ABSTRACT

The Effect of a Smaller Learning Community on Students in a Large High School

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This study is an investigation into the impact that Smaller Learning Communities might have on students in a large high school. It is a single site study that occurred over the course of three years. Three separate groups of students were involved in this study: Advancement Via Individual Determination (AVID) students, randomly selected students who had never taken a Pre-Advanced Placement or Advanced Placement course, and randomly selected students who had taken Pre-Advanced Placement or Advanced Placement courses. The Smaller Learning Community that had been applied at this high school was the Advancement Via Individual Determination or AVID program.

The three different groups of students were compared in six separate categories: achievement scores on the state mandated Texas Assessment of Knowledge and Skills on the Math test as well as on the English Language Arts test, attendance rates, the number of disciplinary incidents received, class rankings, and grade point averages (GPAs). These categories were then assessed with a statistical analysis of simple or one way analysis using the ANOVA tool for comparison. Statistical significance was found to be present in five of the six categories studied. The AVID program was begun in California

in the mid-1980s, and coupled with the recent emphasis on Smaller Learning Communities by the Bill and Melinda Gates Foundation, programs like AVID have come to the forefront of educational solutions.

The high school involved in this study was a large 5-A high school located in central Texas. Their enrollment was just over 2,300 students at the time of the completion of this study. According to the research, any student body of larger than +/-1,000 students is in danger of "losing" kids due to feelings of disconnection with their schools. Applying treatments such as the AVID program to these large high schools is an attempt on the part of educators to provide for all students within the walls of their schools, in an earnest attempt to "leave no child behind."

The Effect of a Smaller Learning Community on Students in a Large High School

by

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A Dissertation

Approved by the Department of Curriculum and Instruction

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CHAPTER ONE

Introduction

Since the first European colonies began to take root in North America, education has been a driving force in the development of the United States. This is evidenced by the fact that even the earliest colonists mandated educational reforms. The General Court of Massachusetts passed the famous Old Deluder Satan Act in 1647 which required towns with 50 families or more to establish a school and appoint a teacher for all elementary students, and required towns of 100 or more families to establish a secondary school as well (Odden & Picus, 2004). In the beginning while this country was still 13 colonies struggling to survive in the new world, most of the schools were religious-based (Odden & Picus). Thomas Jefferson was one of the first to push for public elementary and secondary schools to be required by the individual states when he proposed his "Bill for the More General Diffusion of Knowledge" to the Virginia legislature in 1778 (Milson, Bohan, Glanzer, & Null, 2004). Even though his initial bill failed, the stage was set for the establishment of a state supported system of education within the new republic. The nation expanded west into the territories and the one room school house became the norm. The California Gold Rush, the Texas land grab, the war with Mexico, and the push for additional slave or free territories led to an all out assault of westward expansion (Kennedy & Bailey, 2002). Schools were quickly assembled in rural areas while their urban counterparts continued to grow larger. Most large towns functioned as independent school districts (Odden & Picus, 2004). Since the first school tax structures

favored urban development, schools in the cities were funded more heavily and grew larger and faster than the schools in the rural areas. This was actually one of the first examples of the differences in local ability to support their schools equitably. The small amount of taxes that were paid to support the urban schools went much further than the small amount of taxes that supported the rural schools.

> As the number of these small rural and big-city school systems grew, however, and the importance of education as a unifying force for a developing country became increasingly realized by civic and political leaders, new initiatives were undertaken to create statewide education systems. (Odden & Picus, 2004, p. 9)

The number of schools and school districts grew steadily but still inequitably (there were different funding structures in place for rural and urban schools) until there were approximately 262,000 pubic schools by 1930 (Odden & Picus, 2004). In contrast, there were about 117,108 school districts in the entire country as consolidation made its way across America and by 1970 that number had dropped to 17,995 districts nationwide (Odden & Picus. Today there are only about 15,000 school districts in the country, with about 1,037 of those in Texas, 989 of those in California, and Hawaii being one statewide school district (Odden & Picus.

The Problem

Public schools in America have gone from the one room schoolhouse to the large shopping mall-type high schools of today (National Association of Secondary School Principals, 1996). Since the publication in 1983 of *A Nation at Risk* American educators have been searching for ways to improve student achievement (U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education, 2001). There is a preponderance of research available over the course

of the last 30 years that shows there is a strong negative relationship between student achievement and school size (Howley, 1994). However, modern-day administrators and educators continue to build larger and larger high schools designed to house more students than ever before (School Renaissance Institute, 2000). The economics of building schools show that it is more efficient to build less school that house more students, rather than to build multiple schools that hold fewer students. Today there are two foundations, The Carnegie Foundation and the Bill and Melinda Gates Foundation working to create smaller learning communities in public high schools across this great nation. The prediction is that there will be as many as 1,000 new smaller "schools within a school" created over the next several years (Wagner, 2001). It appears then that the movement in American schools has gone from very small, to large, to very large, and now back to small again (School Renaissance Institute). Since all high school students will eventually become Americans in the general society of this country, whatever they learn in high school will determine just how productive they will become as adults (National Association of Secondary School Principals, 1996). In fact, recent statistics from the U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education (2001) indicated that more than 70% of high school students attend schools with enrollments of more than 1,000, and 50% attend schools with more than 1,500 students. In many communities enrollments of more than 2,500 or 3,000 students are not uncommon, and some urban areas see enrollments as high as 5,000 students (Kacan & Schipp, 2000). Therefore, it is in the best interest of professional educators to explore the development of smaller learning communities as a possible solution to increase student achievement in this current environment of

standardized testing and increased accountability. There seems to be some discrepancy in the research as to what constitutes a "large" school; the numbers range anywhere from 600 students to 1,200 students. For the purposes of this study, any school with less than 1,000 students will be defined as a small school. However, any school with over 1,000 students will constitute a large school and will be in need of instituting a smaller learning community. This study investigates several questions regarding smaller learning communities within existing large public high schools. This study is limited to Target High School. In that context, this is a single-site study, focusing on studying, comparing, and interpreting a variety of archived quantitative data. According to the body or research, Target High School with approximately 2,365 students falls into the "large" high school category, and may exert a negative influence simply due to its size on student achievement, attendance rates, disciplinary incidents, and scores on the state mandated standardized tests.

Purpose of the Study

The purpose of this study was to compare the achievement, attendance, GPA, scores on the state mandated standardized tests, and the number of disciplinary incidents, for students who participate in a smaller learning community with students who do not participate in a smaller learning community.

Research Questions

The following research question served as the framework for this study:

1. *What is the impact of smaller learning communities on high school students?*

Other research questions that were answered during this process were:

1) How did the number of discipline referrals for students in the AVID program compare to the number of discipline referrals for non-AVID students?

2) How did the attendance rates of students in the AVID program compared to the attendance rates of non-AVID students?

3) How does achievement as measured by TAKS scores in Math and English Language Arts for students in AVID compare to non-AVID students?

4) How does achievement as measured by GPA and class rank for students in AVID compare to non-AVID students?

Research Design

The research design was a quantitative approach comparing the students enrolled in the AVID program with different groups of students within their same grade level. The experimental group was the AVID students. The two control groups were Non-AVID students and the Pre-AP/AP students. The group of students that was exempted from this study that are in the non-AVID population were the special education students, (who have been exempted from taking the TAKS test via ARD committee decisions).

Quantitative data included TAKS scores from Math and English Language Arts tests from student's results in 9th grade through 11th grade. TAKS scores, attendance rates, discipline referrals, GPAs, and class ranks were collected and analyzed. There were three groups of students involved in this study over the course of three years. These three groups were compared in the six different categories: two types of TAKS tests (Math and ELA), attendance, discipline referrals, class ranks, and grade point averages (GPAs). The ANOVA simple test for statistical significance was administered to all six categories of data that was collected over the course of three years of the study.

Participants

The site chosen for this research was Target High School in Target Independent School District located in Target, Texas. Target High School is classified as a 5-A public high school with a total number of approximately 2,300 students in the 9th through 12th grades. Target High School students represent every economic sub-group. The experimental group was the initial class of 11 remaining AVID students identified in the 2005-2006 school year, along with the additional 24 AVID students that have been added to the program. Over the course of the three year study there were some changes within the demographics of the control group over time due to student movement into and out of the district. Those transient students were either added to or subtracted from the experimental group as such movement occurs. The experimental group was compared to randomly selected groups of the non-AVID students within Target High School, or the control group, excluding special education students.

The students involved in this study ranged from grades 9 through 12, and all were members of Target High School. However, test data from the 9th grade year of the experimental group was also compared to the test data of the control group excluding special education students. Target High School has approximately 2,300 students, all in 9th through 12th grades. The ethnicities of the entire population of Target High School for the school year 2006-2007 are shown in Table 1.

Approximately 38% of all Target High School students are classified as Low Socioeconomic Status (Target ISD website, 2008). This means that they qualify for Title I programs through the federal government such as the Free and/or Reduced Lunch Program.

Table 1

Ethnicities/Entire Population – Target High School – 2006-2007

Anglo American	African American	Hispanic	American Indian	Asian/Other
56%	7%	33%	2%	2%

Note: Target ISD website, 2006-2007 school year, from AEIS report from the Texas Education Agency.

Target High School can be described as a typical large public high school classified as a 5-A school by the state of Texas. There are currently approximately 2,300 students in Target High School. The high school offers a full curriculum including fine arts, band, athletics, and foreign languages, Advanced Placement Classes, Pre-Advanced Placement Classes, Dual Credit Classes, and a rather unique course called *The Bible as Literature.*

Data Collection

Data were collected beginning with the archived 9th grade Math and English Language Arts (ELA) TAKS tests, discipline referrals, attendance patterns, GPA, and class rank for all students. Data from the experimental group and several different control groups were compared. This process was repeated through their 11th grade year, which is the last year that the state of Texas requires students to pass the TAKS test in all the core subjects. Results were charted and compared from the school years 2005-2006, 2006-2007, and 2007-2008. The software system that Target ISD used to archive their student data is the AEIS-IT system. As an administrator within the district, the researcher had full access to all archived data. This data included class rankings, GPAs, disciplinary

referrals, attendance rates, and student scores on the state mandated standardized TAKS tests for Math and English Language Arts.

The Grade Point Averages and Class Ranks are figured according to the explanation in the Target High School Course Catalog (2007-2008). Those procedures are as follows:

- Grades shall be given for every course every semester. A designated number of grade points shall be assigned depending on the course classification and the grade earned. (See Grade Point Chart below – Tables 2 and 3.)
- Class rank shall be based on the average of these points rather than on the numerical grade average.
- Class rank computed at the end of the junior year may be used for college application purposes until re-ranking occurs after the 1st semester of the senior year.
- Final class rank shall be determined at the end of the fifteenth (15th) week of the spring semester of the senior year. The final class rank at the fifteenth week becomes a permanent record on the Academic Achievement Record (AAR); no re-ranking shall occur after graduation for transcript purposes.
- High school courses taken prior to the 9th grade, American Preparatory Institute (API) courses, college courses, correspondence courses, summer school courses, dual enrollment courses, local credit courses, credit by exam/acceleration and distance learning are NOT used when calculating the grade point average. (EXCEPTION: Dual enrollment courses taken at THS and taught by THS faculty count toward the GPA using the THS grading system).
- Students registered to district AEP or JJ-AEP will earn grade points based upon the regular level offered for a course.
- The student's selected Graduation Plan (Minimum, Recommended, and Distinguished) has no bearing on the grade point averages that determine class rank and honor graduates. (THS Course Catalog, 2007-2008, p. 6).

Note: If an AP student does not take the AP test, they do note receive the additional weighted points. It then reverts back to a regular course (White, 2008). Once the GPAs are calculated, they are used to determine Class Rankings. Class Ranks are simply numerical rankings from the highest number being awarded the number one ranking in

the class, and the lowest number ranking being awarded the highest class rank number, equivalent to last place (White, 2008).

Table 2

Grade Point Chart - 10th, 11th, and 12th Grade Students

Grade Points	Advanced Placement	Pre-Advanced Placement	Regular & Dual Credit
6	A		
5	B	A	
4	C	B	A
3	D	C	B
2		D	C
1			D
0	F	F	F

Table 3

Number Grades to Letter Grades Conversion Chart

Numerical Grades	Letter Grades	Grade Points for AP Courses	Grade Points for PAP Courses	Grade Points for Regular Courses
90-100	A	6	5	4
80-89	B	5	4	3
75-79	C	4	3	2
70-74	D	3	2	1
<70	F	0	0	0

Data Analysis

The quantitative data were analyzed utilizing a simple or one-way analysis of variance (ANOVA). This type of analysis tool is "a parametric test of significance used to determine whether a significant difference exists between two or more means at a selected probability level" (Gay, Mills, & Airasian, 2006, p. 359). However, it should also be noted that "interpreting the findings in a causal-comparative study requires considerable caution. Due to lack of randomization, manipulation, and control factors, it is difficult to establish cause-effect relationships with any great degree of confidence" (p. 223).

Timeline of Project

The timeline of this project began with the initial group of AVID students at Target High School. The 2005-2006 school year began with 30 AVID students, all in the 9th grade. However, as both the AVID site team at Target High School and the AVID students became more familiar with the overall AVID program, as well as with the more subtle nuances of the selection process, there was some cleansing of this initial group. There were admittedly some mistakes made by the site team with the selection of the initial AVID class. Some students have naturally left the program and others were asked to leave. Using archival data from their AEIS-IT system, the researcher was able to retrieve student scores from the 9th, 10th, and 11th grade years from the Math and English Language Arts TAKS tests. The 11th grade year is the last year the state of Texas mandates that students pass the TAKS test in order to graduate. Should any student fail to pass the TAKS tests by this time, they are given additional opportunities during their senior year to try to pass the exit-level test. However, it is assumed at this

time that each and every one of the AVID students will have passed their tests by the end of their 11th grade year. The inclusion and availability of this data from their 9th grade through their 11th grade years should lend to the validity and reliability of this study. Attendance rates, student scores on the state mandated standardized tests, disciplinary incidents, GPAs, and class rankings were obtained from archival data for the 2005-2006, 2006-2007, and 2007-2008 academic school years.

