

**THE IMPACT OF THE ADVANCEMENT VIA INDIVIDUAL
DETERMINATION (AVID) PROGRAM ON NINTH GRADE READING,
MATHEMATICS, AND WRITING ACHIEVEMENT**

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Abstract

The purpose of this study was to determine the effect the Advancement Via Individual Determination (AVID) program has on ninth grade reading, writing, and math achievement. The study was conducted in the Blue Valley School District, a large suburban school district in the Midwest. AVID was implemented in all four Blue Valley High Schools during the 2007-2008 school year. The school district identified 209 students, representing all four high schools, who were eligible for enrollment in the AVID program. Not all eligible students enrolled in the AVID program. The 209 students involved in this study were divided into two groups, AVID students (112) and non-AVID (97) students. This study compared standardized test results of these two groups of students to determine the effect the AVID program had on student achievement levels in reading, writing and mathematics.

The Measure of Academic Progress (MAP) and the Blue Valley Writing Assessment were the two instruments used to determine student achievement levels for this study. Writing achievement for this study was determined by analyzing the students' spring 2007 and spring 2008 Blue Valley Writing Assessment scores. Reading and mathematics achievement for this study was determined by analyzing the students' fall 2007 and spring 2008 MAP scores. This study was quantitative and three *t*-tests for independent means were conducted to test the three research hypotheses..

Results from this study showed no statistical difference in student achievement in the academic domains of reading, writing, and mathematics between the students enrolled in the AVID program and those students who chose not to enroll in the AVID program. After testing the research hypotheses for each academic domain: the obtained test statistic

value for reading was $t = -.286$, the obtained test statistic value for mathematics was $t = .794$, and the obtained test statistic value for the writing was $t = .882$.

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CHAPTER ONE

INTRODUCTION

Educational systems in the United States face many challenges. Schools today are being asked to provide students with more than just academic skills; schools are expected to develop character, civic virtues, and artistic talent (Danielson, 2002). In the age of school accountability, districts are feeling the pressure from legislation to make sure all students are successful. Blankstein stated, “Schools are clearly for the common good, and they serve as the gateway to, and potential equalizer for, economic and life success for millions of under-served children” (2004, p. 3).

School districts across this country are investigating and implementing comprehensive intervention programs as a way to provide support for all students. According to Perna and Swail (2001), the goal of comprehensive intervention programs is to provide disadvantaged students with skills, knowledge, and general college preparation needed to enter and succeed in college. In today’s educational environment, schools are expected to prepare as many students as possible to be equipped with necessary skills to be successful in college or in a post-secondary program. Gone are the days when schools focused only on preparing a select group of students to attend college or a post-secondary program.

Background of the Study

The Blue Valley School District is a K-12 large Midwest suburban district serving 20,455 students; of these 20,455 students, 3.7% are on free and reduced lunch (Kansas Department of Education [KDE], 2008). The free and reduced lunch information for the state of Kansas and the Blue Valley School District is summarized in table 1. The district

is located in Johnson County, Kansas, in the east central part of the state, with a population of 516,731; it has 476.78 square miles (U.S. Census Bureau, 2008).

Table 1 *Eligible for Free or Reduced-Price Lunch*

	2004 %	2005 %	2006 %	2007 %
Kansas	37.5	38.2	38.5	38.7
Blue Valley	2.7	3.3	3.4	3.7

Note. From *Blue Valley Report Card 2007-2008*, by Kansas Department of Education, 2008, Topeka, KS.

The district has 19 elementary schools, eight middle schools, four high schools, and one alternative high school. The school district has little ethnic diversity; the ethnic composition of the district is 84.5% white, 3.2% black, 2.0% Hispanic, and 10.2% other ethnicities (U.S. Census Bureau, 2007) (see Table 2). The school district employs 1,782 certified staff; 70% of the certified staff have a master's degree or higher; in addition, the district has 1,301 classified staff members (Blue Valley School District, 2007). The administrative composition of the school district consists of a superintendent, two deputy superintendents, one assistant superintendent, five executive directors, eight directors, 19 elementary principals, eight middle school head principals, eight middle school assistant principals, four head high school principals, and 16 high school assistant principals (Blue Valley School District, 2007).

The Blue Valley School District offers students several support services to help during their educational journey. There is an English Language Learners (ELL) program for students who do not speak English as their first language; a student intervention team is in place at each school to assist students who are struggling either academically or

socially; and a summer enrichment program for students wishing to gain more in-depth knowledge about certain topics. In addition, the school district offers a comprehensive special education program, which includes gifted education (Blue Valley School District, 2007).

Table 2 *Kansas School Districts and Blue Valley School District Enrollment*

	2004	2005	2006	2007
Kansas Total Enrollment	465,397	464,102	463,840	461,640
African American %	8.7	8.5	8.3	7.9
Hispanic %	10.8	11.2	11.6	11.9
White %	75.3	74.4	73.7	73.2
Other %	5.2	5.9	6.4	7.1
Blue Valley Total Enrollment	18,906	19,345	19,860	20,296
African American %	3.3	3.2	3.1	3.2
Hispanic %	1.8	2.0	1.9	2.0
White %	88.2	86.8	85.5	84.5
Other %	6.6	8.0	9.4	10.2

Note. From *Johnson County Quick facts from the U.S. Census Bureau, 2008*, U.S. Census Bureau. Available at <http://quickfacts.census.gov/qfd/states/20000.html>

The district's financial situation is good; however, the amount the district spends per pupil is less than the state average of \$7,518 (New American Foundation, 2008). The Blue Valley School District spends \$6,918 dollars per student; this equates to an annual operating budget of \$138,428,477 (Blue Valley Communications Department, 2007). The ethnic population of Johnson County is 90.3% white, 4.0% black, 5.7% Hispanic, and 3.9% other. The median income for a family living in Johnson County is \$68,013. The

Johnson County government offers all the basic public services normally found in a county of this size and population. Some of the public services available to the citizens of Johnson County include hospitals, police departments, fire departments, parks and recreation department, public libraries, and a municipal airport.

Table 3 *State Aid per Student*

	2003	2004	2005	2006	2007
State of Kansas	\$5,124	\$4,793	\$5,346	\$6,006	\$6,494
Blue Valley USD229	\$3,712	\$2,732	\$3,580	\$3,827	\$3,997

Note. From *Blue Valley Report Card 2007-2008*, by Kansas Department of Education, 2008, Topeka, KS.

Table 4 *Kansas State Assessment*

	2003	2004	2005	2006	2007
Reading					
Kansas % Proficient or Higher	60.6	62.0	64.1	77.1	77.3
Blue Valley % Proficient or Higher	70.5	71.8	75.0	91.5	91.7
Math					
Kansas % Proficient or Higher	45.6	50.3	51.2	58.4	71.3
Blue Valley % Proficient or Higher	65.2	70.4	73	79.1	90.4

Note. From *Blue Valley Report Card 2007-2008*, by Kansas Department of Education, 2008, Topeka, KS.

Historically, the students in Johnson County, and more specifically students in the Blue Valley School District, score higher than their peers on state and national standardized tests. Since the inception of the No Child Left Behind legislation, every

school in the Blue Valley School District has made annual yearly progress (AYP). The district has additionally seen a steady increase in its students' ACT scores. This information can be found in Tables 4 and 5.

Table 5 *ACT Composite Scores*

	2003	2004	2005	2006	2007
National	20.8	20.9	20.9	21.1	21.2
Kansas	21.5	21.6	21.7	21.8	21.9
Blue Valley	23.6	23.7	24.1	23.9	24.1

Note. From *Blue Valley Schools ACT History*, by E. Parks, 2007, Overland Park, KS, Blue Valley School District. Adapted with permission.

The Blue Valley School District is no different from any other school district across the country when it comes to feeling the pressures to provide support to prepare as many students as possible for college or a post-secondary program. During the 2005-2006 school year, Dr. Dennis King, the Assistant Superintendent of School Improvement, and three high school principals in the Blue Valley School District researched the comprehensive intervention program Advancement Via Individual Determination (AVID) as the way for the high schools to provide support for the students who are in the academic middle. The definition of an academic middle student is a student who has average to high test scores, has a grade point average between 2.0-3.5, has college potential with support, shows academic potential, and has desire and determination to be academically successful (*AVID Center, 2007*). By implementing a program to provide support for students in the academic middle, the district would be able to increase the number of students who are prepared to attend college or a post-secondary program. As

part of the group's research, the Assistant Superintendent of School Improvement and the three high school principals visited the Cherry Creek School District during 2005-2006 school year.

After the group completed its research, the four high school principals expressed a desire for the district to support the implementation of the AVID program beginning in the school year 2006-2007. The principals identified the need to provide additional support for the average student to allow these students to acquire and develop the skills necessary to be prepared for college and to remain academically successful once the students are enrolled in college. The program was first implemented at Blue Valley High School, with implementation at Blue Valley North, Blue Valley Northwest, and Blue Valley West the following year, 2007-2008.

Problem Statement

The AVID comprehensive intervention program has been implemented in schools all across the country as a way for schools to develop academic skills of students who are identified as in the academic middle. Most of the research conducted on AVID has focused primarily on college readiness; helping students develop the necessary skills to enter college and be successful once enrolled. In a study conducted by Hays (2004), the researcher examined how the AVID program graduates adapted academically and culturally to a 4-year public university during their first year, and in what ways they attributed their persistence in college to their high school AVID experience. A study by Lipovski described how AVID increased access to advanced courses and increased the college attendance rate for underrepresented students (2004). This researcher was able to find only one study relating to AVID examining high school achievement in the domains

of reading, writing, and mathematics. Rorie conducted the only quantitative study found that compared the performance of AVID students to non-AVID students in the academic areas of reading, writing, mathematics, and grade point average (GPA). Since there has been only one quantitative study relating to the effect of AVID on student achievement as defined by standardized reading scores, standardized writing scores, and standardized mathematic scores, there is a need to conduct more research on the impact of AVID on these academic domains.

Purpose of the Study

The purpose of this case study was to determine if the AVID program implemented by the Blue Valley School District has an effect on writing, reading, and mathematics achievement of ninth grade students in all four high schools in the Blue Valley School District. The data examined for this study are generally divided into two groups: those identified students who chose to participate in the AVID program and those who were identified who did not participate in the AVID program.

Significance of the Study

Research indicates the AVID program has a high success rate in helping students develop skills needed to attend college and to be successful in college. A study conducted by Guthrie and Guthrie in 2002 shows 89% of AVID students persist in college and 85% were on track to graduate in 4-5 years (as cited in Shaughnessy, 2005). This case study is significant because additional research is needed on the impact AVID has on standardized student achievement measures like writing, reading, and mathematics scores. The results of this study will provide the Blue Valley School District and other school districts with beneficial information regarding the impact the AVID program has

on the academic domains of writing, reading, and mathematics. The information gained from this study promises to assist the Blue Valley School District and other school districts to determine if the AVID program is an effective tool to help school districts improve student achievement in the areas of writing, reading, and mathematics.

