

CLOSING THE GAP: THE RELATIONSHIP BETWEEN INSTRUCTIONAL  
BEHAVIOR MANAGEMENT TOOLS AND THE ACADEMIC PERFORMANCE OF  
AFRICAN AMERICAN STUDENTS

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Closing The Gap: The Relationship Between Instructional Behavior Management Tools

and the Academic Performance of African American Students

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## Abstract

Major N. Templeton. CLOSING THE GAP: THE RELATIONSHIP BETWEEN INSTRUCTIONAL BEHAVIOR MANAGEMENT TOOLS AND THE ACADEMIC PERFORMANCE OF AFRICAN AMERICAN STUDENTS (Under the direction of Dr. Leonard W. Parker) School of Education, August, 2009.

This causal-comparative study examined whether or not a relationship exists between the Safe Transition and Reduced Tardies (START on Time) program and the academic performance of African American students. Specifically, this study compared the Texas Assessment of Knowledge and Skills (TAKS) cumulative scores in each of the four core subject areas (English/language arts, math, science, and social studies) of the START on Time program target group with the control group. Using a comparison of these cumulative scores, the results indicate a significant increase in the TAKS scores of African American students in each of the four core subject areas. The significance of the study demonstrates that achievement for African American students can be increased by reducing tardies and increasing time on task. Furthermore, the study highlights the need for stakeholders to actively engage school reform as a means to improve the academic performance of traditionally underrepresented groups.

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## DEDICATION

I dedicate this work to my lovely wife, Danielle. I thank God for a woman who selflessly shared her husband with the educational process. To Danielle, thank you for your understanding and patience with me as I was noticeably absent from our family these past three years. I will forever cherish those late night tender kisses and smiles of reassurance during the burning of the midnight oil.

## TABLE OF CONTENTS

ABSTRACT.....	i
ACKNOWLEDGEMENTS.....	ii
LIST OF FIGURES.....	ix
LIST OF TABLES.....	x
CHAPTER.....	
I. INTRODUCTION.....	1
Background of the Problem.....	1
Statement of the Problem.....	4
Purpose and Research Questions.....	6
Significance of the Study.....	6
Assumptions.....	7
Definition of Terms.....	7
II. REVIEW OF THE LITERATURE.....	10
Theoretical Perspectives.....	11
Engaged Time.....	16
Socioeconomic and Equity Issues.....	20
Minority Academic Achievement.....	28
III. METHODOLOGY.....	41
Research Questions and Hypothesis.....	41
Research Design.....	42
Procedures.....	42

Causal Comparative Research.....	42
Population.....	44
Data Analysis.....	46
Descriptive Statistics.....	47
Multivariate Analysis of Covariance.....	48
Summary.....	49
IV. FINDINGS.....	51
Descriptive Population Statistics.....	54
Summary of Findings.....	66
Hypothesis One.....	67
NH1 Findings.....	68
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.....	69
Summary of the Study.....	69
Study Problem.....	70
Research Question.....	70
Methodology.....	71
Findings.....	72
Conclusions.....	73
Engaged Time.....	74
Socioeconomic and Equity Issues.....	75
Minority Academic Achievement.....	78
Implications.....	79

Recommendations.....	80
Limitations.....	82
Recommendations for Future Research.....	83
REFERENCES.....	86

## LIST OF FIGURES

Figure	Page
4.1 “School A” TAKS Performance Comparison 2006-2008 .....	52
4.2 “School B” TAKS Performance Comparison 2006-2008 .....	53

## LIST OF TABLES

Table	Page
4.1 Per-pupil Math TAKS Score Comparisons 2006-2008.....	56
4.2 Per-Pupil English/Language Arts TAKS Score Comparisons 2006-2008 ...	57
4.3 Per-Pupil Science TAKS Score Comparisons 2006-2008.....	58
4.4 Per-Pupil Social Studies TAKS Score Comparisons 2006-2008 .....	59
4.5 Descriptive Statistics of Math TAKS Data for Grades 9-11.....	59
4.6 Multivariate Analyses of Covariance Tests (Math).....	60
4.7 Tests Between-Subjects Effect (Math).....	60
4.8 Descriptive Statistics of ELA TAKS Data for Grades 9-11.....	61
4.9 Multivariate Analyses of Covariance Tests (ELA).....	62
4.10 Tests Between-Subjects Effect (ELA).....	62
4.11 Descriptive Statistics of Science TAKS Data for Grades 10-11.....	63
4.12 Multivariate Analyses of Covariance Tests (Science).....	64
4.13 Tests Between-Subjects Effect (Science).....	64
4.14 Descriptive Statistics of Social Studies TAKS Data for Grades 10-11.....	65
4.15 Multivariate Analyses of the Covariance Tests (Social Studies).....	66
4.16 Tests Between-Subjects Effect (Social Studies).....	66

## CHAPTER 1: INTRODUCTION

The intent of the No Child Left Behind Act (2001) is to increase the standards of accountability for states and schools, thus requiring educational leaders to rethink current school strategies. Holding individual schools accountable for the performance of subgroups is one of the key components of the new legislation. As the demands of high-stakes accountability continue to mount on public school administrators, a better understanding of these challenges must be examined. Particularly, schools must now approach the achievement gap between white and African American students with deliberate resolve, setting high expectations and establishing measurable goals to improve individual outcomes.

This chapter describes a research study that examined the means to improve African American performance scores on state-mandated achievement tests in a Title I secondary school. This study provided significant feedback on the effects of the START on Time Program and its impact on the academic performance of African American students. To evaluate student achievement, the researcher used performance scores on the Texas Assessment of Knowledge and Skills Test, comparing the results of the 2006-2007-test administration with those from 2007-2008.

### *Background of the Study*

Orfield (2001) clearly described the cultural history of the African American student by looking at the history of desegregation in this country. Around a half century ago, the United States Supreme Court announced that southern school segregation was not constitutional and also did not result in an equal education for every child. Data

collected by Orfield (2001) during the 1998-99 school years indicate that segregation continued to expand through the 1990's. Three major Supreme Court decisions lead to the limitation of the desegregation orders and allowed students to return to segregated neighborhood schools. In an early ruling, *Keyes v. School District No. 1, Denver, Co.*, 413 U.S. 189 (1973), the court ruled in the first northern case involving school desegregation. In their findings, the majority holds that *de facto* segregation is not sufficient grounds for court intervention if the school board can show it did not intend to segregate students. The court further holds that, though of different origins, Latino and African American students in Denver suffer identical discrimination in treatment when compared with the treatment afforded Anglo students and are, therefore, entitled to desegregation remedies. In this circumstance, the order effectually allows for schools with a predominance of African Americans and Latinos to be included in the category of segregated schools.

Accordingly, the ruling of *Freeman v. Pitts*, 503 U.S. 467 (1997), set aside the efforts of lower courts to maintain desegregation remedies until actual benefits are produced for minority students. The ruling also established resegregation as a product not of state action but of private choices, thus failing to have constitutional implications. In a third decision, the court ruled in the case of the *Board of Education of Oklahoma City v. Dowell*, 498 U.S. 237 (1991). In a split decision, the high court eliminated busing, allowing the district to return to neighborhood schools. Until the late 1980's segregation was considered to be decreasing nationally for African American students. Most families live in metropolitan areas where housing continues to remain segregated, and most

segregation occurs between entire school districts. According to Orfield (2001), the vast majority of people tend to believe that desegregation is impossible because of “white flight” and that it leads to transferring to private schools. Other means of maintaining segregated schools were through the legal system. Orfield (2001) found that the 1991 Supreme Court decision - Board of Education of Oklahoma City v. Dowell, 498 U.S. 237 (1991) ruled that desegregation was a temporary remedy and allowed school boards to reinstate segregated schools. He also states that there is evidence that desegregation directly affects the education of African American students and improves their test scores.

The focus on the achievement gap between Caucasian students and African American students began in the 1960’s with the publication of the Coleman Report. After the report was released, initiatives to close the gap were developed and significant progress followed. Specifically, early childhood education, equal access to high- quality secondary and post secondary education, and intentional teacher improvement affirmed the development of traditionally underrepresented populations. During the following two decades, the research showed a great narrowing of the achievement gap between Caucasian and minority students (Lee, 2002). Between 1971 and 1988, student achievement gains by Caucasians leveled out while other racial and ethnic groups rose. Comparatively, Humphrey (2001) in a study of equity and the American educational system, points to our general approach to education as an indicator of trend reversal with the achievement gap. Specifically, the focus during the 1960’s was on basic achievement; however, in the time period that followed, 1988-1999, the pattern reversed,

due in part, to the fact that higher order thinking skills and standards-based teaching and learning became the impetus of education. Research suggests that this change in approaches to education has caused the gap between whites and minority students (especially African Americans and Hispanics) to widen (Lee, 2002).

As the trend in education continues to expand in the direction of high-stakes accountability, educational reformers are becoming more intentional about closing the achievement gap between African American and Caucasian students. Compounded by federal legislation, specifically No Child Left Behind (NCLB) (2001), which requires all American school children to demonstrate proficiency in reading, math, and science by the end of the 2013-2014 school year, academic success for all students is of pressing concern. Conversely, African American school children are failing to demonstrate adequate yearly progress in math and science; consistently performing well below other subgroups (NCLB, 2001).

#### *Statement of the Problem*

The NCLB Act (2001) is a reauthorization of the Elementary and Secondary Act of 1965 and is the latest federal legislation to enact the standards-based education reform, formerly known as outcome-based education, which is based on the belief that setting high standards and establishing measurable goals can improve individual outcomes in education. The Act requires states receiving federal funding for schools to develop assessments in basic skills to be given to all students in certain grades. A major descriptor of the law, Adequate Yearly Progress (AYP), tracks the performance of students in all subpopulations, requiring each to meet minimum passing standards in the

core subjects. Major provisions of the law include increasing the standards of accountability for states, school districts, and schools, providing parents more flexibility in choosing which schools their children will attend, and an intentional focus on reading.

NCLB seeks to level the playing field by narrowing class and racial gaps in school performance by establishing common expectations. As such, local and state educational authorities are required to focus their attention on the academic achievement of traditionally under-served groups of children, such as low-income students, students with disabilities, and students of major racial and ethnic subgroups (NCLB, 2001).

Even as progress has been documented in math, reading, and science scores, the achievement gaps between affluent and disadvantaged students continues to be present. African American students continue to lag behind their white counterparts in reading, math, and science. According to data released by the Texas Education Agency, African American students are scoring 20 to 30 percentage points behind other students in math and science, with slightly lower variances in language arts and social studies (TEA, 2007).

Comparatively, African American students are tardy more often than their peer counterparts. Tardiness at High School A during the 2006-2007 school years was over 200 daily or 44% of the student population. Of this number, 36% of those tardy were African American. These numbers are mirrored in the state reporting formula, as documented by the Public Education Information Management System (TEA, 2007). There is a need to study the relationship between the use of instructional management

programs and the academic achievement of African American students on a secondary campus.

### *Purpose and Research Questions*

The purpose of this study was to investigate the establishment of campus culture and academic climate which creates safe transitions, reduces tardies, and increases time on task and the subsequent impact of these management tools on the academic performance of African American students. This research was guided by the question:

1. What is the relationship between the use of instructional behavior management tools (START on Time) and the academic performance of African American students as measured by performance on the Texas Assessment of Knowledge and Skills Test?

### *Significance of the Study*

The educational significance of this study lies in advancing the existing body of knowledge and determining what strategies promote the academic engagement of African American youth. In this age of high-stakes accountability, student achievement is an overarching priority of the campus culture; therefore, the need to close the minority achievement gap is a priority that must be addressed. As African American students continue to lag behind academically, equity must be a goal that is shared corporately; otherwise it becomes an overwhelming task that no group can handle in isolation.

Specifically, all students can learn and must be given the same opportunity to learn. However, because students learn differently, “one size fits all” education will not work. Education systems must demonstrate an arsenal of strategies that gives students

the tools and the environment necessary to achieve academic success and realize their full potential.

### *Assumptions*

This study was based on actual statistical numbers from “School A” and “School B” as reported through the Public Education Information Management System (PEIMS) and made available in the Academic Excellence Indicator System (AEIS) statewide database. Comparisons were based on actual test scores, attendance patterns, and demographic data as reported by the two school districts. The data was qualified by the following assumptions:

- Values reported by “School A” and “School B” are accurate and valid.
- “Schools A and B” have accurately categorized demographic data.

### *Definition of Terms*

The following definitions are provided to familiarize readers with recurring terms throughout this document.

**START on Time. Safe Transitions And Reduced Tardies.** (START on Time) is a comprehensive program that guides schools through the process of designing a proactive and positive plan for creating safe transitions and reduced tardiness. It helps a school staff to develop and implement effective behavior management and motivation practices, while increasing instructional time lost to tardiness and improving school climate (Sprick, 2003).

**TEA.** Texas Education Agency is the administrative governing body of Texas public schools (TEA, 2009).

TAKS. Texas Assessment of Knowledge and Skills is the State of Texas assessment instrument used in Texas primary and secondary schools to assess students' attainment of reading, writing, math, science, and social studies skills required under Texas education standards (TEA, 1987).

Engaged Time. The amount of time a student actually spends on task.

PEIMS. The Public Education Information Management System encompasses all data requested and received by TEA about public education, including student demographic and academic performance, personnel, and financial, and organizational information.

NCLB. No Child Left Behind Act, federal legislation requiring all students to meet minimum passing standards in the core subject areas (2001).

AEIS. Academic excellence indicator system. This statistical report is a detailed snapshot of all indicators in each school in Texas.

AYP. Adequate Yearly Progress is a descriptor in the No Child Left Behind Act, requiring school and subpopulations within that school to make annual adequate academic progress.

High-stakes accountability is an initiative to instill dramatic improvements in school performance, as demonstrated by performance on state assessment instruments.

### *Organization of the Remainder of the Study*

This chapter provided a foundation and defined the purpose of this study. Chapter II contains the conceptual framework for this study and consists of a review of the literature that was conducted to identify what research has been done in regard to African

American achievement. The review of the literature was organized around the following topics: (a) engaged time, (b) socioeconomic and equity issues, and (c) student achievement. A theoretical perspective precedes the review of literature and establishes educational theory around which the study was constructed.

Chapter III describes the quantitative methodology of the study and gives a detailed description of the sample and statistical analysis techniques employed. The findings are presented in Chapter IV. The final chapter, Chapter V, discusses the conclusions and implications of this research, as well as provides recommendations for future research.

