 48% in 1997 (TEA, 2014). Newly released data from the TEA (2015) show that economically disadvantaged students pass state reading and mathematics assessments at rates of 8% less in reading and 7% less in math when compared to the overall state passing rate. When the “postsecondary readiness” state rate and the economically disadvantaged rate on Texas reading and mathematics assessments are compared, the gap widens to economically disadvantaged students displaying those standards 14% less in reading and 12% less in mathematics when compared to the state rate (TEA, 2015). Furthermore, students who were economically disadvantaged in the graduating class of 2014 scored an average of 154 points fewer on the SAT (1417 to 1273) when compared to the state average, and averaged 2.6 points fewer on the ACT (20.6 to 18.0) when compared to the state average (TEA, 2015).

An understanding must exist that the designation of a student being coded as “economically disadvantaged” is not a direct result of the race or ethnicity of a student. While those factors share commonalities, such as the correlation of the 4% statewide increase in English language learners in Texas from 1997 to 2014 (TEA, 2014) and the 15% increase in Hispanic students enrolled in Texas schools from 1997 to 2014 (TEA, 2014) contributing to the overall increase in the number of economically disadvantaged students, other significant factors must be accounted for when gaining an understanding of the increase of the economically disadvantaged population. Cheremukin (2014) cited the Great Recession of 2008-2009 and two previous American economic recessions as permanent eliminators of previously middle-class jobs, and numerous authors have cited the devaluation of minimal educational attainment and the
necessity for postsecondary education in today’s economy (Baum, Ma & Payea, 2013; Bridgeland, Dilulio & Morison, 2006; Carnevale, Jayasundera, & Gulish, 2015).

Students who are economically disadvantaged perform significantly behind Texas state rates and averages on relevant academic indicators (TEA, 2015), and as the economically disadvantaged population is firmly entrenched as the majority, it can be easily seen that if this population is falling behind educationally, then Texas as an entire state would be falling behind as well. The goals of students who are better educated and a healthier economy begin with increased educational attainment, making the implementation of educational strategies that have the potential to lower our economically disadvantaged population as a top priority.

2.9 Identifying The High School Dropout Problem: The Ninth Grade

With ample research available that defines the ongoing severity of the high school dropout problem in the United States, the economic ramifications thereof, and the rapid changes that we have seen in our student population in the last 20 years, the next step is to define where this difficulty must be addressed in schools. The factor that possesses the most overwhelming ramifications with respect to success in high school is whether a student can complete the ninth grade without being retained (Warren, Fazekas, Rennie-Hill, Fancsali, and Jaffe-Walters, 2011, p. 3). After the 1983 publication of A Nation at Risk (NCEE, 1983), accountability standards rose, and students are largely expected to demonstrate reasonable levels of academic proficiency to advance to the subsequent grade (Warren, Fazekas, Rennie-Hill, Fancsali, and Jaffe-Walters, 2011, p. 6). Since the 1980s, the phenomenon of the “ninth grade bulge” has become an increased concern, defined as the overrepresentation of students enrolled in ninth grade due to retention. This issue is no small matter as research shows that only a small percentage of students
who do not successfully complete the ninth grade will graduate from high school on time (Warren, Fazekas, Rennie-Hill, Fancsali, and Jaffe-Walters, 2011, p. 6).

Students in ninth grade comprise the highest percentage of the overall high school population because students in disproportionate numbers are failing to be promoted out of the ninth grade (Wheelock & Miao, 2005). The “ninth grade bulge” is one common term, and it is accompanied by what is known as the “tenth grade dip,” in which the high enrollment in the ninth grade corresponds to a significant drop in tenth grade enrollment (National High School Center, 2007). In the 2004-2005 school year, a drop of 10.5% enrollment was evidenced from the ninth grade to the tenth grade on a national level, from 4.19 million ninth graders to 3.75 million tenth graders (NCES, 2005). The dip is reflective of both students who either repeated the ninth grade or dropped out before reaching the tenth grade (NHSC, 2007). When average enrollment in grade nine is compared to average enrollment in grade 12, instances have been evidenced in which the number of freshmen is twice the number of seniors in a given academic setting (McCallumore & Sparapani, 2010).

Over a 30-year period of time, the bulge of students in grade nine due to retention more than tripled, from 4% in 1974 to 13% in 2004 (Haney, Madaus, Abrams, Wheelock, Miao, & Gruia, 2004). Willens (2013) cited the percentage of tenth grade students as 3% less than that of ninth grade students in 1970, with an increase to 11% less tenth graders than ninth graders by 2000. Lloyd (2007) cited a study titled *The Cumulative Promotion Index* that collected data across several areas of the United States and found that 33% of students who began grade nine in 2003-2004 and did not graduate in 2007 had been retained in grade nine. The same finding was echoed by Schemo (2006), who also specifically discussed the 54% four-year graduation rate in
New York City’s public schools; it was argued that the graduation rate in the public schools of New York City was actually around 40% (Schemo, 2006).

Characteristics of students who repeat the ninth grade show substantial disparities among students who are minorities and who reside in urban areas. Balfanz and Letgers (2004) found that 40% of ninth grade students in the cities with the highest dropout rates repeat the ninth grade, and that only 10% to 15% of the ninth grade repeaters will graduate. In urban, high-poverty schools, 40% of all students who dropped out left after the ninth grade, compared to only 27% of ninth-grade dropouts in less disadvantaged schools (EPE Research Center, 2006). The attrition rate for Hispanic students between grades nine and ten is 27%, and for African-American students it is 20%. By comparison, the attrition rate for white students is 7% between grade nine and grade ten (Wheelock & Miao, 2005).

Of the 50 states and the District of Columbia, 29 states acknowledged that the greatest leakage in the education pipeline occurs in the ninth grade (EPE Research Center, 2006), with some states reporting as high as a 20% decrease in enrollment between the ninth and the tenth grades (Wheelock & Miao, 2005). From an instructional perspective, high school dropouts were found to have failed 25% of their ninth grade courses on the average, compared to a course failure rate of 8% for students who successfully completed high school (Letgers & Kerr, 2001). Allensworth and Easton (2005) added that students who finish their ninth grade year and have attained fewer than five course credits are a near-automatic risk to not graduate, and Jerald (2006) noted the correlation of eventual high school dropouts to poor attendance habits in the first 30 days of ninth grade enrollment.

Furthermore, ninth grade students have been found to have been suspended from school more than any other age group. Balfanz, Byrnes, and Fox (2012) studied over 180,000 ninth
grade students in the state of Florida and found that 27% of them had been suspended at least once, with 40% of the studied ninth grade students having lost at least five days, or one week, of instruction due to disciplinary suspension. African-American students, students who were economically disadvantaged, students receiving special education services, and overage students received a disproportionate percentage of ninth grade suspensions throughout Florida (Balfanz, Byrnes & Fox, 2012).

Challenges for students as they enter the ninth grade are several. Roderick (2006) noted that the classroom and school environments change dramatically for incoming freshmen, particularly in large urban schools, due to students being accountable for more classes and teachers and the increase in the size of the school. A paradox was illustrated by Roderick (2006), in which the content and demands of the courses increase significantly, but the amount of academic support actually declines. Kerr (2002) cited a lack of connection with teachers and less individual support for students, and Herilhy (2007) echoed that notion by stating that the nurturing of the whole child ends in middle school, with the high school focus almost exclusively on learning course content and production being measured by course completion and graduation rate.

Nadeem (2013) quoted Jon Zaff of Tufts University, who said that it had to be realized that grade nine is the make or break year for many 14- and 15-year olds, as it is a time when the cognitive, emotional, and physical development of the students overlap and connect, as well as the schools they are in being new environments to them with more autonomy available. Ravitch (2013) held up a criticism of the public education system, stating that schools allow students to advance whether they are ready to or not, and that when they enter ninth grade, the stakes are higher due to the need to obtain course credit and pass high-stakes assessments for graduation.
requirements. Ravitch (2013) further stated that the emphasis of schools needed to be on coming up with creative ways to help ninth grade students and ensure that their success is a priority.

Students entering the ninth grade do not have a solid grasp on what success in high school means with respect to the courses they have to take, the content of the courses, and the skills needed to pass the courses (Breakthrough Collaborative, 2011). Bottoms (2008) reported that 45% of ninth grade students interviewed in a study said that they had entered high school unprepared for the work they were expected to accomplish. McCallumore and Sparapani (2010) noted that ninth grade students, when asked, acknowledged that they did not fully understand the importance of starting off well in grade nine and the subsequent effect on graduation. Resoundingly, the interviewed students said that had they known of the significance of grade nine on their educational careers, they would have worked harder to achieve higher grades and earn the necessary credits in their freshman year (McCallumore & Sparapani, 2010).

Bottoms and Timberlake (2007) cited one survey covering a random sample of ninth grade students in 16 states, in which the finding was that 20% of the ninth grade students reported that they had never been advised about what courses to take in their freshman year, much less what the content, skills, and expectations were for the courses. In the same survey, only half of the ninth-grade students said that they were provided a written plan of coursework before exiting middle school (Bottoms & Timberlake, 2007). Indeed, even students who were doing moderately well in the middle grades can be knocked off the path to graduation by the new academic demands of high school (Neild, Balfanz, & Herzog, 2007).

A further illustration of incoming ninth graders’ lack of understanding was the finding in another survey, in which 92% of the surveyed freshmen were positive about the need to attend college, but only 32% of these same students were able to articulate that they had knowledge
about what high school courses they needed to take to be prepared for college (National Association of Secondary School Principals, 2007). A similar finding was articulated in a California study in which it was illustrated that a major factor that puts ninth grade students at risk is their lack of understanding of which courses are college preparatory, or simply not having a college readiness mindset (Miners, 2008). Finkelstein (as quoted in Miners, 2008) called upon district leaders, teachers, and guidance counselors to help students understand what college readiness entails; it was evidenced that a third of all California ninth graders were deficient in English course requirements by the end of their freshman year, and that 40% were deficient at the end of the freshman year in mathematics course requirements (Miners, 2008).

In an overall sense, students entering the ninth grade too often begin without an understanding of the challenges ahead, and much too often are left to their own devices to navigate the pitfalls of high school instead of receiving needed support with that challenge (Breakthrough Collaborative, 2011). As an example, Jablow (2013) referenced several positive outcomes related to student success in dropout recovery programs offered in Philadelphia, Pennsylvania. However, Jablow (2013) lamented the fact that the students who were featured were all in conventional high schools to begin with and dropped out in ninth grade due to problems that were considered to have been preventable.

The idea espoused by Jablow (2013) that the requisite ninth grade support systems were too often not present was corroborated in a study by Boshnack (2011), in which 10 commonly referenced ninth grade transition practices were included in a survey to determine usage of the different practices in high schools throughout the state of New York. Boshnack (2011) found that some interventions and practices were used more often and some were not used at all, and that in a comprehensive sense, the study yielded that the implementation of assistance for ninth grade
students was wildly inconsistent across the state of New York. The graduation rate in New York state, according to Boshnack (2011) was 67% at the time of the study, ranking 40th out of 50 states; that fact was illustrated by the researcher as an implication of not taking care of ninth grade students in a proper fashion when the opportunity presents itself to do so (Boshnack, 2011).

2.10 High School Reform Attempts and Today’s Continued Challenges

Prior to 1910, the idea of attending to the needs of ninth grade students would have been a foreign concept, as less than 20% of students actually attended high school and less than 10% graduated (Fitzpatrick & Turner, 2006). As was previously noted, the main focus of high school reform from the early to mid-20th century by the growth of opportunities for more students to attend and graduate from high school (Conant, 1959, p. 6; Weinstein, 1954, p. 79). From the launch of Sputnik by the Soviet Union in 1957 through the aforementioned publication of A Nation at Risk in 1983, the central question that abounded was whether American schools could compete on the world stage in light of a number of real or perceived shortcomings in the system (NCEE, 1983; Tyack & Cuban, 1995, p. 44).

American public school systems today are comprehensively structured so that nearly all students can begin attending school in pre-kindergarten at the age of four, but the fact remains that any comparisons regarding the success of our education system will ultimately rest with high school performance; the concern of whether our students would have enough education to succeed in a changing economy was articulated at the onset of the Cold War, even before the Sputnik launch (Ravitch, 2000). Today, that issue continues to present itself, as it is said that careers are being and will continue to be spawned that require an amount of educational preparation never before witnessed in all of the challenges that our country has faced in the
global economic race (Iorio & Yeager, 2011). The focus has long been and will continue to be on postsecondary competitiveness and success, making the high school the primary object of educational accountability. Suggested changes to standards are most often tied to the high school arena, to include increases in the number of core courses and foreign language courses needing to be taken and the call for exit examinations to be passed as part of graduation requirements (Hoover Institution, 2011).

In 1983, *A Nation at Risk* all but erased the idea that our schools had become more successful since *Sputnik*, debunking increased high school enrollment and graduation rates by showing that average SAT scores had actually declined consistently since 1957 and that most students graduated on plans that did not require extensive core course instruction but rather elective-heavy plans with much choice and little rigor. At that time, it was found that more than 25% of courses taken by high school students were electives (NCEE, 1983).

While states were slow to fully implement the recommendations of *A Nation at Risk* on required high school courses, 42 states required all students to take three years of math and 37 states required all students to take three years of science in 2013 (Buddin & Croft, 2014). While such requirements have the potential to be beneficial when compared to graduating on a minimum standard, it was evidenced by Buddin and Croft (2014) that increasing graduation requirements is not effective in improving academic performance in the student population that arrives in high school underprepared or unprepared for such coursework.

Changes in instructional strategies and professional development for teachers have also taken place in high schools post-1983, which include assessment of students with more authentic products such as projects, portfolios, and exhibits, as well as placement of students into smaller interdisciplinary blocks or pods in which greater relationships can be built between students and
teachers (Van Roekel, 2008). Strategies such as cooperative learning in the classroom and within-class grouping based on specific instructional needs as opposed to tracking have now been evidenced as being more consistently implemented (Slavin, 2007).