Overview of Methodology

The design for this case study is quantitative research. This study was designed to investigate the effect of the AVID program on ninth grade writing, reading, and mathematics student achievement at Blue Valley High School, Blue Valley North High School, Blue Valley Northwest High School, and Blue Valley West High School. For this study, the researcher involved only 2007-2008 ninth grade students at all four high schools. The students were divided into two groups, AVID and non-AVID students. The sample size of the AVID students was 112 and the population of the non-AVID students was 97. A comparison was made between ninth grade students who received the AVID treatment and non-AVID students who were identified for the AVID treatment but who did not participate in the program. The data needed for this comparison was obtained from the Blue Valley School District student information system. The student information system used by the Blue Valley School District is called the Electronic Student Information System (ESIS). All the data for this study was collected by a third-party researcher employed by the Blue Valley School District in order guarantee privacy of the studied population.

These comparisons were conducted at the end of the ninth grade year. Specifically this study examined ninth grade AVID students' performance to ninth grade non-AVID students' performance on the Measure of Academic Progress (MAP) in the academic

domains of reading and mathematics. Furthermore, this study used the Blue Valley District writing assessment to compare the performance of ninth grade AVID students to ninth grade non-AVID students to determine what effect the AVID program had on writing achievement.

A *t* test for independent means was conducted to determine the differences between AVID and non-AVID students' achievement in the academic domains of writing, reading, and mathematics. This test is used to evaluate for a significant difference between two means. The AVID program was the independent variable for this case study, and the dependent variables for this study were writing achievement, reading achievement, and mathematics achievement.

Research Questions

The development and adoption of a new program often presents questions about the program's effect on students. This researcher intends to answer the following questions:

1. Does the AVID program have an impact on ninth grade reading achievement as determined by the Measure of Academic Progress assessment for ninth grade students?
2. Does the AVID program have an impact on ninth grade math achievement as determined by the Measure of Academic Progress assessment for ninth grade students?
3. Does the AVID program have an impact on ninth grade writing achievement as determined by the Blue Valley School District writing assessment?

Delimitations and Limitations

The data collected for the study came from the school year 2007-2008. This study collected data only on ninth grade students at Blue Valley High School, Blue Valley North High School, Blue Valley Northwest High School, and Blue Valley West High

School. This study was limited to one year of data from ninth grade students' performance on the MAP test and the Blue Valley School District writing assessment. In addition, this study was limited to two sample groups of students. The sample size for each group was approximately 100 students. All four high schools are located in Johnson County, Kansas. This study is delimited to four suburban public high schools in the Midwest. As a result of this delimitation, the results from this study may not be applicable to all grade levels and populations.

Assumptions

The following assumptions were made relating to this case study.

- Each of the four Blue Valley High Schools used the AVID student profile to select students for the AVID program.
- AVID instructors in the four high schools received proper training to teach the AVID curriculum, and that all parts of the AVID curriculum were consistently implemented at each of the four high schools.
- Students gave maximum effort to learn the AVID curriculum to ensure improvement in the areas of writing, reading, and mathematics.
- Students gave their best academic effort when taking the fall MAP assessment, the spring MAP assessment, and the ninth grade writing assessment.
- It is assumed that the Blue Valley Writing assessment gave valid and reliable results in the academic area of writing and that the MAP assessment will give valid and reliable results in the academic areas of reading and mathematics.
- The dependent variables (writing achievement, reading achievement, and math achievement) were assumed to be independent of one another.

Definition of Key Terms

Academic middle student. A student who has average to high test scores, has a grade point average between 2.0-3.5, has college potential with support, shows academic potential, and has desire and determination to be academically successful (*AVID Center, 2007*).

Adequate yearly progress (AYP). “Under No Child Left Behind, each state has developed and implemented measurements for determining whether its schools and local educational agencies (LEAs) are making adequate yearly progress (AYP). AYP is an individual state's measure of progress toward the goal of 100 percent of students achieving to state academic standards in at least reading/language arts and math. It sets the minimum level of proficiency that the state, its school districts, and schools must achieve each year on annual tests and related academic indicators” (U.S. Department of Education, 2008, n.p.).

Advancement Via Individual Determination (AVID). A “college preparatory program for students with academic potential who have not previously succeeded in college preparatory curriculum” (*AVID Center, 2007, (p. 174)*).

Blue Valley School District Writing Assessment. A writing assessment administered to students in the Blue Valley School District in third, fifth, sixth, eighth, ninth, and eleventh grades to determine writing achievement. Results are submitted to the Kansas State Department of Education in the fifth, eighth, and eleventh grades.

Collaboration. Guided studies led by a teacher or tutor where students are placed in groups and take responsibility for their own learning (*AVID Center, 2007*).

Comprehensive Intervention Program (CIP). A program designed to equalize post-secondary education opportunities for underrepresented populations. Gaps persist between low- income and high-income students and between white students and other racial groups (Cunningham, Redmond, & Merisotis, 2003).

Cornell Notes. Students take detailed notes from class lectures and text in the right margin of a piece of paper and develop clarifying ideas or questions regarding the notes in the left margin (AVID Center, 2007).

Inquiry. A process to teach students to think for themselves. Students are expected to come to collaborative group time with their own questions developed from class content (AVID Center, 2007).

Measure of Academic Progress (MAP). A state-aligned computerized adaptive assessment program that provides educators with the information they need to improve teaching and learning (Northwest Evaluation Association, 2008).

No Child Left Behind Act. “The No Child Left Behind Act of 2001 (NCLB) reauthorized the Elementary and Secondary Education Act (ESEA)—the main federal law affecting education from kindergarten through high school. Proposed by President Bush shortly after his inauguration, NCLB was signed into law on January 8th, 2002. NCLB is built on four principles: accountability for results, more choices for parents, greater local control and flexibility, and an emphasis on doing what works based on scientific research” (U.S. Department of Education, 2008, n.p.) .

Organization of the Study

This study is organized into five chapters. Chapter one introduces the background of the study, purpose of the study, problem statement for the study, significance of the

study, potential outcomes of the study, overview of the methodology of the study, limitations and delimitations of the study, research questions identified for the study, assumptions of the study, and the definitions of key terms for the study. The research and review of literature are presented in chapter two. In chapter three, the methodology for the study is discussed. This includes the process of how the data was collected, the sample for the study, the instruments used, research hypotheses, limitations of the study, and the methodology of data analysis. Chapter four discusses the results and findings of the study, organized into two charts. The first chart shows the performance of ninth grade AVID students in the academic areas of writing, reading, and mathematics, and the second chart shows the performance of non-AVID ninth grade students in the academic areas of writing, reading, and mathematics. In chapter five, recommendations for future studies are discussed.

CHAPTER TWO

REVIEW OF LITERATURE

The purpose of this literature review is to provide a general overview of comprehensive intervention programs. The first part of the review of literature explains why comprehensive intervention programs are needed and examines the impact of the comprehensive intervention programs of Upward Bound, Project GRAD, and Talent Development High School Program on student achievement. The second part of the review of literature focuses on AVID, the comprehensive intervention examined for the current study. An overview of the program and its influence on student achievement is provided, as well as investigation of the research to support the AVID curriculum methodologies focusing on writing, inquiry, reading, and collaboration.

Comprehensive Intervention Programs

Thomas Jefferson, one of the founding fathers of this country, expressed over 200 years ago the importance of an education for all citizens. Jefferson believed self-government was not possible unless all citizens were properly educated, and that it is the responsibility of the nation to provide a suitable education for all citizens (Coates, 2001). The Higher Education Act of 1965 legislation was designed to accomplish what Thomas Jefferson believed about education for all citizens. This piece of legislation was signed into law on November 8, 1965, as part of President Lyndon Johnson's Great Society domestic agenda, and its purpose was to provide educational resources to colleges and universities (Federal Student Aid Programs, 2006). Keeping in mind Jefferson's thoughts about education for all citizens and the Higher Education Act of 1965, school districts

and school leaders have a responsibility to make sure all students are educated and given the opportunity to reach the highest level of education.

Schools have not operated under the premise that all students need an education and all students can learn at high levels. As a result, an achievement gap has been created between different groups of students. This gap exists mostly in minority students and students from low socioeconomic backgrounds (Green, 2008). The two minority groups most affected are African-American and Hispanic students. One of the biggest obstacles for African-American and Hispanic students to overcome is gaining the general knowledge and skills needed to attend college or a postsecondary program (Sheridan-Thomas, 2006). The college enrollment percentage of African-American and Hispanic students is considerably lower when compared to White students.

According to the *Digest of Education Statistics* report (2007), 65% of White students enrolled in college after graduating from high school, as compared to 13% of African-American and 11% of Hispanic students who graduated from high school (U.S. Department of Education, National Center for Education Statistics, 2007). Past practices of educators and school districts have created a need to provide support to disadvantaged students to develop the necessary skills needed to access postsecondary programs and to be successful, once enrolled.

Comprehensive intervention programs are designed to accomplish the goal to provide disadvantaged students with the necessary information and skills required to access postsecondary opportunities (Gandara, 2001). These skills include improvement in overall academic performance and acquisition of the essential knowledge to gain admission to a post-secondary program. Components of comprehensive intervention

programs vary from program to program, depending on the specific goals and desired outcomes of a specific program. Gandara stated that in general, most comprehensive intervention programs have the following components:

1. Counseling awareness: college advising, career advising, personal counseling, financial aid advising;
2. Academic enrichment and support: summer programs, tutoring, assessment, test preparation, college level courses;
3. Parent involvement: provide orientation programs, volunteering, awareness programs;
4. Personal and social enrichment: leadership seminars, field trips, speakers, involvement of peers, cultural activities;
5. Mentoring: including peers, college students, staff/faculty, volunteers;
6. Scholarships: teaching students to apply for aid from other sources.

Financial incentives are offered by the federal government to states and not-for-profit-organizations to encourage the development of comprehensive intervention program. As a result of these incentives, the number of comprehensive intervention programs in recent years has increased at a significant rate (Cunningham, Redmond, & Merisotis, 2003). This increase can be attributed to the GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) program initiated by Congress in 1998 as part of the reauthorization of the Higher Education Act of 1965 to help disadvantaged students increase postsecondary access and completion (LeBlanc, Standing, & Ratnofsky, 2003). In 1990, there were eight comprehensive intervention programs and today there are more than 242 programs in 42 states (LeBlanc et al., 2003). The federal government and private nonprofit grants have played an important role in the

development of programs designed to help students gain the necessary knowledge to enter a postsecondary program.

For the purpose of this research study, Upward Bound, Project GRAD, and Talent Development High School are examined. These three programs were chosen because each of these programs is designed to implement all of the major components of a comprehensive intervention program. In addition, all three programs are specific examples of comprehensive intervention programs designed to help students gain access to college.

Upward Bound

Background

Upward Bound was part of the first group of federally funded programs called TRIO, designed to assist students in gaining the necessary skills to enroll in college (Perna & Swail, 2001). The term TRIO is not an acronym, but refers to the three programs (Talent Search, Upward Bound, and Student Support Service) authorized by Congress in 1964 as part of the Educational Opportunity Act, with the goal to increase the number of first-generation low socioeconomic students attending college (Grimard & Maddaus, 2004). The main objective of this program remains to assist low-income students enrolled in high school with the development of the necessary skills and motivation to become eligible for a postsecondary program (Gullatt & Jan, 2002). The purpose of the Upward Bound program is to improve the academic performance of the students involved with the program so they can successfully complete a postsecondary program (Cahalan & Curtin, 2004).