Limitations and Assumptions

1. The first limitation was that this study was limited to data from Target High School.

2. Researcher bias was another limitation. The researcher is an administrator at Target High School. However, the researcher believes that he was able to interpret the data objectively.

3. Another limitation was that this study focused only on the first AVID group which entered the ninth grade in 2005-2006. These students may not be representative of other AVID groups who entered ninth grade in later years.

4. Another limitation was that the data selected for comparison in this study may not be the best way to evaluate the effectiveness of AVID.

Definition of Terms

1. *TAKS* − Texas Assessment of Knowledge and Skills.

2. *SLC* − Smaller Learning Community.

3. *AVID* − Advancement Via Individual Determination, a program proposed by Target High School as their choice of a Smaller Learning Community.

4. *GPA* − Grade Point Average.

5. *Class Rank* − The rank of a student in relation to all the other students in the same class of a school.

6. *Smaller Learning Community* (SLC) − The institution of a "school within a school" in a larger community of public high school students with a population of 1,000 or more. There may be several smaller learning communities within one school.

7. *NCLB* − (Also known as *No Child Left Behind.*) Federal legislation which mandates some type of standardized testing for all public school students in each state. In Texas, this is the TAKS test.

8. *Achievement* − This data will include GPA, TAKS test scores, and class rank.

9. *Discipline* − This data will include tardies, In School Suspension (ISS), Out of School Suspension (OSS), Long Term In School Suspension (LTISS), District Alternative Education Program (DAEP), and detentions.

10. *Large School* − any school serving 1,000 students or more.

11. *Small School* − any school serving less than 1,000 students.

12. *Absences* − will be reported as the number of class periods a student missed during a particular school year that was "unexcused."

CHAPTER TWO

Review of the Literature

Preface

Students travel from miles around to attend the traditional one-room school house, some leaving very early in the morning just to get to school on time. The teacher is most likely female because she can be hired for less than her male counterparts (Milson, Bohan, Glanzer, & Null, 2004). She is held to high social standards and most likely lives with one of the families whose students she serves. Her students will likely range in grades from kindergarten to high school. Textbooks are few and far between, and older students spend a large amount of their time teaching their younger peers. Since there is literally only one room in the entire school, multiple grades of students must meet in the same classroom, share the same materials, and learn from the same teacher. Students are not able to change classrooms during the day, so they are often in the same seats all day long. Assessments are often grade generic and may be taken by the entire class at once, even though the differences between age and grade levels are radical at best. Such was the typical learning environment that was common during the period of time when Americans were exerting their God given right of westward expansion that became known as Manifest Destiny.

Introduction

Since the very beginning education in America has been of utmost importance. The General Court of Massachusetts passed the famous Old Deluder Satan Act in 1647

requiring towns with 50 families or more to establish a school and appoint a teacher for all elementary students, and requiring towns of 100 or more families to establish a secondary school as well (Odden & Picus, 2004). In the beginning while this country was still 13 colonies struggling to survive in the new world, most of the schools were religious-based (Odden & Picus). Thomas Jefferson was one of the first to push for public elementary and secondary schools to be required by the individual states when he proposed his "Bill for the More General Diffusion of Knowledge" to the Virginia legislature in 1778 (Milson, Bohan, Glanzer, & Null, 2004). Even though his initial bill failed, the stage was set for the establishment of a state supported system of education within the new republic. As the nation expanded west into the territories the one room school house became the norm. The California Gold Rush, the Texas land grab, the war with Mexico, and the push for additional slave or free territories led to an all out assault of westward expansion (Kennedy & Bailey, 2002). Schools were quickly assembled in rural areas while their urban counterparts continued to grow larger. Most large towns functioned as independent school districts (Odden & Picus). Since the first school tax structures favored urban development, schools in the cities were funded more heavily and grew larger and faster than the schools in the rural areas. This was actually one of the first examples of the differences in local ability to support their schools equitably. The small amount of taxes that were paid to support the urban schools went much further than the small amount of taxes that supported the rural schools. As the number of these small rural and big-city school systems grew, however, and the importance of education as a unifying force for a developing country became increasingly realized by civic and

political leaders, new initiatives were undertaken to create statewide education systems (Odden & Picus, p. 9).

The number of schools and school districts grew steadily but still inequitably until there were approximately 262,000 public schools by 1930 (Odden & Picus, 2004). In contrast, there were about 117,108 school districts in the entire country as consolidation made its way across America and by 1970 that number had dropped to 17,995 districts nationwide (Odden & Picus). Today there are only about 15,000 school districts in the country, with about 1,037 of those in Texas, 989 of those in California, and Hawaii being one statewide school district (Odden & Picus).

The Problem

Public schools in America have gone from the one room schoolhouse to the large shopping mall-type high schools of today (National Association of Secondary School Principals, 1996). The research varies on the definition of a "large" high school with the estimates varying from 600 to 1,500 students. For the purpose of this study, large is defined as meaning any high school housing more than 1,000 students. Since the publication in 1983 of *A Nation at Risk* American educators have been searching for ways to improve student achievement (U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education, 2001). There is a preponderance of research available over the course of the last 30 years that shows there is a strong negative relationship between student achievement and school size (Howley, 1994). However, modern-day administrators and educators continue to build larger and larger high schools designed to house more students than ever before (School Renaissance Institute, 2000). This is usually due to the current

funding structures requiring school districts to get the most out of their educational dollar by building fewer facilities housing larger numbers of students rather than more numerous but smaller buildings housing smaller numbers of students. Today there are two foundations, The Carnegie Foundation and the Bill and Melinda Gates Foundation working to create smaller learning communities in public high schools across this great nation. The prediction is that there will be as many as 1,000 new smaller "schools within a school" created over the next several years (Wagner, 2001). This is a direct result of the revelations discovered from the body of research surrounding large high schools. It appears then that the movement in American schools has gone from very small, to large, to very large, and now back to small again (School Renaissance Institute). Since all high school students will eventually become Americans in the general society of this country, whatever they learn in high school will determine just how productive they will become as adults (National Association of Secondary School Principals, 1996). In fact, recent statistics from the U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education (2001) indicate that more than 70% of high school students attend schools with enrollments of more than 1,000, and 50% attend schools with more than 1,500 students. In many communities enrollments of more than 2,500 or 3,000 students are not uncommon, and some urban areas see enrollments as high as 5,000 students (Kacan & Schipp, 2000). Therefore, it is in the best interests of professional educators and the students under their stewardship to explore the development of smaller learning communities as a possible solution to increase student achievement in this current environment of standardized testing and increased

accountability. This chapter reports and discusses relevant literature on smaller learning communities and large public high schools.

Further Issues: Achievement Gap, Drop-Out Rates, Attendance, and High-Stakes Testing

In a recently published article by the Education Policy Analysis Archives (2008), two longitudinal case studies were performed in two separate Texas high schools with high poverty and high minority student populations. The results were disturbing, casting a disparaging light on the nearly two decade practice of high-stakes testing in Texas high schools. These studies revealed that Texas public high schools lose at least 135,000 students prior to their graduation, including the following statistics: 25% of Anglo students, 45% of African American students (actually, greater than 50% of African American male students), and slightly less than 50% of Latino students graduate from Texas high schools (Texas Education Agency, 2002). According to a national study by Lee, Grigg, and Donahue (2007) barely 30% of rising freshmen can read at grade level. More than 1.2 million U.S. high school students drop out every year, or roughly 7,000 students each school day (Editorial Projects in Education, 2007). One of the hidden problems with the latest nationwide educational reforms seems to be the emphasis that is placed mostly on elementary grades, essentially ignoring secondary schools (Wise, 2008). One of the solutions lauded in this article included the implementation of smaller learning communities, thereby creating a more personalized learning environment for today's students (Wise). All of these statistics will become critically important during the discussion of the improvement of graduation rates for students of color as a result of the implementation of smaller learning communities later in this discussion.

Another issue discussed by the Editorial Projects in Education (EPAA) study pointed to the various types of "leaver codes" which schools and administrators can use to code their drop-outs for purposes of removing high risk, low performing students from their overall student population (Losen, Orfield, & Balfanz, 2006). However, under the Elementary and Secondary Education Act of 2002, also known as *No Child Left Behind* (NCLB), the school accountability system used to rank all Texas public schools takes into account a factor known as *Annual Yearly Progress* (AYP). Under this category, schools are graded lower for having high numbers of students leaving school to attain their GED. In fact, just recently, these students are counted against the AYP of schools as drop-outs (White, 2008).

It is appropriate at this time to discuss the history of state mandated high stakes testing in Texas, since their system eventually led to a nation wide system of state mandated testing at various grade levels under NCLB. From 1979 to 1983, students in Texas public schools were tested under the Texas Assessment of Basic Skills, or TABS (Editorial Projects in Education, 2008). Beginning in 1984 a slightly higher level of skills were tested under the Texas Assessment of Minimum Skills, or TEAMS (Editorial Projects in Education). "The 9th grade class of 1987 was the first in which students were required to pass an exit level test to (given first in 11th grade and later in 10th grade) to graduate" (p. 3). Then in 1990 the state of Texas instituted the Texas Assessment of Academic Skills, or TAAS (Editorial Projects in Education). Finally, in 1999, the test became the Texas Assessment of Knowledge and Skills, or TAKS, and the graduation exit test was shifted to the 11th grade (Editorial Projects in Education). Accompanying the changes in the state's testing system came a state-wide accountability rating for all

Texas schools. Ratings were listed as "Exemplary, Recognized, Acceptable, or Low Performing" (p. 12). Schools were rated according to the "disaggregation of test scores by subpopulations," for example: male and female Anglo students, male and female African American students, male and female Hispanic students (p. 4). There are a couple of factors that this study refers to as the "Texas Miracle" (EPAA, 2008, p. 4), which appear on the surface to indicate that rising test scores indicated improved student achievement, while at the same time closing the Achievement Gap between Anglo students and students of color. However, this same study points to the fact that the very system that purports to contribute to this phantom improvement of student achievement may actually be flushing out poor performing students out of the public school system, thereby exempting them from the testing program and subsequent accountability rating system (Editorial Projects in Education).

Prior to NCLB, Texas students were traditionally compared to the average performance of similar students in the same grade levels across the state. However, with the authorization of NCLB and the disaggregation of students' scores by subpopulations, the low performing, high poverty, students of color were particularly prone to dropping completely out of the system that was designed to "leave no child behind," (Editorial Projects in Education, 2008, p. 37). According to this study, it is the very system of state mandated high stakes testing and accountability ratings purportedly in place to reach every student which ultimately rates all students as either "assets or liabilities" to the system under which Texas public schools must operate (Editorial Projects in Education, p. 37). It appears that educators must now choose to "comply" with the state

accountability system or "educate" *all* of the students placed under their jurisdiction (p. 25).

Another issue that surfaced during this comprehensive longitudinal study had to do with the significant degradation of the enacted curriculum (DeBray, Parson, & Avila, 2003; Firestone et al., 2002; McNeil, 2001; Sloan, 2005). In many cases the curriculum was found to have degenerated into simple test preparatory drills. Even when this was not the case, it appeared that the curriculum certainly drifted towards ensuring that students can answer the same types of questions that will appear on the tests, so much so that "the tests become the de facto curriculum," (Editorial Projects in Education, 2008, p. 28). Furthermore, there is substantial evidence that "the narrowing of the curriculum in response to test mandates further widens the inequities between poor and minority students and their more privileged peers" (Editorial Projects in Education, p. 29). In fact, under NCLB, more grade levels than ever fall under the high-stakes testing mandates.

> Gold (2007) found that this formula narrows the curriculum for minority students in urban schools, while the suburban schools retain a broader curriculum because they are not under a similar pressure to make a large increase in test scores. Fine (2005) finds that suburban students in Advanced Placement courses are offered a broad curriculum, whereas the minority students in New York City are offered a narrow, test-prep curriculum under the increased emphasis on high-stakes testing at each grade level. (p. 29)

One more issue raised by this study was the "90% rule" of attendance which states that "in order to receive credit for a course of study, a student must be present 90% of the days that classes are held within that course," (Editorial Projects in Education, 2008, p. 32). Failure to do so may result in students being denied credit for that course, regardless of their overall grade performance. In other words, students that are employed

outside of the school in an attempt to help support their families are at greater risk of missing school due to outside influences (Editorial Projects in Education).

Other research has also indicated that smaller learning communities, more personalized learning environments, along with the addition of a more rigorous curriculum, all have a substantial impact on the retention of students, as well as on student achievement (Darling-Hammond & Friedlaender, 2008). There was a recent study involving five California high schools that "have seemingly beaten the odds in supporting the success of low-income students of color" (Friedlaender & Darling-Hammond et al., 2007). These five schools are all located in some of California's largest cities, have open-enrollment policies, and have significantly higher graduation rates, as well as college-going rates, than the state average (Darling-Hammond & Friedlaender). One quote in particular from a student at one of these schools emphasizes the importance of smaller learning communities when they stated that:

> the whole small schools thing really helps because of the teacher/student relationship…You get to interact with your teachers a whole lot more and get to know them. When you're learning from a friend, not just some random person, it's a lot easier to learn. (p. 16)

Each of the five school included in this study have designed a rigorous, coherent instructional program that "enables all students to overcome barriers often associated with race, poverty, language, or initially low academic skill" (Darling-Hammond, 2008, p. 16-17). These authors came up with four policy areas that influence the ability of high schools construct practices that enable students of color to succeed. These policies are included here because they apply in part to the premise of this study: that smaller learning communities make a positive impact on student achievement. Those policies are:

1. Organization and Governance
    - High schools should be redesigned into smaller learning communities, designed to offer the personalization and instructional supports needed to create more successful learning.
    - Expand grants to support new schools and small learning communities whose designs promise to attend more effectively to students' needs and increase their success.
    - Create a means for documenting and sharing effective school organizational and instructional practices through clearinghouses and networks that enables schools to learn from one another.
    - Teacher preparation and development to enable the kinds of instructional strategies and advisement responsibilities that teachers have taken on in these new models.
    - School leader recruitment and development to hone principals' skills in instructional leadership, organizational design, and change management.
    - A system of curriculum, assessment, and instruction that encourages the development of 21st century skills and that is both rigorous and relevant.
    - Funding streams that are sufficiently flexible to enable strategic investments in innovative approaches.