In the late 1990s, many high schools began restructuring their master schedules, making a changes from the traditional school day of seven to eight class periods to different options. These structures include eight courses with four each taught on alternating days for 90 minutes each, four courses attended each day for 90 minutes each for one semester, giving students a chance to earn four full credits per semester, and a trimester plan in which three classes are taken in longer blocks of time every 60 days (Cromwell, 1997). The goals of block scheduling were primarily to increase active learning in the classroom by providing extended instructional time and to allow students more opportunities to earn course credit (Canady & Rettig, 1995). However, comprehensive studies on student achievement in block schedules proved inconclusive, and by the late 2000s a trend was observed in which schools were moving back to traditional scheduling (Gullatt, 2006; Reames & Bradshaw, 2009).

To summarize, it is clear that our public schools have not stood locked in time since the publication of A Nation at Risk, as research exists that points to a desire for positive change in high school student academic achievement. Dropout rates have fallen, and graduation rates have continued to increase (Layton, 2014; TEA, 2014), but a key point that must continue to be reinforced is that although more efforts to adjust are being made by schools and the graduation rate continues to rise yearly, the well-documented reform attempts of the last 30 years have not adequately addressed the specific root of the dropout problem, which is clearly ensconced in the ninth grade experience.
2.11 The Concept of The Ninth Grade Academy

Clearly, ninth grade has been identified as the most critical point to intervene and prevent students from losing motivation, failing, and dropping out of school (Reents, 2002). Reents (2002) summarized the entrance into ninth grade as one of the most emotionally difficult and most academically challenging times in a child’s life, an event that school districts must address by putting proper transitional programs in place to prevent ninth grade students from “falling through the cracks.” Traditional high schools were identified by Dailey (2006) as being environments where students sink or swim, with a high volume of chaos around them, adding to the difficulties of student disengagement and low academic performance that ninth grade students possess in large numbers as they enter high school. Kemple (2006) found that in the largest American cities, less than half of students who are retained in ninth grade will graduate, and in some cities that number is as high as 65%.

High school environmental factors experienced by ninth-grade students must be viewed as issues that are preemptively addressed in nature, through extensive time and effort that should be undertaken over several years to build a school’s climate from the ground up (Habeeb, 2013). Included in the characteristics of effective programs for incoming freshmen include the need for the institution to be positive about the need for such programs, to be flexible with respect to the needs and the structural changes that will be necessary when building a base that focuses on freshmen, and perhaps most importantly, clearly acquiring the knowledge and understanding of what problems plague freshmen and address those needs in as quick a fashion as possible (Habeeb, 2013).

Bottoms (2008) identified five central tenets of the establishment and success of a ninth grade academy. These components included an instructional leader assigned to specialize in
ninth grade curriculum and ninth grade student needs, the mandate to have the best high school
teachers teach freshmen, have the academy set to serve all ninth grade students and not only
those at risk, work with staffing needs so that the student-to-teacher ratio is lower in the ninth
grade than it is in grade 10 and higher, and afford teachers planning time not only to construct
lessons but also to focus on unique student needs. Smaller class size and an increase in the
allowance of time for teachers to collaborate were also referenced by Maxwell, Price, and
Sunmonu (2014) as critical for a ninth grade academy to efficiently operate, as well as the need
for rigorous and relevant instruction to all ninth grade students being served in the school and the
availability of authentic, out of school experiences that connect students to the outside

Positive outcomes of an effective ninth grade academy experience were identified by
Bottoms (2008). These outcomes included students successfully completing college-preparatory
English I and Algebra I, developing time management and study skills, establishing a connection
with an adult who will be someone the student can depend on for assistance throughout high
school, and being able to declare a postsecondary goal that can be visualized realistically as
opposed to being viewed in the abstract. Perhaps most importantly, with so many students in
ninth grade who become discouraged when they have not done well academically, Bottoms
(2008) advocated for the need for students completing ninth grade to be able to intrinsically
believe that through their efforts, they can improve their achievement and therefore control their
own destiny.

The concept of the ninth grade academy, in terms of its arrival on the education stage, has
been traced to 1996, when the groundbreaking report titled Breaking Ranks: Changing an
American Institution was published (Riddle, 2000). Partially thought of as a 1990s A Nation At
Risk-type treatise, *Breaking Ranks* focused on creating smaller, transitional communities within large high schools, with the intent of ending the anonymity that students in these high schools, particularly freshmen, experience. The *Breaking Ranks* study actually began in 1994, with input coming from principals, other administrators, teachers, and students (Riddle, 2000). In 1999, then-United States Secretary of Education Richard Riley supported the need for high school restructuring and created the Smaller Learning Communities Program through the U.S. Department of Education, drawing on research from early pioneers such as Darling-Hammond (1997) and Sergiovanni (1996). White (2008) cited National Center for Education Statistics (NCES) data that counted 127 ninth-grade academies nationwide in 1999, with an increase to 185 in 2005, including several in diverse areas of the United States, such as Rochester, New York; San Antonio, Texas; Houston, Texas; Huntsville, Alabama, and Fargo, North Dakota.

Adams (2013) stated that if students can successfully transition into high school in the first year, they are more likely to stay in school and graduate than those who struggle. The question of what a successful transition strategy would be for such a major challenge is a fair one, and a concept that is more often being suggested and implemented is that of the ninth grade academy. Kemple (2006) described a ninth grade academy as being a small learning community where groups of students are self-contained and take classes from a group of teachers in an interdisciplinary block, in an area of the school separate from the upper grades. Personalized support and additional resources, both social/emotional and curricular, are available and tailored to the needs of the high school freshman (Cook, Fowler, & Harris, 2008).

A relevant ninth-grade academy shift was chronicled by Mehta (2008), in which the Pasadena, California public school district created separate facilities for ninth grade academies at all of its high schools, a well-thought and time-intensive restructuring in a school district with
four high schools and nearly 20,000 students. Allensworth (as cited by Mehta, 2008) espoused that “the idea that a few poor grades in freshman year are no real problem is gone. Grades during freshman year are more predictive of whether a student will drop out than other factors, including poverty and standardized test scores.”

In an executive summary of the structure of the ninth grade academy where he served as principal, Byrne (2013) detailed not only the curricular and instructional foci of the academy, but provided examples of several support positions staffed in the school in addition to the faculty and the administration. These included a parent liaison, a social worker, two curriculum coaches who support teachers and who monitor and meet with at-risk students on a regular basis, a police officer serving as a school resource officer, and an expanded counseling department. A learning center staffed by a full-time faculty member is a reminder of the attempt to help the freshmen keep up with their studies, and personalized plans for students who are at risk of not successfully moving to the tenth grade are developed by the curriculum coaches on a regular basis (Byrne, 2013).

The layers of support outlined above by Byrne (2013) are representative of a comprehensive management program which aims to increase student achievement through more positive teacher-student relationships, school connectedness, a school and classroom climate of trust and respect, student engagement, and student self-discipline (Freiberg & Lamb, 2009). Harris (as cited in White, 2008) emphasized that simply taking ninth grade students and placing them in a smaller building or isolated wing but then applying the same principles of the comprehensive high school would not work. In addition to the physical restructuring itself, a commitment must be made to fully understand the task of preparing the ninth grade students for promotion from the ninth grade academy (Harris as cited in White, 2008).
A study by Freiberg, Huzinec, Rubino, Borders, Williams, and Alexander (2011) focused on a reconstituted inner-city ninth grade academy in which the year of reconstitution yielded statistically significant increases in reading and mathematics state assessments not only for first-time ninth graders, but also for repeating ninth graders who were housed in the new ninth grade academy. Additionally, Freiberg, Huzinec, Rubino, Borders, Williams, and Alexander (2011) found that minor disciplinary infractions by ninth grade students decreased by 30% from the previous school year, and severe disciplinary infractions by ninth grade students decreased by 45% from the previous school year. Freiberg, Huzinec, Rubino, Borders, Williams, and Alexander (2011) noted that academic success and fewer discipline problems are interrelated factors, as teachers who have to spend less time on disciplinary issues have more teaching time, with that directly translating to more learning time for all students, as more of them are in the classroom and focused on learning than being involved with disciplinary issues.

McCallumore and Sparapani (2010) found that several studies of ninth grade academies have yielded similar positive results, which included improvements in attendance rates, behavior in school, teacher morale, and the level of parental involvement. Lower failure rates of freshman classes and fewer expulsions of students from school were also noted. An important overall point about ninth grade academies that are successful was the understanding that while all such programs incorporate student success as part of their mission, the phenomenon that recurs when comparing different ninth grade academies that have been effective is that each successful academy tailors its approach to the specific needs of the ninth grade class presently being taught (McCallumore & Sparapani, 2010).

For the 2013-2014 school year, the District of Columbia Public Schools (DCPS) opened ninth grade-specific academies at nine high schools that were selected due to having the highest
population of ninth grade repeaters (Salmanowitz, 2013). The structure of the DCPS ninth-grade academies is comprehensive in nature, employing additional staff including a lead data analysis specialist, guidance counselor, and social worker, in addition to academic teams of four teachers each for English, mathematics, science, and social studies. Additionally, professional development for teachers and staff, character development for students, college visits, and parental involvement are all stressed as part of student success (Salmanowitz, 2013). Kaya Henderson, DCPS Chancellor, was quoted by Salmanowitz (2013) as being “excited about the opportunities that the ninth grade academies will provide our students and the impact this initiative will have not only to increase academic success and student engagement, but also to reduce truancy and help us meet our strategic goals of raising proficiency and graduation rates.”

Prince George’s County (Maryland) Public Schools, not far from the District of Columbia, also implemented ninth grade academies in the 2013-2014 school year, after finding several studies that supported the notion that promotion rates from the ninth grade increased and ninth grade dropout rates decreased with restructuring to a ninth grade academy (Maxwell, Price, & Sunmonu, 2014).

Evidence that the ninth grade academy concept continues to take hold was found in Martinsville, Virginia, in which an academy was started for freshmen beginning in the 2014-2015 school year (Collins, 2015). Highlights of the Martinsville academy included the integration of the “AVID,” or Advancement via Individual Determination, program in all classes. AVID provides college readiness skills, such as note-taking and advance planning and organization. Another feature of this particular ninth grade academy includes flexible scheduling, an example of which is a 90-minute block in which 45 minutes of English I are combined with 45 minutes of World History, thereby presenting students with different content to preserve their
attention span and teaching in an interdisciplinary fashion (Collins, 2015); these instructional modifications could signal further refinement of the ninth grade academy concept.

2.12 Selected Ninth Grade Center/Ninth Grade Academy Studies

One of the earliest urban ninth grade center conversions occurred at Patterson High School in Baltimore, Maryland in 1996. In 1997, the year after the change, Patterson’s attendance rate increased by 10%, with all other high schools in the Baltimore City Public schools reporting an attendance rate increase of no more than two percent (Riddle, 2000). Additionally, 80% of ninth grade students at Patterson successfully were promoted to the tenth grade in the first year of the academy, compared to 35 percent of students in the previous ninth grade cohort, statistics that showed promise for the relatively new ninth grade academy concept (Riddle, 2000).

In 1996, Chicago Public Schools mandated the implementation of the ninth grade academy concept in all high schools. Wong (as cited in Riddle, 2000) conducted research in a selected set of four Chicago high schools after a four-year period of implementation. Wong (as cited in Riddle, 2000) found through interviews with principals and teachers that critical student success factors had shown improvement. These indicators included the reporting of 78% of interviewed personnel reporting improved student attendance, 71% reporting improved test scores, 63% reporting improved discipline, 51% reporting improved grades, and 41% reporting an improved rate of students gaining course credit.

Rourke (2001) compared three ninth grade academies in a fairly early study of the practice. The locations of the schools were in Alexandria, Virginia; Houston, Texas; and Downingtown, Pennsylvania. The Minnie Howard School in Virginia has reported reductions in truancy and in suspensions from school, and counts 35% of its ninth graders enrolled in honors
classes (Rourke, 2001). The principals at the schools in Texas and Pennsylvania both attested to the ninth grade academy being a good buffer and transition to high school’s upper classes (Rourke, 2001).

A study of a Boston-area high school that made a decision to house its ninth-grade students in a separate facility was conducted by Smith-Mumford (2004), who found that isolating ninth graders in a separate building, wing, or floor eases the transition to high school, due to ninth grade students benefiting from fostering peer relationships with students in the same grade and not having to worry about bullying by older students. Additionally, it was found in this study that parent involvement was higher and that more positive relationships were built between the freshman students and the faculty and staff in the smaller, tailored setting (Smith-Mumford, 2004). Academic achievement was found to have increased in this ninth grade center because teachers were able to plan more specifically for the ninth graders alone and come up with more specific interventions for groups of students or even individual students (Smith-Mumford, 2004).

A comparison of two ninth grade academies located in eastern Tennessee over a five-year period time showed that one school studied experienced statistically significant growth in number of core credits earned, number of elective credits earned, and the number of absences per student (Teffeteller, 2010). This research was consistent with that of Morton (2002) and Sigler (2008), who concluded that ninth grade academies positively impacted student achievement and contributed to a decrease in ninth grade absences from school. However, the second school studied showed a regression in the chosen performance indicators in comparison to the time prior to the ninth grade academy being created, bringing into question the practices of ninth grade academy implementation (Teffeteller, 2010).
A comparison of ninth grade academy achievement factors against the same factors for ninth graders in a traditional high school in North Carolina was authored by Kimball (2007). Mixed results were found in this study, as it was found that the students who were enrolled in the school with the ninth grade academy had higher rates of promotion to the tenth grade than did the control school, but no statistically significant differences were found between the ninth grade academy cohorts and the traditional ninth grade cohorts in freshman end of course English assessment performance and in overall student attendance (Kimball, 2007). It was noted that the cohorts participating in the ninth grade academy showed significant improvement from previous years on the end of course English assessments, but that the traditionally served ninth grade students continued to keep the pace (Kimball, 2007).

Bennett (2012) analyzed two ninth grade cohorts located in different school districts in another study that took place in North Carolina. In this study, one cohort belonged to a ninth grade academy and one cohort was a ninth grade class at a traditional high school. The district in which Bennett (2012) chose the ninth grade academy was described as educating a more at-risk population of students, while the comparison district with the traditional high school was described as a top-performing school district in North Carolina. Findings showed that ninth grade attendance had about the same rate at the two schools. While the perennially higher-performing school had higher ninth grade state assessment performance and fewer discipline problems, Bennett (2012) noted that the ninth grade academy concept significantly helped the at-risk narrow the gaps with the comparison school in those areas, to include a reduction in documentation of disciplinary incidents of 23%.