Students enrolled in Upward Bound are provided additional instruction in the areas of English, composition, mathematics, science, and international language; this instruction occurs before or after school and sometimes on weekends (Gandara, 2001; Gullatt & Jan, 2002). In addition to the academic enrichment, Upward Bound students are given many opportunities in other skill development areas needed for a postsecondary program. Upward Bound students are taught strategies to improve study habits, provided academic and personal counseling, exposed to cultural activities, provided information relating to financial aid for college, given tutorial services, and given advice relating to different careers (Gandara, 2001). Students involved in this program are prepared with pre-college academic sessions hosted by local colleges, which include both residential and non-residential opportunities for 6 weeks during the summer (Gandara, 2001).

Results

The first comprehensive evaluation of the Upward Bound program occurred in 1976 and was done by Burkheimer, Levinsohn, Koo, and French, with a follow up study was conducted by Burkheimer, Riccobono, and Wisenbaker in 1979 (as cited in Fashola & Slavin, 1998). Both of these evaluations compared Upward Bound students to students with similar characteristics and focused on the effects the program had on rate of students who enrolled in a postsecondary program. The results from both studies showed students involved with the Upward Bound program were more likely to enroll in a postsecondary program, and the longer students were involved with the Upward Bound Program, the more likely they were to enroll in college (Gandara, 2001).

The most recent evaluation conducted of Upward Bound occurred in 1999 and was by Myers and Schirm. This evaluation was a much more in-depth evaluation than the

early evaluations conducted by Burkheimer and colleagues. The Myers and Schirm evaluation was conducted in 67 Upward Bound programs across the country and it examined students' length of tenure in the program (Gandara, 2001). As in previous evaluations, Myers and Schirm found the longer students were a part of the program, the greater the benefit was for the students (Cahalan & Curtin, 2004). The Myers and Schirm evaluation also examined at race and gender. The findings were that Whites, Hispanics, males, and lower-performing students with lower motivation were more likely to benefit from the program than African-Americans, females, higher performing students, and those with more motivation to succeed academically (Fashola & Slavin, 1997).

Project GRAD

Background

Project Graduation Really Achieve Dreams (GRAD) began in Houston, TX, in 1989 at Jefferson Davis High School, a low socioeconomic and academically performing school, and was founded by James Ketelsen, Chairman and CEO of Tenneco (Snipes, Holton, Doolittle, & Szejnberg, 2006). Originally Project GRAD began as a scholarship program for students at Jefferson Davis High who met the following criteria: had a 2.5 cumulative grade point average or better, graduated in 4 years, completed the recommended college preparatory curriculum, and attended two college summer institutes (*Project GRAD*, 2007). The scholarship initiative saw improvements in the number of students going to college, but saw little or no effect on the dropout rate and the overall academic performance of the students at Jefferson Davis High School.

It became clear if the Project GRAD program were to have an impact on all areas of academic achievement, the program would need to implement a comprehensive set of

interventions. In 1993, Project GRAD changed from a scholarship-only program to a K-12 comprehensive intervention program focusing on improving academic achievement in the areas of math, reading, instructional environment, and the involvement of parents in their child's educational development (Gandara, 2001; U.S. Government Accountability Office, 2005). The K-12 approach encompasses the entire feeder pattern for the high school, involving all elementary and middle schools in the feeder pattern. The first feeder pattern was established in the Houston Public School system in the elementary and middle school that fed Jefferson Davis High School. Project GRAD soon spread to the other feeder patterns in the Houston Public School System and to other school districts across this country. Project GRAD currently serves more than 142,000 at-risk students (Holland, 2005; Snipes et al., 2006).

Results

According to the National Postsecondary Education Cooperative (NPEC) report 2001, students who were involved with Project GRAD outperformed their peers from comparative schools in reading and mathematics achievement at all levels within the feeder system (Gandara, 2001). This same type of student achievement success was noted in the Success for Ohio report (2004), which indicated students in Project GRAD schools achieved at higher rates on standardized tests than other students from similar backgrounds (*Success for Ohio*, 2004). However, a later study conducted by the National High School Center (2006) reported seeing a slight improvement in credits earned by students to stay at or above grade level requirements, but there was not a significant impact on graduation rates and overall student achievement (Herlihy & Quint, 2006).

The NPEC report also noted the longer students were involved with Project GRAD, the more likely the students were to perform at or above grade level expectations (Gandara, 2001). The findings from the NPEC report were further supported in the Manpower Demonstration Research Corporation (MDRC) study conducted in 2006. The MDRC study found students at Jefferson High School who had longer participation in Project GRAD were more likely to complete core grade level expectation on time (Snipes et al., 2006).

In both the NPEC and MDRC reports, student and teacher mobility was cited as a major obstacle in influencing the success of Project GRAD. The NEPEC reported the mobility problem was so severe in some cases that it was difficult to have an adequate sample size of students to conduct the necessary research (Gandara, 2001). The feeder patterns examined in the MDRC report indicated mobility and school choice as the main causes in limiting students' exposure to the Project GRAD strategies for improvement, and thus decreasing the chances for success (Snipes et al., 2006). The MDRC study recommended that Project GRAD continue to seek ways to improve and develop strategies to help students increase their length of involvement in the program, because all research conducted relating to Project GRAD indicates that longevity in the program is the key to success (Snipes et al., 2006).

Talent Development High School Program

Background

The Talent Development High School (TDHS) with Career Academies was originally initiated in 1994 through a partnership of the Johns Hopkins University Center for Research on the Education of Students Placed At Risk (CRESPAR) and Patterson

High School in Baltimore. The TSHS program has expanded to high schools in 15 states across the country and the District of Columbia (Center for Social Organization of Schools, n.d.). In 2004, the funding for CRESPAR ended and the work was continued at the Center for Social Organization of Schools. The TDHS program is a comprehensive intervention model for high schools that have major problems with student attendance, discipline, achievement scores, and dropout rates (Kemple, Herlihy, & Smith, 2005). The vision of TDHS program is a widespread transformation of the nation's high schools into respectful, caring, and motivating learning communities that challenge all students and adults to develop their unique gifts and talents and realize their highest academic and human potential (Center for Social Organization of Schools, n.d.). The specific goals of TDHS are to create improvements in the areas of organization and management, structure of the building, school climate, and curricular and instructional methodology, and to increase the number of students taking advanced courses in English and mathematics, expand parent and community involvement, and encourage college awareness and preparation (Kemple et al., 2005).

In order to ensure success and accomplish goals, the TDHS program implemented the following components: High Expectations, Ninth Grade Academy, Extended Class Periods, TD Specific Courses, Extra Help, Career Academy for Upper Grades, Professional Development, Teaming, Family and Community Development, Alternative Program. A description of each component can be found in Appendix A.

Results

Early findings indicated the TDHS program had positive results in the areas of school climate and student achievement. The Philadelphia Education Report (2001)

indicated there was evidence of impact in the first year of implementation of the TDHS program at Strawberry Madison and Edison High Schools during the 1999-2000 school year (Useem, Neild, & Morrison, 2001). The Philadelphia Education Report stated the percentage of students passing all their core subjects increased from 24% to 56% at both high schools. The same report indicated an increase in tenth grade promotion by 47% at Madison High School and 65% at Edison High School (as cited in Useem et al., 2001). According to the Philadelphia Education Report, both high schools saw a 3.5 normal curve equivalent gain in standardized math scores, but saw a slight decline in standardized reading scores (Useem et al., 2001). Student and teachers were surveyed in the Philadelphia Education Report and both students and teachers expressed great satisfaction in the overall improvements in the school climate.

In 2005, the Manpower Demonstration Research Corporation (MDRC) conducted an evaluation that supported the findings in the (2001) Philadelphia Education Report. The MDRC report noted several key findings. TDHS produced substantial gains in attendance, academic course credits earned, and promotion rates during students' first year of high school. The impacts emerged in the first year of implementation and they were reproduced both as the model was extended to other schools in the district and as subsequent cohorts of students entered the ninth grade (Kemple et al., 2005).

The strong positive impacts of TDHS during the first year of high school were consistent with the model's intensive initial focus on the ninth grade and its emphasis on combining high-quality curricular and instructional enhancements with pervasive structural reforms aimed at building supportive and personalized learning environments. "The improvements in credits earned and promotion rates for ninth-graders were

sustained as students moved through high school. “Improvements in student performance on the eleventh-grade state standards assessment began to emerge for later cohorts of students as the most intensive components of the model were extended beyond the ninth grade”. There were also early indications that TDHS improved graduation rates” (Kemple et al., 2005 p.4).

In 2004, John Hopkins University conducted a study and evaluation of the TDHS program. The purpose of the study was to examine ninth grade mathematics and reading achievement results in three TDHS schools, compared to three non-TDHS schools. In the study, all interventions of the TDHS program were implemented in the TDHS schools; however, there was an emphasis on teaching reading comprehension strategies and math problem-solving skills to ninth grade students (Balfanz, Legters, & Jordan, 2004). The findings from the study showed students in all cases but one experienced greater gains in levels of performance in reading and mathematics achievement at the TDHS schools. These results may be extremely important to other schools with similar demographics, because the results show that focus on teaching reading strategies and math skills provides students with a greater chance to improve their skills in both academic areas.

Advancement Via Individual Determination

Background

The Advancement Via Individual Determination (AVID) program began in 1980 in response to the school integration policy in Southern California. Clairmont High School, located in San Diego, experienced a shift in demographics of student population from white middle-class to a more diverse student population. This was a major concern for many of the teachers; Clairmont High School lost a large number of academically

high-performing students and replaced them with inner city students who had been on a remedial track in middle school. Many of the teachers on staff believed remedial classes would need to be implemented at Clairmont High School to assist the new students (Freedman, 2000).

However, Mary Swanson, founder of the AVID concept was not one of those teachers; she believed with proper support, all students could achieve at high levels in a rigorous academic environment (Freedman, 2000). Her belief was so strong that she asked that some of the new students from the inner city be placed in her college-level English classes. The school administration granted the request. Swanson and a colleague worked with these students during the school day for one class period to provide the needed support to take college-level classes. The support included peer and college tutors, teaching study skills needed to take college-level classes, and class fieldtrips that included visits to local colleges. With this agreement, the AVID program was created to assist students in the academic middle.

The AVID program is not an at-risk program; it is a comprehensive intervention program focused on providing support to enable B-C students in the academic middle to take advanced placement and other rigorous classes in high school. The hope is for these students to be able to access college and be successful once enrolled. Swanson, the founder of the AVID program, labeled these students as the “forgotten middle” (Delisio, 2006). By 2008, the AVID program was in more than 3,500 schools and enriched on college preparedness for more than 167,049 students (AVID Press, 2006a). AVID provides schools desiring to implement the program with key essentials to help ensure program success. The AVID program components are outlined in 11 key essentials (see

Appendix B). According to Watt, Huerta, and Lozano (2007), the implementation of all eleven AVID essentials creates a school environment where students take responsibility for their own learning, which in return prepares students for postsecondary programs.

