

**The Effects
of an
After-School Tutoring Program
on the
Pennsylvania System of School Assessment**

**by
Peter M. Carbone**

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The Effects of an After-School Tutoring Program on the PSSA

Peter M. Carbone

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Signature:

Peter M. Carbone, Student Date

Approvals:

Dr. Robert J. Beebe, Dissertation Advisor Date

Dr. Richard C. Baringer, Committee Member Date

Dr. Guang-Hwa Andy Chang, Committee Member Date

Dr. Howard Pullman, Committee Member Date

Peter J. Kasvinsky, Dean of School of Graduate Studies & Research Date

ABSTRACT

Due to the challenges of the No Child Left Behind Act of 2001, many schools and school districts are implementing after-school tutoring programs to provide students additional instruction to score proficient or better in reading and mathematics. This doctoral study analyzed the effects of the ABC Middle School Educational Assistance Program After-School Tutoring Program that was implemented in the ABC School District for the 2006-2007 and 2007-2008 school years.

Student proficiency scores were collected from the 2006 and 2007 Pennsylvania System of School Assessment (PSSA). The data collected determined eligibility for students to participate in the program. The students that participated in the program were compared with students who did not participate in the program but had the same eligible data. The Pearson Chi-Square test was performed to analyze the data comparing PSSA and 4Sight scores. The 4Sight is a periodic benchmark assessment.

Based on the analysis of the study, the after-school tutoring program had no effect on student performance on the PSSA in reading and mathematics for both school years. Also, the after-school tutoring program had no effect on student performance on the 4Sight in reading for both school years. There was no positive effect on the 4Sight in mathematics for the 2006-2007 school year. The lone positive effect was tutored students performed better on the 4Sight in mathematics for the 2007-2008 school year.

Recommendations for the future would be to have a program coordinator, have periodic data analysis of student work by the student, tutor, homeroom teacher, parent(s), program coordinator and principal along with an evidence-based curriculum, instruction and assessment techniques.

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Finally, I thank God for giving me the opportunity to pursue the highest level of education. May He continue to bless me with His love and forgiveness.

DEDICATION

I dedicate this dissertation to my family who has always been there for me in all the positive and challenging experiences in my personal and professional life. To my wife, Megan, for always being supportive and encouraging me to finish my doctoral studies. To my mother, Angeline, for encouraging me to do well in school and to continue pursuing education as an adult. To my brothers, Anthony and James, and to my sisters, Dorothy and Paula, for setting the example of pursuing post-secondary education for their younger brother.

TABLE OF CONTENTS

| | |
|---|------|
| LIST OF TABLES | viii |
| CHAPTERS | |
| I. INTRODUCTION | 1 |
| Statement of the Problem | 2 |
| Purpose of the Study | 6 |
| Significance of the Study | 7 |
| Limitations and Delimitations | 7 |
| Definition of Terms | 9 |
| Summary | 12 |
| II. LITERATURE REVIEW | 14 |
| Education in Recent Years | 15 |
| The No Child Left Behind Act of 2001 | 21 |
| Challenges of the No Child Left Behind Act | 32 |
| Data | 40 |
| Value-Added Analysis | 43 |
| Pennsylvania System of School Assessment | 47 |
| 4Sight | 53 |
| Tutoring | 56 |
| III. METHODOLOGY | 63 |
| Design of the Study | 67 |
| Population and Sample | 70 |
| Data Collection | 73 |
| Data Analysis | 73 |
| IV. ANALYSIS OF DATA | 75 |
| Impact on PSSA Reading 2007 | 76 |
| Impact on PSSA Mathematics 2007 | 76 |
| Impact on 4Sight Reading 2007 | 77 |
| Impact on 4Sight Mathematics 2007 | 77 |
| Impact on PSSA Reading 2008 | 79 |
| Impact on PSSA Mathematics 2008 | 80 |
| Impact on 4Sight Reading 2008 | 80 |
| Impact on 4Sight Mathematics 2008 | 81 |
| V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS | 83 |

| | |
|--|-----|
| Restatement of the Problem | 83 |
| Review of Methodology | 86 |
| Summary and Discussion of the Results | 87 |
| Research Question 1 | 87 |
| Research Question 2 | 88 |
| Research Question 3 | 89 |
| Research Question 4 | 90 |
| Research Question 5 | 91 |
| Research Question 6 | 92 |
| Research Question 7 | 93 |
| Research Question 8 | 95 |
| Recommendations | 96 |
| Tutors | 97 |
| Curriculum | 98 |
| Goals | 99 |
| Communication | 99 |
| Tutor/Student Ratio | 100 |
| Assessment | 101 |
| Instruction | 101 |
| Program Coordinator | 101 |
| Principal Involvement | 102 |
| Suggestions for Further Study | 102 |
| Summary | 102 |
| REFERENCES | 104 |
| APPENDIXES | 108 |
| Appendix A: Survey | 108 |
| Appendix B: Consent Letters to Parent(s)/Guardian(s) | 110 |