Another North Carolina study by Waden (2011) focused on high-stakes testing, attendance rates, graduation rates, ninth grade retentions, and dropout rates in selected schools
with ninth grade academies in North Carolina that had high enrollments of minority students. Waden (2011) found that all of the variables studied showed statistically significant achievement increases in all areas analyzed; the study was significant because a correlation between the ninth grade academy practice and academic achievement of students belonging to minority groups.

In Georgia, two studies were conducted with statewide samples in which ninth grade academies and transition interventions were the topics. First, Brown (2010) sought to establish a correlation between Georgia freshman English and Algebra I end of course assessments and the interventions made available to freshmen in the relational, instructional, and structural domains. No statistically significant relationship was found between provided ninth grade interventions and performance on the end of course assessments (Brown, 2010). Later, Irvin (2013) conducted a statewide study in which public high schools with a ninth grade feeder academy were compared to traditional comprehensive high schools. The variables studied were performance on freshman English and Algebra I end of course assessment, student attendance, and longitudinal graduation rate of the freshman cohorts studied. The results yielded a higher performance rate in the four analyzed variables for freshmen attending traditional comprehensive high schools than for those who attended a ninth grade academy before moving to a traditional high school setting in the tenth grade (Irvin, 2013). These results from the Georgia studies cast doubt on the implementation and effectiveness of a ninth grade center (Brown, 2010; Irvin, 2013).

A before and after ninth grade academy implementation was conducted in an upstate New York high school by Primrose (2008), in which the studied variables were overall passing performance on coursework, a particular analysis of performance on required freshman earth science laboratory academy lessons, and the rate of discipline referrals and assigned detentions for ninth grade students. Primrose (2008) found significant increases in the overall ninth grade
course passing rate and in the mastery levels attained in the science laboratory instruction. However, it was also noted in the study that 1 ½ times the number of discipline referrals and administrator-assigned detentions were found within the new ninth grade academy as opposed to the previous year when ninth grade students were not in the separate setting, calling into question the effectiveness of the increased structure purported as a hallmark of a ninth grade academy (Primrose, 2008).

Fulco (2009) studied a high school in Pennsylvania in which three cohorts of ninth grade students were analyzed with respect to academic achievement, gender-specific differences, students served in special education versus students who were not, and the sustainability of gains made, if any, in the tenth grade and beyond. Academic achievement, with respect to the actual grades earned and total credits earned, significantly increased when compared to the past group of students analyzed in the school who did not take part in the ninth grade academy structure (Fulco, 2009). Additionally, small improvements were noted within the achievement and engagement of students served in special education, but no significant difference was found between the achievement of ninth grade boys and girls, thus suggesting that the ninth grade academy concept had no impact gender-wise (Fulco, 2009). The glaring finding in this study was that when Fulco (2009) studied the cohorts who attended the ninth grade academy once they moved ahead into the upper classes, it was found that the academic gains and credit pace were not sustained after the ninth grade academy treatment. This finding called into question whether the ninth grade academy was a good preparation for the rest of high school or simply a temporary solution for problems being addressed in the tenth grade instead (Fulco, 2009).

A mixed method study on ninth grade academy effectiveness in South Carolina by Joyner (2009), who used a larger sample of 84 high schools, with an even number of 42 high schools
represented using the ninth grade academy concept and 42 high schools represented that did not use the ninth grade academy concept. Additionally, Joyner (2009) took the step of equally representing the 42 schools on each side in terms of small schools and large schools, and also high-poverty and low-poverty schools. Analysis of student performance on the South Carolina Algebra I and English I freshman exams and their subsequent performance on that state’s exit level examination showed no statistically significant difference on test achievement between those school that had a ninth grade academy and those that did not, but a mildly significant increase in longitudinal graduation rate was found when the ninth grade academy cohorts were analyzed in that respect (Jordan, 2009).

A longitudinal study of the implementation of the ninth grade academy concept in the Broward County (Florida) Public Schools (BCPS) was conducted by Letgers, Parise, and Rappaport (2013) in which 18 high schools in BCPS underwent the restructuring process to convert to the ninth grade academy concept. Letgers, Parise, and Rappaport (2013) found that at the outset of the implementation of the ninth grade academies, district and campus leadership was strong. Conversely, as time continued on, inconsistencies were found in the levels of implementation of ninth grade academy best practices across the 18 schools, and that sustained implementation was found to have occurred in only three of the 18 schools. Letgers, Parise, and Rappaport (2013) concluded that the BCPS study suggested that for ninth grade academies to achieve desired results, school districts looking to implement said structure would need to ensure that specific guidelines, on-site support, training for teachers, specifically applied resources, and tools to guide the practice and the process would be needed for a ninth grade academy to be successful in its mission in the long term.
A study conducted in Texas by Lyons (2014) focused on graduation rates and dropout rates between a selection of high schools that begin the four-year cycle with the ninth grade academy treatment and a selection of high schools in which the four-year cycle is the traditional, comprehensive model in which freshmen are in the same setting as all other class groups. Lyons (2014) found that no statistically significant differences were found between the graduation rates and dropout rates of the high schools starting with a ninth grade academy and those that were traditional high school. In this case, it was pointed out by Lyons (2014) that research points to the ninth grade as being the critical year, and with that, the study was delimited in a fashion that did not examine all factors present in the challenge to make a ninth grade academy a success. Factors cited as important that were not used as part of the study included the specific nature and placement of who the ninth grade teachers were going to be, and also the level of administrative support for the teachers who have been assigned to take on the ninth grade education challenge within an academy (Lyons, 2014). Finally, Lyons (2014) stated that a ninth grade academy would not be set up to be effective if it was only used to formulate an educational setting that would simply be smaller for freshmen; what was happening in the academy would be what would make the difference.

A study of ninth grade academy effectiveness with a more specific scope was undertaken in Georgia by Snipes (2015), in which two schools, one with a ninth grade academy and one that had a traditional ninth grade setting, were analyzed. Although the sample size in this study was limited, the significance lay in the fact that Snipes (2015) correlated student academic performance in ninth grade core courses to student academic performance in the following year’s corresponding tenth grade core courses. Core courses were identified as English, mathematics, science, and social studies. Snipes (2015) also studied disciplinary rates and attendance rates in
the ninth grade academy and in the traditional ninth grade setting, and compared them to the same variables in the following tenth grade year.

Of the six variables that Snipes (2015) analyzed, none showed any statistical significance in favor of the ninth grade academy, thereby displaying that although the study was limited in scope, it could be argued that a separate ninth grade academy was not the answer to the problems that high school freshmen experience. Students in the two groups who moved on to tenth grade did not appear to have a different outcome with respect to academic and disciplinary challenges in the ninth grade, whether they had been in a ninth grade academy or were served as traditional freshmen (Snipes, 2015). While Snipes (2015) called for a reexamination of the ninth grade academy concept and its program planning and evaluation process, the admission was made that a larger study could be replicated.

A qualitative study that focused on the articulation of specific factors that can make a ninth grade academy successful in its mission was completed by Davis (2015). The focus was on one ninth grade academy in northeastern Louisiana that was part of a high school that had a traditional problem with failures and dropouts in grade nine. Davis (2015) culled together teacher perceptions of what practices they believed would make a ninth grade academy most effective and four major themes emerged from that particular research question. These themes were identified as the provision of extra assistance and guidance for ninth grade students, the opportunity for teachers to be able to collaborate and team in both their planning and instruction, the need for students to have positive relationships with their teachers and with the administration, and the need to provide instruction and intervention that could keep students engaged at a higher level (Davis, 2015). These teacher responses show similarities to the central
ninth grade theories and practices outlined by Bottoms (2008) and Habeeb (2013) that were determined to be necessary for a ninth grade academy’s success.

2.13 Conclusion

Research exists that pinpoints the ninth grade as the pivotal grade where students will go on a route to successfully graduate from high school or drop out and not attain a high school diploma. While an unquestionably greater percentage of Americans graduate from high school than at any other time in our nation’s history, those who drop out are negatively affected more greatly than ever due to the fact that a high school diploma has become the de facto minimum amount of education needed to contribute positively to our nation’s workforce and to be less likely to be dependent on programs of government assistance.

Most jobs available in our country today are likely to be either high-skill jobs that require a significant amount of education past high school or low-skill jobs that require only a high school diploma and sometimes not even that. With the lack of jobs available today that were once considered to be middle-skill jobs, more education is imperative in order for people to be able to transition to the higher-paying jobs that do exist. The percentage of students who are economically disadvantaged in our public schools is on the rise, and it must be ensured that trend does not continue as these students become adults. Graduation from high school is only the beginning, and students who do not achieve that goal have almost no chance of being successful, contributing adults in our society. A continued and substantial reduction of the high school dropout rate is necessary, and research points to the ninth grade as the point of focus. High school reforms have been a part of the public education landscape over the last 30 years, but the major types of reform have not specifically targeted the ninth grade as the primary area of impact.
The ninth grade academy concept is one that is increasingly being studied and has a body of knowledge in the process of being built. The acknowledgement of the importance of ninth grade success has become common knowledge; more than ever, ways to motivate ninth grade students academically and to give them a more personalized education are pondered and attempts at implementation are made. Ninth grade academies, whether they house freshmen in separate buildings or in a school-within-a-school concept in an existing high school building, have become more prevalent in the last 10 to 15 years. The question of the overall effectiveness of this concept’s mission remains, as selected studies cited in this literature review show inconclusive results; positive statistical significance is noted in some studies and areas, and other times none is present.

In addition, some of these studies attempt to look at the effectiveness of the concept in a longitudinal fashion and others do not, in some cases looking at only one year of data or tracking only a limited number of variables. While these cited studies provide evidence that ninth grade academies are growing in use, it is the goal of this researcher to add to that body of knowledge with a study that is longitudinal, comparative, and comprehensive in nature. Through a review of the literature, the purpose of this study is relevant with respect to the fact that more findings can be contributed to the growing and important concept of ninth grade academies and its effect as a high school reform strategy.
Chapter Three

Methodology

3.1 Design of the Study

This study is designed as a causal comparative, or ex post facto (“after the fact), study in which a selected sample of Texas high schools that use the ninth grade academy concept are compared to an equal selected sample of Texas high schools that are traditional in nature, with no ninth grade academy present for freshman students. The ex post facto design is appropriate for this study due to the fact that the data to be used has already been amassed and participants will not be contacted, as opposed to a true experimental study in which the data would be collected by observing the participants (Simon & Goes, 2013). Furthermore, the researcher has recognized that the focal group, or the students served in the ninth grade academy setting, and the reference group, or the students served through a traditional high school setting in the ninth grade, already previously possessed an established difference; the goal of the researcher is to retrospectively search for factors that brought about the differences (Cohen, Manion, & Morison, 2000).

The data used in this study will be analyzed ex post facto, with the study framed as an impact evaluation. Impact evaluation is defined as an assessment of how an intervention that is being evaluated affects outcomes (Organization for Economic Cooperation and Development, 2006). In the case of this study, the intervention is the application of the ninth grade academy as the structure for freshman students at 30 selected Texas high schools. An additional condition for conducting an impact evaluation is that a counterfactual be present opposite the intervention so that any impact can be determined by a comparison (White, Sinha & Flanagan, 2006). With respect to this study, a control group of 30 Texas high schools that are demographically similar
to those schools in the treatment group will serve as the counterfactual that will assist in
determining the impact of the ninth grade academy structure on student academic achievement.

The researcher’s review of literature yielded a limited amount of published ninth grade
studies, largely due to the relative newness of the concept. The researcher has communicated that
this study serves the purpose of adding to the body of knowledge covering the ninth grade
academy practice. As such, the study meets the criteria for being framed as an impact evaluation
because the ninth grade academy can be defined as an intervention where scant solid evidence of
impact in the given context exists (OCED, 2006). Additionally, the possibility exists that if the
ninth grade academy is eventually proven to be a significantly positive educational practice, it
could meet the criteria of a program that is due to be scaled up because in that outcome, the
program achieved its intended goal (World Bank, 2011).

The objectives of an effective impact evaluation are cited by OCED (2006) as being
lesson-learning and accountability. A properly completed impact evaluation should be able to
answer whether the program being evaluated is working or not (OCED, 2006) and whether it
should be scaled up for greater use (World Bank, 2011). Additionally, an impact evaluation
should not be only general in nature, but should also be specific with respect to different areas of
the concept being evaluated to inform possible redesign of the policy or program in the future
(OCED, 2006). For the purposes of this study, the researcher will analyze state assessment
results in both reading and mathematics, graduation rates, dropout rates, and college entrance
examination scores for all students, the economically disadvantaged population, the non-
economically disadvantaged population, and the comparison between the economically
disadvantaged and non-economically disadvantaged populations in both the treatment group and
the counterfactual. These variables represent multiple indicators of student achievement and will
be analyzed through individual hypotheses. Therefore, the study qualifies as an impact
evaluation in both the general and specific arenas of analysis.

3.2 Role of the Researcher

The researcher’s role in this study is to examine, through an impact evaluation conducted
through a quantitative-based *ex post facto* study, whether the use of the ninth grade academy
structure in Texas high schools has a statistically significant effect on the improvement of 10
different variables that are used by the Texas Education Agency (TEA) (2015) to define
academic achievement in Texas high schools. Hypotheses for each variable will be established
based on the performance of the groups of “all students, “economically disadvantaged,” and
“non-economically disadvantaged.” Additionally, hypotheses will be established that will
measure the performance between the economically disadvantaged population and the non-
economically disadvantaged population within the selected schools. Data used in the study will
be obtained from public reports provided by the TEA through the Academic Excellence Indicator
System (AEIS) and the Texas Academic Performance Reports (TAPR).

The researcher found through numerous citations in this study’s literature review that the
current problem that exists with students dropping out of high school in the United States is
linked to performance in the ninth grade. Through additional review, the researcher verified the
increased use of the ninth grade academy concept as a plan being used in schools to better assist
students with their transition to high school. Through further review of the literature, the
researcher determined the existence of the correlation between not graduating from high school
and the high probability of a life of struggle with poverty and involvement with the criminal
justice system.
As a public school district administrator who is charged with being a part of the effort to improve academic performance and graduation rate in a school district with a 72% at-risk student population, the researcher maintains a vested interest in the study of programs that could serve to help students successfully graduate from high school and have the opportunity to pursue postsecondary educational endeavors. With the ninth grade transition clearly identified in the gathered research as the pivotal event for student success, the researcher seeks to use this study of ninth grade academy implementation to inform stakeholders on its level of significance as a practice.