Results

Guthrie and Guthrie conducted a 4-year longitudinal study of a cohort of students transitioning from middle to high school. The Guthrie and Guthrie study (2000) focused on analyzing course consumption patterns and academic performance of AVID students compared to non-AVID students. The academic performance for the study was measured by GPA and the number of credits earned toward college admissions. The key findings from this study were:

1. Students enrolled in AVID for 2 years in middle school had significantly higher GPAs than did students with only 1 year of AVID treatment or no AVID treatment at all.
2. AVID students earned more credits needed for college entrance than did non-AVID students.
3. Male students with 2 years of AVID had more high school credits earned by the eleventh grade than did male students with no exposure to AVID.
4. The number of advanced placement courses taken by students who had 2 years of AVID in middle school was more than double, compared to students with 1 year of middle school AVID treatment or no AVID treatment at all. (Guthrie & Guthrie, 2000)

In the fall of 1999, spring of 2000, and summer of 2001, data on grade point average, attendance, course enrollment, and test scores was collected by Watt, Yanez, and Cossio from approximately 1000 Texas high school students from 26 different school districts. Their study was conducted around four research questions: (a) Has AVID been a vehicle through which each district of study has expanded access to rigorous coursework?

(b) Has there been school-wide impact as evidenced by changes in school culture and school policy? (c) Has the implementation of AVID made a difference in the achievement levels of the AVID students of study; and (d) Are the AVID students on track for college preparation and enrollment (Watt, Yanez, & Cossio, 2003)?

Watt et al. found AVID schools had removed the barriers for underrepresented students to be able to access the most rigorous classes, and they found most underrepresented students had met the required performance standards within these rigorous classes. In response to the second research question addressing school-wide impact, the study found advanced placement teachers had positive comments regarding AVID students, AVID thrived where administrative support was present, and there was evidence of implementation of AVID strategies in all classrooms. This study also found AVID students out performed their peers on state tests, had higher grade point averages, and showed better attendance when compared to the general population of the school. Watt and her colleagues found 92% of the AVID students were at least on the Recommended Graduation Plan and 91% were on the Distinguished Achievement Plan to go to college.

Building Engineering and Science Talent (BEST) is an organization dedicated to building a stronger, more diverse United States workforce in science, engineering, and technology by increasing the participation of underrepresented groups. The BEST organization assembled a panel of education experts to examine a variety of comprehensive intervention programs to identify programs having an impact on student achievement in the areas of math and science (BEST: Building Engineering & Science Talent, 2004). This panel of experts searched a variety of databases and discovered seven

comprehensive intervention programs that affected student achievement in math and science. The AVID program was one of the seven identified programs and was the only one implemented in multiple locations in different countries.

The BEST panel of educational experts reviewed several studies on AVID, and from the review, established two findings relating to the effects of AVID on student performance. The first finding the panel discovered was a higher college attendance rate among students who stayed in the AVID program compared to students who started the AVID program and then dropped out of the program. The second key finding was that students in the AVID program took more college preparatory courses, like advance placement and international baccalaureate, than did students who started the AVID program and then dropped the program for a variety of reasons (BEST, 2004).

High schools and school districts receive Comprehensive School Reform grants to implement intervention programs to assist school in closing the achievement gap. A 2006 study by Watt, Powell, Mendiola, and Cossio, examined 10 high schools in five districts implementing AVID over a 4-year period to determine the impact on closing the achievement gap. The variables defining the achievement gap were graduation or completion rate, advanced course enrollment, advanced placement results, and the number of students graduating on the advanced graduation plan or on track to enroll in. Data collected on the variables for this study were compared the 10 AVID schools to 10 non-AVID schools with similar demographic and resources (Watt, Powell, Mendiola, & Cossio, 2006).

The findings for the Watt et al. (2006) study were organized into four categories: school accountability rating, advanced course enrollment, graduates on recommended or

distinguished graduation plans, and high school graduation or completion rates. In the area of school accountability rating, the study found the AVID high schools having greater increases in their accountability rate as measured by the Texas Assessment of Academic Skills, when compared to non-AVID high schools. In addition, in the three remaining categories (advanced course enrollment, graduates on recommended or distinguished graduation plans, and high school graduation or completion rates), AVID high schools saw greater increases in all three categories when compared to the non-AVID high schools (Watt et al., 2006).

The majority of studies conducted on AVID have focused on examining the effects of the program on student achievement as measured by course consumption, acceptance to college, college readiness, and grade point average. Very little research has been conducted on the effects of the AVID program on student achievement as measured by students' performance on standardized achievement tests. However, Rorie (2007) conducted a study of what effect the AVID program has on student achievement by using the results from standardized test scores and grade point average. Specifically, Rorie examined the effect AVID had on reading, writing, mathematics, and weighted and non-weighted grade point average. The study was conducted in a Colorado middle class suburban school district where results from standardized tests and overall grade point average of AVID and non-AVID students were analyzed and compared to determine the effect on student achievement.

Rorie's study generated mixed results in determining whether AVID improves student achievement. In answering the question does AVID improve student achievement as measured by standardized test scores, Rorie found no significant improvement on

assessment scores in the areas of mathematics, reading, and writing. However, Rorie found students receiving the AVID treatment had significant higher grade point averages at the end of their high school career (Rorie, 2007).

AVID Methodologies

Schools desiring to close the achievement gap among students and improve overall student achievement must have a systemic approach to achieve both of these goals. Part of the systemic approach should be the use of research proven teaching methodologies designed to increase student achievement. What separates AVID from other comprehensive intervention programs is that in the AVID elective class, the teachers utilize four research-proven teaching methodologies as the curriculum to guide instruction. The four teaching models are teaching writing as a tool for learning, the inquiry method, collaborative learning groups, and reading as a tool of learning (AVID Press, 2006b). The purpose of this section of the document is to provide a review of the research supporting the use of the identified teaching methodologies as a way to improve student achievement.

Teaching Writing for Learning

Students who are able to write in a clear and precise manner are students who are able to think and reflect on content. Writing is an avenue for students to be able to express their thoughts in many different forms; writing helps to create meaning out of ideas and experiences (Hawkins, 2006). Research has shown that writing information down helps students improve thinking skills and improve overall learning of specific subject content (Lent, 2006). The AVID program incorporates three specific writing strategies that focus

on teaching writing to learn: note taking, learning logs, and the writing process (AVID Center, 2007).

Teachers for years have required students to take notes over information presented in class as a method to learn and study course content. Educators have widely accepted the concept that note-taking increases student achievement. Newfields (2000) cited a 1985 study conducted by Einstein, Morris, and Smith where the results showed a clear correlation between academic performance and note-taking skills. Taking notes allows students to create a record of testable material, encourages concentration during class, and helps prevent students from forgetting material presented in class (Mullen & Boldway, 2005). Teachers typically have not required students to use a specific method when taking notes in class or given any guidance on how to organize the content from the notes so students can study them. AVID teaches students a note-taking system in which the students are required to organize their notes in a specific way to allow for reflection and thinking. The note-taking system used by the students in the AVID program is called the Cornell Notes System.

Using the Cornell Notes System, students organize their notepaper by creating a two-column table, where the left column takes up one third of the notepaper, leaving two thirds of the notepaper to record and summarize information. The left hand column is used by the students to write questions about content from a class lecture or discussion. In the Cornell Notes System, content is only recorded on one side of a piece of notebook paper. The five steps used by students in the Cornell Notes System are record information, refine the lecture notes, recite notes, reflect on the notes, and review notes (Mullen & Boldway, 2005). This system of note taking has experienced success as a

strategy to improve student achievement. Jacobsen (1989) found students trained in the Cornell Note-Taking System scored higher on achievement tests than students who had not been trained on how to use the Cornell system. In addition to quantitative support, there also has been qualitative research to support the use of Cornell Notes. In 2004, Williams conducted a study to determine the perceptions of students' attitude toward using the Cornell Notes as a strategy to improve student achievement. Williams found students who had been trained in the Cornell Notes system believed all students should be taught how to use the system.

The AVID program incorporates the use of learning logs as a method to teach writing for learning. When students keep a journal or log, they have created a written record of what they have experienced or learned. Learning logs are journals where students reflect and summarize content covered in core academic classes. For example, students may write an explanation to another student on how to do a math problem. In the explanation, the students not only include the *how* part but also the *why* part when solving the problem (AVID Center, 2007). Burns stated, "Writing in math class supports learning, because it requires students to organize, clarify, and reflect on their ideas—all useful processes for making sense of mathematics" (Burns, 2004, p. 31). In addition to writing in the content areas, students are also asked to conduct focused writing where they write non-stop for 5 minutes about a certain topic in their learning logs. The purpose of the focused writing activity is to have students find out what they know about a certain topic, explore new ideas, and assess what they still need to learn about the topic (AVID Center, 2007). The strategy of summarizing content is to improve student achievement was supported in a study conducted by Friend (2001). The results from the Friend study

showed students who learned to summarize information did significantly better than students who had not been taught how to summarize on measures of identifying important concepts.

Teaching writing skills to students over the years has been an evolving process. Students in the 1960s and 1970s were not expected to do much writing outside of their English class, and the writing assignments students were asked to do were fragmented and unconnected to relative material. Research conducted by Braddock, Lloyd-Jones, and Schoer (1963) provided evidence that unconnected writing assignments hindered the development of writing skills necessary to become an effective writer (as cited in Unger & Fleischman, 2004). As a result of this research, educators discovered a need to examine how writing was being taught, with the hope of developing a systematic approach to teaching writing. From research, educators have reached consensus on the steps needed to teach writing in an effective manner. These steps form the writing process: planning and organizing ideas, translating ideas into text, and reviewing and revisiting the result (Flower & Hayes, 1981).

The AVID program teaches students a writing process that aligns with the steps identified from the research of Flower and Hayes. AVID students use the following writing process when performing a writing assignment:

1. Work with examples of, and discuss criteria for, the writing prompt,
2. Pre-write,
3. Write a draft,
4. Exchange drafts with peers for comments and revisions,
5. Write further drafts,

6. Complete s reader-writer workshop with one or more peers,
7. Write a final draft,
8. Have teacher evaluate final drafts,
9. After final drafts are discussed, revise for publication. (AVID Center, 2007)

Students in AVID are required to perform writing assignments from many different perspectives, using the above writing process. For example, students are asked to complete writing assignments from the perspective of a scientist, a philosopher, a psychologist, or a historian (AVID Center, 2007).

The writing process taught in the AVID class is clear and precise and is supported by research. The National Assessment of Educational Progress (NAEP) in 1992 and 1998 examined writing scores of students in grades 4, 8, and 12. In addition to reviewing writing results, the NAEP surveyed these same students about instructional methods used by their teachers to teach writing. The NAEP found students who had been taught the instructional practice of pre-writing and who used the pre-writing activity during the writing assessment had a higher average score than students who did not conduct a pre-writing activity or who had not been taught this instructional practice (Greenwald & Schoeps, 1999).