2. Human Capital
    - Recruit, development, and retain strong teachers.
    - Completely underwrite high-quality pre-service preparation for candidates who will teach in high-needs schools.
    - Provide support for improving the capacity of teacher education programs.
    - Provide funding for at least 10 days of professional development each year.
    - Support the high-quality professional development in the specific areas teachers need to be effective.
    - Support training for professional development providers and mentors to ensure they learn about successful methods of teaching students of color and English language learners.
    - Provide time for planning and collaboration so that teachers can develop coherent, high-quality curriculum and learn from one another.
    - Recruit dynamic future leaders into the principal pipeline.
    - Provide support for systematically improving principal preparation programs and developing clinical experiences and content that prepare principals to lead in schools tat are organized in new, more productive ways.

3. Curriculum and Assessment
    - Provide students access to a viable college-preparatory curriculum, in addition to offering more innovative learning opportunities.
    - Rethink traditional curriculum requirements to more fully acknowledge modern conceptions of learning and curriculum, including interdisciplinary and applied learning that incorporates new technologies.
    - Improve assessment systems and encourage performance assessments at the state and local levels, including appropriate assessments for English language learners.

4. Funding
    - Provide a rigorous, relevant, and responsive education to low-income students of color, by raising funds beyond those the state provided.
    - Increase and equalize funding for schools by establishing weighted student funding formulas in which funds follow the student and additional funding is allocated for students with the greatest need.
    - Create less-fragmented streams. With the exception of major programs intended to address specific population needs (for example, special education and English language learners), reduce the number of small programs and roll funds into core funding through the weighted student formula so that schools have more flexibility to align funding to their instructional missions. (Darling-Hammond & Friedlaender, 2008, p. 18-21)

One article discusses three models (Quint, 2008). These three models have been implemented in over 2,500 high schools in the United States and attempt to meet the higher expectations on schools and students, particularly schools that serve high numbers of low-income students (Quint). The most notable characteristic of commonality within these three models is that they all include small learning communities. "All three reform models involve the creation of small learning communities, groups of 120-130 students who share core classes and whose core teachers meet regularly to discuss their students' progress" (p. 65). This article mentioned several keys to making the institution of smaller learning communities a success. Those keys included: implement well-designed curriculum and professional development for teachers, provide common planning periods

for teachers in the same core subjects, and provide additional time for all teachers to meet in order to discuss how to teach certain topics, align curriculum with standards, and to help determine whether the curriculum is rigorous enough to benefit their students (Quint). One more suggestion gleaned from this article was that principals, although quite possibly strong instructional leaders in their own right, would need the support of superintendents and school boards in order to effect systemic change (Quint).

Yet another researcher who seems to have discovered a common drawback on current school design discusses the problems of high drop-out rates, low graduation rates, high failure rates, and overall low student achievement as a "dismal condition of most large urban high schools," (David, 2008, p. 84). This author's solution? She follows the same recommendations of the Bill and Melinda Gates Foundation in redesigning schools to include small learning communities, particularly in the form of schools within schools (David). In fact, David reminds us of the national study commissioned by the Gates Foundation (Evan et al., 2006):

> which looked at 50 schools including both new schools and redesigned or conversion schools. Researchers found more positive climates in the new smaller schools, including more personalized relationships for students and collegiality among teachers, compared with traditional comprehensive high schools. (David, 2008, p. 84)

One piece of statistical research that this author pointed out was quite interesting: she quoted Rumberger and Palardy (2005) who found that "achievement gains averaged across four subjects were slightly *higher* in larger schools (more than 1,200). However, these larger schools all had higher dropout and transfer rates," (David, 2008, p. 84). Schools that implemented small learning communities were found to have reduced dropout rates (Kahne, Sporte, & de la Torre, 2006). Allensworth and Easton (2007) also

concluded that a strong relationship with the teacher (*as a result of the institution of a small learning community*), along with the perception that the course is relevant, results in higher student attendance, which in turn is a high predictor of high school graduation (David, 2008).

Educators should always proceed with caution when professing sweeping changes in school design, and studying the research that is already in place is one check and balance that should be utilized. For instance, Ancess (2008) reminds us that "small size alone is insufficient for a school to produce higher levels of student learning" (p. 49). Ancess goes on to state that the obvious problem seems to be that today's small school reformists do not seem to understand their mission.

> Threatened by the consequences of high-stakes, standardized test-based accountability, they feel pressured to focus on low-level knowledge and skills that can be quickly and regularly assessed, measured by numbers, and speedily and simply remediated. As a result, many of today's small schools are substantively indistinguishable from their larger counterparts. This current version of small high schools represents quite a detour from the intention of the original small-schools movement. This grassroots initiative, begun around 30 years ago by teachers in New York City, had a clear purpose: to serve students who were alienated, disengaged, and failing in traditional secondary schools and to teach them to use their minds well. It was informed by both practitioner knowledge and the ideas of megawatt education scholars (such as Thomas Jefferson, John Dewey, Ted, Sizer, John Goodlad, and Ernest Boyer), and supported by local and state bureaucrats that welcomed grassroots innovation (such as the New York State Education Department's New Compact for Learning). (p. 49)

Again, any sweeping educational reforms should be taken only after due diligence has been paid to the research at hand, and then educators are urged to proceed with caution. The research that supports the institution of smaller learning communities is widespread and strong. However, Ancess reminds us that "education will not improve if schools get smaller and otherwise remain the same" (p.5 0).

All of these concerns (drop out rates, poor attendance, poor performance on state mandated standardized tests, behavior problems, increased rigor in the curriculum, and many others) have been shown to be positively impacted by the institution of smaller learning communities. Again, remember the studies that indicated that smaller learning communities can even overcome the negative influences of poverty, particularly for students of color (Cotton, 2001; Darling-Hammond, 1997; Duke & Trautvetter, 2001; Fine & Powell, 2001; Raywid, 2001; Steinberg & Allen, 2002).

Smaller Learning Communities

A smaller learning community is the creation of a smaller (500 students or less, preferably 300-400), within a larger student body (more than 1,000 students) with as much autonomy as possible. There are many different types of smaller learning communities that school districts can choose when deciding how to redesign their current large school structure.

Some of the different types of smaller learning communities include academies, house plans, schools-within-a-school, magnet programs, freshman transition programs, multiyear groups, alternative scheduling, adult advocate systems, teacher advisory systems, and academic teaming (U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education, 2001). Other types of smaller learning communities include centers of excellence, schools of choice, focus schools, pods, and clusters (Duke & Trautvetter, 2001). Further examples of smaller learning communities might include 9th grade house plans, at risk schools, special-curriculum models, newcomer schools, parent-participation schools, advisory systems, or charter schools (McAndrews & Anderson, 2002). Additionally there can also

be a combination of two or more of these types of smaller learning communities instituted within the same school.

There are several models of some of these types of schools in existence in some central Texas area school districts. In Waco, Texas there is the A. J. Moore Academy based on the academy model. Their students attend different academies based on curricula for specific focused areas of interest, such as engineering, computer repair, computer design and software, and horticulture (D. Bishop, personal communication, November 28, 2006). Another local example of one of these models is Midway High School (located in Hewitt, Texas) and their house structure. They have a smaller group of students within their large high school assigned to different autonomous houses complete with their own administrator, counselor, and secretary. Of course, students have to go "outside" of their specific houses for athletics, fine arts, food services, and library access and share those common areas with all students enrolled in the school (S. Zachary & A. Sterling, personal communication, October 11, 2004). One more local example of one of these models is Henry T. Waskow High School, Belton ISD, Belton, Texas. Waskow is a school of choice whose students can choose to complete graduation requirements at their own pace in order to graduate early or even working part or full time while completing their high school education (S. Moger, personal communication, November 28, 2006). The most prevalent model encountered during this research project was the schools-within-a-school model.

Advantages of Smaller Learning Communities

There is now enough statistical data and research available to show measurable improvement in student achievement, attendance, passing rates, and the creation of safer

environments as a result of the institution of smaller learning communities when compared to larger high schools (Klonsky & Klonsky, 1999). Other researchers have shown that smaller schools and more intimate learning communities lead to better attendance, lower dropout rates, fewer discipline problems, and better academic performance (Kacan & Schipp, 2000). These findings were confirmed by the U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education (2001) when they revealed that in small schools every student has the opportunity to develop personal relationships with small groups of peers and teachers as compared to larger high schools.

Another article reviewed indicated that when districts choose to design schools-within-a-school, test scores are consistently higher, administrators are better able to reform their curricula and teaching strategies, and there are improved relationships between teachers and students (McAndrews & Anderson, 2002). Additionally, student accountability increases, teachers become more intimately aware of student performance, and there is a greater sense of belonging on the part of students. Students also experience improved self perceptions, and additional opportunity for participation in extracurricular activities when compared to larger high schools (McAndrews & Anderson).

Furthermore, according to another article graduation rates improved by 85%, student attendance and behavior noticeably improved, academic achievement increased, and discipline decreased as compared to larger high schools (Dessoff, 2004). Additional benefits that can be expected as a result of the institution of smaller learning communities are higher daily attendance, reduction in the drop-out rate, increased on-time graduation rates, reduction in disciplinary referrals, increased student achievement, and increased

enrollment in Advanced Placement courses as compared to larger high schools (Duke & Trautvetter, 2001). Another researcher added other benefits might include high student achievement, equity for all students, a sense of belonging and affiliation, safety and order, a reduction in truancy and drop-outs, higher levels of participation in extra-curricular activities, stronger preparation for higher education, greater parental involvement and satisfaction, and improved staff attitudes when compared to larger high schools (Cotton, 2001). Raywid (1997) also suggested that when smaller learning communities were at play there was a reduction in discipline problems, lower drop-out rates, high levels of student participation, steadier progress towards graduation, and increased learning as evidenced by student achievement. Benefits that can be expected from the schools-within-a-school model can result in improved attendance rates, improved behavior, greater satisfaction with school, greater self-esteem, improved morale among teachers, a greater sense of community, and fiscal and organizational advantages when compared to larger high schools (Dewees, 1999). There may also be greater attention paid to students' "pastoral needs," such as attention, guidance, and support, along with becoming more responsive to individual students as compared to larger high schools (Raywid, 1996). Likewise Meier (1996) indicated that accountability and a sense of belonging are two additional benefits from the creation of smaller schools when compared to larger high schools.

One article by the National Association of Secondary School Principals (1996) pointed out that all high school students will eventually become Americans in the general society of this country, and whatever they learn in high school will determine just how productive they will become as adults. Further complicating the task of educating high

school students is the unsettling world that students live in today. Outside influences such as dysfunctional families, divorced parents, children in poverty, teenagers having children of their own, as well as an ever-changing world-wide economy that is continually moving away from anyone without a sufficient education. Since high schools have the potential to touch nearly every young person in America, failure on the part of schools to prepare young people for the future can certainly have a long-lasting negative impact on the prospects of what this country will become in the future. Wesley and Lear (2001) cite research from the past eight years that has shown smaller schools lend themselves to a more positive learning environment which leads to improved student performance, discipline, and relationships between teachers and students when compared to larger high schools.

Darling-Hammond (1997) was quite poignant when she made it clear that, although there are many benefits that can be expected as a result of the institution of smaller learning communities, not all small or restructured schools succeed. Those benefits include but are not limited to increased student success, higher attendance rates, fewer dropouts, lower incidents of student misbehavior, stronger interpersonal relationships, and greater participation in extracurricular activities. Of course, some of the most successful schools that were researched are those that have developed organizations that encourage and enable close, sustainable relationships among teachers and students. Particular results of more personalized and less fragmented school structures are increased familiarity on the part of teachers with students and their families, which leads to increased student achievement, more positive feelings toward

self and school, and more positive behavior when compared to larger high schools (Darling-Hammond).

One of the most profound positive effects of smaller learning communities, cited by more than one researcher, was the impact that could be found among economically disadvantaged students of color. Smaller school size was shown to have the ability to reduce the negative impact of poverty when compared to larger high schools (Duke & Trautvetter, 2001). Raywid (2001) goes back to the beginning of the large scale quantitative studies of the late 1980s and early1990s which first began to show research results that indicated smaller schools were more effective than larger schools. The similarities among all the research showed that benefits from smaller schools include indicators that students learn better, they make more progress towards graduation, students are more satisfied with smaller schools, there are fewer drop outs, students behave better, and discipline incidents are fewer and more minor than serious infractions in larger schools. One article in particular focused on the positive effects that the institution of smaller learning communities might have on students of color from low socio-economic status, usually in urban inner-city or metropolitan schools as compared to larger high schools (Steinberg & Allen, 2002). Other research by Cotton (2001) indicated that smaller learning communities could actually narrow the achievement gap between white middle class affluent students and ethnic minority poor students when compared to larger high schools. Further research indicated that the positive effect of the institution of smaller learning communities was particularly profound upon poor inner-city students of color as compared to larger high schools (Fine & Powell, 2001). These researchers even went so far as to state that the creation of smaller schools may be the

only hope that inner-city poor students of color might have for success. It was pointed out rather adamantly that it has been shown time and again that poor students of color react differently to larger high schools and perform much more differently in smaller schools. The natural progression for predictions concerning poor Hispanic or African American students is that they are most negatively impacted by larger high schools (Raywid, 2001).