3.3 Setting of the Study

The study will be delimited to a selection of 30 high schools with ninth grade academies within the state of Texas, with a demographically comparable selection of 30 traditional high schools also within the state of Texas. All schools selected for the study have a minimum of 35% of their student population coded as economically disadvantaged. Based on the determined selection criteria, the selected schools are found in various regions of Texas.

3.4 Participants and Sample

The unit of analysis in the study will be the school, as the data that will be collected for each variable will be tracked by the aggregate cohort as opposed to being tracked by individual students. The researcher identified 30 public high schools in the state of Texas that use the ninth grade academy concept to begin the high school career of their freshman students. These schools were selected by the researcher through two criteria. The first condition for selection was that the ninth grade academy in the school must have been operational since the 2010-2011 school year. The reason for this condition is the researcher’s desire to conduct a study that evaluates the most recently documented graduating class from the selected high schools. This graduating class is
defined as the class of 2014, who began their freshman year of high school in 2010-2011. The second condition for selection was that each of the 30 schools needed to have a minimum of 35% of students identified as economically disadvantaged, highlighting the researcher’s interest in program structures that will assist the at-risk student population present in Texas public schools.

As a comparative study is being conducted, the researcher chose 30 Texas public schools in the state of Texas that have a traditional high school structure. For the purposes of this study, “traditional” describes public high schools in the state of Texas that do not use a ninth grade academy to begin the freshman year. As in the selection of the 30 schools that use the ninth grade academy structure, the 30 selected schools that are defined as traditional also have a minimum of 35% of students identified as economically disadvantaged.

Each of the 30 selected ninth grade academy schools was matched with a traditional high school that had a similar enrollment size and a similar population of students identified as economically disadvantaged, for the purpose of making both the treatment group and the control groups statistically similar. The range of the economically disadvantaged population in the 30 selected high schools using a ninth grade academy was 35.2% to 84.8%, with the mean economically disadvantaged population of those 30 schools at 60.4%. The range of the economically disadvantaged population of the 30 high schools not using a ninth grade academy was 37.2% to 87.8%, with the mean economically disadvantaged population of those 30 schools at 60.1%.

3.5 Procedures for Data Collection

The independent variables have been identified as ninth grade academy concept implementation in 30 selected high schools in Texas and traditional high school model implementation in 30 selected high schools in Texas. All high schools in the study, both in the
treatment group (ninth grade academy practice used) and the control group (traditional high schools) are found in different regions of Texas, due to a delimitation in the study that each participating school must have a student population of at least 35% economically disadvantaged.

All of the data that comprises all dependent variables in the study will be accessed from the AEIS and TAPR reports, publicly available on the Texas Education Agency website (http://tea.texas.gov). AEIS reports will be accessed and data extracted from the 2010-11 and 2011-2012 publications (https://rptsvr1.tea.texas.gov/perfreport/aeis/). TAPR reports will be accessed and data extracted from the 2012-2013 and 2013-2014 publications (https://rptsvr1.tea.texas.gov/perfreport/tapr/index.html). The researcher will begin the data collection with the 2010-2011 school year because that is the freshman year of the graduation cohort that will be studied, which is the class of 2014. When Texas changed to a new accountability system in 2013, the AEIS was changed to the TAPR. However, the data that will be used for the dependent variables in both publications is identical in terms of its measurements.

The data collected will be recorded in a specifically formatted spreadsheet created through Microsoft Excel, version 2013. The researcher will then weight the data pieces to control for differences in school size and for the differences in the economically disadvantaged and non-economically disadvantaged student populations within the selected schools. When complete, the data will be transferred from Microsoft Excel to the Statistical Package for the Social Sciences (SPSS) program for analysis. The version used will be SPSS 22, from which all descriptive statistics and multivariate analyses of variance (MANOVA) components will be extracted for analysis and reporting of results.
3.6 Ethical Considerations

The AEIS and TAPR data that will be used in the study do not include any information that would identify students or any other person affiliated with any of the 60 selected schools and their affiliated school districts. Additionally, none of the selected schools or their affiliated school districts will be identified by name in the study, and the researcher will not divulge the names of any selected schools or their affiliated school districts in any other manner. The researcher has satisfactorily completed the required content modules and assessments mandated by the Institutional Review Board (IRB) at the University of Texas at El Paso, and has been granted IRB approval. Furthermore, the researcher understands and will abide by the IRB rules that apply to conducting institution-sponsored research. At no time will this study involve contact with human subjects.

3.7 Independent and Dependent Variables Used in the Study

The independent variables identified in this study are defined as follows:

1) Ninth grade academy concept implementation in selected high schools (N=30) (Focal Group), performance of all students enrolled in each of four years studied.

2) Traditional high school model implementation in selected high schools (N=30) (Reference Group), performance of all students enrolled in each of four years studied.

3) Ninth grade academy concept implementation in selected high schools (N=30) (Focal Group), economically disadvantaged vs. non-economically disadvantaged student performance in each of four years studied.

4) Traditional high school model implementation in selected high schools (N=30) (Reference Group), economically disadvantaged vs. non-economically disadvantaged student performance in each of four years studied.
The dependent variables identified in this study are defined as follows:

1) 9th grade TAKS Reading passing percentage, 2010-2011 school year, defined as the freshman year in the analyzed school data sets.

2) 9th grade TAKS Mathematics passing percentage, 2010-2011 school year, defined as the freshman year in the analyzed school data sets.

3) 10th grade TAKS English Language Arts passing percentage, 2011-2012 school year, defined as the sophomore year in the analyzed school data sets.

4) 10th grade TAKS Mathematics passing percentage, 2011-2012 school year, defined as the sophomore year in the analyzed school data sets.

5) 11th grade TAKS English Language Arts passing percentage, 2012-2013 school year, defined as the junior year in the analyzed school data sets.

6) 11th grade TAKS Mathematics passing percentage, 2012-2013 school year, defined as the junior year in the analyzed school data sets.

7) SAT and ACT results at or above college readiness criterion, class of 2014, defined as the cumulative performance on the SAT or ACT of current members of the class of 2014. The class of 2014 is defined as the senior year in the analyzed school data sets.

8) Four-year graduation rate, class of 2014, defined as the percentage of students who graduated from high school in four years. The class of 2014 graduation rate is representative of the four-year cohort that began grade nine in the 2010-2011 school year.

9) Four-year Recommended High School Plan/Distinguished Achievement Plan graduation rate, class of 2014, defined as the percentage of students who graduated from high school in four years having taken four years of mathematics, four years of
science, and three years of a foreign language. The class of 2014 graduation rate is representative of the four-year cohort that began grade nine in the 2010-2011 school year.

10) Dropout rate, class of 2014, defined as the percentage of students who dropped out of high school during the four years since the four-year cohort began grade nine in the 2010-2011 school year.
3.8 Research Questions Guiding the Study

The researcher identified five main research questions that will be used to guide the study, which are detailed as follows:

1) Is the implementation of a ninth grade academy an indicator of more positive outcomes in Texas students’ success rate on high school TAKS (Texas Assessment of Knowledge and Skills) reading/English language arts and mathematics tests?

2) Is the implementation of a ninth grade academy an indicator of more positive outcomes in Texas students’ success rate on the SAT or ACT, four-year graduation rates, four-year advanced graduation plan rates, and four-year dropout rates?

3) Is the implementation of a ninth grade academy an indicator of more positive outcomes in Texas economically disadvantaged students’ success rates on high school TAKS reading/English language arts and mathematics tests, the SAT or ACT, four-year graduation rates, four-year advanced graduation plan rates, and four-year dropout rates?

4) Is the implementation of a ninth grade academy an indicator of more positive outcomes in Texas non-economically disadvantaged students’ success rates on high school TAKS reading/English language arts and mathematics tests, the SAT or ACT, four-year graduation rates, four-year advanced graduation plan rates, and four-year dropout rates?

5) Is the implementation of a ninth grade academy an indicator of more positive outcomes in Texas economically disadvantaged students’ success rates on high school TAKS reading/English language arts and mathematics tests, the SAT or ACT, four-year graduation rates, four-year advanced graduation plan rates, and four-year
dropout rates when compared to the success rates of Texas non-economically disadvantaged students on high school TAKS reading/English language arts and mathematics tests, the SAT or ACT, four-year graduation rates, four-year advanced graduation plan rates, and four-year dropout rates?

### 3.9 Summarization of Hypotheses in Tabular Format

**Table 3.1**

*Texas Assessment of Knowledge and Skills (TAKS) Dependent Variables by Cohort and Population, Ninth Grade Academy vs. Traditional High School, Years Studied*

<table>
<thead>
<tr>
<th>Student Population</th>
<th>Graduation Cohort</th>
<th>Grade 9 Reading/Math</th>
<th>Grade 10 ELA/Math</th>
<th>Grade 11 ELA/Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Students</td>
<td>Class of 2014</td>
<td>2010-2011</td>
<td>2011-2012</td>
<td>2012-2013</td>
</tr>
<tr>
<td>Economically Disadvantaged</td>
<td>Class of 2014</td>
<td>2010-2011</td>
<td>2011-2012</td>
<td>2012-2013</td>
</tr>
<tr>
<td>Non-Economically Disadvantaged</td>
<td>Class of 2014</td>
<td>2010-2011</td>
<td>2011-2012</td>
<td>2012-2013</td>
</tr>
</tbody>
</table>

**Table 3.2**

*College Entrance Examination (SAT/ACT) Dependent Variables by Cohort and Population, Ninth Grade Academy vs. Traditional High School, Years Studied*

<table>
<thead>
<tr>
<th>Student Population</th>
<th>Year Entering Grade 9</th>
<th>Percentage of SAT/ACT Scores At or Above College Readiness Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Students</td>
<td>2010-2011</td>
<td>Class of 2014</td>
</tr>
<tr>
<td>Economically Disadvantaged</td>
<td>2010-2011</td>
<td>Class of 2014</td>
</tr>
<tr>
<td>Non-Economically Disadvantaged</td>
<td>2010-2011</td>
<td>Class of 2014</td>
</tr>
</tbody>
</table>
Table 3.3

*Graduation Rate, Recommended High School Program/Distinguished Achievement Program, and Dropout Rate Dependent Variables by Cohort and Population, Ninth Grade Academy vs. Traditional High School, Years Studied*

<table>
<thead>
<tr>
<th>Student Population</th>
<th>Year Entering Grade 9</th>
<th>Graduation Rate</th>
<th>RHSP/DAP</th>
<th>Dropout Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Students</td>
<td>2010-2011</td>
<td>Class of 2014</td>
<td>Class of 2014</td>
<td>Class of 2014</td>
</tr>
<tr>
<td>Economically Disadvantaged</td>
<td>2010-2011</td>
<td>Class of 2014</td>
<td>Class of 2014</td>
<td>Class of 2014</td>
</tr>
<tr>
<td>Non-Economically Disadvantaged</td>
<td>2010-2011</td>
<td>Class of 2014</td>
<td>Class of 2014</td>
<td>Class of 2014</td>
</tr>
</tbody>
</table>

### 3.10 Research Hypotheses

The following hypotheses were proposed based on the research questions:

1) A statistically significant difference exists between three years of TAKS reading/English language arts results of all students who begin as a cohort in a public ninth grade academy and of all students who begin ninth grade in a traditional four-year public high school.

2) A statistically significant difference exists between three years of TAKS reading/English language arts results of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and of economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public school.

3) A statistically significant interaction effect exists between three years of TAKS reading/English language arts results of economically disadvantaged students and
non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and between economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public high school.

4) A statistically significant difference exists between three years of TAKS mathematics results of all students who begin as a cohort in a public ninth grade academy and of all students who begin ninth grade in a traditional four-year public high school.

5) A statistically significant difference exists between three years of TAKS mathematics results of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy and of economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public school.

6) A statistically significant interaction effect exists between three years of TAKS mathematics results of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and between economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public high school.

7) A statistically significant difference exists between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rates, four-year Recommended High School Plan/Distinguished Achievement Plan graduation rates, and four-year longitudinal dropout rates of all students who begin as a cohort in a public ninth-grade academy and all students who begin ninth grade in a traditional four-year public school.
8) A statistically significant difference exists between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rates, four-year Recommended High School Plan/Distinguished Achievement Plan graduation rates, and four-year longitudinal dropout rates of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth-grade academy and of economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public school.

9) A statistically significant interaction effect exists between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rates, four-year recommended high school plan/distinguished achievement plan graduation rates, and four-year longitudinal dropout rates of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth-grade academy, and between economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public high school.

3.11 Statistical Procedure: School Level Student Assessment Variables

The researcher will use the repeated measures multivariate analysis of variance (MANOVA) statistical procedure to complete the analysis of the six dependent variables that comprise the reading/English language arts and mathematics performance rates by the freshman, sophomore, and junior classes of the 30 selected high schools with a ninth grade academy treatment and of the 30 selected high schools that are traditionally structured. Repeated measures is described by Field (2013) as a process in which the same entities take part in all conditions of
an experiment. The repeated measures MANOVA is the appropriate procedure for analysis of the dependent variables related to student assessment, due to the fact that the assessment performance is analyzed over time (Tabachnick & Fidell, 2013). For the purpose of this study, “time” is identified by year one as grade nine, year two as grade 10, and year three as grade 11.

To satisfy the need to define “same entity” (Field, 2013), the entity is defined as the class of 2014, a cohort that began grade nine in the 2010-2011 school year. In each of the three grades from grade nine to grade 11, a TAKS reading/English language arts and TAKS mathematics assessment were administered, which means that the cohort is tested in these subjects in a repeated fashion over three years of time. Additionally, the assessment performance of the economically disadvantaged and non-economically disadvantaged populations in the same cohort within the selected ninth grade academies and the selected traditional high schools are analyzed over the same three years of time. The choice of MANOVA, as opposed to the single analysis of variance (ANOVA), is correct due to the presence of multiple independent and dependent variables in the analysis, and the need to test for statistical significance between and within the multiple variables present in the data set (Tabachnick & Fidell, 2013). To control for the possible presence of outliers, the recommended margin for error in the repeated measures MANOVA procedure to be conducted will be set at $p \leq .05$ (Huck, 2000). Statistical assumptions for this procedure such as linearity, multivariate normal distribution, homogeneity of variance-covariance matrices, homogeneity of variance and sphericity will assess accordingly for each of the student assessment performance variables on both types of schools studied.