Teaching Inquiry for Learning

The use of the inquiry teaching strategy for assisting students in learning dates back to Plato and Socrates. Using the inquiry method with students helps teachers achieve a common goal of wanting to be able to create an atmosphere within the learning environment to enable students to think for themselves and to think at higher levels about

any topic. In order to achieve this goal, students must develop the skill of being able to ask higher-level questions about a topic. When this goal is accomplished, students take ownership of their own learning. The essence of the inquiry method was captured by Socrates when he said, “Let us examine this question together, my friend, and if you contradict anything I say, do so, and I shall be persuaded.” Socrates’ words are at the heart of how AVID uses the inquiry method for learning (AVID Center, 2007).

In the AVID class, students are placed into collaborative groups to review or discuss a specific topic; these topics for the collaborative group come from a text, learning logs, or class notes. These groups are guided by either a teacher or a tutor, and students should come to the group with questions already formulated around the topic for discussion. Research supports placing students in tutoring groups to encourage students to ask questions relating to topics. Graesser and Person (1994) conducted a study and found students were 240 times more likely to ask questions relating to a topic of study when placed in a group tutoring setting (Pedrosa de Jesus, Almeida, & Watt, 2007). The concept underlying the group approach in covering a topic is that together, the group will be able to draw conclusions around a topic that could not be accomplished if done individually. For the inquiry method to be successful, the teacher or tutor must ask questions skillfully to ensure students take ownership of their own learning. This statement is supported by the research of Gall (1970), Graesser and Person (1994), and Kloss (1988) when they suggested student achievement could improve if teachers helped students develop good questioning skills (as cited in Pedrosa de Jesus et al., 2007).

To create in-depth questions to entice thinking in an organized manner, there must be an understanding of thinking and of how to evaluate the thought process relating to

different topics (Paul & Elder, 2006). The use of Bloom's and Costa's questioning strategies can accomplish this task, and both strategies are used in the AVID class by the teacher or tutor to guide the collaborative group discussion. Both strategies are used with the students to help them formulate questions around a certain topic. Bloom's questioning strategy, also known as Bloom's Taxonomy, has six levels of questions: knowledge or recall, comprehension or interpretation, application or translation, analysis or classification, synthesis or generalization, and evaluation or judgment (Huitt, 2004). The Costa model for questioning has three levels: level one is defining, describing, identifying, listing, naming, observing, reciting, scanning; level two is analyzing, comparing, contrasting, grouping, inferring, sequencing, synthesizing; and level three is applying a principle, evaluating, hypothesizing, imagining, judging, predicting, speculating (Costa, 1985). Both of these questioning strategies are widely accepted by educators as ways to increase higher-level thinking and develop questioning skills.

When students develop a sense of responsibility for their own learning, the students gain a deeper understanding of content, and their achievement levels increase. The best strategy for teachers to use to ensure that students take responsibility for their own learning is to encourage students to ask questions relating to their learning. Pedrosa de Jesus, Almeida, and Watt (2004) in their meta-analysis of the research on questioning identified four reasons why effective questioning by students creates ownership in the learning process. Effective questioning can:

1. Create a culture of inquiry
2. Heighten conceptual understanding
3. Drive classroom interaction

4. Promote autonomous inquiry-based learning (Pedrosa de Jesus et al., 2004)

The meta-analysis also indicated an increase in student achievement and overall communication within the classroom when teachers encourage students to ask questions and focus on improvement of students' questioning skills.

Use of Collaboration for Learning

Collaboration is a key element in the AVID program. The use of collaboration or cooperative learning as an effective teaching strategy is widely accepted by educators. The use of this teaching strategy increases student achievement, helps develop positive relationships with peers, and improves students' attitudes toward learning (Johnson & Johnson, 1989). In their study, Johnson and Johnson examined over 100 studies dealing with the effects of cooperative learning. After analyzing these studies, Johnson and Johnson formulated that cooperative learning yields the following benefits:

1. Higher achievement and productivity,
2. More caring, supportive, and committed relationships,
3. Greater psychological health, social competence, and self esteem (Johnson & Johnson, 1989)

Further research supports the Johnson and Johnson findings. Gilbert (2008) examined student achievement in math and attitude toward learning math, comparing the students' results in the measured areas of (a) teachers using cooperative learning and (b) teachers using a more traditional approach. Gilbert noted an increase in students' math scores and an overall improvement in students' attitudes towards learning math when teachers used cooperative learning strategies. From the research findings, it is clear why cooperative

learning has become one of the most popular teaching strategies implemented by teachers in classrooms all over the world.

Students in the AVID class are exposed to collaborative or cooperative learning situation as a way to help students become well rounded in all aspects of their educational lives. The purpose of the small learning groups in AVID is to develop:

1. Positive interdependence
2. Individual accountability
3. Shared leadership
4. Shared responsibility to classmates
5. Social skills (AVID Center, 2007).

Collaborative learning groups allow students to be actively involved in the learning process, which most educators accept as one of the most effective ways to help students experience the process of learning. In these small collaborative learning groups, students ask, explore, and answer questions and develop listening, thinking, speaking, and writing skills. Students remember better and gain greater insight into learning topics when they are placed into small learning groups and instruction is individualized, because such placement allows students to be actively involved in their learning (Thornhill, 2006). Small group learning situations expose students to the *how* and the *what* in the learning process (AVID Center, 2007).

Educators cannot assume students will work collaboratively with one another by simply placing students into groups. For collaborative learning groups to be successful in terms of improving students' social skills and academic performance, teachers must do considerable planning and organizing of these small learning groups (Johnson & Johnson,

1989). Johnson, Johnson, and Holubec (1993) provided educators five elements to use as a framework when establishing learning groups. The five elements teachers should incorporate into learning groups are:

1. **Positive interdependence:** accomplished when members of the group are linked to one another and there is a perception the goal of the group cannot be achieved without each team member being successful.
2. **Promote interaction:** students work together to promote each other to be successful by sharing resources, encouraging, and cheering on members of the team to achieve.
3. **Individual and group accountability:** a system of accountability must be present for both the group and individuals to achieve learning goals.
4. **Teach required interpersonal and small group skills:** social skills must be taught with the same level of importance as academic skills.
5. **Group Processing:** when the entire group evaluates and processes how the group did at accomplishing goals and working effectively with each other (Johnson & Johnson, 1989).

When teachers use a systematic approach to incorporate these elements into small collaborative learning groups, they ensure that students develop the skills needed to experience long-term learning success.

The research on cooperative learning shows collaborative teaching methodology consistently has a positive impact on student achievement and attitude toward learning. Johnson et al. (2000) conducted a meta-analysis examining 164 studies from all over the world on eight different cooperative learning strategies. The purpose of the study was to compare cooperative learning methods to more traditional or individual teaching methods. The study revealed a significant increase in student achievement and attitude toward learning when teachers implemented cooperative learning strategies in the classroom, as compared to teachers who used more traditional teaching strategies

(Johnson et al., 2000). In 2005, Hyder conducted a study in which students who were high-performing were placed in groups with low-performing students. Hyder supported the findings from the meta-analysis when he stated, “Most students mentioned that they liked working in groups, and appreciated getting help from high achieving students, especially for learning difficult concepts” (Hyder, 2005). It is clear from the research and theory supporting cooperative learning why this teaching strategy is the most distinguished of all instructional methods (Johnson et al., 2000).

Teaching Reading for Learning

Reading effectively is the key component in the foundation of learning from textbooks and other written material in any content area (Spor, 2005). Developing school-wide literacy plans where reading in all content areas is emphasized is a widely accepted practice by educators as a way to improve student achievement. By the third grade, student textbooks begin to shift from narrative to expository writing and the sentence structure within the text becomes more difficult and complex (Biancarosa & Snow, 2006). When textbooks begin to transition from narrative to expository is when students begin having difficulty in comprehending assigned reading material.

In the AVID program, the purpose of teaching reading for learning is to help students develop their reading comprehension skills. By developing students’ reading comprehension skills, the students will be able to read and understand more difficult material. To help students develop their reading comprehension skills, the AVID program focuses on scaffolding reading instruction centered around three factors:

1. Connecting to prior knowledge.
2. Understanding text structure.

3. Using text-processing strategies (during and after reading).

Research supports the use of these strategies as a way for teachers in all content areas to improve students' reading comprehension.

When students are asked to read about a topic, they bring a certain amount of prior knowledge related to the subject. Students who have more in-depth knowledge or greater understanding about the topic they are asked to read will find comprehension easier than students who have little or no exposure to the assigned reading topic (AVID Center, 2007). It is imperative that the teacher use direct instruction to conduct learning activities with students who have little or no prior knowledge relating to a topic prior to their reading. Such activities will help students recall prior knowledge or help them develop a general understanding relating to the assigned reading topic.

Research supports many different direct instruction approaches to improving reading comprehension. Biancarosa and Snow (2006) identified reciprocal teaching as one example of direct instruction to help students improve reading comprehension, citing Palinscar and Herrenkohl (2002) as saying teachers using reciprocal teaching apply four strategies: questioning, clarifying, predicting, and summarizing. The four strategies are used with students in a group setting with a number of different texts, and gradually students learn to apply these strategies independently with all assigned reading material.

When students acquire the skills necessary to identify different types of text structure, student comprehension is increased and the result is a direct positive impact on student learning (Coutant & Perchemlides, 2005). Students must learn to identify text types and understand they cannot interact in the same manner with every text type. If students try to interact with every text type the same way, they jeopardize fully

understanding the material. For example, a student must navigate expository text differently from narrative text.

A narrative text includes such elements as a theme, plot, conflict, resolution, character, and setting. Expository texts, on the other hand, explain something by definition, sequence, categorization, comparison, contrast, enumeration, process, problem-solution, description, or cause-effect. (Coutant & Perchemlides, 2005, p.142)

To develop proficient readers, teachers must work with students to help them analyze and understand how to approach different text. Effective readers analyze text to discover the author's purpose and point of view, as well as to accept or resist the author's inferred message (Ash, 2005). Ash indicated students are capable of accomplishing this as they interact with text, with the support of a knowledgeable, skilled teacher.

Students who incorporate strategies to help them navigate reading material comprehend the material better and have greater satisfaction while interacting with the text. The RAND Reading Study group identified several key strategies to improve reading comprehension in a report prepared for the U.S. Department of Education, Office of Educational Research and Improvement. The report identified that metacognitive strategies can improve reading comprehension, and readers with good comprehension understand and evaluate what they read. Some of the specific metacognitive strategies identified by the report to improve reading comprehension of all students include using good questioning techniques, summarizing reading material, comprehensive monitoring of reading content, and using graphic organizers. The report indicated teachers improve reading comprehension when strategies are incorporated in specific content areas where reading material is examined in great detail, and acknowledged that when educators give students choices in deciding what to read, assign challenging tasks while reading, and

place students in collaboration situations to discuss reading material, students' motivation to read and comprehend the text increases (Snow, 2002). When students gain the understanding of how reading strategies can help them process reading material, the strategies become meaningful and students incorporate these strategies when interacting with different kinds of text.