## CHAPTER II: REVIEW OF THE LITERATURE

### *Introduction*

The purpose of the study was to investigate the relationship between the START on Time program and the academic performance of African American students on the Texas Assessment of Knowledge and Skills, which is the state-mandated instrument.

The achievement gap in education refers to the disparity in performance between groups of students, especially groups defined by race, gender, and socioeconomic status. The disparity in achievement between Caucasian students and African American students has been a concern of educational leaders for nearly three decades (Lee, 2002). With urgency, educational leaders are examining those strategies that may impact student achievement and promote meaningful learning for traditionally underrepresented populations.

The review of the literature presented in this chapter is grounded in the theories of engaged time and instructional behavior management tools. First, historical perspectives of school reform will be presented followed by standards-based reform and the achievement gap. Slavin (2008) and Sprick's (2003) research on program interventions to close the gap and Gay's (2000) culturally responsive teaching will firm the propositions that guide the study.

Although the focus of the study was improving achievement scores for African American students on the Texas Assessment of Knowledge and Skills instrument, related issues were studied. A review of previous research on (a) engaged time, (b) equity and

socioeconomic status, and (c) minority academic achievement will be discussed within the review of the literature. A summary will conclude this section.

### *Theoretical Background*

The historical perspectives of school reform begins with the Elementary and Secondary Education Act (1965) and its subsequent reforms, followed by A Nation At Risk (1983), Improving America's Schools (1994), No Child Left Behind (2001), and finally the Texas accountability system.

The single largest source of federal support for K-12 education is the Elementary and Secondary Education Act (ESEA). Born as part of Lyndon Johnson's War on Poverty in 1965, this comprehensive reform act provided federal funding to poor schools, communities, and low socioeconomic children. Born of the understanding that poverty and social inequality are predictors of the gaps in achievement, the legislation attempted to level the playing field by funding specific initiatives, such as early childhood education, reading intervention, and higher education preparation (U.S. Department of Education, 1996).

As progress and setbacks have occurred over the years, ESEA was amended to meet the needs of a diverse nation. Specifically, more than thirty years of research on school reform contributed to the U.S. Department of Education's Elementary and Secondary Education Reform legislation including the Goals 2000: Educate America Act (Goals 2000), the Improving America's Schools Act of 1994 (IASA), and the School-to-Work Opportunities Act. Goals 2000 helps states and communities establish a framework for comprehensive, standards-based education reform for all students. The IASA

provided additional support and the School-to-Work Opportunities Act helped to build additional pathways to enable all children to meet challenging state standards.

Comparatively, *A Nation At Risk* (1983), a report from the National Commission on Excellence in Education (1981), examined the quality of education in the United States and provided recommendations for comprehensive educational improvement. Specifically, the report assessed the degree to which major social and educational changes affected student achievement, revealing significant gaps in the achievement between ethnic groups and classes. Further, the study assessed the quality of teaching and learning in the nation's educational environments, indicating that American students lacked rigor and motivation for aptitude in the sciences. Finally, the study defined obstacles to overcome in order to successfully pursue the course of excellence in education (*A Nation At Risk*, 1983).

Of major importance, the study revealed significant gaps in the achievement levels between groups, especially in reading and science. Finding a lack of rigor in content, a lack of accountability for setting high expectations, and the inefficiency with which time is spent in the classroom; the study paints a dismal picture of the American educational system (*A Nation At Risk*, 1983).

Interestingly, the most disturbing statistics regard time. According to *A Nation At Risk* (1983), in England and other industrialized countries, it is not unusual for academic high school students to spend 8 hours a day at school, 220 days per year. In the United States, by contrast, the typical school day lasts 6 hours and the school year is 180 days. Moreover, in many American schools, the time spent learning how to cook and drive counts as much toward a high school diploma as the time spent studying mathematics,

English, chemistry, U.S. history, or biology. Finally, a study of the school week in the United States found that some schools provided students only 17 hours of academic instruction during the week, and the average school provided about 22 (A Nation At Risk, 1983).

Comparatively, as the cornerstone of reform focused on achievement, the Improving America's Schools Act of 1994, enacted on October 20, 1994 (P.L. 103-382), reauthorized the Elementary and Secondary Education Act of 1965 (ESEA), with a focus on changing the methods of delivering education, encouraging comprehensive systemic school reform, upgrading instructional and professional development to align with high standards, strengthening accountability, and promoting the coordination of resources to improve education for all children (U.S. Department of Education, 1996).

Significantly, IASA provided a systematic blueprint for local and state education agencies to implement standards-based reform. According to the U.S. Department of Education (1996), their research supported that the following four principles are considered key to comprehensive educational improvement efforts: 1) high standards for all students; 2) teachers better trained to teach to high standards; 3) flexibility to stimulate local initiatives coupled with accountability for results; and 4) promoting partnerships among families, communities and schools. As such, the Department believed that by focusing resources around these key principles for educational improvement, the ESEA substantially contributed to advancing the quality of teaching and learning for all students (U.S. Department of Education, 1996).

Similarly, No Child Left Behind (NCLB) requires all public schools to administer a state-wide standardized test annually to all students. Schools which receive Title I

funding must make Adequate Yearly Progress in test scores, with determined emphasis given to students in minority subpopulations (NCLB, 2001). As the latest reauthorization of EASA (1965) the foundation of NCLB (P.L. 107-110) is to compel schools to account for the significant gaps in achievement between minority and white students.

To accomplish its goal of ensuring that all children meet minimum proficiency standards by 2013-2014, NCLB (2001) focuses on increased accountability, attention to minority populations, the quality and delivery of education, and increased federal funding to schools for intervention programs. In its purest form, NCLB (2001) reminds educational leaders of the importance and value of every child receiving a quality education. Acknowledging that a good education may equal better opportunity, NCLB (2001) is the most comprehensive standards-based reform since 1965 (U.S. Department of Education, 2001).

Finally, the Texas accountability system is embedded in reform for student achievement. In 1993, the Texas Legislature enacted statutes that mandated the creation of the Texas public school accountability system to accredit school districts and rate school performance. Since 1993, the Texas Education Agency has worked closely with public school personnel and others to develop an integrated accountability system. The system is based upon a number of guiding principles. These are: student performance, recognition of diversity, statutory compliance, appropriate consequences, and the public's right to know (TEA, 2000).

The accountability system integrates the statewide curriculum with the state criterion-referenced assessment system (TAKS); tracks district and campus ratings; provides district and campus recognition for high performance and significant increases

in performance; issues sanctions for poor performance; and governs schools, district, and state-level reports (TEA, 2000).

Further, the accountability system focuses on achievement for all students in each core subject area. In fact, the standards were designed to phase in increasingly higher expectations for districts and campuses, especially in traditionally underrepresented ethnic groups. Since 1995, expectations for acceptable performance have been raised every year (TEA, 2000).

Regarding program interventions to close the gap, Slavin, et. al. (2008) completed research on reading intervention. In the study, positive achievement effects were found for instructional-process programs, especially for those involving cooperative learning, and for mixed-method programs. The effective approaches provided extensive professional development and significantly affected teaching practices.

In concluding remarks regarding the study's positive relationships for minority students, Slavin (2008) suggests that implementing early intervention strategies will have the most positive impact on reading achievement. Additionally, the study is a proponent of using varied instructional methods to reach underachieving populations. Moreover, extensive professional development for teachers is required to impact daily instructional practices.

In a similar study, Sprick (2003) analyzes and reports on those structures to increase the time allotted for instruction. Based on earlier studies regarding the task of using engaged time effectively, Sprick (1999) and Chapman (2003) speak of engagement as an assessment tool for student success. Specifically, it's not the amount of time on task that matters as much as the quality of time being spent engaging the material.

Further, Sprick (2003) acknowledges that distractions during the school day will adversely affect achievement. Noting that these distractions often take students away from the classroom, Sprick (2003) advocates eliminating this form of academic disengagement as a means to improve student achievement scores. Consequently, Sprick (2008) reports that improving student behavior in the hallways will become the impetus for attaining and maintaining a more civil and academic environment throughout the school.

The final component of the theoretical perspectives that guided this study are that of Gay (2000) and the impact of culturally responsive teaching. Gay (2000), investigating culturally responsive teaching, reports on validating the legitimacy of the cultural heritages of different ethnic groups, both as legacies that affect students' dispositions, attitudes, and approaches to learning and as worthy content to be taught in the formal curriculum. More importantly, culturally responsive teaching builds bridges of meaningfulness between home and school experiences as well as between academic abstractions and lived sociocultural realities (Gay, 2000).

Inherent to teaching minority populations, the research of Gay (2000) points to the approach of being culturally responsive as using a variety of instructional strategies that are connected to different learning styles. In this manner, students who enter school with different reference points and background knowledge will be impacted by an educational system that incorporates multicultural information, resources, and materials in the subjects and skills routinely taught in schools (Gay, 2000).

### *Engaged Time*

The need to restructure low-performing schools begins with understanding those strategies that promote reform. Summarizing their research, Pete and Fogarty (2007) explore six strategies to close the achievement gap by advocating more time be spent engaged with the substance of the material. Hence, by providing time for a specific population to become better and emotionally connected in the process of understanding, learning is internalized and thus becomes meaningful. Within the context of meaningful learning, African American students must become emotionally involved, challenged through higher order thinking skills, and engaged in rigorous study, connect learning to experiences, risk participation, and emphasize reading.

Similarly, Slavin (2006) argues that using engaged time effectively is also a predictor of success. He states,

The best way to increase students' time on task is to teach lessons so interesting, engaging, and relevant to students' interests that students will pay attention and eagerly do what is asked of them. Part of this strategy calls for the teacher to emphasize active, rapidly paced instruction with varied modes of presentation and frequent opportunities for student participation. (p. 356)

Conversely, Chapman (2003) argues

Engagement versus disaffection in school refers to the intensity and emotional quality of children's involvement in initiating and carrying out learning activities. Children who are engaged show sustained behavioral involvement in learning activities accompanied by a positive emotional tone. Disaffected children are passive, do not try hard, and give up easily in the face of challenges. They can be bored, depressed, anxious, or even angry about their presence in the classroom;

they can be withdrawn from learning opportunities or even rebellious toward teachers and classmates. (p. 572)

While the research continues to generate discussion about strategies needed to narrow the achievement gap as it relates to ensuring student academic success, one of the key factors in student achievement is the amount of time spent in the classroom (Kennedy, 2004). In making a related point, the research suggests that effective teachers exert an influence on student achievement, regardless of the race of the student (Crawford, 2000).

Sprick (2003) contends that creating an environment for learning at the beginning of class will improve achievement scores, especially in minority students. START on Time reduces the frequency of tardiness by up to 90%, increases instructional time lost to tardiness, improves school climate, and increases interactions between staff and students. As part of the Safe and Civil Schools program, START on Time assists the school staff in implementing and developing effective behavior management and motivation practices for halls and passing periods. Piaget's theory of cognition establishes that the adolescent mind must be prepared to encounter learning. Therefore, by establishing a learning climate in the passing period, the student enters the classroom ready to interrelate with the subject content. As Sprick (2003) summarizes, "Students who will receive the most benefit from this extension of the classroom are those who are traditionally low-achieving." START on Time reduces tardies, referrals, and any other protocol that disrupts the learning process; and as a result, increases the time students are engaged in learning (Sprick, 2003).

In a follow-up to earlier research (Sprick, 2003), Sprick and Daniels (2007) examine the impact of tardies on student achievement. Through the “positive sweep” technique, school personnel improved school climate, reduced tardiness, and increased the amount of instructional time students spent in the classroom. As the study reports, by dramatically reducing student referrals, teachers gained additional and valuable time to impact achievement. For example, four years into the combined behavioral and literacy program, 89 percent of the children were reading at grade level, a 74 percent increase.

For clarity, Sprick and Daniels (2007) describe “positive sweep” as the process whereby teachers stand at the doorway of their classrooms, welcoming students entering their rooms and, at the same time, supervising students in the hallway. If they see any misbehavior, they detain the student until a member of the positive sweep team approaches, at which time, they can pass the student to that team. When the final bell rings, these teachers close their doors and begin instruction immediately.

Meanwhile, members of the positive sweep team, comprised of teachers who have prep time after the passing period, circulate through their designated zones in hallways, restrooms, and other common areas, greeting students and providing positive supervision. Their task is to round up misbehaving students and students who have not made it to class on time. They escort these students to a “sweep” room where the students receive immediate consequences. Positive sweep team members then escort tardy students to their classrooms, ensuring that the students do not disrupt instruction when they enter. The “positive sweep” process not only supports a positive school climate, it dramatically increases the amount of time students have to engage the academic material (Sprick & Daniels, 2007).

Concerning minority students and more time engaged with the material, the progress reported by Sprick and Daniels (2007) is even more astounding. Regarding the Kentucky Core Content Test reading examination, 69 students took the test. Of those, 30 percent were white and 55 percent were black. The mean scale score for the white students was 550; for black students it was 544, a statistically insignificant difference of six points. However, when one compares that gap to the one that existed in 1999 (28 points) the results are overwhelmingly positive (Sprick & Daniels, 2007).

Further disaggregating the data, Sprick and Daniels (2007) record that the same near-parity is recorded by comparing students who participate in the free and reduced-price lunch program and those who do not. In 1999, the mean scale score for students who participated in the lunch program was five points lower than students who did not participate. By 2004, students in the program actually outperformed students not in the program by one point—completely closing the gap in reading (Sprick & Daniels, 2007).

In a similar study, Ciaccio (2000) also discusses the technique of total positive response to student behavior as a method of effective classroom management. Total positive response involves the use of positive strategies to deal with misbehavior in a quick, but caring and loving manner. The study goes on to say that teachers must discover the means to make the classroom a place of meaningful engagement and self-motivation. While the study does not specifically address achievement in minority subpopulations, it does report a significant reduction in office referrals and a significant increase in the amount of time students spend in the classroom engaged with the material.

#### *Socioeconomic and Equity Issues*

Lubienski (2002), using data from the 1990, 1996, and 2000 National Assessment of Educational Progress (NAEP), examines black-white disparities in 4th, 8th, and 12th grade mathematics achievement and instruction. The results identified substantial black-white achievement gaps; however, socioeconomic status failed to account for a large portion of the gap. By contrast, the effectiveness of instruction-related factors such as teacher preparation and presentation style contributed to disparities in achievement between races (Lubienski, 2002).