LIST OF TABLES

TABLES

| | | |
|----|--|----|
| 1 | Schedule of AYP Proficiency: State of Pennsylvania – 2002 to 2014 | 24 |
| 2 | Summary of AYP Comparison of Schools in PA with Schools in the US 2003-2004 and 2004-2005 | 29 |
| 3 | Summary of AYP for Schools in PA for 2005-2006 | 29 |
| 4 | Summary of AYP for Schools in PA for 2006-2007 and 2007-2008 | 30 |
| 5 | Summary of AYP for School Districts in PA for 2006-2007 and 2007-2008 | 31 |
| 6 | Summary of Students Achieving Proficiency in Reading 2002 to 2008 | 53 |
| 7 | Summary of Students Achieving Proficiency in Mathematics 2002 to 2008 | 53 |
| 8 | Comparison of 4Sight Scores to PSSA Scores 2007 | 56 |
| 9 | Summary of Demographic Data for the ABC Middle School 2006-2007 and 2007-2008 | 64 |
| 10 | Summary of the ABC Middle School After-School Tutoring Program (Tutored and Not Tutored) 2006-2007 | 71 |
| 11 | Summary of the ABC Middle School After-School Tutoring Program (Tutored and Not Tutored) 2007-2008 | 71 |
| 12 | Summary of the ABC Middle School After-School Tutoring Program (Tutored and Not Tutored) 2006-2007 | 72 |
| 13 | Summary of the ABC Middle School After-School Tutoring Program (Tutored and Not Tutored) 2007-2008 | 73 |
| 14 | Summary and Chi-Square Test Results of the ABC Middle School After-School Tutoring Program (Tutored and Not Tutored) 2006-2007 | 75 |
| 15 | Summary and Chi-Square Test Results of the ABC Middle School After-School Tutoring Program (Tutored and Not Tutored) 2007-2008 | 79 |

CHAPTER I

INTRODUCTION

On January 8, 2002, President George W. Bush signed into law Public Law 107-110, the No Child Left Behind Act (NCLB) of 2001. This law has impacted public education by representing an educational reform plan and to date has had the most detailed changes to the Elementary and Secondary Education Act (ESEA) of 1965 than any other previous educational reform initiative. The federal government's role changes in kindergarten through grade 12 by asking schools and school districts to describe their success in terms of what each student accomplishes. NCLB details four basic educational reform principles: (1) stronger accountability for results, (2) increased flexibility and local control, (3) expanded options for parents and (4) an emphasis on effective instructional methods.

To meet the standard of stronger accountability, schools are trying to make Adequately Yearly Progress (AYP). AYP, as part of the federal NCLB Act, makes schools and school districts accountable to students, their parents, teachers and the community. AYP is an individual state's measure of yearly progress toward achieving state academic standards and is the minimum level of accepted improvement. The purpose of AYP is to ensure that all students have reading and mathematics skills that prepare them for the future. NCLB states that all students must be proficient or higher in reading and mathematics by 2014. Due to the expectations of NCLB to make AYP, there has been an unprecedented focus on reading and mathematics on annual high-stakes tests including a number of instructional intervention strategies designed to identify and connect learning problems. While scaling back on other subjects, NCLB has caused many

schools with the greatest academic needs to target their instructional focus on reading and mathematics.

If schools do not meet the required threshold for proficient student achievement, school choice, supplemental educational services (SES), administrative/teacher replacement, restructuring of the school and/or school district configuration and complete takeover status by the state's department of education are some of the sanctions of NCLB, Part A, Section 1116(b)(5). With these expectations, schools are searching for evidence-based practices to not only close the achievement gap between economically advantaged and economically disadvantaged students, but also between minorities and their peers. Data warehousing has empowered schools to become more data-based in their decisions in curriculum, instruction and assessment to improve student achievement. To meet the student proficiency goals of NCLB that all students will be proficient in reading and mathematics by 2014, after-school instruction with specific interventions is one-method schools and school districts are using data to help students become proficient in reading and mathematics.