Summary

This chapter provided a review of literature of comprehensive intervention programs. The literature review explained why comprehensive intervention programs are needed and provided research relating to the comprehensive intervention programs of Upward Bound, Project GRAD, and Talent Development High School Program on student achievement. In addition, an overview of the research on the AVID program's impact on student achievement was provided, as well as investigation of the research to support the AVID curriculum methodologies focusing on writing, inquiry, reading, and collaboration. The research supports these interventions as a way to improve student achievement.

The findings from the review of literature indicate comprehensive intervention programs are successful in assisting students in completing high school and going on to post-secondary institutions. However, there is very little research supporting comprehensive intervention programs as way to increase student achievement when student achievement is measured by standardized test scores. This review of literature provides the foundation to support the need to conduct further research on the impact comprehensive intervention programs have on student achievement when measured by standardized test scores.

CHAPTER THREE

RESEARCH METHODOLOGY

The study was designed to evaluate the effects of the Advancement Via Individual Determination (AVID) program on ninth grade reading, writing, and math achievement. The AVID program was implemented as an elective class at all four Blue Valley High Schools during the 2007-2008 school year. The purpose of the AVID program is to provide assistance for students in the academic middle. The Blue Valley School District has eight middle schools: in the spring of 2007, each of the middle schools identified students in the academic middle for possible enrollment in the AVID class. The researcher compared achievement results in the domain areas of reading, writing and math of ninth grade students enrolled in the AVID class with identified ninth grade students who elected not enrolled in the AVID class. Chapter three explains the research methodology for this study and provides a description for study design, research hypothesis, instrumentation, population, dependent and independent variables, treatment of data, data collection procedures, and data analysis.

Design of the Study

This quantitative research study was designed to determine the effect of the AVID program on ninth grade writing, reading, and mathematics student achievement at Blue Valley High School, Blue Valley North High School, Blue Valley Northwest High School, and Blue Valley West High School. The quantitative method was selected because it is “the dominant methodology for studying these features {and} to collect numerical data on observable behavior of samples and subject them to statistical analysis” (Gall, Gall, & Borg, 2005, p. 555). The population of the study was 2007-2008

ninth grade students from the four district high schools who were identified as eligible for enrollment in the AVID program. The students were divided into two groups: those enrolled in the AVID program and those identified as eligible for enrollment, but who chose not to enroll in the AVID program. The two groups were labeled as AVID and non-AVID students. Achievement results from the two groups of students were compared and conclusions were made based upon results from the Measure of Academic Performance assessment and the Blue Valley writing assessment.

Research Hypotheses

The review of literature of the Advancement Via Individual Determination program did not indicate whether the program had a positive effect on reading, writing, and math achievement when measured by standardized tests. As a result, the following research hypotheses were tested.

1. The AVID Program has no effect on reading achievement as determined by the Measure of Academic Progress for ninth grade students at .05 level of significance.
2. The AVID Program has no effect on math achievement as determined by the Measure of Academic Progress for ninth grade students at .05 level of significance.
3. The AVID Program has no effect on writing achievement as determined by the Blue Valley District writing assessment for ninth grade students at .05 level of significance.

Instrumentation

This study used two instruments to collect data. The instrument used to collect reading and math data was the Measure of Academic Progress (MAP) assessment, and

the instrument used to collect writing data was the Blue Valley District Writing Assessment.

Measure of Academic Progress (MAP)

In the Blue Valley School District, students in grades 3-10 are administered the MAP test to measure performance in the academic domain areas of reading and math. Students take the MAP test twice a year, in the early fall and in the late spring. MAP tests were developed by the Northwest Evaluation Association (NWEA), a not-for-profit organization committed to assisting school districts from around the country assess student achievement in the areas of reading and math (Northwest Evaluation Association, 2004).

MAP tests are computerized tests, designed to adapt to the individual learning levels of each student taking the test. NWEA consistently evaluates the MAP test to ensure the reliability and validity of the instrument. Reliability estimates for the ninth grade MAP for the academic domain of reading is $r = .94$, and the reliability for the academic domain of math is $r = .95$. Validity evidence for the ninth grade MAP in the academic domain of reading is $r = .87$ and the validity for the ninth grade MAP for the domain of math is $r = .84$ (Northwest Evaluation Association, 2004).

MAP assessment scores are reported on a *Rasch UnIT* (RIT) scale (Northwest Evaluation Association, 2008), which was developed to simplify the interpretation of test results and to measure student achievement. RIT is an equal-interval scale, like a yardstick in inches, which allows the RIT score to provide achievement growth regardless of the numerical values. The scores range between 150 and 300 on the RIT scale. The design of the equal-interval RIT scale provides the opportunity to make comparisons and draw conclusions about the academic achievement of tested students.

Blue Valley Writing Assessment

Students in the Blue Valley School District complete a district writing assessment in grades 3, 5, 6, 8, 9, and 11. The Blue Valley District writing assessment has been designed to mirror the state assessment in its delivery, expectations, and assessment procedures to provide annual data for teachers and district officials concerning writing instruction and performance. Writing assessment materials are distributed to buildings from the district, and all assessments are administered by classroom teachers.

Students participating in a Blue Valley District or Kansas State writing assessment are expected to engage in writing for a minimum of four 45-minute class periods. Assessment typically occurs in a grade-level classroom or communication arts class. Students must pre-write and plan, draft, conference with peers, revise, and produce a final copy that is assessed according to the state-approved six-trait analytical rubric. Students are given a series of prompts from which to choose. Teachers follow detailed administration directions that encourage them to provide activities that mirror their standard writing procedures. Students are provided a minimum of four 45-minute periods to engage in the various stages of the writing process, and teachers are encouraged to spread those sessions over several days.

The Blue Valley School District provides a day in March for assessment scoring. The district outlines a procedure for assessing the writing. In some years, teachers assess in their own buildings; in other years, teachers are brought together to assess papers from across the district. Regardless of location, the procedures of scoring remain consistent.

All raters are organized at tables and are trained and calibrated by an experienced scorer. Using materials provided by the state of Kansas, every rater reviews the biases

involved in scoring, revisits the six traits of the applicable rubric, and discusses the nature of the 5-point scale. Each trait (ideas and content, organization, voice, sentence fluency, word choice, and conventions) is assigned a score on the 5-point rubric that includes detailed descriptions for scores of “1,” “3,” and “5.” Raters are asked to think of a “3” as a balance of both strengths and weaknesses in that particular trait, and raters are cautioned to see each trait independently according to the rubric. Following the review of the materials, calibration occurs. A series of papers is scored in a large group, then in pairs, and finally, independently. A table leader, an experienced rater, is available for conferencing throughout the rating session.

Every paper is scored by two independent raters. Each rater assigns a score from 1 to 5 (using .5 if necessary) for every trait. The second rater does not see the ratings from the first rater when scoring. The table leader then compares the two sets of scores. If any *trait* receives two scores with more than a 1.0 discrepancy, the paper is rated *for that trait* by a third rater. For example, if a paper receives a 4.0 from the first rater in the trait of organization and receives a 2.5 from the second rater in organization, the paper goes to a third rater who scores it only for organization. A paper will be scored by a third rater for as many traits as necessary. The final scores for a paper are calculated for the district assessment according to the following formula:

1. If two raters are within 1.0, the two ratings are averaged.
2. If a third rater is necessary, the two scores with the lowest absolute value difference are averaged; that is, the two scores that are closest to each other in value are averaged.

According to the above formulas, each paper is assigned a final score for each of the six traits. Each of the six traits is assigned a weighted value. For a composite score, the following formula is used:

$$\begin{aligned}
 &\text{Ideas and Content} = \text{Score} \times 3 \\
 &\text{Organization} = \text{Score} \times 3 \\
 &\text{Voice Score} = \text{Score} \times 2 \\
 &\text{Word Choice Score} = \text{Score} \times 2 \\
 &\text{Sentence Fluency Score} = \text{Score} \times 1 \\
 &\text{Conventions Score} = \text{Score} \times 1 \\
 &\text{Sum} / 12 \text{ (weighted formula)}
 \end{aligned}$$

At the state level (not applicable for district assessment), a composite score above 4.40 places a writer in the “exemplary” category; a composite score between 3.75 and 4.39 places a writer in the “exceeds standard” category; a composite score between 3.0 and 3.74 places a writer in the “meets standard” category; a composite score between 2.3 and 2.99 places a writer in the “approaches standard” category; and a composite score below 2.3 places a writer in the “academic warning” category.

Teacher Training

Eight teachers, two from each of the four Blue Valley High Schools, received a 5-day AVID training in July 2007. The training provided the teachers with an overview of the AVID essentials and strategies to implement the curriculum. After the initial training, the Blue Valley School District provided the eight AVID teachers with one day of pay during the summer to work on organizing the implementation of the AVID curriculum for the 2007-2008 school year. The district also provided a day during second semester for the eight teachers to continue their collaborative work on implementing the AVID program. Each of the four high schools created an AVID site team consisting of the trained AVID teachers, the AVID administrator, and one academic teacher from each of

the core areas (communication arts, math, science, social studies). Throughout the 2007-2008 school year, the AVID site teams at each of the four high schools conducted quarterly meetings to ensure consistent implementation of the AVID program in all four high schools.

Description of Population

The population for this study was selected from the Blue Valley School District located in Johnson County, Kansas. For this study, the researcher involved a sample of the population consisting of 2007-2008 ninth grade students from Blue Valley High School, Blue Valley North High School, Blue Valley Northwest High School, and Blue Valley West High School. The district has eight middle schools and each high school has two feeder middle schools. During the spring of 2007, middle school counselors identified students who were in the academic middle and who possessed academic potential. Counselors used seventh grade Kansas Assessment Results and teacher recommendations to identify students with academic potential. The identified students were encouraged by each of the high schools to enroll in the AVID elective class during their ninth grade year. The identified population of students entering the ninth grade who were performing in the academic middle but possessed academic potential numbered 209. Not all identified students enrolled in the AVID elective class. The population size of the AVID students was 112 and the population of the non-AVID students was 97.

Dependent and Independent Variables

The independent variable used in this study was the AVID program, which is the curriculum for the elective class for identified academic middle students with academic potential to enroll. The dependent variables for this study were the performance levels in

reading and math on the Measure of Academic Performance (MAP) assessment and the performance levels on the Blue Valley District Writing Assessment.

Data Collection Procedures

Baker University Institutional Review Board and the Blue Valley School District granted permission to the researcher to conduct this study. The data needed for this comparison was obtained from the Blue Valley School District student information system. The student information system used by the Blue Valley School District is called the Electronic Student Information System (ESIS), and it is a comprehensive system capable of maintaining attendance records, contact information, discipline records, grades, and standardized tests. The school district began using the ESIS system during the spring of 1998. Spring 2007 and spring 2008 writing data was collected for all identified AVID students for study, as well as fall 2007 and spring 2008 MAP reading and math data. All data for this study was collected by a third-party researcher employed by the Blue Valley School District in order guarantee privacy of the studied population. This information was provided to the researcher in the form of a Microsoft Excel spreadsheet.