Moreover, English (2002), exploring the achievement gaps between minority and white students, found that the existing economic power in the community is a strong indicator of student achievement, reporting that nearly 50% of the variance in test passing rates was determined by the demographic opportunity structure such as financial capital, human capital (level of parents' education), cultural capital (status and expectancy), and geographic capital (level of urban influence), rather than the opportunity structure provided within schools (economic opportunity structure).

In a related study, Crawford (2000) reviews the College Board's report, "Reaching the Top," which addresses the educational under-representation of high-achieving minority students. The report discusses the debate over race-based affirmative action, concluding that programs and teachers eager to assist promising or disadvantaged students, regardless of race, best serve the integrity of American education.

Continuing in the research on equity, Thernstorm (2000) addresses the educational under-representation of high-achieving minority students. In this article, Thernstorm suggests that the success of race-based programs are inconsistent with long-term academic improvement, asserting that until minorities are seen as equals, they will

not be viewed as individuals. As the research concludes, skin color must take a back seat to individuality, promoting true racial equality and integration.

Meanwhile, Lee (2002) discusses setbacks in the progress toward racial and ethnic equity. He states,

The conventional measures of socioeconomic and family conditions, youth culture and student behavior, and schooling conditions and practices might account for some of the achievement gap trends for a limited time period or for a particular racial and ethnic group. However, they do not fully capture the variations. This preliminary analysis of co-variations in racial and ethnic gap patterns across several large data sets has implications for future research. (Lee, p. 3)

The list of factors identified as affecting racial and ethnic achievement gaps may include socioeconomic and family conditions (educational attainment, income, poverty, single household); youth culture and student behaviors (motivation and effort for learning, alcohol and illicit drug usage, crime); and schooling conditions and practices (instructional resources, teachers, course taking, dropout, segregation). However, the research points to the poverty rate of African American and Hispanic youth as the single greatest predictor of inequality.

In agreement with Lee (2002), Leroy and Symes (2001), reporting on the effects of poverty on teaching and learning, surmise that children who are from low socioeconomic backgrounds are entering schools with needs from circumstances that schools are not prepared to meet. According to the study, poverty is considered a major at-risk factor, because impoverished children are more likely to fail in school or in life

because of their life's social circumstances. Some of the factors related to poverty that may place a child at-risk for academic failure are: very young, single or low educational level of parents; unemployment; abuse and neglect; substance abuse; dangerous neighborhoods homelessness; mobility; and exposure to inadequate or inappropriate educational experiences (Leroy & Symes, 2001).

In a similar study regarding brain-based research, learning and poverty, Caine (2000), advocates creating classroom environments that are safe and trusting to enhance learning. According to the theories of brain-based research, the brain, as a biological response to high stress, downshifts when exposed to high threat levels. Downshifting sends the brain into survival mode, interfering with new information and experiences. Downshifting may also be linked to disruptive behaviors, resistance, and defiance. The premise is that many poor children exist in an environment of fear and threat and when threatened, learning is disrupted.

Additionally, brain-based research of Brauldi (2000) supports the constructivist theory of learning. That is, students make meaningful learning connections by building on prior knowledge and experiences. Intellectual development is gradual and dependent on external stimulation. If there is deprivation, as is the case for children of poverty, intellectual development may be delayed.

Examining the negative effects of poverty on student achievement, research by the U.S. Department of Education (1996) shows that an individual student who is eligible for free or reduced price lunch is at risk for academic failure. While certain risk factors for individual students can be overcome by academic assistance, the report confirms that a high concentration of low-income students in a school appears to have a negative effect

on students, teachers, and the school. Interestingly, these effects extend beyond the individual students' economic condition.

Supporting the U.S. Department of Education (1996) study, Kennedy, Jung, and Orland (1996) cite that in schools with above average poverty rates, the poverty level of the school influences the scores of all children, including those from advantaged families. Further, the study suggests that low-income students on high-poverty schools are doubly at risk.

In a surprising twist, Yu and Taylor (1997) found that low-income students achieve better educational results in classrooms where the majority of students are economically disadvantaged. While the results of this study directly contradict a larger body of research, Yu and Taylor (1997) present strong evidence that heterogeneous student populations in schools can improve student achievement.

Meanwhile, cooperative learning and shared decision-making may build a sense of community by developing a sense of belonging and connectedness in students from impoverished backgrounds (Kovalik & Olsen, 1998). The authors contend that building relationships is a necessary component for minority students to trust those in positions of authority.

Goodwin (2000) states that children from low socioeconomic backgrounds must be exposed to content that is culturally relevant. Teachers must be aware of the different cultures in which their students live so that learning may be tailored to fit individual learning styles. The research goes on to say that instructional and classroom management techniques that work well with some students don't work well with poor children.

By comparison, Risko and Walker (2007) contend that students whose language, ethnicity, and race are not represented in a school's dominant culture experience varying degrees of success in reading achievement, resulting in persistent gaps in reading achievement. Culturally responsive instruction, as a teaching strategy, can help to close that gap.

Delpit (1995) states that although bilingual and bicultural children have the potential to enrich the classroom environment with diverse ways of seeing and understanding, their discourse and literacy styles are often seen as a liability (Delpit, 1995). Utilizing the expertise of stakeholders of diverse cultural groups can do much to counter deeply held and often unconscious biases that guide behavior, causing one to value only one way of talking, understanding, and behaving. Children and teachers of the dominant culture can learn from children from diverse cultures, enhancing their own lives and their ability to become citizens of the global community" (Delpit, p.69).

Reports about culture and learning style consistently agree that within a group, variations among individuals are as great as commonalties. Dunn (1997) acknowledges that culture affects learning styles; however, distinct learning style patterns rarely fit a specific cultural group. "Researchers have clearly established that there is no single or dual learning style for the members of any cultural, national, racial, or religious group" (Dunn, p. 74).

This important point is often verbally acknowledged, but ignored in practice. Cox and Ramirez (1981) explain the result:

Recognition and identification of these average differences have had both positive and negative effects in education. The positive effect has been the development of

an awareness of the types of learning that our public schools tend to foster. The negative effect, arising primarily from common problems associated with looking at mean differences, is [that] the great diversity within a culture is ignored and a construct which should be used as a tool for individualization becomes yet another label for categorizing and evaluating. (p. 61)

Continuing with the research on culturally responsive instruction, Hollins (1996) adds that education designed specifically for students of color incorporates "culturally mediated cognition, culturally appropriate social situations for learning, and culturally valued knowledge in curriculum content" (Hollins, p. 13). Culturally responsive teachers realize not only the importance of academic achievement, but also the maintaining of cultural identity and heritage (Gay, 2000).

Likewise, Culturally responsive teaching does not incorporate traditional educational practices with respect to students of color (Gay, 2000). It means respecting the cultures and experiences of various groups and then uses these as resources for teaching and learning. Gay (2000) continues, culturally responsive teaching celebrates the accomplishments and commonalities of students and develops them for instructional purposes. For example, the verbal creativity and story telling that is unique among the African American community is akin to the creativity that is necessary for developing effective writing skills.

Meanwhile, while some groups of students learn better working individually, African American students prefer to work cooperatively in smaller groups (Gay, 2000). As a result, the intentional educator must seek to provide more opportunities for students of color to participate in cooperative learning in the classroom. In a related study, Banks

(1991) asserts that if education is to empower marginalized groups, it must be transformative. Banks (1991) believes that the act of becoming transformative involves helping "students to develop the knowledge, skills, and values needed to become social critics who can make reflective decisions and implement their decisions in effective personal, social, political, and economic action" (Banks, p. 131).

Interestingly, an article by Haycock (2001) addresses issues related to poverty and the achievement gap through research conducted by The Education Trust in the late 1990's. The researchers questioned both children and adults on what they suspect are causes of the achievement gaps. One comment among those made by the children was, "What hurts us more is that you teach us less" (Haycock, p.7). Haycock (2001) concludes, "...we take the students who have less to begin with and then systematically give them less in school" (Haycock, p.8).

At any rate, Singham (2003) argues that current efforts to close the achievement gap between underrepresented minority students and White students are inadequate. Further, Singham's research suggests that to close the achievement gap, a greater effort must be made to train and hire quality teachers with pedagogical content knowledge.

Slavin (1998), citing a lack of readiness to learn as a predictor of minority failure, reports that perspective plays a vital role in the achievement of minority students. Specifically, his study demonstrates that minority children often lack the same experiences as children from other classes. Slavin (1998) goes on to say that the experiences missed by minority children are those that could help in the development of skills and academic achievement. Some examples would be the use of home computers; visits to zoos and museums; participation in early childhood development programs;

availability of literature and the development of early reading skills; interaction with, literate and well-spoken adults; and being read to by a parent (Slavin, 1998).

In a similar study, Maeroff (1998) summarizes his study by adding that children from low socioeconomic backgrounds also need a support system that enables them to focus on learning and achievement. The study advocates the creation of networks to ensure that these children have the same experiences and are exposed to the same opportunities as more affluent children.

Finally, Slavin (2008), building on his earlier research (1998), discusses the need for intervention at an early age to stop the process of failure before it begins. Slavin (2008) continues by stating that early childhood education programs provide disadvantaged children with experiences that will serve as a foundation for future learning (Slavin, 2008). While this study was not one that specifically addressed equity in its language, it does afford the opportunity for the reader to make inferences regarding equal access to early advantages that enable students to enter school ready and prepared to learn.

### *Student Achievement*

Darling-Hammond (2000), in a comprehensive study of teacher quality and student achievement, documents evidence of the solid connection between the quality of teachers and student academic success. Specifically, the analysis of quantitative and qualitative data suggests that policies adopted by states regarding teacher education, licensing, hiring, and professional development may make an important difference in the qualifications and capacities that teachers bring to their work (Darling-Hammond, 2000).

Despite conventional wisdom that school inputs make little difference in student learning, a growing body of research suggests that schools can make a difference, and a substantial portion of that difference is attributable to teachers. Recent studies of teacher effects at the classroom level using the Tennessee Value-Added Assessment System and a similar database in Dallas, Texas, have found that differential teacher effectiveness is a strong determinant of differences in student learning, far outweighing the effects of differences in class size and heterogeneity (Sanders & Rivers, 1996 and Jordan, Mendro, & Weerasinghe, 1997).

Affirming the research of Sanders and Rivers (1996) and Jordon, Medro and Weeasinghe (1997), a study by Wright, Horn, and Sanders (1997) documents that school inputs actually can make a difference in student learning. For example, students who are assigned to several ineffective teachers in a row have significantly lower achievement and gains in achievement than those who are assigned to several highly effective teachers in sequence (Sanders & Rivers, 1996). Teacher effects appear to be additive and cumulative, and generally not compensatory. These studies also find troubling indicators for educational equity, noting evidence of strong bias in assignment of students to teachers of different effectiveness levels (Jordan, Mendro, & Weerasinghe, 1997), including indications that African American students are nearly twice as likely to be assigned to the most ineffective teachers and half as likely to be assigned to the most effective teachers (Sanders & Rivers, 1996).

In a comparable study, Carol Ann Tomlinson, an educator with 34 years of teaching experience, and her colleague, Kristina Doubet (2005), conducted snapshots of four high school classrooms. The purpose was to evaluate teachers who make learning

relevant and interesting for students. The observations of the researchers found that the pressure to prepare students for high-stakes tests and for state-mandated accountability tests is too much for both students and teachers. Tomlinson and Doughty (2005) further indicate that class sizes are too large to allow for cooperative learning groups, a documented learning strategy for minority students.

To echo the success of cooperative learning groups as a teaching strategy for African Americans, Burke (2001) stated that “cooperative learning is successful not just because it is an alternative to lecture but because it allows some students the opportunity to process externally, to work with their peers, and to share responsibility for a task” (Burke, p. 19). Burke (2001) adds that the teacher bears the ultimate responsibility to understand the cultural challenges of each student. In so doing, minority students have an opportunity to experience meaningful learning. Summarily, Burke (2001) cautions, “every child of every culture, race, socioeconomic status, gender, age, ability, and talent deserves to have an equal opportunity in school” (Burke, p.13).

Further, student success begins with the instructional environment of the classroom. Tomlinson and Doughty (2005) also found that in effective classrooms, teachers and students develop personal relationships through the sharing of stories. They summarize that students master the content through relevant activities, multi-sensory lessons, varied activities that keep students engaged and stimulated, and journal writing. Most notably, the study challenges educators to expose children to language patterns and have interactions on which to build a foundation of knowledge.

In related research, Glassman and Roelle (2007) advocate the use of small learning communities to personalize education with small class size, academic advisors,

personal mentors, field trips, academic rigor, and high expectations. In an experiment of developing a “school within a school,” Ossining Free School District in New York created a learning academy that utilized constructivist theory with an intentional focus on the needs of each individual. Furthermore, the district “expanded the learning community beyond Ossining, beyond the research and beyond best practices to those in the field who are engaged in the mission to better educate black male students” (Glassman & Roelle, pp. 26-27). Using data-driven instruction and with an intentional focus on black males, the district embraced a model to improve service delivery to traditionally underrepresented populations.

Building on the research of Glassman and Roelle (2007), House (2005) embarks on a methodical examination of the causes and cures for low minority achievement. Similar to the Ossining experiment, the Institute for Student Achievement constructs small, academically rigorous schools designed to produce student success. These small learning communities equip low-income minority students with transformational tools (academic rigor, support for students, personalization, continuous improvement, and a professional learning community for teachers) to endorse academic success. As a matter of record, by “conforming the enormity of the social, economic, and environmental behaviors to achievement for at-risk students is at the heart of reclaiming traditionally underrepresented students and freeing them to realize their dreams” (House, p. 10).

In a connected study Noddings (1992), in an examination of ways to close the achievement gap, cites that contemporary education must be less concerned with equal treatment and more with creating a curriculum based on recognition of those cultural differences that empower and depower students in identifiable ways. Particularly,

Noddings (1992) advocates exploring those themes that afford relevance and connections to real life as a means to promote intellectual richness in minority students.

Regarding ways to close the achievement gap for minority students, the U.S. Department of Education (2009) reports that efforts to close the achievement gaps between African Americans and their white peers are showing positive results in basic math and reading skills. Using data from the National Assessment of Educational Progress (NAEP), African American fourth graders have narrowed the achievement gap in math from 31 points to 26 points and reading from 32 points to 27 points.

In stark contrast, progress toward equal achievement appears to disappear by the middle school years. For example, the achievement gap between African American and white eighth graders in reading and math continue to remain unchanged or at least demonstrate statistically insignificant changes. While educators have long acknowledged that scores for all students tend to flatten out in middle school and high school, this latest report from the U.S. Department of Education (2009) clearly affirms that older African American students are demonstrating lower achievement rates than their white counterparts.