3.12 Statistical Procedure: School Level College Readiness Variables

The researcher has determined that a separate standard MANOVA will be conducted to analyze the four variables in the study that reside in the realm of college readiness. These four
variables are the SAT or ACT percentage of scores at the college readiness criterion, four-year graduation rate, recommended high school plan or distinguished achievement program rate, and longitudinal dropout rate. For each of these dependent variables, the performance of the class of 2014 cohort is analyzed through the membership of the 30 schools where the ninth grade academy treatment was provided and the membership of the 30 schools that are traditionally structured. Additionally, the rates of the four college readiness variables will be analyzed for the economically disadvantaged and non-economically disadvantaged populations in the class of 2014 cohort, within the selected ninth grade academies and the selected traditional high schools.

The choice of MANOVA, as opposed to the single analysis of variance (ANOVA), is correct due to the presence of multiple independent and dependent variables in the analysis, and the need to test for statistical significance between and within the multiple variables present in the data set (Tabachnick & Fidell, 2013). To control for the possible presence of outliers, the recommended margin for error in the repeated measures MANOVA procedure to be conducted will be set at \( p \leq .05 \) (Huck, 2000). Statistical assumptions for this procedure such as linearity, multivariate normal distribution, and homogeneity of variance will assess accordingly for each of the student assessment performance variables on both types of schools studied.

3.13 Summary

Chapter three begins with the design of the study, in which the researcher outlines the applicability of the ex post facto design and the impact evaluation as pertinent frames to correctly completing the study. Next, the role of the researcher is discussed, with the researcher discussing his interest as a public school administrator in restructuring efforts that have the potential to increase high school graduation rates and decrease high dropout rates. After the introduction, a brief description of the setting of the study and detailed description of the
participants and sample for the study follow. Procedures for data collection are then outlined and ethical considerations are addressed.

The independent variables and the dependent variables used in the study are then listed, followed by the guiding research questions for the study. A total of nine research hypotheses are then delineated for the study, with three hypotheses that focus on the ninth grade academy and student assessment performance in TAKS English language arts, three hypotheses that focus on the ninth grade academy and student assessment performance in mathematics, and three hypotheses that focus on the ninth grade academy and SAT/ACT performance, four-year graduation rate, four-year recommended high school plan/distinguished achievement plan rate, and longitudinal dropout rate.

Within the nine hypotheses, the performance of the groups of all students, economically disadvantaged, and non-economically disadvantaged are analyzed. Also, the comparison between the performance of the groups of economically disadvantaged and non-economically disadvantaged is analyzed. The chapter continues with a description of the repeated measures multivariate analysis of variance (MANOVA), and its applicability as the statistical procedure that will be used to answer the research questions of this study that are related to student assessment, followed by a description of MANOVA as the statistical procedure that will be used to answer the research questions of this study that are related to college readiness.
Chapter Four

Results of the Study

4.1 Introduction

The purpose of this study was to examine whether the concept of the ninth grade academy structure in Texas high schools affected a variety of variables indicative of student achievement. Data representative of performance by students served in 30 schools where a separately structured ninth grade academy was implemented were compared to data representative of performance by students served in 30 schools where ninth grade was part of the traditional high school setting, as both groups of students moved toward graduation from high school. A group of six variables in the category of student assessment performance were analyzed, and a group of four variables that are related to college readiness or the risk of not being college-ready were analyzed. These variables were analyzed through the performance of all students, performance of the economically disadvantaged population, performance of the non-economically disadvantaged population, and the comparison of performance between the economically disadvantaged and the non-economically disadvantaged populations within the selected high schools with a ninth grade academy present and the selected high schools that are traditionally structured.

4.2 Research Hypotheses

The independent variables in the study were the use of the ninth grade academy and the use of the traditional high school model. Ten dependent variables that reflected measures of student achievement were analyzed, and each of the ten dependent variables were broken down into analyses of performance of all students enrolled in the selected schools, performance of economically disadvantaged students enrolled in the selected schools, performance of non-
economically disadvantaged students enrolled in the selected schools, and the comparison of performance between the economically disadvantaged and the non-economically disadvantaged populations within the selected schools. A total of nine research hypotheses were derived from the five research questions to be answered in the study.

The following hypotheses were proposed based on the research questions:

1) A statistically significant difference exists between three years of TAKS reading/English language arts results of all students who begin as a cohort in a public ninth grade academy and of all students who begin ninth grade in a traditional four-year public high school.

2) A statistically significant difference exists between three years of TAKS reading/English language arts results of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and of economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public school.

3) A statistically significant difference exists between three years of TAKS reading/English language arts results of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and between economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public high school.

4) A statistically significant difference exists between three years of TAKS mathematics results of all students who begin as a cohort in a public ninth grade academy and of all students who begin ninth grade in a traditional four-year public high school.
5) A statistically significant difference exists between three years of TAKS mathematics results of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy and of economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public school.

6) A statistically significant difference exists between three years of TAKS mathematics results of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and between economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public high school.

7) A statistically significant difference exists between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rates, four-year Recommended High School Plan/Distinguished Achievement Plan graduation rates, and four-year longitudinal dropout rates of all students who begin as a cohort in a public ninth-grade academy and all students who begin ninth grade in a traditional four-year public school.

8) A statistically significant difference exists between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rates, four-year Recommended High School Plan/Distinguished Achievement Plan graduation rates, and four-year longitudinal dropout rates of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth-grade academy and of economically disadvantaged students and non-
economically disadvantaged students who begin ninth grade in a traditional four-year public school.

9) A statistically significant difference exists between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rates, four-year recommended high school plan/distinguished achievement plan graduation rates, and four-year longitudinal dropout rates of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and between economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public high school.

4.3 Reported Results

4.31 Research Hypothesis 1

Research hypothesis 1 stated that a statistically significant difference would exist between three years of TAKS reading/English language arts results of all students who begin as a cohort in a public ninth grade academy and all students who begin ninth grade in a traditional four-year public high school. Table 4.1 illustrates the average passing percentage (mean) and standard deviations of the three years of reading/ELA scores for both the ninth grade academy setting and the traditional high school setting, after the weighting of all data for these variables.
Table 4.1

Descriptive Statistics, Research Hypothesis 1, TAKS Reading/ELA, All Students, Ninth Grade Academy and Traditional High School

<table>
<thead>
<tr>
<th>Year</th>
<th>Type of School Attended</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>First (9th)</td>
<td>Ninth Grade Academy</td>
<td>88.00</td>
<td>4.61</td>
<td>30</td>
</tr>
<tr>
<td>First (9th)</td>
<td>Traditional High School</td>
<td>86.00</td>
<td>5.56</td>
<td>30</td>
</tr>
<tr>
<td>Second (10th)</td>
<td>Ninth Grade Academy</td>
<td>88.57</td>
<td>4.05</td>
<td>30</td>
</tr>
<tr>
<td>Second (10th)</td>
<td>Traditional High School</td>
<td>88.17</td>
<td>3.61</td>
<td>30</td>
</tr>
<tr>
<td>Third (11th)</td>
<td>Ninth Grade Academy</td>
<td>93.27</td>
<td>2.85</td>
<td>30</td>
</tr>
<tr>
<td>Third (11th)</td>
<td>Traditional High School</td>
<td>93.40</td>
<td>1.83</td>
<td>30</td>
</tr>
</tbody>
</table>

The MANOVA assumption of homogeneity of covariance was not met using Box’s Test of Equality for Covariances, $F(6, 24373.1) = 25.96, p = .000$ (met at or above .05). Mauchly’s Test of Sphericity was then run for the repeated measures MANOVA, but the assumption was not met through that measure at $p = .002$, nor for the alternative Greenhouse-Geisser sphericity measure at $p = .000$. However, the MANOVA is known to be robust or insensitive to violations of this assumption (Tabachnick & Fidell, 2013). In the present study, an adequate sample size (N=60) is present according to a power analysis conducted using GPower 3.0 that yielded an ideal sample size of 66. Additionally, no missing data or outliers were reported in this part of the study. Levene’s Test of Equality for Error Variances revealed that two of the three variables in this repeated measures MANOVA, when analyzed individually, met the $p \geq .05$ assumption:

- Year One (freshman), $F(1, 58) = 4.084, p = .048$;
- Year Two (sophomore), $F(1, 58) = .304, p = .583$;
- Year Three (junior), $F(1, 58) = 1.769, p = .189$. 

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The repeated measures MANOVA revealed that there was no statistically significant difference in three years of TAKS reading/English language arts results of all students who began as a cohort in a public ninth grade academy and all students who began ninth grade in a traditional four-year public high school, \( F(2, 57) = 2.604, p = .083 \) (significance at .05), Pillai’s Trace = .916, \( \eta^2 = .084 \). As such, the null hypothesis was not rejected for research hypothesis 1.

4.32 Research Hypothesis 2

Research hypothesis 2 stated that a statistically significant difference would exist between three years of TAKS reading/English language arts results of economically disadvantaged and non-economically disadvantaged student groups who begin as a cohort in a public ninth grade academy, and economically disadvantaged and non-economically disadvantaged student groups who begin ninth grade in a traditional four-year public school. The MANOVA assumption of homogeneity of covariance was not met using Box’s Test of Equality for Covariances, \( F(18, 47550.03) = 11.37, p = .000 \) (met at or above .05). Mauchly’s Test of Sphericity was then run for the repeated measures MANOVA, but the assumption was not met through that measure at \( p = .000 \), nor for the alternative Greenhouse-Geisser measure at \( p = .000 \). However, the MANOVA is known to be robust or insensitive to violations of this assumption (Tabachnick & Fidell, 2013). In the present study, an adequate sample size (\( N=60 \)) is present according to a power analysis conducted using GPower 3.0 that yielded an ideal sample size of 66. Additionally, no missing data or outliers were reported in this part of the study. Levene’s Test of Equality for Error Variances revealed that two of the three variables in this repeated measures MANOVA, when analyzed individually, met the \( p \geq .05 \) assumption: Year One (freshman), \( F(3, 116) = 2.924, p = .037 \); Year Two (sophomore), \( F(3, 116) = .053, p = .984 \); Year Three (junior), \( F(3, 116) = 1.846, p = .143 \).
The repeated measures MANOVA revealed that there was no statistically significant difference in three years of TAKS reading/English language arts results in either the economically disadvantaged or the non-economically disadvantaged student groups who began as a cohort in a public ninth grade academy, nor the economically disadvantaged and non-economically disadvantaged students who began ninth grade in a traditional four-year public high school, when looked at the effect that the type of school attended had on student group performance measured at \( F(2, 115) = .239, p = .788 \) (significance at .05), Pillai’s Trace = .996, \( \eta^2 = .004 \). As such, the null hypothesis was not rejected for research hypothesis 2. Table 4.2 illustrates the average passing percentage (mean) and standard deviations of the three years of reading/ELA scores for both the economically disadvantaged and non-economically disadvantaged students in the ninth grade academy setting and the traditional high school setting, after the weighting of all data for these variables.

4.33 Research Hypothesis 3

Research hypothesis 3 stated that a statistically significant difference would exist between three years of TAKS reading/English language arts results of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and between economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public high school. Table 4.2 illustrates the average passing percentage (mean) and standard deviations of the three years of reading/ELA scores for both the economically disadvantaged and non-economically disadvantaged students in the ninth grade academy setting and the traditional high school setting, after the weighting of all data for these variables.
Table 4.2

Descriptive Statistics, Research Hypotheses 2 and 3, TAKS Reading/ELA, Economically Disadvantaged and Non-Economically Disadvantaged Students, Ninth Grade Academy and Traditional High School

<table>
<thead>
<tr>
<th>Year</th>
<th>Type of School Attended</th>
<th>Student Type</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>First (9th)</td>
<td>Ninth Grade Academy</td>
<td>Econ. Dis.</td>
<td>85.43</td>
<td>4.71</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Traditional High School</td>
<td>Econ. Dis.</td>
<td>83.00</td>
<td>5.74</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Ninth Grade Academy</td>
<td>Not Econ. Dis.</td>
<td>91.60</td>
<td>4.14</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Traditional High School</td>
<td>Not Econ. Dis.</td>
<td>90.60</td>
<td>6.51</td>
<td>30</td>
</tr>
<tr>
<td>Second (10th)</td>
<td>Ninth Grade Academy</td>
<td>Econ. Dis.</td>
<td>86.30</td>
<td>4.68</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Traditional High School</td>
<td>Econ. Dis.</td>
<td>85.57</td>
<td>4.31</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Ninth Grade Academy</td>
<td>Not Econ. Dis.</td>
<td>91.23</td>
<td>4.26</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Traditional High School</td>
<td>Not Econ. Dis.</td>
<td>92.07</td>
<td>4.26</td>
<td>30</td>
</tr>
<tr>
<td>Third (11th)</td>
<td>Ninth Grade Academy</td>
<td>Econ. Dis.</td>
<td>91.57</td>
<td>3.26</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Traditional High School</td>
<td>Econ. Dis.</td>
<td>91.40</td>
<td>2.82</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Ninth Grade Academy</td>
<td>Not Econ. Dis.</td>
<td>92.47</td>
<td>16.15</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Traditional High School</td>
<td>Not Econ. Dis.</td>
<td>95.70</td>
<td>2.45</td>
<td>30</td>
</tr>
</tbody>
</table>

The MANOVA assumption of homogeneity of covariance was not met using Box’s Test of Equality for Covariances, F (18, 47550.03) = 11.37, p = .000 (met at or above .05). Mauchly’s Test of Sphericity was then run for the repeated measures MANOVA, but the assumption was not met through that measure at p = .000, nor for the alternative Greenhouse-Geisser sphericity measure at p = .007 (illustrated in Table 4.3). However, the MANOVA is known to be robust or
insensitive to violations of this assumption (Tabachnick & Fidell, 2013). In the present study, an adequate sample size (N=60) is present according to a power analysis conducted using GPower 3.0 that yielded an ideal sample size of 66. Additionally, no missing data or outliers were reported in this part of the study. Levene’s Test of Equality for Error Variances revealed that two of the three variables in this repeated measures MANOVA, when analyzed individually, met the $p \geq .05$ assumption: Year One (freshman), $F(3, 116) = 2.924, p = .037$; Year Two (sophomore), $F(3, 116) = .053, p = .984$; Year Three (junior), $F(3, 116) = 1.846, p = .143$.