If nothing else comes from this research project, the fact that poor students of color are exponentially at higher risk than any other sub-population of students should be evidence enough that the smaller schools movement is one that cannot be ignored. In fact, for this group alone, educators should re-double their efforts to ensure that indeed no child is left behind.

Negative Outcomes and Smaller Learning Communities

Regardless of expectations or promises made, the potential positive effects of any new innovation can be negated if instituted poorly or incorrectly. The same is true with the establishment of smaller learning communities. One of the first negative consequences regarding smaller learning communities involves the financial start-up costs, particularly when considering the purchase of land, equipment costs, and construction costs (Kacan & Schipp, 2000). It would be difficult to support the building of new smaller schools in today's fiscal environment (Ready, Lee, & Welner, 2004). Several researchers pointed out that *smaller is not always better* (Cotton, 2001; Darling-Hammond, 1997; Noguera, 2002; Ready, Lee, & Welner, 2004). These authors pointed out that some students in smaller schools were unable to overcome the negative reputations of their older siblings or even of their parents. Some teachers indicated that it

was difficult to maintain a modicum of personal privacy in smaller schools (Fine cited in Gewertz, 2001). One of the most poignant statements discovered during this project was "Hugging is not Algebra" (p. 1). This was made in reference to the statement that smaller schools, without the necessary rigor, is not necessarily better. It was also stressed that size alone did not necessarily make any difference at all, without the existence of an adequate and rigorous curriculum (Howley, 1994). Also, since schools are traditionally run as more decentralized institutions, as opposed to being run by a dictatorial executive like some businesses, change is something that takes time and perseverance to overcome. Ultimately, schools are infamously slow to change (Noguera, 2002).

There are many challenges to instituting smaller schools, including structural, organizational, and political issues (Steinberg & Allen, 2002). One study noted that teachers were told nobody would lose their current positions during realignment for creating smaller learning communities (Wallach, 2002). Then later when they were informed they would need to change the content and method of what and how they taught, it was interpreted as a loss of their professional autonomy. Some of the parents involved in this same project were concerned when they perceived some of the goals of this movement were too vague, unfocused, and academically unchallenging.

Also, the creation of smaller learning communities can sometimes create unique challenges to building-level administrators (Raywid, 1997). One article in particular warned that, if not implemented fully, the success of any smaller learning community cannot be guaranteed (Dewees, 1999). Another article warns against the temptation to save money on building new facilities by *layering* smaller learning communities on top of existing large high schools into several small units (Steinberg & Allen, 2002). It is

unlikely that the positive results associated with being a student in a small autonomous school will accrue to the students and teachers involved in such hybrid systems (Steinberg & Allen, 2002). Interestingly, one of the problems with changing a large high school to one including smaller learning communities was predicted to meet with resistance simply because teachers would naturally balk at changing the way they have always done things (Siskin & Little, 1995). Also, it was noted that smaller schools by design have smaller curriculum offerings than their larger comprehensive counterparts (Roellke, 1996).

One particular article outlined a list of several barriers that must be avoided in order for larger schools to successfully institute smaller learning communities (Wesley & Lear, 2001). Those barriers are:

- Cultural expectations about high school are deeply embedded
- Schools attempting to become small do too little too slowly
- So-called small schools are not small enough
- Small schools act like large schools
- Decision-makers focus only on short-term goals
- Many mandates and practices favor larger schools and centralized operations
- Leaders try to make reforms educator-proof
- Educators lack images of smaller schools. (p. 22)

Finally, a most interesting discovery of this research was the revelation that, although smaller school size has a definite positive impact on student achievement in schools with low socio-economic students, there may also be a negative impact on student bodies in affluent communities (Howley, Strange, & Bickel, 2000). For some reason, it has been shown that students from affluent backgrounds actually perform at higher levels when they are part of a school of more than 900 students. In Texas, one school that could be reference for a positive indicator of this study might be Highland

Park High School in Dallas, Texas. That school was recently ranked as the number 15the highest ranked high school in the United States in a study by Newsweek Magazine (2008). Their achievement scores on the state mandated assessment are traditionally some of the highest scores in the state of Texas, and now apparently in the entire United States. Highland Park fits the prerequisite for this study. According to their AEIS report to the state of Texas for the 2005-2006 school year, they had 1,974 students enrolled in their high school. They certainly fit the category of a large high school. Interestingly enough, they reported zero students eligible for free and/or reduced lunches. Highland Park is one of the highest socioeconomic school district in the state of Texas, and maybe even in the nation. They certainly seem to affirm the earlier study that indicates that high socioeconomic students do not need smaller learning communities in order to be successful.

There were several smaller high school recorded in this year's study of the nation's top high schools. Ten years ago, when the first Newsweek list based on college-level test participation was published, only three of the top 100 schools had graduating classes smaller than 100 student. This year there were 22.

Best Practices for Implementing Smaller Learning Communities

There are as many different ways to implement smaller learning communities as there are models for implementing such strategies. Some of those best practices for implementing smaller learning communities will be discussed in this section.

Research has shown that when a small cohort of high school students remains with the same group of teachers over the course of three to four years, thereby allowing students to form solid relationships with their teachers, then teachers are able to fully

learn and understand each individual student's learning style and therefore adjust their teaching style to meet the learning style of their individual students (Klonsky & Klonsky, 1999). Other research, although not found to be repeated in any other articles reviewed, mentioned that including students from each secondary level within houses would create a vertical organization of a smaller group of students (Ready, Lee, & Welner, 2004). Smaller learning communities should be something that are created rather than imposed upon students, teachers, parents, and administrators (Noguera, 2002). This allows for deeper involvement and dedication to the concept of smaller learning communities. This in not the first time collaboration and collegiality has been recommended as vital to school change.

Further research recommended that smaller learning communities should be instituted all at once, not incrementally; students should be kept with their smaller learning communities all day with no transitions; groups should be autonomous, distinctive, and focused, and clustering all of the best teachers within one or two of the smaller learning communities should be avoided (Dessoff, 2004). This author went on to state that schools should be made to become more personal places, with students being paired with an advisor or advocate to help them plan for their education and future, and this relationship should be maintained throughout their entire high school career. One of the common best practices that were stressed more than once involved the statement that each group should be autonomous, with its own principal, assistant principal, and counselor (Duke & Trautvetter, 2001). There should also be designated and well-communicated high expectations, along with the development of supportive relationships, community membership, and additional opportunities for service and leadership

(Steinberg & Allen, 2002). Those same researchers included their version of *The Five Cs* of establishing smaller learning communities. They are: (1) Caring relationships, (2) Cognitive challenges, (3) a Culture of support to push students to do their best, (4) a sense of Community for students to belong to, and (5) Connections to high-quality post-secondary learning and career opportunities (Steinberg & Allen, 2002, p. 19).

Other qualifications of successful implementation of smaller learning communities include collaboration, partnership, and community throughout the entire school (Cotton, 2001). Other suggestions for making a smooth transition and for ensuring success include safeguards put in place to provide for a shared decision making process and including as many staff members as possible during the implementation process. For instance, all stakeholders should be included in a public commitment for equity for all students, and teaching and learning issues should be balanced with design and structure issues (Wallach & Lear, 2003). There must be encouragement and impetus from the top. In other words, the building level principal is essential in facilitating the changes needed, and the central office administration is just as important in their support both financially and administratively (Raywid, 1997). This same researcher also encourages schools to start small and expand a little more each year. Raywid is also credited with the quote "Aim for distinctiveness" (p. 18). When deciding what type of smaller learning community model to implement, facilities should always be a focal point, particularly when deciding whether to build new facilities or utilize existing buildings that will enhance the addition of smaller learning communities (Center for Collaborative Education, New England Small Schools Network, 2003). Some other elements that should be included are:

> . . . greater use of teaching teams, longer blocks of teaching and learning time, less departmentalization, multi-year relationships between students and teachers, and on-going teacher collaboration and communication. Additionally, there needs to be challenging curriculum and content, strong staff members that are knowledgeable about learning and are skillful at teaching, highly personalized, and pedagogically sophisticated. There also needs to be put into place increased shared planning time for teachers, particularly in the core subjects. Of course one of the most important requirements is for the development of meaningful standards and a rigorous curriculum. (Darling-Hammond, 1997, p. 1)

One main factor that was mentioned by more than one researcher that would help ensure the success of a smaller learning community was the development of sustained adult relationships for each student during his entire four years of high school (Gregory, 2001). Another researcher referred to this as "relationship accountability" (Wagner, 2001). Meier (1996) reminds educators that faculties should be small enough so that teachers can know their students personally, and that accountability and a sense of belonging are two important keys to success for creating smaller schools. Another recognized key to success was authentic instruction (Roellke, 1996). This researcher also stated, "Students who are engaged in sustained, disciplined, and critical thought through a variety of instructional approaches will be better equipped for real-world problem solving" (Roellke, p. 9).

Many of these factors mentioned in the research probably already exist in most small high schools. However, without the additional rigor, smaller does not necessarily mean better. There are many poorly functioning small schools across the nation. Smaller alone does not equal better. The fewer number of students usually means that students enrolled in a small high school enjoy the relationships with their peers, as well as with their teachers, that the research points towards being such an integral part of the smaller learning community. Based only on numbers, smaller schools appear to be better suited

to educating students than their larger counterparts simply based on size alone. There are, however, some drawbacks to smaller schools that are not necessarily shared by large high schools. For instance, smaller schools may not be able to offer specialized courses such as Honors Spanish 4 for students in their senior years due to the fact that there are not enough students interested in such a course to dedicate a teaching unit and a classroom to only a small group of students. Or such courses may only be offered every few years rather than on a consistent basis. In fact, there are some schools that are so small in numbers of students enrolled that they are unable to offer some specialized courses at all. My personal experience involved not being able to take Chemistry my senior year in high school because there were only about 4 students interested in taking that course. (They had taught it the year before when I was unable to fit the course into my schedule.)

Characteristics of Larger High Schools

There are many similarities between most large high schools. Students of larger high schools, defined earlier as having 1,000 or more students within the school, will seek a place to belong, even if it is a negative relationship. Some researchers point to the fact that the enemy of these students is anonymity. They will seek someplace to belong, whether it is a gang or clique, and the research indicates the results are the same whether it is a rural, urban, or suburban school. The example cited is that of Columbine High School in Colorado (Klonsky & Klonsky, 1999). Statistics from the U.S. Department of Education indicate that more than 70% of high school students attend schools with enrollments of more than 1,000, and 50% attend schools with more than 1,500 students. In many communities, enrollments of more than 2,500 or 3,000 are not uncommon, and

some urban areas see enrollments as high as 5,000 (Kacan & Schipp, 2000). According to the definition of large high schools for the purpose of this study, all of these schools fall into the category of large high schools. Many large high schools often exhibit unfavorable social and academic characteristics (Ready, Lee, & Welner, 2004). Research findings support the notion that high school students are more successful when they attend small schools (U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education, 2001).

Gregory (2001) reminds us that the research regarding making large schools smaller has been on-going over the course of the last 30 years. All of that research points to evidence that educators should find ways to subdivide larger schools into smaller learning entities or risk the pitfalls of larger high schools as described earlier. But the current trend is counterintuitive to the research as districts continue to build bigger and bigger high schools, designed to hold larger numbers of students than ever before. Remember, the current financial stress placed on public school funding for building new schools makes it more economical to build fewer buildings that hold larger numbers of students. Accountability and a sense of belonging are the final two keys to success for creating smaller schools. Accountability is much easier when there are fewer students and more parents involved. Belonging is one of the greatest concerns for any educator involved with a large high school. Smaller schools are more personalized by their very nature, and students that have never belonged anywhere before find their place in life (Meier, 1996). Earlier studies indicated that as the size of a high school increases, there is a decrease in the number of voluntary, extracurricular activities in which most of the students become involved (Barker, 1960, 1968, Barker & Gump, 1964, Wicker, 1968).

This type of behavior was referred to as behavior settings, also known as the *undermanning theory* by Barker (1960, 1968). This theory predicts, and research supports this prediction, that there is a strong negative relationship between school size and amount of student participation in the school's voluntary extracurricular activities. In other words, behavior theory states that "as the population of a town or institution increases, the number of persons available to operate the behavior settings increases at a faster rate than the number of jobs needed" (Schoggen & Schoggen, 1988, p. 288). Irmsher (1997) quoted another educational writer, William Fowler (1992), who stated "There is a natural predilection in American education toward enormity, and it does not serve schools well" (p. 1). Again, this *natural predilection* is due to the economic and financial restrictions that burden public school funding in the current fiscal environment (Ready, Lee, & Welner, 2004).

Development of the AVID Program

The school where this research occurred has chosen the AVID (Advancement Via Individual Determination) program as their smaller learning community of choice. The AVID program was founded in San Diego, California in 1980 by Mary Catherine Swanson. She was a teacher at Clairemont High School in the San Diego Unified School District. When the district initiated a court-ordered integration mandate, Clairemont High School lost the most affluent half of its student body to a newly built high school, and inherited 500 ethnic minority and low-income students bussed into the previously predominately white school. Swanson developed the AVID program based on an instructional program that focused on methodologies that would help all students involved in the AVID program prepare for and participate in a rigorous college-

preparatory curriculum. Keep in mind the earlier research that discussed the ability of smaller learning communities to neutralize the negative effects of poverty (Duke & Trautvetter, 2001). Those methodologies are: (a) writing as a tool of learning, (b) inquiry method, (c) collaborative, subject-specific learning groups, and (d) reading as a tool of learning (Duke & Trautvetter, p. 1). The Mission of AVID is to ensure that all students (low socioeconomic, ethnic minority), as well as students from higher socioeconomic status, but most especially the least served students who are in the middle:

- Will succeed in rigorous curriculum,
- Will complete a rigorous college preparatory path,
- Will enter mainstream activities of the school,
- Will increase their enrollment in four-year colleges, and
- Will become educated and responsible participants and leaders in a democratic society. (Duke & Trautvetter, p. 1)

AVID's systematic approach is designed to support students and educators as they increase schoolwide/districtwide learning and performance (Duke & Trautvetter).