With dissimilarity, Lee (2006) reports that NCLB (2002) has failed to improve reading and mathematical achievement or reduce achievement gaps. Comparing findings from the NAEP to state assessment results, Lee (2006) concludes that high stakes testing and sanctions requires by NCLB (2002) are not working as planned. In summary of the research, Lee (2006) documents that state assessment results show improvements in math and reading, but students aren't showing similar gains on the NAEP, the only independent national test that randomly samples students across the country.

Admitting that students should perform well on both tests because they cover the same subjects, Lee (2006) states that the higher the assessment, the higher the discrepancies in the results. Discrepancies are also due to the reliance of NCLB (2002) on state assessment as the basis of school accountability. Lee (2006) states that since state-administered tests tend to significantly inflate proficiency levels and proficiency gains as well as deflate racial and social achievement gaps, NCLB (2002) gains are misleading. Based on the NAEP, there are no systemic indications of improving the average achievement and narrowing the gap after NCLB (2002).

Pardini (2001) highlights an award-winning school superintendent whose leadership and vision helped create a system of high-performing schools. With intentional vision, the organization established an achievement culture that embraced respect, collaboration, and a commitment to lifelong learning for students and staff. As a result, the report documents high student tests scores and a narrowing of the achievement gap between middle and lower-income students. Additionally, collaborative staff development is linked to school improvement.

With an intentional focus on student achievement, Kober (2001) addresses standards-based reform and the achievement gap. Understanding that the setting of academic standards regarding what students know or should be able to demonstrate has largely driven standards-based reform, Kober (2001) insists that standards-based school reform very much misses the mark, citing that the process is structurally misdirected in that it treats the symptoms of school failure (e.g., poor achievement), rather than the cause (i.e., inferior schools).

Akin to this argument, Valencia (1997) describes a phenomenon identified as

deficit thinking. To paraphrase the author's comments, many educational leaders view the intellectual capacity of minorities to be limited, and further that these same subpopulations are responsible for their own plight (Valencia, 1997). While this may not be the pervasive view of contemporary educators, it is in sharp contrast to the understanding that students of color, especially those from low-SES backgrounds, must be viewed as having unlimited potential. Furthermore, achievement for minority groups must be grounded in high, reasonable standards for success, providing equal access and equal encouragement (Pearl & Knight, 1999). And yet, according to Valencia (1997), The current accountability model of standards-based school reform reinforces deficit thinking by placing the responsibility for academic improvement largely on the individual and his family.

In contrast to Valencia (1997), DuFour (2002), reporting on progress made at Adlai Stevenson High School, points to a focus on individual student mastery as a means to providing a system of intervention to promote minority achievement. As DuFour (2002) elaborates, Adlai Stevenson teachers focused on the percentage of students achieving mastery rather than on the average score of the group. As the research proves, this attention to student mastery enables campus leaders to identify specific students having difficulty acquiring the intended knowledge and skills (DuFour, 2002).

Likewise, DuFour (2002) argues that achievement for minority students must focus less on what teachers are teaching and more on the extent to which students are learning the intended outcomes of each course. This shift in focus from teaching to learning is more than semantics. DuFour (2002) states that when learning becomes the preoccupation of the school, when all of the school's educators examine the efforts or

initiatives of the school through the lens of their impact on learning, the structure and culture of the school begins to change in substantive ways (DuFour, 2002).

Humphrey (2001), referencing proactive goals for minority achievement, discusses the results of implementing higher standards for African American achievement. Using goals developed by the Minority Student Achievement Task Force (2000), Humphrey (2001) considers that regardless of race, gender, ethnic background or socio-economic status, students who have access to a rigorous curriculum and have support systems in place to ensure success in that curriculum will experience higher achievement levels.

Moreover, having higher expectations is the basis to the theory that all children can learn. Humphrey (2001) asserts that this intentional focus on higher achievement will improve teaching and learning for all populations; but admittedly, by recognizing that minority students are high achievers, the study insists that the greatest impact should be evident in the achievement of traditionally underrepresented students.

Likewise, Benard (2003), introducing the concept of turnaround teachers, cites evidence that having significant, effective, relationships with teachers may impact the academic achievement of minority students. “Turnaround teachers not only establish a caring relationship between themselves, they consciously promote [the same] between students and between family/community members” (p. 26).

Bernard (2003) also developed a checklist of 27 traits that define the “turnaround teacher.” Succinctly, the author promotes characteristics such as creating a caring environment, meeting the developmental needs of each student, and providing individualized attention. With interest, these traits directly mirror the underlying

assumptions of NCLB (2001), challenging educators to individualize instruction, thus investing in the academic success of each student (NCLB, 2001).

Webb et al (2004), in an assessment of early intervention and student achievement, examined The Student Achievement Guarantee in Education (SAGE) program. SAGE is a statewide effort in Wisconsin to increase the academic achievement of children living in poverty. The key mechanism used to achieve this goal is a reduction of the student-teacher ratio in kindergarten through third grade to 15 to 1. In addition to class size reduction, schools participating in the program are expected to implement curricula with a rigorous academic focus, engage in professional development and accountability plans, and develop "lighted schoolhouse" before- and after-school programming with activities for both students and community members (Webb et al, 2004).

The primary method of evaluation utilized summative scores on the Comprehensive Test of Basic Skills (CTBS) to both the SAGE and comparison schools. The complete CTBS battery includes subtests in reading, language arts, and mathematics. Analyses of findings were conducted to assess the impact of SAGE participation on all students, as well as to compare performance of African American SAGE students to white SAGE students, and African American SAGE students to African American comparison students.

SAGE was evaluated over numerous years at different grade levels from first through fourth grades. Overall, findings suggest that SAGE participants performed significantly better than comparison children on the majority of reading, language arts, and mathematics achievement tests at all grade levels. There is evidence of a cumulative beneficial effect of the intervention over multiple years.

Regarding African American student achievement, Webb et al (2004) reported a statistically significant change in scores from first grade to third grade on all CTBS tests, with SAGE students outperforming comparison students. The only exception was language arts, for which no statistically significant effects were found. However, African American students continued to score significantly lower than Caucasian students on total scale score and on all subtests, regardless of whether they were SAGE or comparison school students. No significant differences in the gains made by African American students versus white students were observed for this group of students (Webb, et al 2004).

Continuing the research on early intervention and student achievement, Turner et al (2005) investigate the effects of parent involvement interventions on elementary school achievement. Using data from the Harvard Family Research Project, the study included parents who provided education enrichment activities outside of the formal school day, such as tutoring in reading or reading stories to their children. Groups were randomly assigned to create treatment and control groups. Academic achievement, with regard to scores on standardized reading achievement tests was the measurable outcome.

Turner et al (2005), using a meta-analysis (grouping) of a subset of four of the studies in the review, found that the intervention effect was statistically significant ( $d=0.64$ ). The authors were able to conclude with 95% confidence that children in the parent involvement group scored approximately 2/3 of a standard deviation above the average academic achievement score for children in the control group, and that the effect is statistically significant.

Summarily, Turner et al (2005) acknowledge that the transparent implications of

the study allows stakeholders to interpret the validity of the results; therefore distinguishing among interventions that are effective, ineffective, and even harmful. Scholar-practitioners can use the results of the study as a guide to implement effective interventions, while policymakers can use the study to formulate policy or fund new or existing programs (Turner, et al, 2005).

In a related study regarding early intervention, parental involvement is linked to children's school readiness. The research of Yan and Lin (2005) shows that greater parent involvement in children's learning positively affects the child's school performance, including higher academic achievement. Further, Snow, Burns, and Griffin (1998) report that simple interactions, such as reading to young children, may lead to greater reading knowledge and skills. Additionally, children with richer home literacy environments demonstrate higher levels of reading knowledge and skills at kindergarten entry. Moreover, parental involvement outside of home, such as participation in extracurricular activities (e.g., concerts, sports, scouts), relates to their reading, general knowledge, and mathematics knowledge and skills.

Yan and Lin (2005) conclude that among the five parent involvement composites, school involvement was significantly associated with early literacy (reading, math, and general knowledge) for almost all children (except for Asian children's reading achievement). Next were home resources, which predicted almost all kindergartners' early literacy skills, except for Asian children's reading and math. The third was extracurricular activities, which were positively associated with the early literacy achievement for whites, Hispanics, and above-poverty-level children, and for the achievement of Asian children in reading and math; however, it was not significant for

African American and low-income children in early literacy, and for Asian children in math.

The most important finding is that, among all the parent involvement practices, the percentage of variance explained was greater for minority children than for European-American children and for poor children than for the non-poor children. Although educational resources at home were highly circumscribed in both low-income and minority (especially black and Hispanic) families, the good news is that a stronger relationship was found among school involvement, home resources, and early literacy for these children. The findings support the literature that a positive working relationship between home and school appears important for all children, particularly for children whose families are socially or economically disadvantaged (Yan & Lin, 2005).

In the final thoughts on student achievement, Downey (2009) emphasizes fifty systemic strategies to align curriculum and master learning. As Downey (2009) explains, confronting gaps in school achievement requires a systematic examination of the corporate school system and a comprehensive problem-solving approach. Emphasizing equal opportunity and access for all students, the study is grounded in six standards: teaching a well-crafted, focused, valid, and clear curriculum; align assessments, programs, and instructional resources with the curriculum; promote student equality and equity; focus on mastery learning and effective teaching strategies; provide resources for accountability; and institute effective professional development.

### *Summary*

Creating small learning communities with high standards of achievement, and effectively engaging students in the process of learning are two of the most important

predictors of minority student success. Likewise, teachers who make learning meaningful through culturally relevant and meaningful activities and who target strategies to reduce the achievement gap are intentionally reaching for a higher instructional standard. Moreover, early intervention strategies have documented success for traditionally underrepresented groups. Although it is clear that more time engaged in instruction has a positive impact on student achievement, the effects of additional time on minority students is overwhelmingly positive.

In this chapter the theoretical perspectives, related literature and research regarding START on Time and African American achievement was reviewed. The specific methodology used in this study to evaluate the relationship between START on Time and African American achievement on the TAKS test will be discussed in Chapter III. Chapter III will also include the study's design, the sample, and the descriptive and inferential statistical procedures that are appropriate for this evaluation and analysis. Findings of this analysis will be discussed in Chapter IV. In Chapter V the conclusions and recommendations will be discussed.

#### *Statement of the Null-Hypothesis*

There is no significant difference between the scores of the two groups of African American students as measured by performance on the Texas Assessment of Knowledge and Skills Test.

### CHAPTER III: METHODOLOGY

The purpose of the study was to investigate the relationship between the START on Time program and the academic performance of African American students on the Texas Assessment of Knowledge and Skills, which is the state-mandated instrument. The research design and procedures utilized to evaluate the specific research question that guided the inquiry in support of the purpose of this study are discussed in this chapter. The population of the study is reviewed along with the statistical methods that were employed to analyze these data. These statistical methods provide the means for accepting or rejecting the hypothesis concerning African American achievement and the START on Time program.

#### *Research Question and Hypotheses*

This study compared African American achievement on the TAKS test over a two-year period. With the mandates of NCLB (2002) dominating every state and local educational authority, the achievement of traditionally underrepresented subpopulations is of pressing concern. Accordingly, Singham (2003) argues that current efforts to close the achievement gap between underrepresented minority students and White students are inadequate. Therefore, there is an underlying assumption that current efforts to bring reform to curtail the widening of the gap between white and African American students are grossly inadequate.

The purpose of this study was to investigate the relationship between the START on Time program which is the establishment of campus culture and academic climate which creates safe transitions, reduces tardies, and increases time on task and the

subsequent impact of these management tools on the academic performance of African American students. This research was guided by the question:

1. What is the relationship between the use of instructional behavior management tools (START on Time) and the academic performance of African American students as measured by performance on the Texas Assessment of Knowledge and Skills Test?

### *Research Design*

Quantitative researchers employ various design methods to analyze numerical data. These include descriptive, experimental, and relationship designs. Within the relationship design, there are two different types of research – causal comparative and correlational methods (Ary, 2006). Understanding that causal comparative research attempts to determine the cause or reason for pre-existing differences in groups or individuals, the researcher used the causal comparative design to investigate the cause-effect relationship between START on Time and the summative scores of African American students on the TAKS test.

Typically, in causal comparative studies, both the effect and the alleged cause have already occurred and must be studied in retrospect; therefore, the research is also described as *ex post facto* (after the fact) research (Ary, 2006). The phenomena that was described and analyzed in this study were the results of START on Time, and this analysis occurred *ex post facto* since the described treatment occurred prior to analyzing summative scores on the TASK test.

### *Procedures*

Causal Comparative Research

Casual comparative research is treated as a type of descriptive research since it describes conditions that already exist. Specifically, causal comparative studies attempt to identify cause-effect relationships involving two (or more) groups and one independent variable. The descriptive techniques discussed will permit a statement, in the form of comparisons, about that relationship. The basic approach of causal comparative studies begins with cause and investigates its effect on some variable (Ary, 2006). Therefore, the basic research question for causal comparative research is - What is the cause-effect relationship between two or more groups and one variable for a given study?

In this study, the researcher used START on Time to assess its relationship to TAKS scores for African American students. Using content area scores (math, English/language arts, science, and social studies), the program was implemented during the first week of the 2007-2008 school years and was designed to impact student achievement through increased instructional time lost to tardies and through improved school climate. Students were benchmarked at the conclusion of each nine-week period to gauge academic achievement.

The causal comparative design was used for this study because the groups had been previously assigned; hence, the researcher could not make random assignment. The researcher will examine the effects of use of instructional behavior management tools (START on Time) by comparing the TAKS scores of two statistically equivalent groups of African American students enrolled at two statistically equivalent schools within the same county. For clarity, Ary (2006) describes statistical equivalence as understanding that any difference between groups is a function of chance alone and not a function of experimenter bias, subjects' choice, or any other factor. Further, when subjects have been

randomly assigned to groups, the groups can be considered statistically equivalent (Ary, 2006). Moreover, the two schools are similar in size, ethnic breakdown, and socioeconomic status (the numbers of students receiving free or reduced lunch). The study group will use the START on Time program, the control group will not.