The repeated measures MANOVA revealed that there was a statistically significant difference in three years of TAKS reading/English language arts results of economically disadvantaged and non-economically disadvantaged student groups who began as a cohort in a public ninth grade academy and economically disadvantaged and non-economically disadvantaged students who began ninth grade in a traditional four-year public high school, when looked at the effect that the type of student (economically disadvantaged or non-economically disadvantaged) had on student group performance measured at $F(2, 115) = 4.411, p = .014$ (significance at .05), Pillai’s Trace = .929, $\eta^2_p = .071$. Additional tests between subjects also showed statistical significance with respect to this hypothesis, $F(1) = 34.67, p = .000$, $\eta^2_p = .230$, as illustrated in Table 4.3. As such, the null hypothesis was rejected for research hypothesis 3.
Table 4.3

Within-Subjects and Between-Subjects Effects Tests, Research Hypothesis 3, TAKS Reading/ELA, Economically Disadvantaged and Non-Economically Disadvantaged Students, Type of Student, Ninth Grade Academy and Traditional High School

<table>
<thead>
<tr>
<th>Test</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse-Geisser</td>
<td>294.22</td>
<td>1.652</td>
<td>178.095</td>
<td>5.599</td>
<td>.007</td>
<td>.046</td>
</tr>
<tr>
<td>Student Type</td>
<td>2310.40</td>
<td>1</td>
<td>2310.40</td>
<td>34.673</td>
<td>.000</td>
<td>.230</td>
</tr>
</tbody>
</table>

Figure 4.1 illustrates the overall reading/ELA performance difference between economically disadvantaged students and non-economically disadvantaged students in the study. As both groups of students made their way through high school, the economically disadvantaged student population closed the achievement gap in reading/ELA by the end of the third (junior) year. Overall, the finding was statistically significant; the third year gap closure, however, is noteworthy in nature.
Figure 4.2 illustrates the overall performance difference between economically disadvantaged students and non-economically disadvantaged students who attended a ninth grade academy. As both groups of students made their way through high school, the achievement gaps in reading/ELA in the first (freshman) year and the second (sophomore) year were statistically significant, with the economically disadvantaged population almost achieving evenly by the third (junior) year. Conversely, Figure 4.3 shows that less of a gap closure occurred in reading/ELA performance over the three years for the economically disadvantaged population attending a traditional high school.
4.34 Research Hypothesis 4

Research hypothesis 4 stated that a statistically significant difference would exist between three years of TAKS mathematics results of all students who begin as a cohort in a public ninth grade academy and all students who begin ninth grade in a traditional four-year public high school. Table 4.4 illustrates the average passing percentage (mean) and standard deviations of the three years of mathematics scores for both the ninth grade academy setting and the traditional high school setting, after the weighting of all data for these variables.
Table 4.4

*Descriptive Statistics, Research Hypothesis 4, TAKS Mathematics, All Students, Ninth Grade Academy and Traditional High School*

<table>
<thead>
<tr>
<th>Year</th>
<th>Type of School Attended</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>First (9th)</td>
<td>Ninth Grade Academy</td>
<td>70.93</td>
<td>9.03</td>
<td>30</td>
</tr>
<tr>
<td>First (9th)</td>
<td>Traditional High School</td>
<td>62.20</td>
<td>11.03</td>
<td>30</td>
</tr>
<tr>
<td>Second (10th)</td>
<td>Ninth Grade Academy</td>
<td>73.20</td>
<td>7.34</td>
<td>30</td>
</tr>
<tr>
<td>Second (10th)</td>
<td>Traditional High School</td>
<td>67.80</td>
<td>8.47</td>
<td>30</td>
</tr>
<tr>
<td>Third (11th)</td>
<td>Ninth Grade Academy</td>
<td>86.77</td>
<td>4.86</td>
<td>30</td>
</tr>
<tr>
<td>Third (11th)</td>
<td>Traditional High School</td>
<td>85.93</td>
<td>6.02</td>
<td>30</td>
</tr>
</tbody>
</table>

The MANOVA assumption of homogeneity of covariance was met using Box’s Test of Equality for Covariances, $F(6, 24373.13) = 1.678, p = .122$ (met at or above .05). Mauchly’s Test of Sphericity was then run for the repeated measures MANOVA, but the assumption was not met through that measure at $p = .007$, nor for the alternative Greenhouse-Geisser measure at $p = .002$ (illustrated in Table 4.5). However, the MANOVA is known to be robust or insensitive to violations of this assumption (Tabachnick & Fidell, 2013). In the present study, an adequate sample size (N=60) is present according to a power analysis conducted using GPower 3.0 that yielded an ideal sample size of 66. Additionally, no missing data or outliers were reported in this part of the study. Levene’s Test of Equality for Error Variances revealed that all of the three variables in this repeated measures MANOVA, when analyzed individually, met the $p \geq .05$ assumption: Year One (freshman), $F(1, 58) = 1.271, p = .264$; Year Two (sophomore), $F(1, 58) = .003, p = .957$; Year Three (junior), $F(1, 58) = .526, p = .471$. 

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The repeated measures MANOVA revealed that there was a statistically significant difference in three years of TAKS mathematics results of all students who began as a cohort in a public ninth grade academy and all students who began ninth grade in a traditional four-year public high school, $F(2, 57) = 8.521, p = .001$ (significance at .05), Pillai’s Trace = .770, $\eta^2 = .230$. Additional tests between subjects also showed statistical significance with respect to this hypothesis, $F(1) = 34.67, p = .000, \eta^2 = .230$, as illustrated in Table 4.5. As such, the null hypothesis was rejected for research hypothesis 4.

Table 4.5

*Within-Subjects and Between-Subjects Effects Tests, Research Hypothesis 4, TAKS Mathematics, All Students, Ninth Grade Academy and Traditional High School*

<table>
<thead>
<tr>
<th>Test</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>$p$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse-Geisser</td>
<td>471.88</td>
<td>1.726</td>
<td>273.468</td>
<td>7.421</td>
<td>.002</td>
<td>.113</td>
</tr>
<tr>
<td>School Type</td>
<td>1120.01</td>
<td>1</td>
<td>1120.01</td>
<td>8.559</td>
<td>.005</td>
<td>.129</td>
</tr>
</tbody>
</table>

Figure 4.4 illustrates the overall mathematics performance difference between all students who attended a ninth grade academy and all students who attended a traditional high school. As both groups of students made their way through high school, the achievement gaps in reading/ELA in the first (freshman) year and the second (sophomore) year were statistically significant, with the economically disadvantaged population almost achieving evenly by the third (junior) year.
Research hypothesis 5 stated that a statistically significant difference would exist between three years of TAKS mathematics results of economically disadvantaged and non-economically disadvantaged student groups who begin as a cohort in a public ninth grade academy, and economically disadvantaged and non-economically disadvantaged student groups who begin ninth grade in a traditional four-year public school. The MANOVA assumption of homogeneity of covariance was not met using Box’s Test of Equality for Covariances, $F(18, 47550.03) = 1.765, p = .023$ (met at or above .05). Mauchly’s Test of Sphericity was then run for the repeated measures MANOVA, but the assumption was not met through that measure at $p =$
.000, nor for the alternative Greenhouse-Geisser measure at p = .001 (illustrated in Table 4.7. However, the MANOVA is known to be robust or insensitive to violations of this assumption (Tabachnick & Fidell, 2013). In the present study, an adequate sample size (N=60) is present according to a power analysis conducted using GPower 3.0 that yielded an ideal sample size of 66. Additionally, no missing data or outliers were reported in this part of the study. Levene’s Test of Equality for Error Variances revealed that all of the three variables in this repeated measures MANOVA, when analyzed individually, met the p ≥ .05 assumption: Year One (freshman), F (3, 116) = .734, p = .534; Year Two (sophomore), F (3, 116) = 1.323, p = .270; Year Three (junior), F (3, 116) = 2.371, p = .074.

The repeated measures MANOVA revealed that there was no statistically significant difference in three years of TAKS mathematics results in either the economically disadvantaged or the non-economically disadvantaged student groups who began as a cohort in a public ninth grade academy, nor the economically disadvantaged and non-economically disadvantaged students who began ninth grade in a traditional four-year public high school, when looked at the effect that the type of school attended had on student group performance measured at F (2, 115) = .917, p = .403 (significance at .05), Pillai’s Trace = .984, ηp² = .016. As such, the null hypothesis was not rejected for research hypothesis 5. Table 4.6 illustrates the average passing percentage (mean) and standard deviations of the three years of mathematics scores for both the economically disadvantaged and non-economically disadvantaged students in the ninth grade academy setting and the traditional high school setting, after the weighting of all data for these variables.
4.36  Research Hypothesis 6

Research hypothesis 6 stated that a statistically significant difference would exist between three years of TAKS mathematics results of economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and between economically disadvantaged students and non-economically disadvantaged students who begin ninth grade in a traditional four-year public high school. Table 4.6 illustrates the average passing percentage (mean) and standard deviations of the three years of mathematics scores for both the economically disadvantaged and non-economically disadvantaged students in the ninth grade academy setting and the traditional high school setting, after the weighting of all data for these variables.
The MANOVA assumption of homogeneity of covariance was not met using Box’s Test of Equality for Covariances, $F (18, 47550.03) = 1.765, p = .023$ (met at or above .05). Mauchly’s Test of Sphericity was then run for the repeated measures MANOVA, but the assumption was not met through that measure at $p = .000$, nor for the alternative Greenhouse-Geisser measure at $p = .001$ (illustrated in Table 4.7). However, the MANOVA is known to be robust or insensitive.
to violations of this assumption (Tabachnick & Fidell, 2013). In the present study, an adequate sample size (N=60) is present according to a power analysis conducted using GPower 3.0 that yielded an ideal sample size of 66. Additionally, no missing data or outliers were reported in this part of the study. Levene’s Test of Equality for Error Variances revealed that all of the three variables in this repeated measures MANOVA, when analyzed individually, met the $p > .05$ assumption: Year One (freshman), $F (3, 116) = .734, p = .534$; Year Two (sophomore), $F (3, 116) = 1.323, p = .270$; Year Three (junior), $F (3, 116) = 2.371, p = .074$.

The repeated measures MANOVA revealed that there was a statistically significant difference in three years of TAKS reading/English language arts results of economically disadvantaged and non-economically disadvantaged student groups who began as a cohort in a public ninth grade academy and economically disadvantaged and non-economically disadvantaged students who began ninth grade in a traditional four-year public high school, when looked at the effect that the type of student (economically disadvantaged or non-economically disadvantaged) had on student group performance measured at $F (2, 115) = 10.934, p = .000$ (significance at .05), Pillai’s Trace = .840, $\eta_p^2 = .160$. Additional tests between subjects also showed statistical significance with respect to this hypothesis, $F (1) = 51.42, p = .000, \eta_p^2 = .307$. As such, the null hypothesis was rejected for research hypothesis 6.
Table 4.7

*Within-Subjects and Between-Subjects Effects Tests, Research Hypothesis 6, TAKS Mathematics, Economically Disadvantaged and Non-Economically Disadvantaged Students, Type of Student, Ninth Grade Academy and Traditional High School*

<table>
<thead>
<tr>
<th>Test</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>ηp²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse-Geisser</td>
<td>608.739</td>
<td>1.781</td>
<td>341.836</td>
<td>8.336</td>
<td>.001</td>
<td>.067</td>
</tr>
<tr>
<td>Student Type</td>
<td>7914.844</td>
<td>1</td>
<td>7914.844</td>
<td>51.417</td>
<td>.000</td>
<td>.307</td>
</tr>
</tbody>
</table>

Figure 4.5 illustrates the overall mathematics performance difference between economically disadvantaged students and non-economically disadvantaged students who attended a ninth grade academy. As both groups of students made their way through high school, the achievement gaps in mathematics in the first (freshman) year and the second (sophomore) year were statistically significant, with the economically disadvantaged population closing the gap by the third (junior) year.
Figure 4.5 illustrates the overall performance difference between economically disadvantaged students and non-economically disadvantaged students who attended a ninth grade academy. As both groups of students made their way through high school, the achievement gaps in reading/ELA in the first (freshman) year and the second (sophomore) year were statistically significant, with the economically disadvantaged population closing the by the third (junior) year. Conversely, Figure 4.7 shows that less of a gap closure occurred in mathematics performance over the three years for the economically disadvantaged population attending a traditional high school.
Figure 4.6

Estimated Marginal Means of Mathematics Performance, Economically Disadvantaged vs. Non-Economically Disadvantaged

Type of School Attended = Ninth Grade Academy

Mathematics Performance

Estimated Marginal Means

Economically Disadvantaged
- Not Economically Disadvantaged
- Economically Disadvantaged

Graph shows the comparison of mathematics performance between economically disadvantaged and non-economically disadvantaged students attending Ninth Grade Academy.
Research hypothesis 7 stated that a statistically significant difference would exist between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rate, recommended high school program/distinguished achievement program (RHSP/DAP), and longitudinal dropout rate of all students who begin as a cohort in a public ninth-grade academy and all students who begin ninth grade in a traditional four-year public school. Table 4.8 illustrates the average success percentage (mean) and standard deviations of
the four college readiness variables for all students in both the ninth grade academy setting and the traditional high school setting.