AVID at Target High School, Central Texas

At this research site the AVID program was begun in the 2005-2006 school year with an inaugural class of 30 9th graders, one AVID site coordinator, an AVID administrator, a counselor, and one central office administrator in charge of the entire program. Since that inauspicious beginning, this program has grown to include two classes of current 11th graders totaling 38 students, two classes of current 10th graders totaling 55 students, two classes of 9th graders totaling 60 students, and for the first time ever in this district, one class of 30 8th graders at each of the two middle schools in the district. Upon full maturation, the program will included 60 students in every grade level from the 7th through the 12th grades. The site teams have grown to include at least one

teacher from every core subject area, a fine arts teacher, a foreign language teacher, as well as the original coordinator, building level administrator, counselor, and central office administrator. They have recruited and trained several mentors from the University of Mary-Hardin Baylor which is located in close proximity to the high school where this research was performed.

Other Initiatives Taken by Target High School to Develop Smaller Learning Communities: Background and Description of Campus Setting Used in Research

In addition to the institution of the AVID program to the curriculum, the research site has made several other changes in order to keep from having students *fall through the cracks*. Up until the 2002-2003 school year this high school operated on the one assistant principal per grade level concept. There was also one counselor assigned to each grade level. (Due to the inordinately high number of disciplinary referrals, attendance issues, along with emotional and maturity issues of the 9th grade, and to some extent the 10th grade, principals and counselors assigned to those grades were *flaming out* much quicker than those assigned to the older grade levels.) However, at the beginning of the 2003-2004 school year Target High School changed to the assistant principal by alpha system. Now, each assistant principal has a portion of the alphabet, and all students whose last name begins with those letters remains under the jurisdiction of that assistant principal for the first three years of their high school career. In other words, one assistant principal will have the same students whose last names start with a P through Z from 9th through 11th grades. Upon becoming a senior, students are assigned to a new principal. At the start of the 2005-2006 school a counselor was paired with each assistant principal. Now a student has the opportunity to become more familiar with their assistant principal, as

well as their counselor, for three years. Again, a new counselor is assigned to students once they become seniors. It seems that seniors have a particular set of issues that need to be dealt with from a counseling, as well as an administrative standpoint, such as registering for ACT, SAT, and ASVAB exams, submitting college applications, requesting transcripts, and making plans for career counseling.

After the 2004-2005 school year at Target High School, it became immediately apparent after the switch to the alpha system for assistant principals that the same reasons that made that system appealing for administrative reasons also applied to counseling needs. In other words, if a 10th grade female student experienced an emotional meltdown during the first month of school, she did not feel comfortable visiting with her new 10th grade counselor. In fact, students were requesting that they be allowed to meet with their counselor from the year before. It seemed only logical to pair counselors with administrators in an attempt to build those relationships that the research points towards as the most beneficial.

Additionally, this school has added another element recommended by the research. At the beginning of the 2006-2007 school year they added a program they call PAWS. This program allows students to be broken into groups of 12-14 students and assigned to a professional at their high school. These groups meet once a month for 30 minutes and provide time for students to get to know their assigned professional as a mentor, advisor, and supporter. Again, this program falls directly in line with the research that calls for smaller groups of professionals and students meeting together on a regular basis in order to develop meaningful relationships. They have also expanded

their club memberships to over 100 clubs including a wide array of student interests. Most of the clubs were formed from student requests.

This particular school also offers the rigorous curriculum that is identified as a critical piece of the puzzle by the existing body of general research highlighting smaller learning communities utilized for this project. Courses are offered in Pre-Advanced Placement courses, Advanced Placement courses, and several classes are offered as part of the Dual Credit program through Temple College and The University of Mary Hardin Baylor. Foreign languages offered include Spanish, French, and German. Fine Arts offerings include Theater, Choir (boys, girls, mixed), and the students perform each year in plays and musicals. Extracurricular sports include football, volleyball, basketball, baseball, soccer, cross country, golf, track, and swimming. University Interscholastic League competitions for all high school students in the state of Texas are also offered including speech, debate, spelling, math, science, writing, and business and computers skills.

Summary and Conclusions

It appears then, that there is a preponderance of evidence that tells us that, when there are more than 1,000 students under one roof, expect the following:

- Lower attendance rates
- Higher disciplinary incidents
- Greater feelings of disconnection with school
- Lower achievement scores
- Higher drop out rates

- The lower the economic state of the student population, the negative impact of the large school increases exponentially.

As educators, necessary steps must be taken in order to keep students feeling as connected to their school as possible in order to ensure their success and eventual graduation. Smaller learning communities or the institution of schools within schools, seem to be an excellent remedy for a nation wide problem.

Epilogue

In the smaller learning community that has been established students stay in the same group of classrooms or centralized area for the entire school day. In fact, students only go outside of their "House" to attend athletics, physical education, or fine arts-type classes like the school's marching band or performance choir. Peer tutoring is the norm rather than the exception. In fact, most students are either involved with teaching another student or having another student teach them. The same teacher, or in the case of larger Houses, the same group of teachers interacts with the same group of students all day long. The students quite possibly will not change classrooms throughout the course of the entire day. There may be multiple grade levels present in each classroom at the same time. The same assessments are given to multiple grades of students because they have been taught the same material. On the surface it appears that education has not come very far from the days of the one room school house. However, the contrary is true. In reality, the original one room school house may have been the forerunner of today's smaller learning community.

CHAPTER THREE

Research Methodology

The purpose of the research methodology chapter is to describe the design of the study, the research questions to be answered, the procedures used to gather the data, the instruments selected, the sample and context of the study, and the statistical treatment and quantitative methods used to analyze the data.

The research study utilized a single method quantitative approach to data collection and analysis. The research began with retrieval of archival quantitative data from the 9th grades through the 11th grades in the form of students' scores on the Texas Assessment of Knowledge and Skills (TAKS) in Math and English Language Arts, attendance, disciplinary incidents, GPAs, and class rankings for the school years 2005-2006, 2006-2007, and 2007-2008. Absences were reported as the number of class periods the student missed during that school year that were "unexcused." Absences from school functions, such as field trips, or in or out of school suspension absences were not counted. Only absences coded as unexcused were used for the purposes of this study. This data from the students enrolled in the AVID program was compared to several different groups of students within the same grade level. The scores from Math and English Language Arts were chosen because these are the two tests that were common to all three years of the study. Other TAKS tests taken included Science and Social Studies, but those tests were not taken all three years of the study.

The following research question served as the framework for this study:

1. *What is the impact of smaller learning communities on high school students?*

Other research questions that were answered during this process were:

1) How did the number of discipline referrals for students in the AVID program compare to the number of discipline referrals for non-AVID students?

2) How did the attendance rates of students in the AVID program compared to the attendance rates of non-AVID students?

3) How does achievement as measured by TAKS scores in Math and English Language Arts for students in AVID compare to non-AVID students?

4) How does achievement as measured by GPA and class rank for students in AVID compare to non-AVID students?

Context

The study took place in a suburban high school in central Texas, which was selected because of the recent institution of several smaller learning community initiatives. It also fit the description of a large high school due to its enrollment of approximately 2,300 students. Demographics for the entire Target Independent School District involved in this study are found in Tables 4 and 5.

Sample

The experimental group originally consisted of 30 9th graders who had been selected as the Advancement Via Individual Determination (AVID) group from this school (Table 6). However, that group was the first group selected by the AVID site team, and admittedly many mistakes were made in the selection process. Several of the

original number of AVID students have since dropped out of the program, leaving only 11 of the original group intact. Since then, an additional 24 students have been added to the original group of AVID students, bringing the total number of the experimental group to 35 students.

Table 4

*Target ISD District-Wide Student Demographics**

Ethnicity	Percentage of Total
Native American (94)	1.0
Asian/Pacific Islander (84)	1.0
African American (572)	7.0
Hispanic (2,220)	28.0
White (4,998)	63.0
Economically Disadvantaged (3,601)	45.2
Limited English Proficiency (574)	7.2
At Risk (3,277)	41.1
Special Education Students (1,008)	12.7
Gifted and Talented Students (514)	6.5

Note: n=7,968 (AEIS Report for the Texas Education Agency 2006-2007 school year).
*Some students may be represented in more than one category.

As previously mentioned, there was some attrition in the number of original participants since the initial group of AVID students was selected. Some of these students were simply mis-identified by the AVID site-team due to inexperience with this type of program. A couple of other students have since moved to other schools, thereby transferring out of the program. Others were simply overwhelmed by the additional rigor

Table 5

*Target High School Student Demographics**

Ethnicity	Percentage of Total
Native American (23)	1
Asian/Pacific Islander (26)	1
African American (150)	6
Hispanic (613)	26
White (1,506)	65
Economically Disadvantaged (714)	31
LEP/ESL (139)	6
At Risk (918)	40
Special Education Students (318)	14
Gifted and Talented Students (233)	10

Note. n=2,318 (Texas Education Agency Fall Collection data)
*Some students may be represented in more than one category.

demanded by enrollment in the AVID program and decided that, for whatever reason, they were no longer interested in meeting the increased demands of such a program.

The AVID Selection Rubric displayed in Table 7 was used by Target High School teachers and administrators to identify students for the AVID program.

As reflected by the selection rubric, extra weight was allotted to first-time college attenders, average GPAs, above average attendance, and students who qualified for free and/or reduced lunch. Potential candidates for the AVID program were recommended by the 8th grade teachers and counselors at the two middle schools that feed Target High

School. The selection process was then carried out by the AVID Site Team in place at Target High School. This team was comprised of an administrator, a site team coordinator, an AVID teacher, a counselor, and teachers from each of the core subject areas, along with teachers from the foreign language department, the fine arts department, and one central office administrator. Applications, student interviews, grades, teacher recommendations, and any additional parental input were all used to determine which students could benefit the most from the AVID program.

Table 6

*Demographics of Initial Group of AVID Students 2005**

Subpopulation	Number of Students
Native American	0.0
Asian/Pacific Islander	3.3
African American	6.6
Hispanic	36.6
White	53.3
Economically Disadvantaged	66.6
Limited English Proficiency	3.3
Migrant Students	3.3
Special Education Students	10.0
Gifted and Talented Students	0.0

Note: n=30
*Some students may appear in more than one category.

Table 7

Target High School−AVID Selection Rubric

TOPIC	POINTS	TOPIC	POINTS
GPA		Attendance	
3.5-4.0+	5	Good	10
2.0-3.5	10	Average	5
Below 2.0	0	Poor	0
TAKS Math		Discipline	
Commended	5	None	10
Passed	10	Minor	5
		Major	0
TAKS Reading		Teacher Recommendations	
Commended	5	Average of recs	10
Passed	10		
College History		Written Application	
First to attend	10	Determined	1-10
1 parent graduated	5	(10 being the best)	
2 parents graduated	0		
SES		Special Needs	
Free/Reduced Lunch	10	Single Parent, or ESL student or 4+ siblings	10
N/A	0		
Oral Interview			

(*table continues*)

TOPIC	POINTS	TOPIC	POINTS
Determined	1-10		
(10 being best)			

Note: Additional Rubric Explanations:
Discipline: minor would be 2 or less violations for dress code, ID, tardy, etc.
Attendance: count each class period they have missed and determine score.
Teacher recs: all of the applicant's teachers must be involved and the score is then averaged.
Written interview: look for content, (goals, determination, education focus), more than conventions.
Oral interview: listen for determination.
Special needs: the maximum is 10 points, (even if they meet more than one qualifier.)

Remember: Target students in the "middle" when you question yourself regarding the Rubric!

Data Collection

Data were collected beginning with the archived 9th grade Math and English Language Arts (ELA) TAKS tests, discipline referrals, attendance patterns, GPA, and class rank for all students. Data from the experimental group and several different control groups were compared. This process was repeated through their 11th grade year, which is the last year that the state of Texas requires students to pass the TAKS test in all the core subjects. Results were charted and compared from the school years 2005-2006, 2006-2007, and 2007-2008. The software system that Target ISD uses to archive their student data is the AEIS-IT system. As an administrator within the district, the researcher had full access to all archived data. This data included class rankings, GPAs, disciplinary referrals, attendance rates, and student scores on the state mandated standardized TAKS tests for Math and English Language Arts.

Participants

The site chosen for this research was Target High School in Target Independent School District located in Target, Texas. Target High School is classified as a 5-A public high school with a total number of approximately 2,300 students in the 9th through 12th grades. Target High School students represent every economic sub-group. The experimental group was the initial class of 11 remaining AVID students identified in the 2005-2006 school year, along with the additional 24 AVID students that have been added to the program. Over the course of the three year study there were some changes within the demographics of the control group over time due to student movement into and out of the district. Those transient students were either added to or subtracted from the experimental group as such movement occurs. The experimental group was compared to the remainder of the students within Target High School, or the control group, excluding special education students.

The students involved in this study ranged from grades 9 through 12, and all will be members of Target High School. However, test data from the 9th grade year of the experimental group were also compared to the test data of the control group excluding special education students. Target High School has approximately 2,300 students, all in 9th through 12th grades. The ethnicities for the entire high school population for the school year 2006-2007 are in Table 8.

Approximately 38% of all Target High School students are classified as Low Socioeconomic Status (Target ISD website,) meaning that they qualify for Title I programs through the federal government such as the Free and/or Reduced Lunch Program.