Understanding that causal comparative (or *ex post facto*) research design lacks control of the independent variable, internal validity may be lower than accepted. There are strategies for improving the credibility of causal comparative research, although none can adequately compensate for the inherent weakness of such research – namely, lack of control over the independent variable (Ary, 2006). However, partial control can be obtained by matching the groups based on socioeconomic status, grade level, and gender. Given that the study is only interested in the African American subpopulation; to control for variance in this homogenous group, the researcher will compare subjects by academic level and core subject tested. This procedure serves to disentangle the independent variable from other variables with which it is commonly associated, thus generalizing the findings to this particular group (Ary, 2006).

### *Population*

The population of the study group was 100% of the African American students enrolled in grades 9-11 at “High School A”, a Title I secondary institution serving 126 students of color in rural Upshur County, Texas. The campus is comprised of 36% African American 5% Hispanic, and 49% White. Approximately 56% of the African American population is male and 44% is female, with 75% (95) of the African American population qualifying for free or reduced lunch; therefore, classified as economically disadvantaged. Demographic statistics by grade level include 38 African American

students (22 males and 16 females) in the ninth grade; 36 African American students (18 males and 18 females) in the tenth grade; and 52 African American students (30 males and 22 females) in the eleventh grade (TEA, 2007).

The population of the control group was 100% of the African American students enrolled in grades 9-11 at “High School B,” a Title I secondary institution serving 144 students of color in rural Upshur County, Texas. The campus is comprised of 36% African American 5% Hispanic, and 49% White. Approximately 55% of the African American population is male and 45% is female, with 75% (108) of the African American population qualifying for free or reduced lunch; therefore, classified as economically disadvantaged. Demographic statistics by grade level include 46 African American students (26 males and 20 females) in the ninth grade; 46 African American students (25 males and 21 females) in the tenth grade; and 52 African American students (29 males and 23 females) in the eleventh grade (TEA, 2007).

Ary (2006) describes the two groups as statistically equivalent in that the subjects have been randomly assigned to groups and any difference between the groups is a function of chance alone and not a function of experimenter bias, subjects’ choices, or any other factor. Additionally, the African American population at both schools is numerically and demographically equivalent, with both schools serving a similar low socio-economic population. The study group will administer the START on Time program, while the control group will not use any additional treatment beyond their approved school curricula.

### *Instruments*

The researcher used data collected from the Texas Assessment of Knowledge and Skills Test (TAKS) as the assessment instrument (indicator). The aforementioned instrument is a standardized test used in Texas primary and secondary schools to assess students' attainment of reading, writing, math, science, and social studies skills required under Texas education standards. It is developed, scored, and annually field tested by Pearson Educational Measurement with close supervision by the Texas Education Agency (TEA, 2007).

The Texas Education Agency, Pearson Educational Measurements, and Texas educators work diligently to make TAKS a meaningful assessment of the state curriculum objectives. First, teachers review the Texas Essential Knowledge and Skills (state-mandated curriculum) to determine the objectives to assess on each grade level. Educators then determine how the objectives could be best assessed and develop guidelines outlining eligible test content and test-item formats. From that information, the Texas Education Agency creates a test blueprint and directs Pearson Educational Measurements to develop test items based on the objectives and guidelines. Finally, teacher committees meet in Austin to review the proposed test items; subsequently, the items are field-tested on Texas students. Pearson Educational Measurements uses the input of the teacher committee and the results of field-testing to construct the assessment instrument. As a result, the reliability (internal consistency) of the instrument is .92 (TEA, 2007).

#### Data Analysis

This causal comparative study used descriptive statistics as well as analysis of covariance to evaluate the previously stated research questions and hypothesis. The

combination of statistical treatments enabled the researcher to address the specific statistical influences of certain dependent variables on the achievement of African American students on the TAKS test. Statistics were calculated using the statistical program SPSS for Windows 16.0.

### *Descriptive Statistics*

Descriptive statistics describe the basic features of the data in a study, describing a group or the difference between groups. Furthermore, descriptive statistics provide simple summaries about the sample and the measures and together with simple graphics analysis; they form the basis of virtually every quantitative analysis of data. According to Ary (2006), the most common descriptive statistics are measures of central tendency, measures of variability, measures of relative position, and measures of relationships. Central tendency is evaluated utilizing mean, median, and mode, while measures of variability include standard deviation, variance and range (Gall & Borg, 1996).

While mean, mode and median are accepted statistical measures used to evaluate central tendency, research in this study utilized the mean to evaluate the central tendency of the summative TAKS scores of the study and control groups as defined in the study's population. Because the mean is an interval or ratio statistic, it is generally a more precise measure than the median (an ordinal statistic) or the mode (a nominal statistic) (Ary, 2006). For that reason, the researcher used an interval scale to measure the differences between the means or arithmetic averages of the TAKS scores.

Two sets of data that are very dissimilar can have identical means (and median and mode). It is for this reason that the researcher should also evaluate the variance, or amount of spread among values, as well as the square root of the variance called the

standard deviation (Gay & Airasian, 2000). Small variances and standard deviations indicate that values of the variable are more spread out (Gay & Airasian, 2000).

According to Ary (2006), a statistical test compares what is observed (a statistic) with what we would expect to observe through chance alone. What we would expect through chance alone is called the error term. However, when the observed statistic is equal to or less than the average value expected through chance alone (the error term), the most plausible explanation for the statistic is that it was due to chance alone. If the statistic is greater than the error term, then the chance explanation becomes less and less plausible as this ratio becomes greater and greater than one.

In this study, the statistic is the difference between the mean of the study group (a) using START on Time and the control group (b). Through deductive logic statisticians have determined the average difference between the means of two randomly assigned groups that would be expected from chance alone. This expected value (the error term) is derived from the variance within each of the two groups and the number of subjects in each of the two groups. It is called the standard error of the difference between two independent means (Ary, 2006). If this  $t$  ratio is equal to 1.00 or less, the observed difference is very probably due to chance alone and the null hypothesis is retained.

### *Multivariate Analysis of Covariance*

By comparison, a multivariate analysis of covariance (MANCOVA) will be used to adjust for initial differences between groups before analysis of the TAKS scores. According to Ary (2006), MANCOVA is sometimes used to partially adjust for pre-existing differences between groups in a causal comparative design. Specifically, it

adjusts scores on the dependent variable for any initial differences on the extraneous variable. However, as the adjustment is only partial, MANCOVA does not solve the problem of initial differences between groups but only reduces it. In this study, analysis of covariance will be used to adjust for differences in teacher experience and student aptitude (previous performance on TAKS tests). Specifically, SPSS for Windows 16.0 will be used to compare means and then remove the covariate not related to the treatment but which can affect scores on the TAKS test.

#### *Data Organization*

Using SPSS 16.0 for Windows, the results of the study is presented in tabular form, organizing information by grade, gender, and measurable performance in each core area (English/language arts, math, science, and social studies) the TAKS test. In addition, the results of the data will include a performance comparison to the 2006-2007 TAKS scores, indicating increases or decreases in achievement scores for African Americans.

#### *Summary*

This chapter has provided an explanation of the methodology used in this study. The research question was revisited and complemented by stating the question as a hypothesis, which is either accepted or rejected by utilization of descriptive and variance methods. The population for the study was described in detail, as well as the data collection process used to obtain these data.

The descriptive and analysis of covariance utilized in the study have also been discussed, including the specific statistical procedures and techniques that will be utilized to evaluate the hypothesis. A description of each procedure has been applied in relation

to the uniqueness of the research design. A detailed composite of the findings of this study, including statistical charts and graphs, are presented in the following chapter. The findings will be reviewed in Chapter IV while conclusions and recommendations will be discussed in Chapter V.

## CHAPTER IV: FINDINGS

This chapter describes analysis and derived findings in relation to the research question or hypothesis directed by the purpose of the study. The analysis and resulting findings included descriptive statistics as well as correlation and analysis of covariance to accept or reject the research hypothesis. The purpose of the study was to investigate the relationship between the START on Time program and the academic performance of African American students on the Texas Assessment of Knowledge and Skills, which is the state-mandated instrument.

African American academic performance was measured by comparing content area scores (math, English/language arts, science, and social studies) on the 2007-2008 TAKS test with those of the previous test administration year (2006-2007). For clarity, the basic score on any test is the raw score, which is simply the number of questions correct. A raw score can be interpreted only in terms of a particular set of test questions. Unlike raw scores, scale scores can be interpreted across different sets of test questions. Scale scores allow direct comparisons of student performance between specific sets of test questions from different test administrations. A scale score is a conversion of the raw scores onto a scale that is common to all test forms for that assessment. Moreover, the scale score takes into account the difficulty level of the specific set of questions on which it is based; therefore, it quantifies a student's performance relative to the passing standards or proficiency levels for the Texas Assessment of Knowledge and Skills (TAKS). The Texas Education Agency (TEA) has established the passing standard as a

minimum scale score of 2100 on each content area test. The results are represented as the percentage of African American students who met or exceeded the minimum scale score.

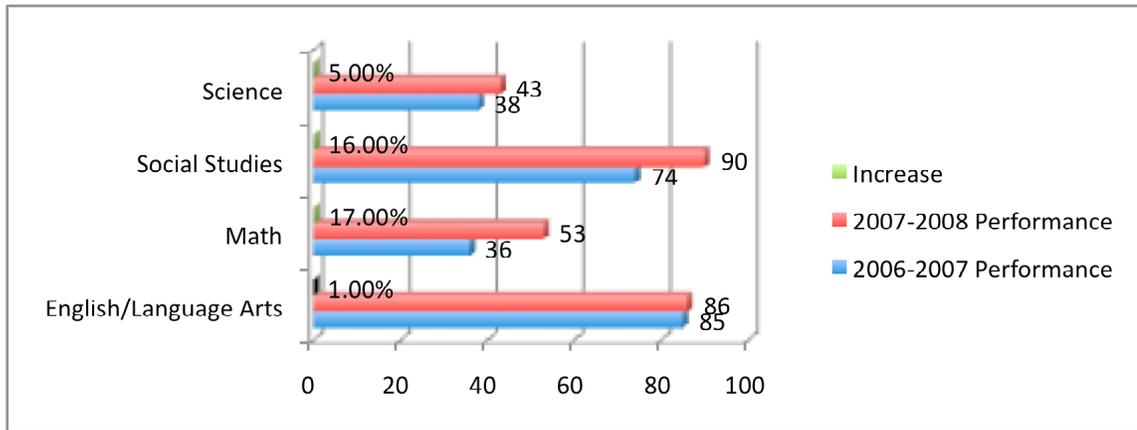


Figure 4.1. “School A” Comparison of African American TAKS Performance from 2006-2008

This study and hypothesis was to investigate the cause-effect relationship between the START on Time program and the academic performance of African American students on the Texas Assessment of Knowledge and Skills, which is the state-mandated instrument. For statistical purposes, “School A” is the study group and administered the START on Time program. The histogram in Figure 4.1 reflects a significant increase in the scores of African Americans in the study group, especially in social studies and math. While English/language arts and science demonstrate only marginal gains; nonetheless, increases are evident.

Comparatively, “School B” is the control group and did not use any additional treatment beyond their approved school curricula. The histogram in Figure 4.2 also represents significant increases in the scores of African Americans in the control group, especially in social studies and English/language arts. Conversely, the control group shows strong gains in science and math as well.

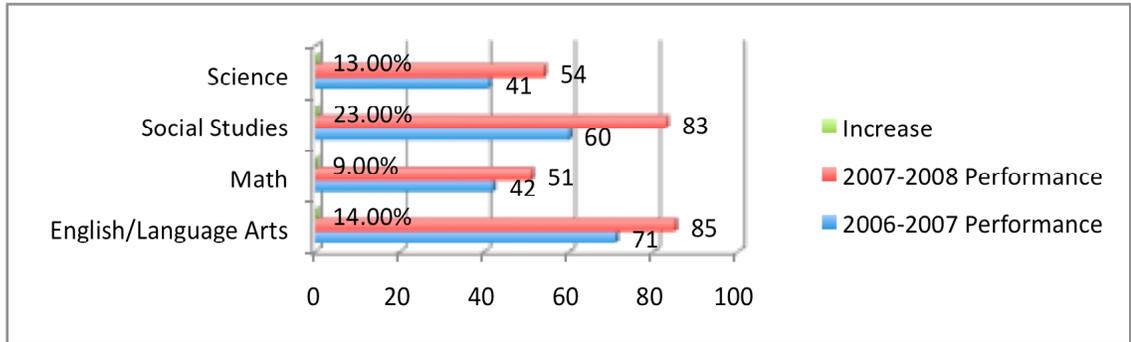


Figure 4.2. “School B” Comparison of African American TAKS Performance from 2006-2008

The cause-effect relationship between START on Time and the achievement of African American students was assessed in relation to the following hypothesis:

NH1. There is no significant difference between the scores of the two groups of African American students as measured by performance on the Texas Assessment of Knowledge and Skills Test.

The premise that formed the basis for this hypothesis is that if the findings support that START on Time was successful in improving the scores of African American students on the Texas Assessment of Knowledge and Skills (TAKS) Test, rejecting the null-hypothesis would support the cause-effect relationship between the treatment and increased TAKS scores for African Americans.

This chapter’s analysis utilizes descriptive statistics to describe and compare the study population. Descriptive statistics provide simple summaries about the sample and the measures and together with simple graphics analysis; they form the basis of virtually every quantitative analysis of data. That data includes information from the assessment division of the Texas Education Agency (TEA) and the Public Education Information Management System (PEIMS), which encompasses all data requested and received by TEA about public education, including student demographic and academic performance

information. Using per-pupil score comparisons in each core subject area (English/language arts, math, science, and social studies) to establish a general population description, typical central tendency descriptive statistics such as mean, standard deviation, and variance will be used to evaluate and describe relationships between the TAKS performance of African American students in each school and grade.

By comparison, a multivariate analysis of covariance (MANCOVA) is used to adjust for initial differences between groups before analysis of the TAKS scores. Specifically, it adjusts scores on the dependent variable for any initial differences on the extraneous variable. For clarity, the covariates in this analysis are teacher experience and student aptitude. However, as the adjustment is only partial, MANCOVA does not solve the problem of initial differences between groups but only reduces it. In this study, analysis of covariance is used to adjust for differences in teacher experience, student aptitude (previous performance on TAKS tests), and gender. These findings will support or reject the null hypothesis.

#### *Descriptive Population Statistics*

The population data utilized in this study was a combination of data elements provided by the Texas Education Agency (TEA) and the Public Education Information Management System (PEIMS), which encompasses all data requested and received by TEA about public education, including student demographic and academic performance information. Information from this source included values for these schools from the 2006-2007 through 2007-2008 school years.