Table 4.8

Descriptive Statistics, Research Hypothesis 7, College Readiness Variables, All Students, Ninth Grade Academy and Traditional High School

<table>
<thead>
<tr>
<th>College Readiness Variables</th>
<th>Type of School Attended</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT/ACT Criterion</td>
<td>Ninth Grade Academy</td>
<td>14.97</td>
<td>8.72</td>
<td>30</td>
</tr>
<tr>
<td>SAT/ACT Criterion</td>
<td>Traditional High School</td>
<td>13.90</td>
<td>10.37</td>
<td>30</td>
</tr>
<tr>
<td>Graduation Rate</td>
<td>Ninth Grade Academy</td>
<td>90.67</td>
<td>4.52</td>
<td>30</td>
</tr>
<tr>
<td>Graduation Rate</td>
<td>Traditional High School</td>
<td>89.30</td>
<td>7.16</td>
<td>30</td>
</tr>
<tr>
<td>RHSP/DAP</td>
<td>Ninth Grade Academy</td>
<td>86.83</td>
<td>4.05</td>
<td>30</td>
</tr>
<tr>
<td>RHSP/DAP</td>
<td>Traditional High School</td>
<td>84.90</td>
<td>7.48</td>
<td>30</td>
</tr>
<tr>
<td>Dropout Rate</td>
<td>Ninth Grade Academy</td>
<td>5.30</td>
<td>3.43</td>
<td>30</td>
</tr>
<tr>
<td>Dropout Rate</td>
<td>Traditional High School</td>
<td>6.00</td>
<td>4.64</td>
<td>30</td>
</tr>
</tbody>
</table>

The MANOVA assumption of homogeneity of covariance was not met using Box’s Test of Equality for Covariances, $F(10, 16082.9) = 2.28, p = .012$ (met at or above .05). However, the MANOVA is known to be robust or insensitive to violations of this assumption (Tabachnick & Fidell, 2013). In the present study, an adequate sample size (N=60) is present according to a power analysis that yielded an ideal sample size of 66. Levene’s Test of Equality for Error Variances revealed that each of the four variables in this standard MANOVA, when analyzed individually, met the $p \geq .05$ assumption: SAT/ACT criterion, $F(1, 58) = .120, p = .730$;
graduation rate, $F(1, 58) = 2.558$, $p = .115$; recommended high school plan rate, $F(1, 58) = 2.648$, $p = .109$; dropout rate, $F(1, 58) = 1.837$, $p = .181$.

The standard MANOVA revealed that there was no statistically significant difference between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rate, recommended high school program/distinguished achievement program (RHSP/DAP), and longitudinal dropout rate of all students who began as a cohort in a public ninth grade academy and all students who began ninth grade in a traditional four-year public high school, $F(4, 55) = .479$, $p = .751$ (significance at .05), Pillai’s Trace = .966, $\eta^2 = .034$. As such, the null hypothesis was not rejected for research hypothesis 7.

4.38 Research Hypothesis 8

Research hypothesis 8 stated that a statistically significant difference would exist between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rate, recommended high school program/distinguished achievement program (RHSP/DAP), and longitudinal dropout rate of economically disadvantaged and non-economically disadvantaged student groups who begin as a cohort in a public ninth grade academy, and economically disadvantaged and non-economically disadvantaged student groups who begin ninth grade in a traditional four-year public school. The MANOVA assumption of homogeneity of covariance was not met using Box’s Test of Equality for Covariances, $F(30, 36996) = 3.09$, $p = .000$ (met at or above .05). However, the MANOVA is known to be robust or insensitive to violations of this assumption (Tabachnick & Fidell, 2013). In the present study, an adequate sample size ($N=60$) is present according to a power analysis that yielded an ideal sample size of 66. Levene’s Test of Equality for Error Variances revealed that three of the four variables in this standard MANOVA, when analyzed individually, met the $p \geq .05$ assumption:
Graduation rate, F (3, 116) = 1.67, p = .178; recommended high school plan rate, F (3, 116) = .569, p = .636; dropout rate, F (3, 116) = .455, p = .714. The SAT/ACT criterion, F (3, 116) = 6.35, p = .001, did not meet the $p \geq .05$ assumption.

The standard MANOVA revealed that there was no statistically significant difference between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rates, recommended high school program/distinguished achievement program (RHSP/DAP) rates, and longitudinal dropout rates for either the economically disadvantaged or the non-economically disadvantaged student groups who began as a cohort in a public ninth grade academy, nor for the economically disadvantaged and non-economically disadvantaged students who began ninth grade in a traditional four-year public high school, when looked at the effect that the type of school attended had on student group performance measured at $F (4, 113) = .331, p = .857$ (significance at .05), Pillai’s Trace = .988, $\eta^2 = .012$. As such, the null hypothesis was not rejected for research hypothesis 8. Table 4.9 illustrates the average success percentage (mean) and standard deviations of the four college readiness variables for economically disadvantaged students and non-economically disadvantaged students in both the ninth grade academy setting and the traditional high school setting.

4.39 Research Hypothesis 9

Research hypothesis 9 stated that a statistically significant difference would exist between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rates, recommended high school program/distinguished achievement program (RHSP/DAP) rates, and longitudinal dropout rates between economically disadvantaged students and non-economically disadvantaged students who begin as a cohort in a public ninth grade academy, and between economically disadvantaged students and non-economically
disadvantaged students who begin ninth grade in a traditional four-year public high school. Table 4.9 illustrates the average success percentage (mean) and standard deviations of the four college readiness variables for economically disadvantaged students and non-economically disadvantaged students in both the ninth grade academy setting and the traditional high school setting.
Table 4.9

Descriptive Statistics, Research Hypotheses 8 & 9, College Readiness Variables, Economically Disadvantaged and Non-Economically Disadvantaged Students, Ninth Grade Academy and Traditional High School

<table>
<thead>
<tr>
<th>College Readiness Variable</th>
<th>Type of School Attended</th>
<th>Student Type</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT/ACT Criterion</td>
<td>Ninth Grade Academy</td>
<td>Econ. Dis.</td>
<td>9.23</td>
<td>4.78</td>
<td>30</td>
</tr>
<tr>
<td>SAT/ACT Criterion</td>
<td>Traditional High School</td>
<td>Econ. Dis.</td>
<td>8.40</td>
<td>7.88</td>
<td>30</td>
</tr>
<tr>
<td>SAT/ACT Criterion</td>
<td>Ninth Grade Academy</td>
<td>Not Econ. Dis.</td>
<td>22.17</td>
<td>18.84</td>
<td>30</td>
</tr>
<tr>
<td>SAT/ACT Criterion</td>
<td>Traditional High School</td>
<td>Not Econ. Dis.</td>
<td>18.80</td>
<td>13.12</td>
<td>30</td>
</tr>
<tr>
<td>Graduation Rate</td>
<td>Ninth Grade Academy</td>
<td>Econ. Dis.</td>
<td>89.27</td>
<td>6.28</td>
<td>30</td>
</tr>
<tr>
<td>Graduation Rate</td>
<td>Traditional High School</td>
<td>Econ. Dis.</td>
<td>88.00</td>
<td>6.84</td>
<td>30</td>
</tr>
<tr>
<td>Graduation Rate</td>
<td>Ninth Grade Academy</td>
<td>Not Econ. Dis.</td>
<td>92.30</td>
<td>6.54</td>
<td>30</td>
</tr>
<tr>
<td>Graduation Rate</td>
<td>Traditional High School</td>
<td>Not Econ. Dis.</td>
<td>89.47</td>
<td>10.35</td>
<td>30</td>
</tr>
<tr>
<td>RHSP/DAP</td>
<td>Ninth Grade Academy</td>
<td>Econ. Dis.</td>
<td>85.07</td>
<td>4.68</td>
<td>30</td>
</tr>
<tr>
<td>RHSP/DAP</td>
<td>Traditional High School</td>
<td>Econ. Dis.</td>
<td>82.37</td>
<td>8.88</td>
<td>30</td>
</tr>
<tr>
<td>RHSP/DAP</td>
<td>Ninth Grade Academy</td>
<td>Not Econ. Dis.</td>
<td>88.33</td>
<td>10.66</td>
<td>30</td>
</tr>
<tr>
<td>RHSP/DAP</td>
<td>Traditional High School</td>
<td>Not Econ. Dis.</td>
<td>87.37</td>
<td>10.66</td>
<td>30</td>
</tr>
<tr>
<td>Dropout Rate</td>
<td>Ninth Grade Academy</td>
<td>Econ. Dis.</td>
<td>6.53</td>
<td>5.06</td>
<td>30</td>
</tr>
<tr>
<td>Dropout Rate</td>
<td>Traditional High School</td>
<td>Econ. Dis.</td>
<td>6.87</td>
<td>5.39</td>
<td>30</td>
</tr>
<tr>
<td>Dropout Rate</td>
<td>Ninth Grade Academy</td>
<td>Not Econ. Dis.</td>
<td>3.97</td>
<td>5.03</td>
<td>30</td>
</tr>
<tr>
<td>Dropout Rate</td>
<td>Traditional High School</td>
<td>Not Econ. Dis.</td>
<td>5.57</td>
<td>5.78</td>
<td>30</td>
</tr>
</tbody>
</table>
The MANOVA assumption of homogeneity of covariance was not met using Box’s Test of Equality for Covariances, $F(30, 36996) = 3.09, p = .000$ (met at or above .05). However, the standard MANOVA is known to be robust or insensitive to violations of this assumption (Tabachnick & Fidell, 2013). In the present study, an adequate sample size ($N=60$) is present according to a power analysis that yielded an ideal sample size of 66. Levene’s Test of Equality for Error Variances revealed that three of the four variables in this standard MANOVA, when analyzed individually, met the $p \geq .05$ assumption: Graduation rate, $F(3, 116) = 1.67, p = .178$; recommended high school plan rate, $F(3, 116) = .569, p = .636$; dropout rate, $F(3, 116) = .455, p = .714$. The SAT/ACT criterion, $F(3, 116) = 6.35, p = .001$, did not meet the $p \geq .05$ assumption.

The standard MANOVA revealed that there was a statistically significant difference between the percentage of SAT and ACT results at or above the college readiness criterion, four-year graduation rates, recommended high school program/distinguished achievement program (RHSP/DAP) rates, and longitudinal dropout rates of economically disadvantaged and non-economically disadvantaged student groups who began as a cohort in a public ninth grade academy and economically disadvantaged and non-economically disadvantaged students who began ninth grade in a traditional four-year public high school, when looked at the effect that the type of student (economically disadvantaged or non-economically disadvantaged) had on student group performance measured at $F(4, 113) = 7.567, p = .000$ (significance at .05), Pillai’s Trace $= .789$, $\eta p^2 = .211$. Additional tests between subjects also showed statistical significance with respect to the dependent variables of percentage of SAT and ACT results at or above the college readiness criterion, $F(1) = 26.674, p = .000$, $\eta p^2 = .187$; recommended high school program/distinguished achievement program (RHSP/DAP) rates, $F(1) = 5.474, p = .021$, $\eta p^2 = \ldots$
.045, and longitudinal dropout rates, F (1) = 3.959, p = .049, \( \eta^2 = .033 \) (illustrated in Table 4.10). The between-subjects tests did not show statistical significance with respect to the dependent variable of graduation rate, F (1) = 2.573, p = .111, \( \eta^2 = .022 \) (illustrated in Table 4.10) As such, the null hypothesis was rejected for research hypothesis 9.

Table 4.10

**Between-Subjects Effects Test, Research Hypothesis 9, Economically Disadvantaged and Non-Economically Disadvantaged Students, Type of Student, Ninth Grade Academy and Traditional High School**

<table>
<thead>
<tr>
<th>Source</th>
<th>Dep. Variable</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Type</td>
<td>SAT/ACT</td>
<td>4083.333</td>
<td>1</td>
<td>4083.333</td>
<td>26.674</td>
<td>.000</td>
<td>.187</td>
</tr>
<tr>
<td>Student Type</td>
<td>Graduation Rate</td>
<td>151.875</td>
<td>1</td>
<td>151.875</td>
<td>2.573</td>
<td>.111</td>
<td>.022</td>
</tr>
<tr>
<td>Student Type</td>
<td>RHSP/DAP</td>
<td>512.533</td>
<td>1</td>
<td>512.533</td>
<td>5.474</td>
<td>.021</td>
<td>.045</td>
</tr>
<tr>
<td>Student Type</td>
<td>Dropout Rate</td>
<td>112.133</td>
<td>1</td>
<td>112.133</td>
<td>3.959</td>
<td>.049</td>
<td>.033</td>
</tr>
</tbody>
</table>

Figure 4.8 illustrates the overall performance difference between economically disadvantaged students and non-economically disadvantaged students who attended a ninth grade academy or a traditional high school, with respect to meeting the college readiness criterion on the SAT or ACT. This variable represents the only of the four college readiness variables in the study with both a \( p \) of less than .05 and an effect size (\( \eta^2 \)) determined to be significant (Huck, 2000).
Figure 4.8

Estimated Marginal Means of Passing Rate for SAT/ACT College Readiness Criterion, Type of School Attended, Economically Disadvantaged vs. Non-Economically Disadvantaged
Chapter Five
Discussion of Results of the Study

5.1 Introduction

This research study was conducted based upon the problem that students who drop out of high school in our country are forming a new economic underclass in this period of time, and that the majority of students who drop out do so after the ninth grade. The purpose of this study was to examine whether the concept of the ninth grade academy structure in Texas high schools affects a variety of variables indicative of student achievement. Research questions in the study included whether the implementation of a ninth grade academy is an indicator of more positive of Texas students’ success rate on high school TAKS reading/English language arts and mathematics tests, the SAT or ACT, four-year graduation rates, four-year recommended high school plan/distinguished achievement program rates, and longitudinal dropout rates, when compared to the results of students who attended the ninth grade in a traditional high school setting.

The dependent variables used to measure student success rate were analyzed through the performance of all students, the economically disadvantaged student population, and the non-economically disadvantaged population in the study. Additionally, comparisons were drawn between the performance of the economically disadvantaged student population and the non-economically disadvantaged student population in the study. A repeated measures multivariate analysis of variance (MANOVA) was used to answer the research questions relating to the ninth grade academy as an indicator of student success on TAKS reading/English language arts and mathematics. A standard MANOVA was used to answer the research questions relating to the
ninth grade academy as an indicator of student success on the SAT or ACT, four-year graduation rates, four-year recommended high school plan/distinguished achievement program rates, and longitudinal dropout rates.

5.2 Summary of Findings

To reiterate, the purpose of this study was to compare academic performance results of students who attended a ninth grade academy when they began high school to the academic performance results of students who attended the ninth grade in a traditional high school setting when they began high school. First, it was found that no statistically significant effect was present when the ninth grade academy treatment was compared to the traditional high school setting in terms of the performance of all students on grade nine, 10, and 11 English language arts TAKS tests; furthermore, no statistically significant effect was found between the ninth grade academy treatment group and the traditional high school setting with respect to achievement on the SAT or ACT, graduation rate, RHSP/DAP rate, and dropout rate. When the population of economically disadvantaged students and the population of non-economically disadvantaged students were separated to analyze each group’s performance within the ninth grade academy treatment group and the traditional high school setting, it was found that no statistically significant effect was observed in terms of either group’s performance in any of the ten dependent variables analyzed in the study.