Statement of the Problem

NCLB, Part A, Section 1116(b)(5) mandates schools and school districts show AYP to avoid being in warning, school improvement or corrective action. If a school or school district does not meet AYP, there school or school district status is Warning. Schools and school districts are put on notice but no specific action needs to be taken. While a school is in Warning and does not make AYP, the school's status would change from Warning to School Improvement I. In School Improvement I, a school improvement plan needs to be done, Title I funds need to be used for professional development and

school choice if applicable needs to be made available within the school district. If AYP is not met in School Improvement I, then the school or school district's new status is School Improvement II. The same procedures follow but SES needs to be made available. If AYP is not met in School Improvement II, the new status is Corrective Action I. If AYP is not met in corrective action, Corrective Action I becomes Corrective Action II. During each year in corrective action, there are expectations for curricular changes. Curricular changes are the biggest difference between school improvement and corrective action statuses. School district procedures follow the same progression as schools if they do not achieve AYP. For example, if a school district does not make AYP for two consecutive school years, their status is District Improvement I. The next status level would be District Improvement II and then the Corrective Action statuses would be in effect.

Schools and school districts must focus on closing the achievement gap between wealthy and poor students, minorities and their peers. Over the last couple of school years, the ABC Middle School in the ABC School District has begun to use summative and benchmark assessment data to help students score proficient or better in reading and mathematics on the Pennsylvania System of School Assessment (PSSA). School personnel have analyzed data, made instructional decisions and developed school improvement plans and individualized student improvement plans to improve student achievement.

To meet AYP, the ABC Middle School began an after-school tutoring program called the Educational Assistance Program (EAP) after-school tutoring program. The tutoring program focused on students in grades five, six, seven and eight who scored

Basic in reading and/or mathematics on the March 2006 PSSA and the March 2007 PSSA. The EAP after-school tutoring program is a special tutoring program funded by the Pennsylvania Department of Education (PDE) and targeted to the state's most academically challenged school districts by supplying funding for evidence-based tutoring instructional practices and programs. All supplemental materials and programs used in the tutoring sessions were approved by PDE. Students who participated in the tutoring program were expected to attend on a regular basis and commit to a minimum of 45 hours of instruction per subject. The program would begin in October and end in April. Parents received letters along with follow-up telephone calls by school personnel explaining the goals and the rationale of the program. The students were provided drinks, snacks, bus transportation home and incentives periodically through the program. The program was used in the ABC Middle School during the 2005-2006, 2006-2007 and 2007-2008 school years. The 2006-2007 and 2007-2008 school years are analyzed in this study.

The materials used in the after-school tutoring sessions for reading were McGraw Hill's SRA Reading Labs and Specific Skill Series Labs. The materials used in the after-school tutoring sessions for mathematics was *America's Choice Mathematics Navigator*. Two web-based software programs called *Study Island* and *Skills Tutor* were used in both reading and mathematics after-school tutoring sessions. The materials were chosen due to their alignment with the Pennsylvania (PA) Academic Standards, PA Assessment Anchors and Eligible Content. The tutors in the program were all members of the faculty at the ABC Middle School and developed lesson plans and quarterly reports for their tutoring sessions and students. Reading lessons were held on Mondays and Wednesdays

after school for one hour and mathematics lessons were held on Tuesdays and Thursdays after school for one hour.

Eight research questions were investigated in this study:

1. For the 2006-2007 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the PSSA?
2. For the 2006-2007 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the PSSA?
3. For the 2006-2007 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the May 4Sight benchmark assessment?
4. For the 2006-2007 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight benchmark assessment?
5. For the 2007-2008 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the PSSA?
6. For the 2007-2008 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the PSSA?

7. For the 2007-2008 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the May 4Sight benchmark assessment?
8. For the 2007-2008 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight benchmark assessment?

Purpose of the Study

In today's high-stakes testing environment, schools and school districts need to measure the effectiveness of their reading and mathematics programs to meet the needs of non-proficient students in reading and mathematics on summative assessments to achieve AYP and to meet the expectations of NCLB. The purpose of this study will determine the effectiveness of the ABC Middle School EAP after-school tutoring program. Students that participated in EAP are a major focus of the school to meet AYP and are likely to have more significant instructional interventions than the other students by staying after-school for one hour twice a week. During the after-school tutoring program, EAP students received instructional strategies and techniques such as one-to-one tutoring, small group instruction and technology intervention. The instruction was designed to meet the student needs specifically in reading and/or mathematics. Data used and collected were student scores on the 2006, 2007 and 2008 PSSA and the student scores on the September 2006, May 2007, September 2007 and May 2008 4Sight benchmark assessments. Student scores on the 2006 PSSA determined eligibility for the

2006-2007 program and the 2007 PSSA scores determined eligibility for the 2007-2008 program.