Table 4.1 describes the data elements utilized in this study obtained from the Texas Education Agency. The table includes per-pupil and grade math TAKS score

comparisons between “School A” and “School B” for the 2006-2007 and 2007-2008 school years. N=the population size scoring within the given range.

Table 4.2 describes the data elements utilized in this study obtained from the Texas Education Agency. The table includes per-pupil and grade English/language arts TAKS score comparisons between “School A” and “School B” for the 2006-2007 and 2007-2008 school years. N=the population size scoring within the given range.

Table 4.3 describes the data elements utilized in this study obtained from the Texas Education Agency. The table includes per-pupil and grade science TAKS score comparisons between “School A” and “School B” for the 2006-2007 and 2007-2008 school years. N=the population size scoring within the given range.

Table 4.4 describes the data elements utilized in this study obtained from the Texas Education Agency. The table includes per-pupil and grade social studies TAKS score comparisons between “School A” and “School B” for the 2006-2007 and 2007-2008 school years (N=the population size scoring within the given range).

Table 4.5 describes the data elements utilized in this study obtained from the Texas Education Agency. The table contains the mean, standard deviation and variance and central tendency of African American math TAKS performance in each school and grade. N=the population size. ‘A’ refers to data from “School A” and ‘B’ refers to data from “School B.” For the sum of all students in all grades, the change is significant, specifically for students in grades 9 and 10. However, for students in grade 11, the change caused by the treatment was insignificant. Therefore, a significant difference exists between the means of African American students in grades 9 and 10; conversely, the difference in the means of African American students in grade 11 is negligible.

Table 4.1

Per-pupil Math TAKS Score Comparisons 2006-2007 and 2007-2008

Math Grade 9				
Scale Score Range	1035-1774	1795-2007	2023-2237	2258-2967
Raw Score	0-13	14-26	27-39	40-52
School A 06-07	N=20	N=6	N=12	N=0
School B 06-07	N=15	N=13	N=18	N=0
School A 07-08	N=0	N=26	N=6	N=6
School B 07-08	N=0	N=19	N=27	N=0

Math Grade 10				
Scale Score Range	1276-1853	1868-2031	2054-2208	2223-2780
Raw Score	0-14	15-28	29-42	43-56
School A 06-07	N=20	N=2	N=12	N=0
School B 06-07	N=26	N=3	N=17	N=0
School A 07-08	N=4	N=12	N=17	N=3
School B 07-08	N=18	N=9	N=19	N=0

Math Grade 11				
Scale Score Range	1295-1880	1894-2061	2072-2243	2258-2832
Raw Score	0-15	16-30	31-45	46-60
School A 06-07	N=9	N=10	N=33	N=0
School B 06-07	N=6	N=20	N=26	N=0
School A 07-08	N=2	N=15	N=35	N=0
School B 07-08	N=6	N=16	N=30	N=0

Table 4.6 is an expression of multivariate analysis of covariance tests (MANCOVA). MANCOVA allows the researcher to improve his chance of finding what changes as a result of the experimental treatment by taking into account covariance as well as group means. Multivariate tests answer the question, “Is each effect significant for at least one of the dependent variables?” The four leading multivariate tests of group differences are indicated. For statistical clarity, Wilks’ Lambda is considered the statistic of choice with Roy’s Largest Root considered to be a more liberal statistic (Ary, 2006).

Table 4.2

*Per-pupil English/Language Arts TAKS Score Comparisons 2006-2007 and 2007-2008*

English Language Arts Grade 9				
Scale Score Range	1319-1792	1812-1993	2021-2210	2241-3452
Raw Score	0-9	10-21	22-32	33-42
School A 06-07	N=0	N=8	N=4	N=26
School B 06-07	N=0	N=11	N=15	N=20
School A 07-08	N=0	N=11	N=3	N=24
School B 07-08	N=0	N=2	N=15	N=29

English Language Arts Grade 10				
Scale Score Range	1441-1878	1907-2048	2056-2244	2259-3023
Raw Score	0-18	19-37	38-56	57-73
School A 06-07	N=0	N=5	N=29	N=2
School B 06-07	N=0	N=13	N=30	N=3
School A 07-08	N=0	N=2	N=26	N=8
School B 07-08	N=0	N=8	N=35	N=3

English Language Arts Grade 11				
Scale Score Range	1364-1892	1903-2079	2088-2278	2294-3122
Raw Score	0-17	18-37	38-55	56-73
School A 06-07	N=0	N=3	N=40	N=9
School B 06-07	N=8	N=12	N=30	N=2
School A 07-08	N=0	N=1	N=40	N=11
School B 07-08	N=0	N=11	N=35	N=6

Multivariate analysis of covariance is used to perform an analysis of variance style analysis on several dependent variables simultaneously. Multivariate analysis of covariance answers the question – “Does the combination of several dependent variables vary with respect to the independent variables?” In a multivariate analysis of covariance, a new dependent variable is created that attempts to maximize the difference between treatment groups. This section summarizes the multivariate analysis of covariance tests used in this study. Table 4.6 contains the results of the multivariate analysis of covariance (MANCOVA). The purpose of this treatment was to adjust for differences between

groups before analysis of the TAKS scores. According to Ary (2006), MANCOVA is sometimes used to partially adjust for pre-existing differences between groups in a causal-comparative (*ex post facto*) design. Specifically, it adjusts scores on the dependent variable for any initial differences on the extraneous variable. For clarity, the covariates in this analysis are teacher experience and student aptitude. However, as the adjustment is only partial, MANCOVA does not solve the problem of initial differences between groups but only reduces it. In this study, analysis of covariance is used to adjust for differences in teacher experience and student aptitude (previous performance on TAKS tests). A significance of  $p < 0.001$  is the standard criterion. Using a variety of multivariate statistics, the results indicate that once the group means are adjusted for the covariate, no significant difference between groups is evident.

Table 4.3

*Per-pupil Science TAKS Score Comparisons 2006-2007 and 2007-2008*

Science Grade 10				
Scale Score Range	1149-1808	1825-1997	2011-2197	2214-2846
Raw Score	0-14	15-27	28-41	42-55
School A 06-07	N=20	N=6	N=10	N=0
School B 06-07	N=20	N=7	N=19	N=0
School A 07-08	N=11	N=10	N=15	N=0
School B 07-08	N=10	N=9	N=27	N=0

Science Grade 11				
Scale Score Range	1359-1885	1899-2068	2070-2212	2226-2750
Raw Score	0-13	14-27	28-40	41-55
School A 06-07	N=16	N=6	N=30	N=0
School B 06-07	N=17	N=14	N=21	N=0
School A 07-08	N=14	N=16	N=21	N=1
School B 07-08	N=13	N=14	N=25	N=0

Table 4.4

Per-pupil Social Studies TAKS Score Comparisons 2006-2007 and 2007-2008

Social Studies Grade 10				
Scale Score Range	1299-1879	1895-2060	2075-2218	2235-2796
Raw Score	0-13	14-25	26-37	38-50
School A 06-07	N=0	N=12	N=20	N=4
School B 06-07	N=0	N=10	N=21	N=5
School A 07-08	N=0	N=6	N=20	N=10
School B 07-08	N=0	N=6	N=35	N=5

Social Studies Grade 11				
Scale Score Range	1415-1922	1936-2089	2100-2241	2255-2778
Raw Score	0-13	14-27	28-40	41-55
School A 06-07	N=0	N=5	N=40	N=6
School B 06-07	N=3	N=16	N=33	N=0
School A 07-08	N=0	N=14	N=38	N=0
School B 07-08	N=0	N=2	N=40	N=10

Table 4.5 Descriptive Statistics of Math TAKS Data for Grades 9-11.

	N					
	Statistic	Mean	Std.	Variance	Central Tendency	Std. Error
Math Grade 9 2007A	38	72.8947	9.05177	81.935	.442	.383
Math Grade 9 2008A	38	79.7368	7.61820	58.037	1.255	.383
Math Grade 10 2007A	34	72.6471	9.55330	91.266	.506	.403
Math Grade 10 2008A	34	81.1765	7.39152	54.635	-.193	.403
Math Grade 11 2007A	52	79.6154	7.78675	60.633	-1.034	.330
Math Grade 11 2008A	52	81.3462	5.61121	31.486	-1.254	.330
Composite Math 2007 School A	124	75.6452	9.26063	85.759	-.130	.217
Composite Math 2008 School A	124	80.8065	6.75913	45.686	.103	.217
Math Grade 9 2007B	46	75.6522	8.53806	72.899	-.128	.350
Math Grade 9 2008B	46	78.6957	8.26201	68.261	-.798	.350
Math Grade 10 2007B	46	73.0435	9.57301	91.643	.412	.350
Math Grade 10 2008B	46	75.2174	9.06498	82.174	-.044	.350
Math Grade 11 2007B	52	78.8462	6.90378	47.662	-.682	.330
Math Grade 11 2008B	52	79.6154	6.99062	48.869	-.932	.330
Composite Math 2007 School B	144	75.9722	8.63555	74.573	-.190	.202
Composite Math 2008 School B	144	77.9167	8.26781	68.357	-.591	.202
Valid N (listwise)	34					

Table 4.6 Multivariate Analyses of Covariance Tests (b)

Effect	Statistic	Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.459	51.670(a)	2.000	122.000	.000
	Wilks' Lambda	.541	51.670(a)	2.000	122.000	.000
	Hotelling's Trace	.847	51.670(a)	2.000	122.000	.000
	Roy's Largest Root	.847	51.670(a)	2.000	122.000	.000

- a. Exact statistic
- b. Design: Intercept

Table 4.7 is a multivariate analysis of group differences. Understanding that the primary focus of this study concerned the cause-effect relationship between START on Time and the TAKS scores of African American students, the test between subjects was selected to examine differences in the same variables between the study group and the control group (tests between subjects' effects). Accordingly, each measure demonstrates a significant difference between the TAKS performance between schools "A" and "B" during the 2006-2008 school years. This finding suggests that START on Time program had an effect on the math TAKS scores of African American students.

Table 4.7 Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Increment A	.000(a)	0	.	.	.
	Increment B	.000(a)	0	.	.	.
Intercept	Increment A	3303.226	1	3303.226	94.559	.000
	Increment B	632.258	1	632.258	35.875	.000
Error	Increment A	4296.774	123	34.933		
	Increment B	2167.742	123	17.624		
Total	Increment A	7600.000	124			
	Increment B	2800.000	124			
Corrected Total	Increment A	4296.774	123			
	Increment B	2167.742	123			

a. R Squared = .000 (Adjusted R Squared = .000)

Table 4.8 describes the data elements utilized in this study obtained from the Texas Education Agency. The table contains the mean, standard deviation and variance and central tendency of African American English/language arts TAKS performance in each school and grade. N=the population size. ‘A’ refers to data from “School A” and ‘B’ refers to data from “School B.”

*Table 4.8 Descriptive Statistics of English/Language Arts (ELA) TAKS Data for Grades 9-11.*

	N					
	Statistic	Mean	Std.	Variance	Central Tendency	Std. Error
ELA Grade 9 2007A	38	89.7368	8.29746	68.848	-1.111	.383
ELA Grade 9 2008A	38	88.4211	9.08706	82.575	-.756	.383
ELA Grade 10 2007A	36	84.1667	4.39155	19.286	-.461	.393
ELA Grade 10 2008A	36	86.6667	5.07093	25.714	.309	.393
ELA Grade 11 2007A	52	86.1538	4.70871	22.172	.392	.330
ELA Grade 11 2008A	52	86.9231	4.44507	19.759	.886	.330
Composite ELA 2007 School A	126	86.6667	6.29285	39.600	-.141	.216
Composite ELA 2008 School A	126	87.3016	6.34510	40.260	-.232	.216
ELA Grade 9 2007B	46	86.9565	8.06076	64.976	-.377	.350
ELA Grade 9 2008B	46	90.8696	5.80271	33.671	-1.068	.350
ELA Grade 10 2007B	46	82.8261	5.54298	30.725	-.070	.350
ELA Grade 10 2008 B	46	83.9130	4.82045	23.237	-.318	.350
ELA Grade 11 2007B	52	80.0000	8.04400	64.706	-.705	.330
ELA Grade 11 2008B	52	84.0385	5.69128	32.391	-.021	.330
Composite ELA 2007 School B	144	83.1250	7.84186	61.495	-.362	.202
Composite ELA 2008 School B	144	86.1806	6.31310	39.855	-.096	.202
Valid N (listwise)	36					

Table 4.9 is an expression of multivariate analysis of covariance tests (MANCOVA). MANCOVA allows the researcher to improve his chance of finding what changes as a result of the experimental treatment by taking into account covariance as well as group means. Multivariate tests answer the question, “Is each effect significant for at least one of the dependent variables?” The four leading multivariate tests of group differences are indicated. For statistical clarity, Wilks’ Lambda is considered the statistic

of choice with Roy's Largest Root considered to be a more liberal statistic (Ary, 2006).

Table 4.9 Multivariate Analyses of Covariance Tests (b)

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.246	20.245(a)	2.000	124.000	.000
	Wilks' Lambda	.754	20.245(a)	2.000	124.000	.000
	Hotelling's Trace	.327	20.245(a)	2.000	124.000	.000
	Roy's Largest Root	.327	20.245(a)	2.000	124.000	.000

- a. Exact statistic
- b. Design: Intercept

Table 4.10 is a multivariate analysis of group differences. Understanding that the primary focus of this study concerned the cause-effect relationship between START on Time and the TAKS scores of African American students, the test between subjects was selected to examine differences in the same variables between the study group and the control group (tests between subjects' effects). This finding suggests that the relationship between the START on Time program and the English/language arts TAKS scores of African American students is vague.

Table 4.10 Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Increment A	.000(a)	0	.	.	.
	Increment B	.000(a)	0	.	.	.
Intercept	Increment A	50.794	1	50.794	3.630	.059
	Increment B	667.460	1	667.460	37.371	.000
Error	Increment A	1749.206	125	13.994		
	Increment B	2232.540	125	17.860		
Total	Increment A	1800.000	126			
	Increment B	2900.000	126			
Corrected Total	Increment A	1749.206	125			
	Increment B	2232.540	125			

- a. R Squared = .000 (Adjusted R Squared = .000)

Tables 4.11 describes the data elements utilized in this study obtained from the Texas Education Agency. The table contains the mean, standard deviation and variance and central tendency of African American science TAKS performance in each school and grade. N=the population size. ‘A’ refers to data from “School A” and ‘B’ refers to data from “School B.” For purposes of comparison, it is noteworthy to mention that students in grade 9 are not administered a science TAKS test.