Table 8

Ethnicities/Entire Population – Target High School – 2006-2007

Anglo American	African American	Hispanic	American Indian	Asian/Other
56%	7%	33%	2%	2%

Note: Target ISD website, 2006-2007 school year, from AEIS report from the Texas Education Agency

Target High School can be described as a typical large public high school classified as a 5-A school by the state of Texas. There are currently approximately 2,300 students in Target High School. The high school offers a full curriculum including fine arts, band, athletics, and foreign languages, Advanced Placement Classes, Pre-Advanced Placement Classes, Dual Credit Classes, and a rather unique course called *The Bible as Literature.*

Procedures for Management of Archived Quantitative Data

Quantitative data included TAKS testing scores from the Math and English Language Arts tests, GPAs, class ranks, attendance rates, and disciplinary incidents. This data were retrieved from archival data for AVID students and for the comparison groups. Students were assigned an ID code in order to protect their anonymity in the study. Permission was obtained from the Superintendent, acting as a representative of the School Board of Trustees, to perform this study. No names were used during the quantitative data collection and reporting of Math and English Language Arts TAKS test scores, GPA, class ranks, attendance, or discipline referrals. The confidentiality of the participants was protected at every juncture. The student ID code assigned to each student was kept secured in a file cabinet in the researcher's office, known only to the

researcher. Any demographic information utilized during this study was public information that could be accessed by anyone via the district's website. The demographics for the entire high school student body as described in Chapter Three were also accessible via the district's website, also attached.

Data Analysis

The quantitative data were analyzed utilizing a simple or one-way analysis of variance, (ANOVA). This type of analysis tool is "a parametric test of significance used to determine whether a significant difference exists between two or more means at a selected probability level" (Gay, Mills, & Airasian, 2006, p. 359). However, it should also be noted that "interpreting the findings in a causal-comparative study requires considerable caution. Due to lack of randomization, manipulation, and control factors, it is difficult to establish cause-effect relationships with any great degree of confidence" (Gay, Mills, & Airasian, p. 223).

Other demographic data collected from archived data for the experimental and control group was included, such as:

1. Race/Ethnicity
2. Free and/or Reduced Lunch Program eligibility
3. Membership in any subpopulations, i.e.:
    a. Limited English Proficiency
    b. Migrant Students
    c. Special Education Students
    d. Gifted and Talented Students

4. Similar demographic data was collected for the rest of the students in the same grade level at Target High School and compared to the experimental group during each year of their high school career after enrollment in the AVID program.

The different groups of students that were compared during this study included: The research design was a quantitative approach comparing the students enrolled in the AVID program with different groups of students within their same grade level. The experimental group was the AVID students. The two control groups were Non-AVID students and the Pre-AP/AP students. The group of students that was exempted from this study that are in the non-AVID population were the special education students, (who have been exempted from taking the TAKS test via ARD committee decisions).

The two groups of students other than the AVID students were chosen by building a spread sheet which included every student in the 2007-2008 11th grade class at Target High School, except for the 35 students involved in the AVID program, and excluding every student that has ever been identified as a special education student. The following data was then placed into the spread sheet:

- Math TAKS scores
- ELS TAKS scores
- Attendance
- Discipline
- GPA
- Class Rank

Any student that did not have data for all six categories was eliminated from the data base. Finally, the number of Pre-AP/AP students was so numerous that every fourth student was selected for the study. The number of Non-AVID students was substantially less, so every other one of those students was selected. This was the method used to randomly select the students for participation in this study. No names or student identification numbers were visible during this selection process. Alternate identification numbers had already been assigned to all three groups of students in anticipation of sending the data base to a third party for the purpose of manipulating the data.

Quantitative data included TAKS scores from Math and English Language Arts tests from student's results in 9th grade through 11th grade. TAKS scores, attendance rates, discipline referrals, GPAs, and class ranks were collected and analyzed. There were three groups of students involved in this study over the course of three years. These three groups were compared in the six different categories: two types of TAKS tests (Math and ELA), attendance, discipline referrals, class ranks, and grade point averages (GPAs). The ANOVA simple test for statistical significance was administered to all six categories of data that was collected over the course of three years of the study.

CHAPTER FOUR

Statistical Data

The following research question served as the framework for this study: *What is the impact of smaller learning communities on high school students?* Other research questions that will be answered during this process are:

1. How did the number of discipline referrals for students in the AVID program compare to the number of discipline referrals for non-AVID students? The null hypothesis states that there will be no difference.

Discipline data were collected from each individual student within the three different groups that participated in this study. Disciplinary incidents were recorded for the 9th, 10th, and 11th grades for each student. These incidents were retrieved from the Target ISD AEIS-IT report. The number of disciplinary incidents was added up for each group, and divided by the number of students within that group. The resulting statistic was an average number of disciplinary students per group for the year. Those numbers are indicated in Figure 1: Discipline Data for AVID, Non-AVID, and Pre-AP/AP Students. The numbers for the average amounts of disciplinary incidents for the Non-AVID students are shown in Table 9.

It appears that this group of students actually incurred more disciplinary incidents each year, resulting in a quadruple amount of incidents by their 11th grade year as compared to their 9th grade year.

Table 9

Average Amount of Disciplinary Incidents – Non-AVID Students

Grade Level	Incidents Per Student Per Year
9th	0.43
10th	1.40
11th	1.95

Note: *n*=43 Non-AVID students

The numbers for the average amounts of disciplinary incidents for the AVID students are shown in Table 10.

Table 10

Average Amount of Disciplinary Incidents – AVID Students

Grade Level	Incidents Per Student Per Year
9th	0.14
10th	0.26
11th	0.43

Note: *n*=35 AVID students

The numbers for the average amounts of disciplinary incidents for the Pre-AP/AP students are shown in Table 11.

It appears that the AVID students' number of disciplinary incidents also increased over the course of the three years of this study, but not nearly as much as compared to the Non-AVID students. In fact, the number of incidents for the AVID students during their 11th grade year was equal to the number of incidents for the Non-AVID students during their 9th grade year. In other words, the largest number of incidents for the AVID

Table 11

Average Amount of Disciplinary Incidents – Pre-AP/AP Students

Grade Level	Incidents Per Student Per Year
9th	0.37
10th	0.71
11th	0.94

Note: *n*=54 Pre-AP/AP students

students was comparable to the smallest number of incidents for the Non-AVID students. In comparison to the Pre-AP/AP students, the AVID students also had substantially lower numbers of overall disciplinary incidents. In fact, the Pre-AP/AP students had over twice as many referrals each year as compared to the subsequent year for the AVID students. It should be noted that the AVID students actually tracked higher than the Pre-AP/AP students in this statistical measure, and substantially higher than the Non-AVID students. See the comparison for all three groups in Figure 1.

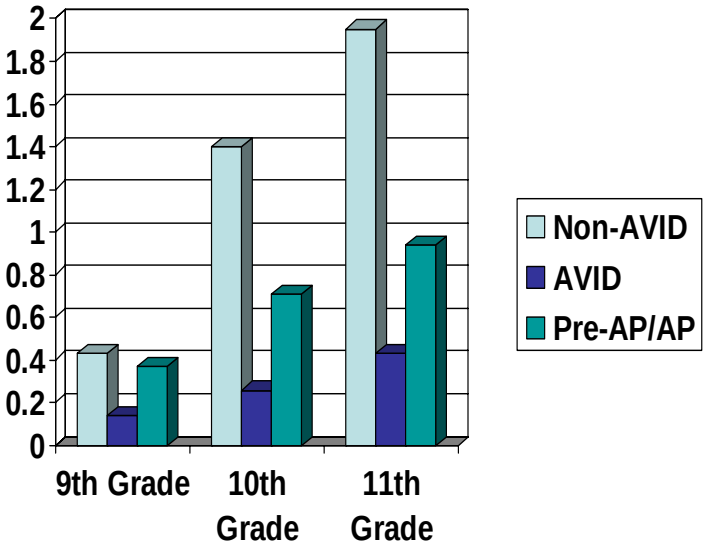

Figure 1. Discipline Data for AVID, Non-AVID, and Pre-AP/AP students

In order to check for statistical significance, a simple or one way analysis of variance (ANOVA) single factor test was applied to the data regarding the number of disciplinary incidents for all three groups for the 11th grade year only (Table 12). As you can see, the *F* factor is 5.754232171 which tells us immediately (when compared to the degrees of freedom between and within the mean squares on the Distribution of *F* table) that the differences between the number of disciplinary referrals received for that year is statistically significant, and the null hypothesis, which states that there is no difference, must be rejected.

Table 12

Test of Significant Difference for 11th Grade Discipline – ANOVA

Groups	Count	Sum	Average	Variance		
AVID	35	15	0.428571429	0.369747899		
Non-AVID	42	82	1.952380952	9.31475029		
Pre-AP/AP	51	48	0.941176471	2.416470588		
Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	47.44246761	2	23.72123381	5.754232171	0.001068197	3.068688537
Within Groups	515.2997199	125	4.122397759			
Total	562.7421875	127				

Note: Alpha Level. .05

2. How did the attendance rates of students in the AVID program compared to the attendance rates of non-AVID students? The null hypothesis states that there will be no difference.

For this statistic keep in mind that the numbers reported reflect the number of individual class periods that a student missed during each school year, that were coded as "unexcused." This means that excused absences for legitimate reasons, or school functions, or field trips, were not included in this data. Only unexcused absences were used for this study. Unexcused absences could be for skipping class, or students simply failed to bring a note from parents regarding the nature of their absence. Target High School operates on a 7 period day with each class period meeting once per day five days per week. There are no block schedules in practice at Target High School. With that in mind, that means that when a student is reported to have missed 7 class periods that is the equivalent of one school day; 28 class periods would then be equal to 4 school days missed by that student during that school year. Attendance records were retrieved from the Target ISD AEIS-IT report. Those numbers are reported in Figure 2: Attendance for Non-AVID, AVID, and Pre-AP/AP students.

The average number of class periods missed during each school year for the Non-AVID students are shown in Table 13.

Table 13

Average Number of Class Periods Missed – Non-AVID Students

Grade Level	Class Periods Per Year
9th	22.02 (or 3+ total school days)
10th	26.02 (or almost 4 total school days)
11th	37.33 (over 5 total school days)

Note: *n*=43 Non-AVID students

The average number of class periods missed during each year for the AVID students are shown in Table 14.

Table 14

Average Number of Class Periods Missed –AVID Students

Grade Level	Class Periods Per Year
9th	18.91 (or between 2 and 3 school days)
10th	13.6 (or just under 2 school days)
11th	20.63 (nearly 3 school days)

Note: *n*=35 AVID students

The average number of class periods missed during each year for the Pre-AP/AP students are shown in Table 15.

Table 15

Average Number of Class Periods Missed – Pre-AP/AP Students

Grade Level	Class Periods Per Year
9th	13.10 (just under 2 school days)
10th	17.67 (over 2 school days)
11th	27.33 (almost 4 school days)

Note: *n*=54 Pre-AP/AP students

Again, the AVID students had a higher attendance rate than the Pre-AP/AP students did, and a substantially higher attendance rate than the Non-AVID students (Figure 2).

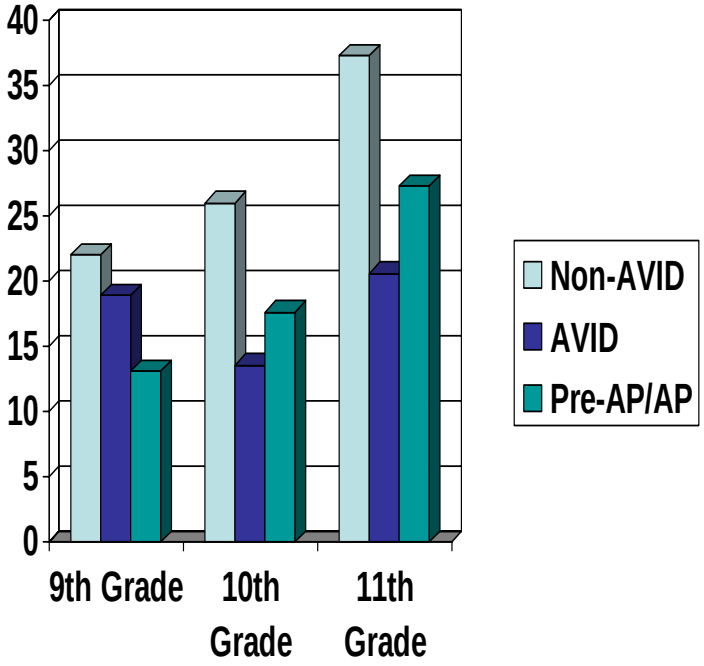

Figure 2. Attendance Data for AVID, Non-AVID, and Pre-AP/AP students

In order to check for statistical significance, a simple or one way analysis of variance (ANOVA) single factor test was applied to the data regarding attendance for all three groups for the 11th grade year only (Table 16). As you can see, the *F* factor is 1.364649671 which tells us immediately (when compared to the degrees of freedom between and within the mean squares on the Distribution of *F* table) that the differences between the number of class periods missed is statistically insignificant, and the null hypothesis, which states that there is no difference, must be rejected. However, it should also be noted that although the difference between the number of class periods missed by these three groups of students is statistically insignificant, the fact that the AVID students had fewer absences than the other two groups is significant in itself.

Table 16

Test of Significant Difference for 11th Grade Attendance – ANOVA

Groups	Count	Sum	Average	Variance		
AVID	35	722	20.62857143	380.9462185		
Non-AVID	42	1568	37.33333333	2227.495935		
Pre-AP/AP	51	1394	27.33333333	2956.946667		
Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	5505.036905	2	2752.518452	1.364649671	0.259249362	3.06868854
Within Groups	252126.8381	125	2017.014705			
Total	257631.875	127				

Note: Alpha Level. .05

3. How does achievement as measured by TAKS scores in Math and English Language Arts compare between students involved in the AVID program and non-AVID students? The null hypothesis states that there will be no difference.

These two TAKS scores were administered each of the three years of the study to all students that participated. These scores are reported to the state of Texas each year, and recorded in the Target ISD AEIS-IT report. The scores for the Math TAKS test are reported in Figure 3: Math TAKS Scores for AVID, Non-AVID, and Pre-AP/AP students. The average Math scores for the Non-AVID students are shown in Table 17.