A statistically significant difference was present in the performance of all students on grade nine, 10, and 11 mathematics TAKS tests. The significance favored the performance of students who received the ninth grade academy treatment over the performance of students who attended the ninth grade in a traditional high school setting. The significance was of particular note in grades nine and 10, and less so in grade 11. A statistically significant difference was also
noted when the economically disadvantaged and non-economically disadvantaged student population performance rates were compared to each other; the non-economically disadvantaged student group performed significantly better than the economically disadvantaged student group in both the schools with a ninth grade academy present and those that were classified as a traditional high school. This trend was significant for all ten of the dependent variables analyzed in the study.

5.3 Further Discussion of Findings

The inconsistency between the longitudinal assessment scores for reading/English language arts and mathematics in the study, in which no statistical significance was found between the ninth grade academy practice and traditional high schools in the areas of reading/English language arts but was found in mathematics, was noted in a number of studies cited in the review of the literature (Brown, 2010; Irvin, 2013; Jordan, 2009; Kimball, 2007; Snipes, 2015). In these cited studies, variations of this phenomenon were present, to include positive significance in either subject or neither subject, either in the same year or in a subsequent year. Bottoms (2008) and Habeeb (2013) discussed central themes that were paramount in the efforts to make a ninth grade academy successful; variation in the success rates of subject areas could correlate to the inconsistency of implementation in different ninth grade academy settings.

The variables of SAT/ACT performance, graduation rate, RHSP/DAP rate, and dropout rate illustrate not only the importance of our students remaining in high school and graduating, but also the importance of being college-ready in a society that demands higher levels of education and academic proficiency. These four variables not having a statistical significance between the ninth grade academy practice and traditional high schools for all students was a
finding of consequence because the argument can then be made that receiving the ninth grade academy treatment in the freshman year yields no more advantage to being college-ready than does attending ninth grade in a traditional fashion. A similar finding was noted by Lyons (2014) who found no statistical significance between the ninth grade academy practice and traditional high schools for graduation rate and dropout rate. Graduation rates must simply increase, and dropout rates must simply decrease. In the realm of higher SAT and ACT scores and graduation plans that require advanced coursework, evidence exists pointing to the fact that postsecondary education is key to increased earnings and better careers (Baum, Ma, & Payea, 2013; Bridgeland, Dilulio, & Morison, 2006; Carnevale, Jayasundera, & Gulish, 2015). Furthermore, high school dropouts comprise roughly 8 percent of the population in the United States, but this group is disproportionately involved in the criminal justice system and the welfare system (Levin & Rouse, 2012; Lloyd, 2007; Rector, Kim, & Watkins, 2007).

As with all students, the economically disadvantaged population and non-economically disadvantaged population, when split and analyzed in the study, showed no statistically significant differences with respect to whether a ninth grade academy or a traditional high school academy was the school of attendance. Neither population had a significant performance gain in any of the ten dependent variables analyzed as a result of receiving instruction in a ninth grade academy. More relevant, however, was the fact that non-economically disadvantaged students outpaced economically disadvantaged in all performance variables studied, in both the ninth grade academies and the traditional high schools. In Texas, the population of economically disadvantaged students had grown to 60% in 2014, up from 48% in 1997 (TEA, 2014). The total population of Texas students increased by 40% between 1995 and 2015, but the percentage of students with economic disadvantages increased by 82% during the same 20-year period of time,
compared with only 4% growth in the number of students without economic disadvantages (Ramsey, 2015). With that, along with the findings that most high school dropouts tend to be urban and low-income (Burrus & Roberts, 2012; Neild & Balfanz, 2006). As such, more research must be conducted on how to positively impact the economically disadvantaged educationally, as that population continues to grow and is the future of Texas.

The results of this study show the ninth grade academy practice not to be statistically significant in an overall sense within the parameters of the MANOVA procedures utilized in the study. However, the researcher notes that even without statistically significant results present in many areas with the exception of mathematics and the performance differences between the economically disadvantaged and non-economically disadvantaged population, slight positive differences were present in the mean scores of most of the ninth grade academy results when compared to the mean scores of the traditional high school. Therefore, the concept of the ninth grade academy is not hurtful to the performance of students when analyzed in the short run with TAKS results or in the long run with the variables related to college readiness. Furthermore, the success that the ninth grade academies had with freshmen in mathematics should be taken in the construct that the same result could be possible for reading/English language arts.

Additionally, it is essential to understand that the results of this study show a continued gain in the percentage of all students successful on the TAKS English language arts and mathematics examinations from grade nine through grade 11. To add to that, while the economically disadvantaged student population is outpaced by the non-economically disadvantaged population on the state assessment results, it was found that the economically disadvantaged group had success in closing achievement gaps as they progressed from grade nine to grade 11. With respect to the college readiness variables, it should be noted that the
economically disadvantaged group was able to keep up reasonably well in three of the four variables analyzed, with the exception being a significant difference in being able to meet the college readiness criterion on the SAT or ACT.

In the present day, high school administrators and school districts as a whole recognize the need to get students to graduate and to keep them from dropping out. The freshman year of high school has long been recognized in the literature as the make or break year with respect to whether a student’s public education experience will end in success or failure, and efforts such as the implementation of ninth grade academies reflect the understanding of the importance of not losing students in that grade. With that understanding noted, the improvements that were seen from grade nine to grade 11 on TAKS English language arts and mathematics performance are indicative of the intensive remediation efforts that high schools undertake past grade nine, whether students were served in a ninth grade academy or in a traditional setting during their freshman year.

The campaign to “catch students up” is further illustrated by the finding that the student graduation rate and dropout rate percentages in the study are favorable; although the SAT/ACT college readiness criterion performance rate is not, it can be interpreted that educational entities are making as many efforts as possible to ensure that students will leave high school with a diploma, with college readiness being the ultimate goal but if not accomplished, knowing well the benefits of a person being able to at least begin adult life having graduated from high school as opposed to having not done so (Baum, Ma, & Payea, 2013; Department of Labor, 2013; Levin & Rouse, 2012; Lloyd, 2007; Rector, Kim, & Watkins, 2007). An argument can also be made for the notion that high schools are not to blame for the challenges faced at that level; the grading systems through grade eight are more subjective in nature with performance determined almost
solely by teachers, whereas in high school students must earn credits for each class to move toward graduation. That observation does not imply that high school teachers are uncaring about their student passing rate in their courses, but the opportunity to remediate a failed course in high school can normally only be met by taking the course again; teachers in the elementary and middle school levels have more latitude to work out intervention plans and adjust grades over the course of a school year. As such, few students are often retained prior to grade nine (Stutz, 2010) or are retained at the most one time prior to grade nine, and practices such as the ninth grade academy are then implemented to combat the bottleneck effect that is witnessed as freshman classes enter the high school setting with widely differing levels of preparation for the challenges that are ahead.

5.4 Implications for Practice

This assertion suggests that perhaps the ninth grade academy concept does not entirely lack success, but that it may need to be refined to become more consistently implemented and carried out. Conversely, a programmatic change is a hard sell when the majority of the analyzed variables in the focal group are generally no different from those in the reference group.

The overarching premise of the literature review in this study remains the fact that a limited amount of literature and studies exist on ninth grade academies. To include this study, the bulk of the literature points to an overall uneven set of outcomes that arose from measured variables in ninth grade academy studies. This pattern creates a cause for concern when interpreted from the lens of the policy framework formed by Sabatier and Mazmanian (1980), in which the authors stress that time and commitment are needed for proper implementation of a policy change to occur. Therefore, if a ninth grade academy structure were to be adopted for a school, administrators in charge of decision making would have to commit to the effort by
allowing time and by committing to the same personnel being a part of the entity. A three to five-year timeline for the implementation of a new policy or program is recommended by Sabatier and Mazmanian (1980) if meaningful research is to come from the change. In addition to simply putting the ninth grade academy in place in a physical plant, administrators should consult the works of Bottoms (2008) and Habeeb (2013), in which the authors discuss the conditions and tenets central to student success in a ninth grade academy setting.

When the tenets that define an effective ninth grade academy as espoused by Bottoms (2008) are reviewed, included are the need for an instructional leader who specializes in ninth grade student needs, having the best high school teachers in the ninth grade academy, having it set up for all ninth grade students, the lowering of the student-teacher ratio within the ninth grade academy, and the affording of extra planning time for teachers so that unique student needs can take a focus in addition to overall lesson planning. Habeeb (2013) echoed the notion of needing to clearly acquire the knowledge and understanding of what problems freshmen experience and address them quickly, and also urged the need for districts and schools to be positive about the needs for such programs and to be flexible with respect to the structural changes that will be necessary when implementing such a program.

The references to obtaining buy-in for the change and exercising patience with program implementation are in line with the policy framework of Sabatier and Mazmanian (1980); new initiatives take the backing of the major players, and once approved, time must be granted for full implementation to determine the level of effect. As a practice, the ninth grade academy concept should be constructed around consistent, research-based parameters and be given at least four years of time to prove its success level, as that is when the first graduating class would be produced.
5.5 Recommendations for Research

This study was completed through the analysis of quantitative data. It is a contribution to the growing knowledge base of ninth grade academies through the researcher’s accomplishment of being able to study a number of dependent variables through repeated measures multivariate analysis of variance and standard multivariate analysis of variance. However, the findings in the study were inconsistent and several showed no statistical significance at all; this pattern was found in several other quantitative ninth grade academy studies that were previously referenced.

As the inconsistencies in the findings could point to possible inconsistencies in implementation, the researcher contends that ninth grade academy research continue in the form of a mixed method study in which quantitative performance variables such as the ones analyzed in this study are used with the inclusion of qualitative data that allows for a deeper understanding of the inner workings of a ninth grade academy. Human subjects, site visits, and documentation of empirical observances were not utilized in this study, but this study has worth as a baseline quantitative study of ninth grade academies in Texas that can be built on by others.

In the next recommended study, the sample size of the schools analyzed would have to be much smaller as qualitative research would be deployed; the qualitative portion of a study relating to this topic would include observation of the main people in the selected schools, to include students, faculty, staff, administration, and community members. The selected schools could also be more closely looked at with respect to the active implementation of the ninth grade academy concept and how these practices affect freshmen who are in high school for the first time. In the opinion of this researcher, the ninth grade academy knowledge base can be built upon and expanded. The metrics offered in this study can serve as a baseline, but to learn more, it would be necessary to observe the ninth grade academy concept in action.
5.6 Conclusions

The ninth grade conundrum in American public education will not be going away. How ninth grade students are treated, understood, and taught will continue to be a topic of interest for decision makers in our education system and the greater communities that these systems serve. While this study failed to find statistical significances that favored the practice of the ninth grade academy in a majority of analyzed areas, it is of importance to further study such structures due to the fact that the United States and its educational entities cannot afford for students to drop out of high school. Students cannot afford to leave high school without a diploma in this day and age, or in the future.

If the research in this study were to be ignored, it would not be a wise decision because it is clear that the ninth grade academy practice must be researched further and looked at more closely, and the possibility must be acknowledged that if that practice is not found over time to be successful, the search should not end for protocols found to be beneficial to teaching ninth grade students and keeping them in school. School officials should continue look for ways to perhaps refine the ninth grade academy concept, and whether that task would be undertaken or not, programs of intervention that work for freshmen and possibly even students at the middle school level prior to transition to high school must be explored. A cautionary note with respect to the completion of this study is that it would likely not be advisable from the researcher’s viewpoint for school district superintendents to appropriate money to build ninth grade academy buildings for each of their high schools, or to direct principals to immediately restructure their campus master schedules to serve freshmen in a separate area of the school simply for the reason that the implementation of this concept has been on the increase. More research is needed to informatively affirm or debunk the ninth grade academy as a robust educational practice.
In a personal and professional sense, the idea of a transitional structure such as a ninth grade academy appealed to the researcher, an administrator charged with monitoring accountability and school improvement needs through his employment with a local public school district. Analysis of years of pervasive assessment failures in grade nine and the writings of numerous district improvement plans as a result thereof, the struggles experienced with attempting to help freshmen succeed as a classroom teacher, and the recollection of going through the ninth grade as one of 3,000 students with no true adult guidance within the school at age 14 all played into the researcher’s passion for completing this study to the best of his ability. It was shocking at first when many of the findings did not come back as statistically significant, but that shock now turns to hope with the comfort that programmatic structures such as ninth grade academies will continue to be studied to help all of our students whom we serve in our public education system to be successful. As Dean Smith, the legendary University of North Carolina basketball coach, said, “a point exists in every contest where sitting on the sidelines is not an option.”
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Curriculum Vitae

Adam Robert Starke was raised in El Paso, Texas and is a product of the Ysleta Independent School District, having graduated from Eastwood High School in 1992. He then earned his Bachelor of Arts degree in Criminal Justice from The University of Texas at El Paso in 1995. In 1999, he received his Master of Education degree in Educational Administration from The University of Texas at El Paso. He was admitted to the doctoral program in Educational Leadership and Administration at The University of Texas at El Paso in the Fall of 2000.

Dr. Starke has worked in public education in the greater El Paso area for 20 years, first as a high school teacher in the Ysleta Independent School District, then as an assistant principal in the San Elizario Independent School District. He is presently employed as the administrator in charge of research and evaluation at San Elizario Independent School District.

In addition to his degrees, Dr. Starke is the holder of Texas educator certifications for teacher, principal, and superintendent. He has been requested to perform numerous consulting jobs related to educational statistics and accountability for other school districts, and he has conducted a number of presentations related to his area of expertise for several audiences.

Dr. Starke’s dissertation is titled “The Gateway Grade: The Ninth Grade Academy Practice in Terms of Student Performance,” written under the direction of Dr. Teresa Cortez, Dr. Rodolfo Rincones, and Dr. Arturo Olivarez, Jr. Dr. Starke intends to pursue a higher position in educational administration. He is married to Isela, a fifth grade teacher, and has one daughter, Nayely, age nine.

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