*Table 4.11 Descriptive Statistics of Science TAKS Data for Grades 10-11.*

	N					
	Statistic	Mean	Std.	Variance	Central Tendency	Std. Error
Science Grade 10 2007A	72	72.2222	8.75684	76.682	.581	.283
Science Grade 10 2008A	72	76.1111	8.48454	71.987	-.217	.283
Science Grade 11 2007A	104	77.6923	9.05547	82.001	-.563	.237
Science Grade 11 2008A	104	76.7308	8.52664	72.704	-.150	.237
Composite Science 2007A	214	77.0093	9.15079	83.737	-.410	.166
Composite Science 2008A	214	77.9439	8.34844	69.696	-.501	.166
Science Grade 10 2007B	92	74.7826	9.25562	85.667	.044	.251
Science Grade 10 2008B	92	78.6957	8.21649	67.511	-.785	.251
Science Grade 11 2007B	104	75.7692	8.55505	73.189	-.149	.237
Science Grade 11 2008B	104	77.3077	8.27099	68.409	-.456	.237
Composite Science 2007B	242	75.9917	8.77614	77.021	-.195	.156
Composite Science 2008B	242	78.8430	7.86980	61.934	-.797	.156
Valid N (listwise)	72					

Table 4.12 is an expression of multivariate analysis of covariance tests (MANCOVA). MANCOVA allows the researcher to improve his chance of finding what changes as a result of the experimental treatment by taking into account covariance as well as group means. Multivariate tests answer the question, “Is each effect significant for at least one of the dependent variables?” The four leading multivariate tests of group differences are indicated. For statistical clarity, Wilks’ Lambda is considered the statistic of choice with Roy’s Largest Root considered to be a more liberal statistic (Ary, 2006).

Table 4.12 Multivariate Analyses of Covariance Tests (b)

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.241	33.634(a)	2.000	212.000	.000
	Wilks' Lambda	.759	33.634(a)	2.000	212.000	.000
	Hotelling's Trace	.317	33.634(a)	2.000	212.000	.000
	Roy's Largest Root	.317	33.634(a)	2.000	212.000	.000

- a. Exact statistic
- b. Design: Intercept

Table 4.13 is a multivariate analysis of group differences. Understanding that the primary focus of this study concerned the cause-effect relationship between START on Time and the TAKS scores of African American students, the test between subjects was selected to examine differences in the same variables between the study group and the control group (tests between subjects' effects). This finding suggests that the relationship between the START on Time program and the science TAKS scores of African American students is significant.

Table 4.13 Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Increment A	.000(a)	0	.	.	.
	Increment B	.000(a)	0	.	.	.
Intercept	Increment A	186.916	1	186.916	7.942	.005
	Increment B	1362.617	1	1362.617	65.407	.000
Error	Increment A	5013.084	213	23.536		
	Increment B	4437.383	213	20.833		
Total	Increment A	5200.000	214			
	Increment B	5800.000	214			
Corrected Total	Increment A	5013.084	213			
	Increment B	4437.383	213			

- a. R Squared = .000 (Adjusted R Squared = .000)

Tables 4.14 describes the data elements utilized in this study obtained from the Texas Education Agency. The table contains the mean, standard deviation and variance and central tendency of African American social studies TAKS performance in each

school and grade. N=the population size. ‘A’ refers to data from “School A” and ‘B’ refers to data from “School B.” For purposes of comparison, it is noteworthy to mention that students in grade 9 are not administered a social studies TAKS test.

*Table 4.14 Descriptive Statistics of Social Studies TAKS Data for Grades 10-11.*

	N					
	Statistic	Mean	Std.	Variance	Central Tendency	Std. Error
Social Studies Grade 10 2007A	108	75.7407	9.44276	89.166	.122	.233
Social Studies Grade 10 2008A	108	79.4444	9.20517	84.735	-.273	.233
Social Studies Grade 11 2007A	155	80.1613	8.63057	74.487	-.849	.195
Social Studies Grade 11 2008A	155	78.6129	7.88586	62.187	-.578	.195
Composite Social Studies 2007A	301	79.0864	8.88327	78.913	-.612	.140
Composite Social Studies 2008A	301	79.6844	8.14351	66.317	-.606	.140
Social Studies Grade 10 2007B	138	77.1014	9.07816	82.413	-.133	.206
Social Studies Grade 10 2008B	138	80.7246	7.81984	61.150	-.941	.206
Social Studies Grade 11 2007B	156	77.4359	8.14163	66.286	-.476	.194
Social Studies Grade 11 2008B	156	80.3846	8.45364	71.464	-.641	.194
Composite Social Studies 2007B	340	77.5000	8.47954	71.903	-.356	.132
Composite Social Studies 2008B	340	80.8235	7.77057	60.382	-.865	.132
Valid N (listwise)	108					

Table 4.15 is an expression of multivariate analysis of covariance tests (MANCOVA). MANCOVA allows the researcher to improve his chance of finding what changes as a result of the experimental treatment by taking into account covariance as well as group means. Multivariate tests answer the question, “Is each effect significant for at least one of the dependent variables?” The four leading multivariate tests of group differences are indicated. For statistical clarity, Wilks’ Lambda is considered the statistic of choice with Roy’s Largest Root considered to be a more liberal statistic (Ary, 2006).

Table 4.15 Multivariate Analyses of Covariance Tests (b)

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.276	57.019(a)	2.000	299.000	.000
	Wilks' Lambda	.724	57.019(a)	2.000	299.000	.000
	Hotelling's Trace	.381	57.019(a)	2.000	299.000	.000
	Roy's Largest Root	.381	57.019(a)	2.000	299.000	.000

- a. Exact statistic
- b. Design: Intercept

Table 4.16 is a multivariate analysis of group differences. Understanding that the primary focus of this study concerned the cause-effect relationship between START on Time and the TAKS scores of African American students, the test between subjects was selected to examine differences in the same variables between the study group and the control group (tests between subjects' effects). This result shows there is significant difference between the performance in school A and B in social studies.

Table 4.16 Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Increment A	.000(a)	0	.	.	.
	Increment B	.000(a)	0	.	.	.
Intercept	Increment A	107.641	1	107.641	4.198	.041
	Increment B	2457.143	1	2457.143	112.664	.000
Error	Increment A	7692.359	300	25.641		
	Increment B	6542.857	300	21.810		
Total	Increment A	7800.000	301			
	Increment B	9000.000	301			
Corrected Total	Increment A	7692.359	300			
	Increment B	6542.857	300			

- a. R Squared = .000 (Adjusted R Squared = .000)

### Summary of Findings

This chapter described the analysis and findings of the study's hypothesis. The hypothesis was developed and constructed to support or reject the premise that there is a relationship between the START on Time program and the academic achievement of

African Americans as measured by performance on the TAKS test, which is the state mandated testing instrument. In addition to comparing TAKS results between the study and control groups for the 2006-2007 and 2007-2008 school years, this study used descriptive and correlational designs to evaluate the hypothesis.

In order to understand the subsequent analyses and findings of the study, this chapter began with descriptive statistics to describe and compare the study population. These analyses included a general comparison of African American TAKS performance scores between schools “A” and “B” followed by per pupil and subject comparisons for the two-year study period. The data was collected from the assessment division of the Texas Education Agency (TEA) and the Public Education Information Management System (PEIMS), which encompasses all data requested and received by TEA about public education, including student demographic and academic performance information. The hypothesis was analyzed and findings discussed following the population description.

The study’s hypothesis, NH1, asserts that there is no significant difference between the scores of the two groups of African American students as measured by performance on the Texas Assessment of Knowledge and Skills Test. The basis of this hypothesis was to investigate whether the establishment of campus culture and academic climate to create safe transitions reduce tardies, and increase time on task and the subsequent impact of these management tools would impact the academic performance of African American students.

The primary focus of this study concerned the relationship between START on Time and the TAKS scores of African American students. Descriptive statistics were

used to compare relationships between “School A” and “School B. For example, African American TAKS scores in each of the four content areas. Additionally, the multivariate analysis of covariance (MANCOVA) was selected to compare the relationship between African American achievement on the TAKS test and the START on Time program. The findings indicate that there was a significant improvement in the TAKS scores of the study group in math, science, and social studies. By contrast, English/language arts increases, while marginal, cannot be substantiated using statistical treatments.

Math scores, up 17% in the study group, showed significant increases from 2006-2007 to 2007-2008. Comparatively, in the same period, science scores were up 5%, while social studies showed the most significant increases at 16%. By using the multivariate analysis of covariance (MANCOVA) to adjust for initial differences between groups, the results of these treatments indicated that once the group measures were adjusted for the covariate, no significant difference existed between groups. The implication here is the effectiveness of the START on Time program to impact the academic achievement of African American students.

The results of the study indicate that the researcher should reject the null-hypothesis, which presumed there was no relationship between the START on Time program and the academic achievement of African Americans as measured by the TAKS test. While scores improved for both groups, the study group, “School A,” experienced significant improvement in African American TAKS scores. The next chapter will address the conclusions and implications of these findings while presenting recommendations for future study.

## CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This final chapter summarizes the preceding chapters by revisiting the purpose of the study in investigating the establishment of campus culture and academic climate that creates safe transitions, reduces tardies, and increases time on task and the subsequent impact of these management tools on the academic performance of African American students. More specifically, the study examined the relationship between the use of instructional behavior management tools (START on Time) and the academic performance of African American students as measured by performance on the Texas Assessment of Knowledge and Skills Test, which is the state mandated assessment instrument. In addition to the stated findings, the researcher presented the quantitative methodology employed. The conclusions, based on the findings of this study, are examined to inform of the implications of the study and to describe possible recommendations for future study.

### *Summary of the Study*

As the federal mandate of the No Child Left Behind Act (2001) increases the standards of accountability for states and schools, the current achievement crisis challenges educational leaders to rethink instructional strategies. Holding individual schools accountable for the performance of subgroups is one of the key components of the new legislation. Particularly, schools must now approach the achievement gap between white and African American students with deliberate resolve, setting high expectations and establishing measurable goals to improve individual outcomes. The focus of this quantitative descriptive study was to consider a means of narrowing the

achievement gap between white and African American students by investigating the relationship between the START on Time program and the academic performance of African American students on the TAKS test, which is the state mandated assessment instrument.

### *Study Problem*

As detailed and described within the literature review, an achievement gap exists between white and African American students. The achievement gap in education refers to the disparity in performance between groups of students, especially groups defined by race, gender, and socioeconomic status. The disparity in achievement between Caucasian students and African American students has been a concern of educational leaders for nearly three decades (Lee, 2002). With urgency, educational leaders are examining those strategies that may impact student achievement and promote meaningful learning for traditionally underrepresented populations.

The NCLB Act (2001) is a reauthorization of the Elementary and Secondary Act of 1965 and is the latest federal legislation to enact the theories of standards-based education reform, formerly known as outcome-based education, which is based on the belief that setting high standards and establishing measurable goals can improve individual outcomes in education. The Act requires states receiving federal funding for schools to develop assessments in basic skills to be given to all students in certain grades. A major descriptor of the law, Adequate Yearly Progress (AYP), tracks the performance of students in all subpopulations, requiring each to meet minimum passing standards in the core subjects. Major provisions of the law include increasing the standards of

accountability for states, school districts, and schools, providing parents more flexibility in choosing which schools their children will attend, and an intentional focus on reading.

NCLB seeks to level the playing field by narrowing class and racial gaps in school performance by establishing common expectations. As such, local and state educational authorities are required to focus their attention on the academic achievement of traditionally under-served groups of children, such as low-income students, students with disabilities, and students of major racial and ethnic subgroups (NCLB, 2001).

Even as progress has been documented in math, reading, and science scores, the achievement gaps between affluent and disadvantaged students continues to be present. African American students continue to lag behind their White counterparts in reading, math, and science. According to data released by the Texas Education Agency (TEA), African American students are scoring 20 to 30 percentage points behind other students in math and science, with slightly lower variances in language arts and social studies (TEA, 2007).

Comparatively, African American students are tardy more often than their peer counterparts. Tardiness at “School A” during the 2006-2007 school years was over 200 daily or 44% of the student population. Of this number, 36% of those tardy were African American. These numbers are mirrored in the state reporting formula, as documented by the Public Education Information Management System (TEA, 2007). There is a need to study the relationship between the use of instructional management programs and the academic achievement of African American students on a secondary campus.

### *Methodology*

In order to evaluate the research question and hypothesis, this causal comparative study used descriptive statistics as well as multiple analysis of covariance (MANCOVA) to address the results of the study and control groups. The data set included descriptive population statistics from the assessment division of the Texas Education Agency (TEA) and the Public Education Information Management System (PEIMS), which encompasses all data requested and received by TEA about public education, including student demographic and academic performance information. Using per-pupil score comparisons in each core subject area (English/language arts, math, science, and social studies) to establish a general population description, typical central tendency descriptive statistics such as mean, standard deviation, and variance were used to evaluate and describe relationships between the TAKS performance of African American students in each school and grade. After calculating the mean and standard deviation of each group and because the primary focus of this study concerned the relationship between START on Time and the TAKS scores of African American students, the multivariate analysis of covariance (MANCOVA) was used to adjust for differences between groups before analysis of the TAKS scores.

### *Findings*

The research question addressed the relationship between the START on time program and the academic achievement of African American students on the TAKS test, which is the state mandated assessment instrument. The findings indicate that there was a significant improvement in the TAKS scores of the study group in math, science, and social studies. By contrast, English/language arts increases were inconsequential.

Math scores, up 17% in the study group, showed significant increases from 2006-2007 to 2007-2008. Comparatively, in the same period, science scores were up 5%, while social studies showed the most significant increases at 16%. By using the multivariate analysis of covariance (MANCOVA) to adjust for initial differences between groups, the results of these treatments indicate that once the group measures were adjusted for the covariates, no significant difference existed between groups. The implication here is the effectiveness of the START on Time program to impact the academic achievement of African American students.

With dissimilarity, the control group showed measured increases as well from 2006-2008 as well. Math scores showed increases of 9% versus a 13% gain in science. Social studies scores demonstrated the most significant increase at 23%. By comparison, English/language arts scores were slightly more significant when compared to the study group.