Table 17

Scores for the Math TAKS Test – Non-AVID Students

Grade Level	Scores
9th	2113.33
10th	2120.12
11th	2147.26

Note: *n*=43 Non-AVID students

The average Math scores for the AVID students are shown in Table 18.

Table 18

Scores for the Math TAKS Test – AVID Students

Grade Level	Scores
9th	2188.37
10th	2204.66
11th	2270.80

Note: *n*=35 AVID students

The average scores for the Pre-AP/AP students are shown in Table 19.

Table 19

Scores for the Math TAKS Test – Pre-AP/AP Students

Grade Level	Scores
9th	2294.12
10th	2287.67
11th	2311.94

Note: *n*=54 Pre-AP/AP students

It appears that all three groups' scores on the Math TAKS test increased each year of the study, although the increases in both the Non-AVID group and the Pre-AP/AP group were somewhat modest (Figure 3). However, the increase in the AVID scores over the course of the three years of the study seemed to be more substantial.

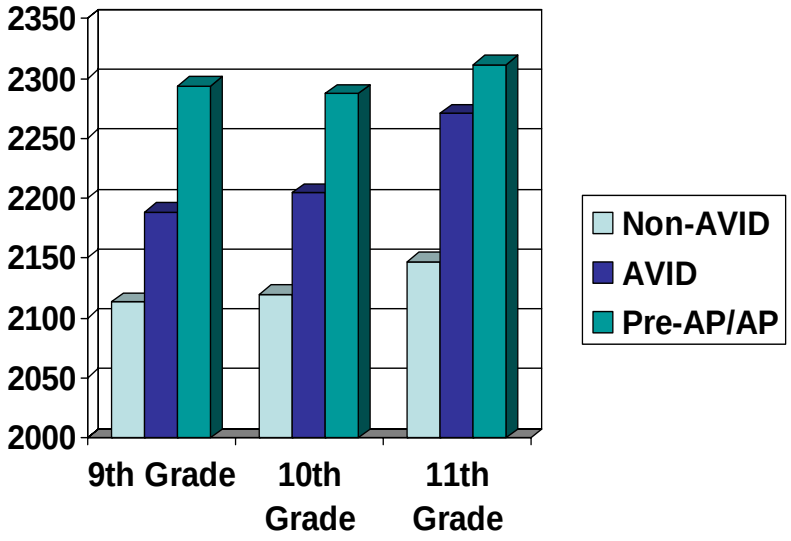

Figure 3. Math TAKS Scores Data for AVID, Non-AVID, and Pre-AP/AP

In order to check for statistical significance, a simple or one way analysis of variance (ANOVA) single factor test was applied to the data regarding scores on the Math TAKS test for all three groups for the 11th grade year only (Table 20). As you can see, the *F* factor is 9.970556 which indicates (when compared to the degrees of freedom between and within the mean squares on the Distribution of *F* table) that the differences between the scores on the Math TAKS tests are statistically significant, and the null hypothesis, which states that there is no difference, must be rejected.

Table 20

Test of Significant Difference for 11th Grade Math TAKS Scores – ANOVA

Groups	Count	Sum	Average	Variance		
AVID	34	77045	2266.029	11491.61		
Non-AVID	41	88088	2148.439	34233.25		
Pre-AP/AP	50	115672	2313.44	43133.88		
Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	631269.1399	2	315634.6	9.970556	9.76E-05	3.070512
Within Groups	362113.388	122	31656.67			
Total	4493382.528	124				

Note: Alpha Level. .05

The scores for the English Language Arts TAKS test are reported in Chart D: English Language Arts TAKS Scores for AVID, Non-AVID, and Pre-AP/AP students. The average English Language Arts scores for the Non-AVID students are shown in Table 21.

Table 21

Scores for the English Language Arts TAKS Test – Non-AVID Students

Grade Level	Scores
9th	2240.95
10th	2193.38
11th	2196.71

Note: *n*=43 Non-AVID students

The average English Language Arts scores for the AVID students are shown in Table 22.

Table 22

Scores for the English Language Arts TAKS Test – AVID Students

Grade Level	Scores
9th	2308.51
10th	2286.11
11th	2311.89

Note: *n*=35 AVID students

The average English Language Arts scores for the Pre-AP/AP students are shown in Table 23.

Table 23

Scores for the English Language Arts TAKS Test – Pre-AP/AP Students

Grade Level	Scores
9th	2377.10
10th	2315.02
11th	2348.37

Note: *n*=54 Pre-AP/AP students

As indicated by Figure 4, all three groups experienced a drop in their scores between their 9th and 10th grade years, but all three groups also enjoyed a slight increase in their scores between their 10th and 11th grade years. The Non-AVID group, along with the Pre-AP/AP group failed to score higher in on their tests in subsequent years than they did in their 9th grade year. However, the AVID group was able to post their highest

average score of the three years in the final year of the study. The AVID students were also able to track much more closely to the Pre-AP/AP group of students than to the Non-AVID students, particularly during the last two years of the study.

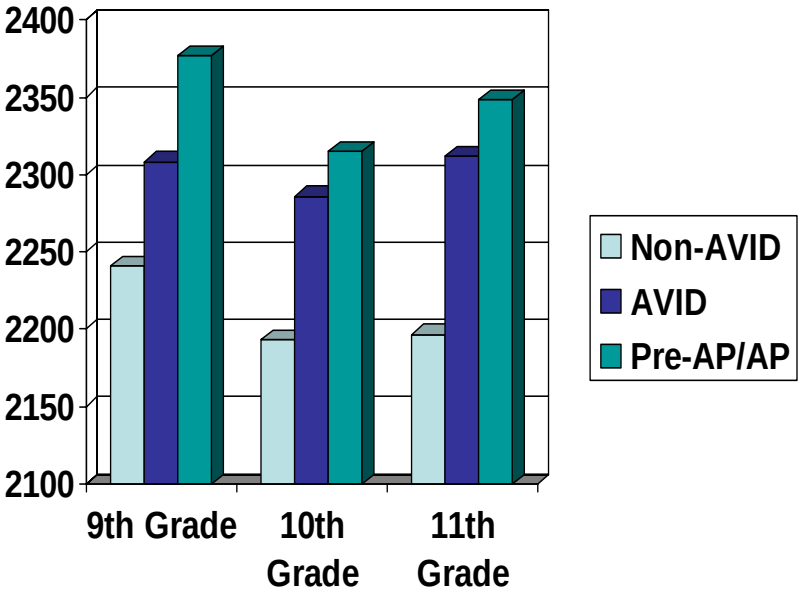

Figure 4. English Language Arts TAKS Scores for Non-AVID, AVID, and Pre-AP/AP Students

In order to check for statistical significance, a simple or one way analysis of variance (ANOVA) single factor test was applied to the data regarding scores on the English Language Arts TAKS tests for all three groups for the 11th grade year only (Table 24). As you can see, the *F* factor is 9.149896513 which tells us immediately (when compared to the degrees of freedom between and within the mean squares on the Distribution of *F* table) that the differences between the scores on the ELS TAKS tests is statistically significant, and the null hypothesis, which states that there is no difference, must be rejected.

Table 24

Test of Significant Difference for 11th Grade English Language Arts – ANOVA

Groups	Count	Sum	Average	Variance		
AVID	35	80916	2311.885714	11482.51597		
Non-AVID	42	92262	2196.714286	43760.40418		
Pre-AP/AP	51	119767	2348.372549	32237.31843		
Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	555793.7063	2	277896.8532	9.149896513	0.00019567	3.068689
Within Groups	3796448.036	125	30371.58429			
Total	4352241.742	127				

Note: Alpha Level. .05

4. How does achievement as measured by GPA and class rank for students in AVID compare to non-AVID students? The null hypothesis states that there will be no difference.

The data for Grade Point Averages was retrieved from the Target ISD AEIS-IT report. The average GPAs for each group are reflected in Figure 5: Class Ranks for AVID, Non-AVID, and Pre-AP/AP students. Those numbers reflect the presence of the different types of course taken by these three groups of students. The Pre-AP/AP students would have possibly taken multiple courses over the three years of the study from Pre-AP or AP courses, and the AVID students are required to take Pre-AP or AP courses. In fact, the rigorous requirements of the AVID program call for every student to take one Pre-AP or AP course during their 9th grade year, two during their 10th grade year, and three during their 11th grade year. Not only are both of these groups are taking

such rigorous courses but they are rewarded by higher Grade Point Averages, as well as higher class rankings. This is due to the fact that Pre-AP and AP courses are weighted heavier than regular courses which make up the total types of classes taken by the Non-AVID (and Non-Pre-AP/APA) students involved in this study. These facts should be kept in mind when comparing the average GPAs and class rankings of the three groups of students as reflected by the next two charts. It should also be noted that the GPA is figured on a four point scale. In other words, the highest GPA attainable for the Non-AVID students is 4.0. However, with the additional weights attached to the Pre-AP and AP courses, assuming a student made perfect grades in some classes, it would be theoretically possible to receive a GPA higher than a 4.0.

The numbers for the average grade point averages for the Non-AVID students are shown in Table 25.

Table 25

Scores for the Grade Point Averages – Non-AVID Students

Grade Level	Scores
9th	1.95
10th	1.82
11th	1.89

Note: *n*=43 Non-AVID students

The numbers for the average grade point averages for the AVID students are shown in Table 26.

Table 26

Scores for Grade Point Averages – AVID Students

Grade Level	Scores
9th	2.892
10th	2.752
11th	2.852

Note: *n*=35 AVID students

The numbers for the average grade point averages for the Pre-AP/AP students are shown in Table 27.

Table 27

Scores for Grade Point Averages – Pre-AP/AP Students

Grade Level	Scores
9th	3.42
10th	3.33
11th	3.38

Note: *n*=54 Pre-AP/AP students

Again, the data here reflects that all three groups experienced a drop in their average GPA between the 9th and 10 grade years, with a modest rebound between the 10th and 11th grade years (Figure 5). As expected, due to the additional weights attributed to the Pre-AP or AP courses which are required by the AVID program, (and by definition taken by the Pre-AP/AP group of students), the average GPAs of those two groups are substantially higher than the Non-AVID students. It should also be noted that

the AVID groups seems to be tracking higher or closer to the Pre-AP/AP students than to the Non-AVID students.

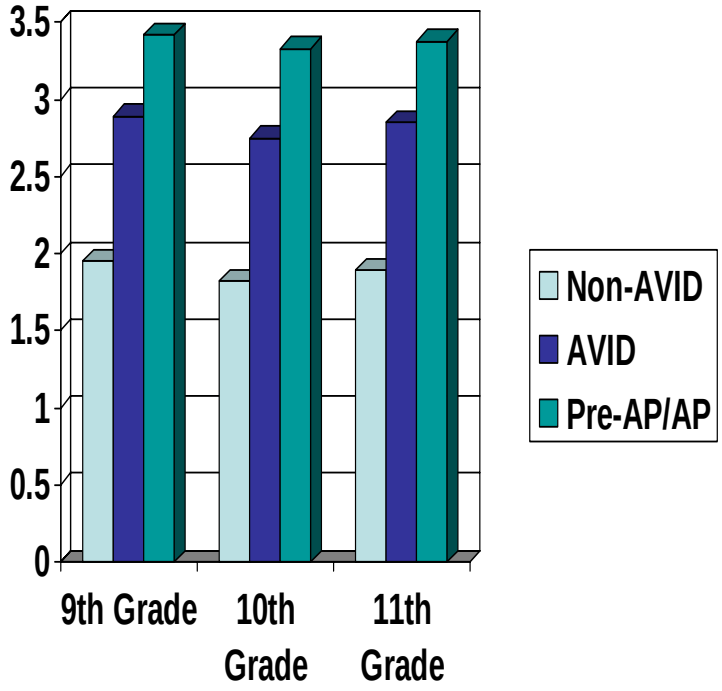

Figure 5. Grade Point Averages for AVID, Non-AVID, and Pre-AP/AP Students

In order to check for statistical significance, a simple or one way analysis of variance (ANOVA) single factor test was applied to the data regarding the Grade Point Averages for all three groups for the 11th grade year only (Table 28). As you can see, the *F* factor is 37.60032967 which tells us (when compared to the degrees of freedom between and within the mean squares on the Distribution of *F* table) that the differences between the GPAs is statistically significant, and the null hypothesis, which states that there is no difference, must be rejected.

Table 28

Test of Significant Difference for 11th Grade – Grade Point Averages – ANOVA

Groups	Count	Sum	Average	Variance		
AVID	35	96.9826	2.852429412	0.777738788		
Non-AVID	42	80.1528	1.9084	0.351734978		
Pre-AP/AP	51	172.1054	3.374615686	0.847267481		
Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	50.0023061	2	25.00115303	37.60032967	1.7223E-13	3.0692864
Within Groups	82.4498881	124	0.664918453			
Total	132.452194	126				

Note: Alpha Level. .05

The numbers reflected by class rank indicate where an individual stands in comparison to all the students in that class. The approximate number of students involved in the classes during this study can be assumed to be around 475. Therefore, the higher the number of the class rank, the farther that student is towards the back of the class. Of course the Valedictorian would eventually be determined as that student whose class rank is #1, and the Salutatorian would be #2. The class ranking for each student was retrieved from the Target ISD AEIS-IT report. The numbers are reported in Figure 6: Class Ranks for AVID, Non-AVID, and Pre-AP/AP students.

The average class ranks for the Non-AVID students are shown in Table 29.

Table 29

Average Class Ranks – Non-AVID Students

Grade Level	Scores
9th	345.57
10th	351.21
11th	343.57

Note: *n*=43 Non-AVID students

The average class ranks for the AVID students are shown in Table 30.

Table 30

Average Class Ranks – AVID Students

Grade Level	Scores
9th	222.40
10th	224.90
11th	218.60

Note: *n*=35 AVID students

The average class ranks for the Pre-AP/AP students are shown in Table 31.