Treatment of Data

A t test for independent means was conducted to determine the impact of the AVID program on ninth grade student achievement in the academic domains of writing, reading, and mathematics. The purpose of the t test was to compare achievement results in the academic domains of writing, reading, and math of group 1 (treatment group) to group 2 (non-treatment) to determine if the AVID program affected ninth grade achievement at the $p < .05$ level of significance.

Data Analysis

SPSS software was utilized to conduct descriptive statistical analysis to calculate the mean and standard deviation on each variable of the study. A *t* test for independent means was conducted to determine the effect of the AVID program on ninth grade student achievement in the academic domains of writing, reading, and math. Each of variables were analyzed to determine the level of significance as measured at the $p < .05$ level. The rationale for the use of a *t* test to analyze data for this study is the ability to compare two groups of students effectively. The data analyzed for this study was for a 1-year period, starting in the spring of 2007 and ending in the spring of 2008.

Summary

The purpose of this study was to examine the effects of the AVID program on ninth grade student achievement in the academic domains of writing, reading, and math. This study was conducted from the spring of 2007 to the spring of 2008 and involved ninth grade students in the Blue Valley School District who were identified as students meeting the AVID criteria for enrollment in the program. The study divided the students into two groups. Achievement results in writing, reading, and math of students enrolled in the AVID program were compared to those of students who were not enrolled in the AVID program, but who met the requirements for enrollment. SPSS software was used in this study to conduct descriptive statistical analysis. A *t* test for independent means was conducted to determine the effect the AVID program on ninth grade student achievement in the academic domains of writing, reading, and math. Chapter four compares and describes the results of the study after the research hypotheses were tested.

CHAPTER FOUR

FINDINGS OF THE STUDY

Introduction

The purpose of this study was to determine if the AVID program implemented at all four high schools (Blue Valley High, Blue Valley North, Blue Valley Northwest, and Blue Valley West) in the Blue Valley School District during the 2007-2008 school year had an effect on ninth grade writing, reading, and mathematics achievement. This study compared ninth grade writing, reading, and mathematics achievement learning gains of students who participated in the AVID program to those students who were identified as potential AVID students, but did not participate in the AVID program. The identified sample of students that entered the ninth grade and performed in the academic middle, but possessed academic potential numbered 209. There were 103 males and 106 females. Not all identified students enrolled in the AVID elective class. The population size of the AVID students was 112 and the population of the non-AVID students was 97.

Data

Results from this study are reported in this chapter in three sections addressing the research questions for this study. The research questions for this study were:

1. What impact does the AVID program have on ninth grade reading achievement as determined by the Measure of Academic Progress assessment for ninth grade students?
2. What impact does the AVID program have on ninth grade math achievement as determined by the Measure of Academic Progress assessment for ninth grade students?

3. What impact does the AVID program have on ninth grade writing achievement as determined by the Blue Valley School District writing assessment?

Data collected for this study were gathered from the students' eighth (spring 2007) and ninth grade (spring 2008) Blue Valley Writing assessment, and from their ninth grade Measure of Academic Progress (MAP) assessment results in reading and math. Students were assessed using the MAP in both reading and mathematics in September 2007 and in April 2008. The 2007 writing assessment scores and September 2007 MAP scores in reading and mathematics were the pre-test data for this study. The 2008 writing assessment scores and the April 2008 MAP reading and mathematics scores were the post-test data for the study. Some students were eliminated because they did not have two scores in each section.

A *t*-test for independent means was conducted for each section to determine if a significant difference existed between the groups of students. In order to determine if there was a significant difference between both groups of students, the *t* value was compared to the critical value. If the *t* value was greater than the critical value then null-hypothesis was rejected, and if the *t* value was less than the critical value then the null-hypothesis was accepted. The critical value for each section was 1.96 (infinity) for this study because of the large sample size for each section (Salkind, 2004). To establish the critical value the researcher determined the Degrees of freedom for each section and data was analyzed as a non-directional, two-tailed test at the 0.05 Levels of significance (Salkind, 2004).

Reading Results

H_0 : The AVID Program had no effect on reading achievement as determined by the Measure of Academic Progress for ninth grade students at 0.05 level of significance.

Identified students enrolled in the AVID program (Group 1) were compared to identified students not enrolled in the AVID program (Group 2). A *t*-test for independent means was used to make the comparison between the two groups of students. The reading scores from 2007 (pre-test) and reading scores from 2008 (post-test) were used to determine the mean growth between the two groups of students. Table 6 summarizes the statistical data for both groups of students.

Table 6 *Reading Results*

	N	Mean Score 07	Mean Score 08	Mean Growth	Standard Deviation Growth
Group 1	110	230.77	232.80	2.027	7.364
Group 2	80	231.95	233.68	1.725	6.959

Students enrolled in the AVID program ($n = 110$) had a mean growth of 2.027 and a standard deviation growth of 7.364. Students not enrolled in the AVID program ($n = 80$) had a mean growth of 1.725 and a standard deviation growth of 6.959. The degree of freedom ($df = 188$) at the 0.05 level of significance established a critical value of 1.96. The obtained test statistic value for the reading results was $t = -.286$. This number was less than critical value (1.96). This resulted in failure to reject the null hypothesis. The test of the reading results for the study determined the enrollment of

students in the AVID program show no significant difference in reading achievement between the two groups of students.

Math Results

H_0 : The AVID Program had no effect on math achievement as determined by the Measure of Academic Progress for ninth grade students at 0.05 level of significance.

Identified students enrolled in the AVID program (Group 1) were compared to identified students not enrolled in the AVID program (Group 2). A *t*-test for independent means was used to make the comparison between the two groups of students. The math scores from 2007 (pre-test) and math scores from 2008 (post-test) were used to determine the mean growth between the two groups of students. Table 7 summarizes the statistical data for both groups of students.

Table 7 *Math Results*

	N	Mean Score 07	Mean Score 08	Mean Growth	Standard Deviation Growth
Group 1	112	243.57	245.78	2.21	6.914
Group 2	82	243.61	246.66	3.05	6.938

Students enrolled in the AVID program ($n = 112$) had a mean growth of 2.250 and a standard deviation growth of 6.914. Students not enrolled in the AVID program ($n = 82$) had a mean growth of 3.048 and a standard deviation growth of 6.938. The degree of freedom ($df = 192$) at the 0.05 level of significance established a critical value of 1.96. The obtained test statistic value for the math results was $t = .794$. This number was less than critical value (1.96). This resulted in failure to reject the null hypothesis.

The test of the mathematics results for the study determined the enrollment of students in the AVID program show no significant difference in mathematics achievement between the two groups of students.

Writing Results

H_0 : The AVID Program had no effect on writing achievement as determined by the Blue Valley District Writing Assessment for ninth grade students at 0.05 level of significance.

Identified students enrolled in the AVID program (Group 1) were compared to identified students not enrolled in the AVID program (Group 2). A *t*-test for independent means was used to make the comparison between the two groups of students. The writing scores from 2007 (pre-test) and writing scores from 2008 (post-test) were used to determine the mean growth between the two groups of students. Table 8 summarizes the statistical data for both groups of students.

Table 8 *Writing Results*

	N	Mean Score 07	Mean Score 08	Mean Growth	Standard Deviation Growth
Group 1	102	3.880	3.839	-.0410	.6186
Group 2	59	3.727	3.784	.0570	.7747

Students enrolled in the AVID program ($n = 102$) had a mean growth of $-.0410$ and a standard deviation growth of $.6186$. Students not enrolled in the AVID program ($n = 59$) had a mean growth of $.0570$ and a standard deviation growth of $.7747$. The degree of freedom ($df = 159$) at the 0.05 level of significance established a critical value

of 1.96. The obtained test statistic value for the writing results was $t = .882$. This number was less than critical value (1.96). This resulted in failure to reject the null hypothesis. The test of the writing results for the study determined the enrollment of students in the AVID program show no significant difference in writing achievement between the two groups of students.

Summary

Statistical data related to the three research hypotheses for this study were presented in Chapter 4. The statistical results for this study were obtained by conducting three *t*-tests for independent means that tested each research hypothesis. The statistical results for this study were reported in tables and in narrative form. The questions guiding this study were: 1. What impact does the AVID program have on ninth grade reading achievement as determined by the Measure of Academic Progress assessment for ninth grade students? 2. What impact does the AVID program have on ninth grade math achievement as determined by the Measure of Academic Progress assessment for ninth grade students? 3. What impact does the AVID program have on ninth grade writing achievement as determined by the Blue Valley School District writing assessment? The findings from each of the three research hypotheses indicated no significant difference in reading, writing and mathematics achievement gained by identified students who enrolled in the AVID program when compared to identified students who did not enroll in the AVID program.

In chapter five a summary of the findings will be presented along with conclusions, interpretations, and recommendations for the Blue Valley School District.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Introduction

During the 2006-2007 school year Blue Valley High School implemented the Advancement Via Individual Determination (AVID) program, and in the following school year, 2007-2008, Blue Valley North, Blue Valley Northwest, and Blue Valley West implemented the program. The AVID program was implemented to assist students in the middle academically who desire to improve their academic skills. The program was designed to improve students' skills in the areas of writing, inquiry, reading and collaboration. Students enrolled in the program were encouraged to take a rigorous schedule, including enrollment in honors and advanced placement courses. The purpose of the AVID program was to provide academic support that allowed average students to improve their academic skills for the purpose of continuing their education at a post-secondary institution.

This study examined the effect the AVID program had on ninth grade reading, writing, and math achievement learning gains as measured by the Measure of Academic Progress (MAP) assessment and as measured by the Blue Valley Writing Assessment. The three variables tested for this study were tested independently, and the obtained value was compared to the critical value to determine the level of significance. In chapter four the findings for the study were presented. This chapter provides a summary of the findings, conclusions related to the findings, and recommendations for future research related to the AVID program.

Summary of Findings

The results from this study indicated the Advancement Via Individual Determination program did not significantly (0.05) improve reading, writing, and math achievement as measured by standardized tests. Three null hypotheses were tested using data collected in 2007 and 2008. Pre-test and post test data was collected on each student involved in this study. The students' eighth grade Blue Valley Writing Assessment scores administered during the spring of 2007 were considered as the pre-test data for the writing variable. The students' ninth grade Blue Valley Writing Assessment scores were used as the study's post-test data. The pre-test data used for reading and mathematics for this study was determined by the students' fall ninth grade MAP scores, and the post-test data for the students was their spring ninth grade reading and mathematics MAP score. The purpose of the study was to determine the effect the AVID program has on student achievement in the academic domains of reading, writing, and math.

The three tested hypotheses for this study were:

1. The AVID Program has no effect on reading achievement as determined by the Measure of Academic Progress for ninth grade students at 0.05 level of significance.
2. The AVID Program has no effect on math achievement as determined by the Measure of Academic Progress for ninth grade students at 0.05 level of significance.
3. The AVID Program has no effect on writing achievement as determined by the Blue Valley District writing assessment for ninth grade students at 0.05 level of significance.