Summarily, the study found that there are positive relationships between the START on Time program and African American TAKS scores. Specifically, in math the change is significant, particularly for students in grades 9 and 10. However, for students in grade 11, the change caused by the treatment was insignificant. With regards to English/language arts, statistically the START on Time program is inconsequential. By comparison, the largest gains are demonstrated in the core subjects of science and social studies, inferring that the relationship between the START on Time program and the science and social studies TAKS scores of African American students is significant.

### *Conclusions*

Considering these findings, the researcher draws the following conclusions regarding the relationship between the START on Time program and the academic performance of African Americans as measured by performance on the TAKS test, which is the state-mandated assessment instrument. The following conclusions are demarcated according to engaged time, socioeconomic status, and student achievement.

### *Engaged Time*

The intentionality of narrowing the achievement gap between white students and those from traditionally underrepresented populations begins with an understanding of the need to increase the amount of instruction minority students receive in the four core subject areas (math, English/language arts, science, and social studies).

While the research continues to generate discussion about strategies needed to narrow the achievement gap as it relates to ensuring student academic success, one of the key factors in student achievement is the amount of time spent in the classroom (Kennedy, 2004). These findings support the conclusion that increased allotted time is one means to improve the academic performance of African American students. As such, the researcher references a tenet of the START on Time program, which is to improve academic performance through increased time on task. The study population reduced tardies from an average of 250 daily to just over 12 daily. This intentional restructuring of campus culture afforded the opportunity for students to engage the academic material in a meaningful way for longer periods of time. Using the foundation of START on Time as a guiding principle and using brainteasers to set the academic tone, teacher's reduced academic interruptions by beginning instruction immediately at the beginning of

each class. This synergistic approach was the result of buy in and a commitment to achievement from each faculty member.

The results of the study are especially impressive in math and science, two areas where African American students continue to struggle nationwide (NCLB, 2001). In the 2007-2008 school year, students in the study population confirmed measured gains over the previous year. The researcher acknowledges that teachers used the same curriculum and assessment tools in the study and previous years; therefore, the noted increases are statistically related to using the START on Time program. As Sprick (2003) summarizes, “Students who will receive the most benefit from this extension of the classroom are those who are traditionally low-achieving.” START on Time reduces tardies, referrals, and any other protocol that disrupts the learning process; and as a result, increases the time students are engaged in learning (Sprick, 2003).

#### *Socioeconomic and Equity Issues*

The disparity between African American and white students is not proven with regards to socioeconomic status. For example, a recent study by Lubienski (2002) identified substantial black-white achievement gaps; however, socioeconomic status failed to account for a large portion of the gap. On the other hand, English (2002), exploring the achievement gaps between minority and white students, found that cultural capital (status and expectancy) is a strong indicator of student achievement. As such, the START on Time program confirms that there is a relationship between improving the campus climate and improved student academic performance. With the intention of reducing or narrowing the achievement gap, START on Time seeks to strengthen and shape campus culture and climate by fostering attitudes and building relationships that

directly promote a culture of achievement. For example, the study group (“School A”) adopted “Guidelines for Success,” those common values that define attitudes toward self, others, and the school community as a whole. Additionally, every facet of the campus community was linked to success, with student achievement becoming the overarching purpose for actions. Most notably, disadvantaged students benefit most from this acclimation of culture. As part of this culture, teachers are challenged to set high expectations for all disadvantaged students, regardless of race. African American students, in particular, begin to view themselves as part of a high-achieving student body, one where failure is not an option and achievement is a common expectation. This is consistent with the findings of Lee (2002) who discusses setbacks in the progress toward racial and ethnic equity. He states,

The conventional measures of socioeconomic and family conditions, youth culture and student behavior, and schooling conditions and practices might account for some of the achievement gap trends for a limited time period or for a particular racial and ethnic group. However, they do not fully capture the variations. (Lee, p. 3)

By contrast, Leroy and Symes (2001), reporting on the effects of poverty on teaching and learning, surmise that children who are from low socioeconomic backgrounds are entering schools with needs from circumstances that schools are not prepared to meet. Essentially, START on Time ignores this premise by disregarding socioeconomic status as a predictor of academic success or failure. START on Time is grounded in the theory that a good education is often the only means of breaking the cycle of poverty for poor children (Leroy & Symes, 2001). In fact, Sprick (2002)

obviously establishes his premise for START on Time on the earlier research of Slavin (1998) by supporting that schools can have a powerful impact on the academic achievement and success of minority children by viewing them as at-promise rather than at-risk, thus preparing them to reach their full potential. START on Time became the means for a group of underachieving students to reach that potential.

Related to START on Time, the program yields measurable results for students from low socioeconomic backgrounds. In this case, the study rejects the hypothesis of Leroy and Symes (2001) by ignoring the reference points (poverty, educational level of parents) of children entering “School A.” More specifically, START on Time levels the playing field by ensuring that all students are educated with equity. High expectations for all are the cornerstone, as every student in every class and grade are exposed to rigorous bell-to-bell instruction.

Interestingly, START on Time findings also contradicts the research of Goodwin (2000) who reports that instructional and classroom management techniques that work well with some students don’t necessarily work well with poor children. START on Time is less interested in the baggage that children bring to school and more concerned with exposing them to a structure that impacts student achievement. Being on time for class and ready to engage the material is less about social capital (English 2002) and more about establishing positive daily routines.

START on Time is a partnership between teachers, students and their school. African American student performance was influenced by the reinvention of a culture that achieves equity through a rejection of socioeconomic status. Therefore, the premise

or assumption that START on Time transcends socioeconomic and equity issues are supported by the findings in this study.

### *Academic Achievement*

Evidence of academic disparity continues to be revealed in the achievement scores and state assessment instruments of African American students. When compared to their white counterparts, as well as other ethnic groups, the achievement level of African American students lags far behind, especially in math and science (NCLB, 2001).

Understanding that the intended purpose of the study was to evaluate the relationship between the START on Time program and the academic performance of African American students, the START on Time program yielded measurable results. In the population of interest (study group), African American TAKS scores increased an aggregate of 39% in the four core subject areas of English/language arts, math, science, and social studies. While improvement in all areas is exemplary, measured improvement in traditional areas of poor performance (math and science) yielded impressive results. These findings are consistent with the research of House (2005) who examined the causes and cures for low minority achievement. According to that study, student achievement is linked to academic rigor; summarizing that academically rigorous schools produce student success. While the START on Time program is not part of the “school within a school” concept, the program does reinforce academic rigor by placing academics at the forefront of the daily campus climate. Essentially, to focus on bell-to-bell instruction, a byproduct of START on Time, students are immersed in a culture of learning, focused on measured outcomes. The connection here is that student success begins with the instructional environment of the classroom. Using a similar experiment, Tomlinson and

Doubet (2005) found that in effective classrooms, students master the content through relevant activities and writing. As the achievement of the study group is invariably linked to the connections between the instructional climate and assessment, meaningful learning has become relevant for African American students.

Moreover, START on Time affirms the role of the principal in closing the achievement gap. DuFour (2002) summarizes that the principal must serve as the instructional leader of the school by focusing on learning, not only as the way that teachers work together, but also as the way they relate to and work with each student.

In the study group, the principal delineates the impact of START on Time by keeping the faculty and student body focused on student achievement. In this manner, the principal focuses on advancing student learning by promoting START on Time as a system of intervention (DuFour, 2002). Clearly, the 2006-2007 TAKS scores of “School A” were dismal and disappointing. Much like DuFour (2002), the principal of “School A” played an important role in initiating, facilitating, and sustaining the success of the START on Time program, thus improving African American achievement scores in just one year.

Essentially, START on Time was product of collaboration between teachers and campus administrators. Revisiting the challenges of NCLC (2001), START on Time is a means to impact student achievement by requiring stakeholders to assume mutual accountability roles in the development and sustainability of reforms that produce measurable academic improvement for African American students. Perhaps the price of failure has become too high. If so, START on Time is the beginning of a great investment.

### *Implications*

NCLB (2001) is the federal government's response to the achievement disparities and achievement levels of disadvantaged students. Improving achievement and enhancing academic skills of the traditionally underrepresented population has become and shall remain a priority of education leaders, as schools race to have all students meeting minimum proficiency standards by 2012. As of fiscal year 2007 the federal government is investing 54.5 billion dollars per year to implement its standards based reform (NCLB, 2001).

The implications for local and state educational agencies that receive federal funding are enormous. Schools who fail to demonstrate adequate yearly progress (AYP) risk losing state funding and even larger must pay transfer, tuition, and transportation expenses for those families who choose to opt out of failing schools. Quite simply, federal funding will follow the student. The impact of losing federal funding may mean the loss of faculty, a reduction in programs or services, and more severely, the closing of failed schools.

There is a significant gap in achievement in a population that is predicted to dramatically increase in the next decade. Ethically, intentional professionals must not continue to allow a specific segment of the nation's youth to fail. With echoes of segregation and "separate but equal" scarcely removed from the vernacular of many, America cannot afford to lose another generation to low expectations and inadequate instruction, especially if one espouses to believe that education is the gateway to more opportunity and a better life. Consequently, making American schools adequate learning institutions for all students is a challenge to be accepted and a hope that must not fail.

## *Recommendations*

1. Schools must proactively search for the means to close the achievement gap in math and science. Funding must be earmarked to provide professional development for teachers and training for district administrators to dig deeper into data disaggregation, looking for trends in instruction that need to be addressed in the lower grade years. Additionally, African American students must begin to receive instruction that is consistent with education reform.
2. Create professional learning communities (PLC's) by developing the concept of learning academies. Disadvantaged students must be exposed to smaller class sizes, relational and aligned instruction, and learning that is connected to life experiences.
3. Implement partnerships with business and industry to execute systemic reform. Sharing resources is key to "best practice" reform as well as providing the opportunity for students to engage the material in an experiential environment. Moreover, the structure of curriculum texts should be combined with the reality of practical applications.
4. Implement a system of culturally responsive teaching as a predictor of equity. Gay (2000) defines culturally responsive teaching as using the cultural knowledge, prior experiences, and performance styles of diverse students to make learning more appropriate and effective for them; it teaches to and through the strengths of these students. Gay (2000) also describes culturally responsive teaching as having the legitimacy of the cultural heritages of different ethnic groups, both as legacies that affect students' dispositions, attitudes, and

approaches to learning and as worthy content to be taught in the formal curriculum.

5. Enhance the classroom environment. Literature in the classroom should reflect multiple ethnic perspectives and literary genres. Math instruction would incorporate everyday-life concepts, such as economics, employment, and consumer habits of various ethnic groups.
6. Do reinvent the wheel. Educators must continually strive to reinvent themselves by searching for innovation. Relevant teaching must mean that professionals stay abreast of new theories, emergent research, and those applications and programs that promote achievement.

#### *Limitations*

This study analyzed and compared the performance of African American students on the Texas Assessment of Knowledge and Skills (TAKS) Test. These comparisons were limited to values available through the state's AEIS database. Other data that might be applicable, but were not included in this study are:

- Grades on six week reporting periods
- The numbers of students receiving after-school tutoring or peer counseling
- The previous academic performance of students who transfer into the district
- Further limits of the study may be addressed by conducting a longitudinal study to track achievement scores in this subpopulation over a four-year high school career.

The evaluation of student achievement was based on passing rates on the Texas Assessment of Knowledge and Skills (TAKS) Test. For the purpose of this study, the

TAKS results for the 2006-2007 school year were compared with those from 2007 through 2008. TAKS exams were given at various grade levels and in a multiple of content areas. Results were tabulated and disaggregated by grade level, race, and other student indicators. Passing requirements on the exam vary by standard error of measurement (SEM) each year, as set by the Texas Education Agency. Although this could affect the results of scores from year to year, results among demographic categories should be affected equally. For the purpose of this study, student achievement was based solely on the number of students who passed exams in all content areas. The researcher acknowledges this was only one possible indicator of student achievement.

There is also a potential limitation regarding teaching style, teacher efficacy, and teacher effectiveness during the established research timeframe. Student achievement gains may be altered by these extraneous variables and could alter achievement scores.

Finally, given that START on Time is a relatively new program, the literature to review was limited.

#### *Recommendations for Future Research*

This study examined the relationship between the START on Time program and the academic performance of African Americans as measured by performance on the TAKS, which is the state mandated assessment instrument. However, additional research seems needed on the disparity between minority achievement and programs that improve the academic performance of disadvantaged students.

1. More research on the relationship between additional programs and the academic achievement of minority students. START on Time is but one example of creatively seeking to improve culture and instructional climate for

disadvantaged students. Other programs exist and should be evaluated for statistical effectiveness with regard to narrowing the achievement gaps.

2. Further research must include a longitudinal study on the relationship between START on Time and minority achievement. The most effective means of evaluation should include the tracking of student progress and scores over multiple assessment administrations. For example, START on Time could be implemented in the third grade and racked through test administrations in grades 5 and 8. Additionally, it would be helpful to select a random sample from the population – assign that group to a teacher, repeating the same process for the control group. In this manner, the researcher could track achievement over a two or more year period, using the same teacher. This would remove extraneous variables (teacher experience and efficacy) from the research project, providing for more accurate results.
3. A qualitative study evaluating the relationship between START on Time and the improved instructional culture of schools. Qualitative data would answer this question by assessing the overall feelings and attitudes of students and faculty regarding the creation and sustainability of a climate beneficial to increased academic achievement. Secondly, through journals, portfolios, surveys and focus groups, the researcher would be able to document cultural attitudes over a period of time. This would be beneficial because the State of Texas is slated to move away from annual formative assessments in lieu of end-of-course exams. While there may still be disparities in achievement, the

new system will likely evaluate achievement in terms of annual progress, rather than raw scores.

### *Concluding Remarks*

This study was designed to evaluate the relationship between the START on Time program and the academic achievement of African American students. While the control group showed measured increases in each core subject area, there was significant improvement in the TAKS scores (34%) in the study group. As such, the research found that significant differences exist between the means of the study group versus the control group, inferring a positive relationship between the treatment and the academic performance of African American students.

As such, the study truly impacted the educational growth of the researcher. It was interesting to watch the instructional climate and subsequent academic culture change for the study group. With complete buy-in from the faculty, START on Time singularly changed an approach to education. Students became more intentional and focused on academics, affording for the subsequent success of the program.

Finally, it was refreshing to explore those who truly think “outside the box.” Although not necessarily innovative, START on Time is rather unique. The program takes a series of guidelines for success used on elementary campuses and adapts them to work at the secondary level. Quite simply, move quickly between classes, get to class on time, and observe good manners are not new to education. However, in the context of a failing school, it is this intentional return to the basics that proved to initiate measures of success for a disadvantaged population.

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