Table 31

Average Class Ranks – Pre-AP/AP Students

Grade Level	Scores
9th	155.69
10th	152.59
11th	157.02

Note: *n*=54 Pre-AP/AP students

Both groups of AVID students and Pre-AP/AP students experienced a slight increase in their average class ranks between their 9th and 10 grade years, followed by a slight decrease between their 10th and 11th grade years (Figure 6). The Non-AVID students saw a slight decrease between their 9th and 10th grade years, followed by an increase between their 10th and 11th grade years. In fact, this group posted class rankings higher their 11th grade year than ever before in their careers. However, their average class rankings were still substantially lower than both of the other groups.

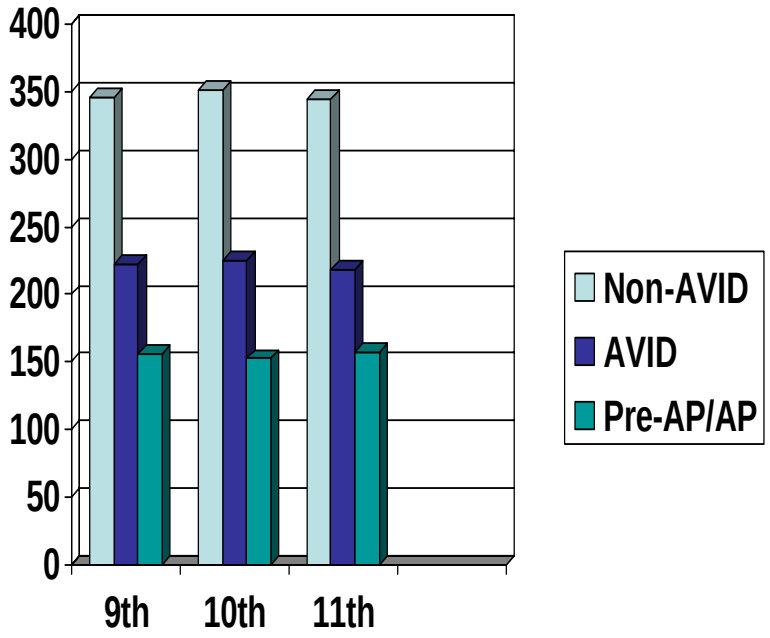

Figure 6. Class Ranks for AVID, Non-AVID, and Pre-AP/AP Students

In order to check for statistical significance, a simple or one way analysis of variance (ANOVA) single factor test was applied to the data regarding class rank for all three groups for the 11th grade year only (Table 32). As you can see, the *F* factor is 40.13631409 which tells us immediately (when compared to the degrees of freedom between and within the mean squares on the Distribution of *F* table) that the differences

between the class ranks is statistically significant, and the null hypothesis must be rejected, which states that there is no difference.

Table 32

Test of Significant Difference for 11th Grade Class Rank – ANOVA

Groups	Count	Sum	Average	Variance		
AVID	34	7434	218.6470588	12488.4772		
Non-AVID	42	14347	341.5952381	6205.954123		
Pre-AP/AP	51	7994	156.745098	11341.11373		
Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	798595.8473	2	399297.9236	40.13631409	3.62338E-14	3.069286447
Within Groups	1233619.57	124	9948.54492			
Total	2032215.417	126				

Note: Alpha Level. .05

Summary

Upon review of the averages for all three groups of students involved in the three year study, it appears that there is a definite difference between the performance of the groups on the English Language Arts TAKS test, the Math TAKS test, the number of disciplinary referrals received within each year, their attendance rates, their class rankings, as well as their Grade Point Averages. When an ANOVA statistical test was applied to the data, the null hypothesis was rejected in every situation except for attendance rates. However, it was noted that, although the amount of class periods

missed were insignificant statistically, it was certainly significant that of all three groups studied, the AVID students had the fewest number of class periods missed.

CHAPTER FIVE

Conclusions from the Findings

This study focused on three distinct groups of students within a large high school a period of three years. They were compared to each other in six separate categories: grade point averages (GPA), class rankings, attendance rates, disciplinary incidents, and achievement scores on the state mandated Texas Assessment of Knowledge in Skills (TAKS) in both Math and English Language Arts. By applying a simple one way test for statistical significance, the ANOVA showed that there was indeed statistical significance in five of the six categories studied. In only one category was the null hypothesis accepted, and that was in the category of attendance. It is appropriate at this time to review the literature to see what, if any, conclusions can be drawn from this study.

What is the Impact of Smaller Learning Communities on Students in a Large High School?

First, let's remember the working definition of a smaller learning community as it applies to our definition of a large high school. For the purposes of this study it was determined that a large high school was one with an enrollment of over 1,000 students. As for our definition of a smaller learning community we are reminded that a smaller learning community is the creation of a smaller (500 students or less, preferably 300-400) within a larger student body (more than 1,000) with as much autonomy as possible. Several researchers reminded us that the enemy of some of our students, particularly the low socio-economic students of color, is school size (Howley, 1994; School Renaissance Institute, 2000; Wise, 2008). We were reminded that the implementation of smaller

learning communities can have a particularly profound effect on poor inner-city students in our urban schools, (Darling-Hammond & Friedlaender, 2008).

Discipline

In the first category for this study we looked at the number of discipline referrals for the three groups of students. There were multiple researchers claiming that smaller learning communities would decrease unwanted behavioral characteristics (Dessoff, 2004; Dewees, 1999; Kacan & Schipp, 2000; Klonsky & Klonsky, 1999; Raywid, 1997; U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education, 2001). When looking at the three groups of students within Target High School, the number of disciplinary incidents for each student was tracked for each of the three years of the study. It was shown that students involved in the AVID program had fewer disciplinary incidents than did the students in the Non-AVID group. In fact, when tested by an ANOVA simple one way test for statistical significance, the numbers were definitely shown to have significance. It could have been somewhat predictable for the number of disciplinary incidents between the members of the smaller learning community known at Target High School as the AVID program to have been fewer than their Non-AVID counterparts. However, when compared against the group of Pre-AP/AP students, it was shown that the AVID students had an average of half as many disciplinary incidents as did the Pre-AP/AP students across the three year study. In the 10th and 11th grade years, the Non-AVID students incurred nearly twice as many disciplinary incidents as did the students in the Pre-AP/AP group, who had nearly twice as many disciplinary referrals as their AVID counterparts. These findings seem to confirm what we read in the earlier body of research. In fact the numbers were found to

be surprising even to this researcher. One of the future concerns for Target High School might be to find a way to implement some type of smaller learning community on a school wide basis.

Attendance

Our second category had to do with attendance rates, or the rate at which students within our study groups missed classes. When counting the average number of class periods missed during the course of the school year for the three year period of this study, it was shown that the differences had no statistical significance when compared to one another utilizing an ANOVA single way test. However, it was again shown that the students in the AVID group were less likely to miss class periods during their 10th and 11th grade years than either of the other two groups. Even though insignificant statistically it was interesting to note that the smaller learning community may somehow lead to greater attendance rates than even the students involved in the Pre-AP/AP group. The research we studied earlier in Chapter 2 reminded us that one effect of the institution of smaller learning communities in large high schools was enhanced attendance rates (Desoff, 2004; Duke & Trautvetter, 2001; Kacan & Schipp, 2000; U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education, 2001).

Student Achievement

There has been a long-standing history of state mandated achievement tests in Texas. From 1979 to 1983 students in Texas public schools were tested under the Texas Assessment of Basic Skills, or TABS (Education Policy Analysis Archives, 2008).

Beginning in 1984 a slightly higher level of skills was tested under the Texas Assessment of Minimum Skills, or TEAMS (Education Policy Analysis Archives). Then in 1990 the state of Texas instituted the Texas Assessment of Academic Skills or TAAS (Education Policy Analysis Archives). Finally in 1999 the test became the Texas Assessment of Knowledge and Skills or TAKS, and the graduation exit test was shifted to the 11th grade (Education Policy Analysis Archives). These days there are already rumors coming out of Austin alluding to End of Course Exams in the very near future. For now however, the instrument of choice for Texas public school students is the TAKS test. We studied student achievement results on two of these tests over a three year period during this study.

The Math TAKS and the English Language Arts TAKS scores were tracked for all three student groups, and every student involved in the study took both tests all three years over the course of the study. In reviewing the data for the Math TAKS, it appears that between the 9th and 10th grade years there were succinct differences in the scores of all three student groups. However, it appeared that during the third year of the study, or during the students' 11th grade year, the AVID class seemed to separate themselves farther from the Non-AVID group tracking much more closely to the Pre-AP/AP students. When the ANOVA statistical test for significance was applied there was shown to be a statistically significant difference between the scores of all three groups.

The English Language Arts TAKS test also showed to have significant differences between the three student groups. Once again the Non-AVID students were the lowest performers on the test, as could be expected. The AVID students tracked much more closely to the Pre-AP/AP students on this test, even more so than on the Math

TAKS. In the 10th and 11th grades the AVID students were within only a few points of the Pre-AP/AP students on this test. When the ANOVA test was applied, the differences between the groups were shown to be statistically significant. In fact the average score on this test by the AVID students was within only 35 points or so of their Pre-AP/AP counterparts. The progress shown by the AVID group was very encouraging to all researchers who indicated earlier that so much of the push for smaller learning communities was driven by improved student achievement (Cotton, 2001; Darling-Hammond & Friedlaender, 2008; Desoff, 2004; Kacan & Schipp, 2000; Klonsky & Klonsky, 1999; Raywid, 1997).

Student Grade Point Averages

Another indicator of increased or improved student achievement used by schools today is the cumulative grade point average for each individual student. This indicator goes hand in hand with the assertion of the research that overall student performance is enhanced when the treatment of the smaller learning communities are applied to large high schools. Keep in mind that the overall GPA of a student involved in a Pre-Advanced Placement or Advanced Placement course would be the beneficiary of a weighted GPA as compared to students involved only in regular core curriculum classes. Also remember that one of the requirements for belonging to the AVID program is that students in their 9th grade year take at least one Pre-AP or AP course. During their 10th grade year they are required to take two Pre-AP or AP courses, and during their 11th grade year they are required to take three such courses. The data from our study shows that students in the AVID group had a GPA of almost a point higher than students in the Non-AVID group, while students in the Pre-AP/AP group had a GPA of only about half a

point higher than those students in the AVID group. When the ANOVA test for significance was applied there appeared to be a statistically significant difference between the groups. Once again, the AVID students tracked much more closely to their Pre-AP/AP peers than they did to the Non-AVID students. The assumption must be made that the positive effect of the smaller learning community did indeed enhance student achievement in the area of increasing the students' grade point averages.

Class Rankings

The last measurement studied was that of class rankings. These statistics come into play upon graduation when students begin to look at four year colleges or universities that will pay particular attention to where those students were ranked within their graduating class. Due to the weighted GPAs enjoyed by both the AVID group and the Pre-AP/AP group, the class rankings of the Non-AVID group seemed to be particularly dismal. This is attributed in part to the additional weights awarded to the Pre-Advanced Placement and the Advanced Placement courses in which the other two groups participate. However, it could also be noted that the AVID students tracked slightly more closely to the Pre-AP/AP group than to the Non-AVID group. Again, when the ANOVA one way test for statistical significance was applied there was significance shown to be present in the differences between the averages of all three groups.

Possible Future Studies

In light of the cumulative body of research over the past 30 years that is available to educators, it would be interesting to go back to Target High School in the near future to conduct a study regarding the impact of the AVID program on the Achievement Gap

as it applies to minority students. One of the issues purportedly addressed by the institution of smaller learning communities is the closing of the Achievement Gap.

Another such study might be one concerning the drop-out and retention rates of Target High School. There have been multiple studies that indicate that larger high schools may contribute to a higher drop-out rate. Other research has indicated a relationship between retention between grades, particularly at the secondary level, and the drop-out rate for that school. It would be interesting to see if the institution of the smaller learning community AVID program at Target High School has been to alleviate any of the negative effects of retention, or if it has reduced the retention rate altogether, and to see if there is a relationship to their drop-out rate.

Conclusions

As with any educational reform we must always take care so that our efforts to help our students do not render more harm than good. Several researchers pointed out that "smaller is not always better" (Cotton, 2001; Darling-Hammond, 1997; Noguera, 2002; Ready, Lee, & Welner, 2004). Keeping in mind that *smaller size alone is insufficient for a school to produce higher levels of student learning* (Ancess, 1997; Ancess, 2008; Ancess & Ort Wichterle, 2001; Darling-Hammond, 2002; Meier, 1995; Noguera, 2002; Wainer & Zwerling, 2006), and *hugging is not Algebra* (Fine in Gerwitz, 2001), it should always be at the forefront of educational concerns to utilize what we have learned from the research to ensure that we are providing the best possible schools for all of our students. However, the benefits of instituting smaller learning communities to our large public high schools have been widely documented over the course the last 30 years. Particular attention has been paid to innovations of late under the direct influence

of such benefactors as the Bill and Melinda Gates Foundation and the Carnegie Foundation. This study at Target High School has shown a preponderance of evidence for the continuation and expansion of smaller learning communities like the AVID program. When we studied six different categories at this school we found there to be statistical significance in five of those categories that could be attributed to the institution of the AVID program. Student achievement was enhanced on two of the state mandated assessment tests, there were fewer disciplinary incidents, grade point averages were raised, and class rankings improved. In fact, even when there was a lack of statistical significance in the area of improved attendance rates, it appeared that the students in the AVID group were more likely to come to school on a more consistent basis. The body of research clearly shows that the institution of smaller learning communities in all of our large high schools must be something we as educators continue to explore and improve in order to better prepare all of our students for the not so distant future that will soon be theirs. We will soon be turning our students loose on society to make their way in the world. Hopefully, at that point, we can truly say that we have "left no child behind."

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