The critical value for all three tested hypotheses for this study was the same. Results from the reading variable show no significant difference in reading achievement by identified students enrolled in the AVID program when compared to identified students not enrolled in the AVID program. The t value for the reading variable for this study was thus resulting in the failure to reject the null hypothesis. Results of the next variable, writing, showed no significant difference between the groups of students involved with this study. The results of the writing variable resulted in the failure to reject the null hypothesis. Results of the last variable for this study indicated no significant difference in mathematics achievement between the two groups of students involved in this study, thus causing the failure to reject the null hypothesis.

Conclusions

Students in the ninth grade who were recommended for enrollment and chose to participate in the Advancement Via Individual Determination program showed no statistical difference in reading, writing, and mathematics achievement learning gains as measured by the Measure of Academic Progress and the Blue Valley Writing Assessment when compared to those students who were recommended for enrollment and chose not to participate in the program.

Several factors may have contributed to the lack of statistical difference in reading, writing, and mathematics achievement between the two groups of students.

The first factor to consider was the fact the AVID program was a newly implemented program at all four of the Blue Valley High Schools. The AVID program was implemented at all four high schools during the 2007-2008 school year. As with any new program, there was new learning for those individuals responsible for implementing

the program. In this case, one might suggest improved teaching knowledge of the teaching methodologies within the program and an established classroom environment reflecting the goals of the AVID program will occur over time. With each year of implementation the overall effectiveness of the program should improve because the people responsible for the implementation will better understand the goals and teaching methodologies of the program. Quality teacher training quality is the cornerstone to ensure the AVID program will be successful.

The second factor to consider as to why there was not a statistical difference between the two ninth grade groups of students was the lack of teacher training. The teacher training component of the AVID program consisted of four parts (Beginning the AVID, Refining the AVID, AVID Tutoring, and Post-Secondary planning). Teachers at all four high schools participated in a five day training during the summer of 2007. The training the teachers received in 2007 was only the first part of AVID's teacher training program. This training focused on giving the teachers an overview of the goals of the program as well as an overview of the teaching methodologies of the program. It is natural that over time as this group of teachers receives the additional recommended training for the program the delivery of the program objectives will improve.

The third factor for not seeing an immediate effect on reading, writing and math achievement between the two groups of students was the identification process. A key component to ensure the success of the AVID program is appropriate identification of students. Students must have a desire to become a better academic students and must possess the academic potential to achieve this goal. This was the first time teachers, counselors, and administrators identified students for the AVID program. Like any

process engaged for the first time there is always room for improvement. In time, personnel responsible for identifying students for the AVID program will gain a better understanding of the necessary skills the students must possess. These prerequisite skills are inherent qualifications for students enrolled in the AVID program.

Finally, the overall academic success of the Blue Valley School District should be considered a factor as to why there was not a significant statistical difference between the two groups of students. The Blue Valley School District is a very high performing school district. The district's graduation rate is always above 95 percent, all four high schools made Adequate Yearly Progress (AYP) in 2008, all four high schools received the state of Kansas Standards of Excellence Award for reading and math during the 2007-2008 school year, and the average ACT score for the Blue Valley School District in 2007 was 24.1. The Blue Valley School district has a goal to personalize student learning. This goal drives how the school district approaches learning opportunities for all students. To accomplish this goal of personalizing student learning, all four high schools have implemented a set of comprehensive interventions to assist all students in their learning. Effective building wide interventions must be considered a reason as to why there was not any statistical difference between the AVID and non-AVID students in reading, writing, and mathematics achievement gains.

Recommendations for Future Research

After reviewing the results of this study and considering the findings, recommendations for further research can be given. The following recommendations for future research related to the AVID program are based on a complete analysis and evaluation of results and findings from this study.

The Blue Valley School District should consider conducting research to study grade point averages of both groups of students. Cumulative grade point averages of both groups of students should be analyzed upon completion of high school. Besides the use of standardized test scores, the use of grade point averages is a valuable tool for school districts and post-secondary institutions to determine achievement levels obtained by students. This research would be useful in determining the effect the AVID program has on classroom productivity and student achievement as measured by cumulative grade point averages.

Both groups of students from this study will be involved in taking numerous standardized tests throughout their high school careers. The Blue Valley School District should consider examining the results from these assessments.

One set of standardized tests the students from this study will be required to take are the reading, writing, and math Kansas State Assessment. These assessments are administered during the students' sophomore and junior years. Evaluating both the AVID and non-AVID students' performance on these three assessments would provide valuable information for the Blue Valley School District. This data could help the district determine if exposure to the AVID program for a longer period of time has an effect on reading, writing, and mathematics achievement as measured by standardized tests.

The Blue Valley School District should also consider examining the ACT results of both groups of students. The ACT is one of the most commonly used and accepted standardized assessments for admission into post-secondary institutions. This assessment also provides a comprehensive analysis of individual student achievement. Analyzing the

ACT scores of both groups of students will assist the district in determining what effect the AVID program has on overall student achievement.

This study was quantitative in nature. Collecting qualitative data from both groups of students from this study could provide a more in-depth perspective on the effects the AVID program has on student achievement. Conducting interviews with both groups of students could uncover unique differences between the groups of students as it relates to their overall high school achievement and educational experience. In addition, these interviews could reveal the overall attitude of both groups of students toward continuing their education beyond high school. It is recommended this qualitative data be collected yearly to assess students' attitudes toward their educational experience as they progress through high school.

Finally, it is recommended the Blue Valley School District conduct a longitudinal research study to track both the AVID and Non-AVID students from this study for a period of six years after high school. The research study should look at the percentage of students from both groups who enroll in a post-secondary program. The study should also examine the percentage of those students who complete a post-secondary program, as well as the number of years it took for the students to complete the program. Data should also be examined to see if there is any correlation between students who took a high school course for college credit to determine if this variable has an effect on completing a post-secondary program. Examining this variable supports the part of the AVID mission to encourage students to take a rigorous high school schedule. The data from this recommended study would assist the Blue Valley School District in

determining if the AVID program is accomplishing its goal of producing college-ready students.

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APPENDIX A.

APPENDIX A.

COMPONENTS OF TALENT DEVELOPMENT HIGH SCHOOL PROGRAM

Component	Description
High Expectations	The Talent Development program does not track students. It requires all students to take a basic college curriculum. The program provides additional help for students who are transiting into high school. (Center for Social Organization of Schools, n.d.)
Ninth Grade Academy	The ninth-grade academy uses the school-within-a-school concept to help reduce the size of the building. In addition, the ninth grade teachers are organized into interdisciplinary teacher teams to assist ninth grade students in making the transition to high school.
Extended Class Periods	The schedule used in the TDHS program is a four by four block schedule where students have four classes a day that are 80 to 90 minutes in length. The students complete a year-long class in one semester. This provides teachers the opportunity to differentiate instruction to meet the needs of all students.
TD Specific Courses	Catch up classes are designed for students who are below grade level. The students take the class first semester, then enroll in an academic class second semester. The theory is to help students be better prepared for academic classes.
Extra help	There is an opportunity for students to recover credit after school or take weekend and summer classes.
Career Academies for Upper Grades	The school is divided into career theme academies with a curriculum emphasis on specific career fields. Each academy is divided into 250-350 students in grades 10-12.
Professional Development	Professional development is at the heart of the TDHS program. The professional development for teachers is ongoing throughout the year. In addition, there are curriculum coaches on staff to assist teachers in the areas of classroom management, lesson design, and delivery.

Component	Description
Teaming	Teachers are organized into interdisciplinary teams for each career academy as well as the ninth grade academy. Each individual interdisciplinary team has the same student caseload and common planning time.
Family and Community Involvement	The TDHS program actively seeks ways to involve community partners and uses action teams composed of parents, teachers, administrators, and community members to plan activities and implement strategies focusing on school improvement.
Alternative Programs (Twilight School)	This program provides students an opportunity to recover credit outside the traditional setting of a high school. The target group for this part of the TDHS program is teen parents, students who work, and students returning from incarceration or suspension.

Note. From. *Talent Development High Schools Program*, n.d., by Center for Social Organization of Schools. Available at <http://web.jhu.edu/CSOS/tdhs/about/model.html>
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APPENDIX B

APPENDIX B

AVID KEY ESSENTIALS

Key Essential	Description
Student Selection Focus (2.0-3.5)	This process should focus on selecting students who are underachieving academically. The selection process should center on finding students in the academic middle who have the desire and potential to succeed in a rigorous curriculum.
Voluntary Participation by Students and Staff	Students must make the conscious decision to become a part of the AVID program. If students do not want to be in the program, the students will never become an independent learner. To ensure the students' success in the program, parents must be part of the decision to participate in the program.
AVID Elective During School Day	Many comprehensive intervention programs are offered outside the school day. One of the cornerstones to the success of the AVID program is it is offered as an elective class during the day. By offering the AVID program during the day, the program is given validation of importance to help students become academically successful.
Enrolling in Rigorous Curriculum	Students who are enrolled in the AVID program are encouraged to take rigorous classes, which includes advanced placement and honors classes. Support is provided to the students through strategies taught during the AVID elective class to ensure success.
Reading and Writing Curriculum	The basis of the AVID curriculum is to teach a relevant writing and reading curriculum. Teaching effective writing strategies provides students the ability to recall information for later review and study. The reading instruction focuses on teaching skills: comprehension, understanding text structure, and text structure processing skills. Reading and writing are tools for learning in the AVID program.
Inquiry Emphasis	In addition to reading and writing, the use of the inquiry method is a basis for the AVID curriculum. The inquiry method teaches students to ask questions and to categorize, compare, analyze, apply, and predict the information given from each answer. Inquiry is a tool for learning in the AVID program.

Key Essential	Description
Collaboration	Utilizing group settings is at the center of the AVID program. Students are taught the necessary skills to work effectively within a group. Within the group setting, students demonstrate critical thinking and problem solving skills. Collaboration is a tool for learning in the AVID program.
Trained Tutors	Tutors are used in the AVID class to provide support for students taking rigorous courses. The tutors are college students who are trained in the methodologies. Tutors monitor and guide the students while working in collaborative study groups.
Data Collection and Analysis	AVID requires all sites implementing the program to collect and gather data to record the success of the program. The data serves as a method for schools to monitor and evaluate implementation of the AVID program. The data collected is both statistical and affective measurements.
School or District Resources Committed	The AVID corporation provides schools and teachers with an extensive staff development program. This staff development is provided through resources and materials. As part of the staff development program, AVID hosts a summer institute for schools to provide ongoing support and training.
Active Interdisciplinary Site Team	A strong active interdisciplinary site team is essential to ensure the success of the AVID program. The interdisciplinary team is made up of a counselor, administrator, elective teachers, and core academic teachers. The purpose of the interdisciplinary team is to foster the school wide development and implementation of the AVID mission, focusing on improving student achievement.

Note. From *Longitudinal Research on AVID 1999-2000: Final Report*, by L. F. Guthrie and G.P. Guthrie, 2000, Burlingame, CA: Center for Research, Evaluation, and Training in Education. Adapted with permission of the author.