Significance of the Problem

The significance of the ABC Middle School EAP after-school tutoring program can be demonstrated in various ways. If the program produces evidence of improved student achievement, then the instructional strategies used in the program would be validated to continue the after-school program and implemented into the regular school day. Use of data-driven decision-making, development of tutoring materials/lesson plans, the logistics of providing transportation and periodic incentives will also be evaluated. The school and the school district have been provided a significant amount of money to help the after-school tutoring program work. Student data is used to focus on instructional goals and professional staff development. Quarterly benchmark assessments help to project how students will score on the PSSA and what specific subskills are being addressed and those that need to be addressed in the after-school tutoring program.

With the enactment of NCLB, schools and school districts are paying close attention to the following questions: Is AYP being achieved? If not, how can AYP be achieved? Are the current core reading and mathematics programs the best programs for the students, school and/or school district? What is the best testing environment for students? Also, another challenge is providing more effective interventions to the non-proficient students, i.e., EAP students, students with Individualized Educational Plans (IEP's) (who may not be proficient), English Language Learners (ELL) (who may not be proficient) than to the other students.

Limitations and Delimitations

The limitations of this study come into play throughout the seven month tutoring window. The following variables may affect the learning process through the tutoring sessions either positively or negatively:

- student attendance
- teacher attendance
- instructional strategies
- parental consent
- randomization of students

Student attendance was monitored closely throughout the tutoring periods. In spite of the close monitoring, students may not attend all sessions. If teachers are not in school on the day they are assigned to tutor, did the session(s) occur, did the substitute teacher(s) follow through with the lesson plans or was the group split or combined with another group? The delivery, fidelity and selection of the instruction and curriculum can influence the effectiveness of the program. Tutors were required to do lesson plans but they were not required to be turned into a coordinator or an administrator. Also, there was no monitoring of instruction. Therefore, there could have been no fidelity to the programs used. With parental consent, was student motivation equivalent to school or parental expectation?

There was no true randomization and the distribution was not even for the 2006-2007 and 2007-2008 school years. For the 2006-2007 school year, in reading, there were 49 students tutored and 45 students not tutored. In grades five, seven and eight, there was a difference of five students more or five students less who were tutored as to those students not tutored. In mathematics, there were 44 students tutored and 32 students not

tutored. In grade five, only four students were tutored and two students not tutored. In grades six, seven and eight, there were fewer students tutored than not tutored.

For the 2007-2008 school year, in reading, there were 33 students tutored and 48 students not tutored. In grades six, seven and eight, there were fewer students tutored than not tutored. In grade seven, there were seven less students tutored and in grade eight, there were six less students tutored. In mathematics, there were 26 students tutored and 39 students not tutored. Grades six and eight had the biggest discrepancies. Grade six had three less students tutored and grade eight had nine less students tutored.

The delimitations of this study are the parameters of the tutoring program:

- time period of the sessions
- duration
- grade levels
- compensation for the teachers

The time period of the sessions, the duration and grade levels were set by the school and the compensation for the teachers was set by the teachers contract with the school district. The Hawthorne Effect could be a possibility as the teachers will receive compensation for their instruction. Positive results could lead to more opportunities for teachers to be compensated when it comes to increasing student achievement.

Definition of Terms

Achievement – The demonstration of student performance measured against learning goals, learning objectives or standards.

Adequate Yearly Progress (AYP) – An individual state's measure of yearly progress toward achieving state academic standards. AYP is the minimum level of

improvement that schools, school districts and states must achieve each year.

Anchor – Another word for benchmark.

Assessment – A measure of the degree to which instructional objectives have been attained.

Assessment Plan – A set of choices regarding how student learning will be assessed in relation to identified standards and criteria.

Benchmark – A standard being measured or assessed.

Criterion-Referenced Assessment – Assessment that compares a student's performance according to a description of the desired performance. All standards-based assessments are criterion-referenced assessments.

Data – Factual information (measurement or statistics) used as a basis for reasoning, discussion or calculation. Data can be qualitative or quantitative. Good data must be both reliable and valid.

Database – A storage mechanism for data that eliminates redundancy and conflict among multiple data files. A very useful tool for examining large amounts of data in order to find a cause. Data is entered once and then is available to all programs that need it. Data is available for rapid retrieval and querying.

Data-Driven Decision Making – Making decisions based on demographic, student learning, perceptions and school process data. True data-driven decision making has at the center of every decision the guiding principles of the learning organization.

Elementary and Secondary Education Act (ESEA) – The principal federal law since 1965 affecting K-12 education. NCLB is the most recent authorization.

No Child Left Behind (NCLB) – The *No Child Left Behind Act of 2001*

reauthorized the 1965 Elementary and Secondary Education Act. NCLB calls for increased accountability for schools, school districts and states; choices for parents and students; greater flexibility for schools, school districts and states regarding federal education funds; establishing a Reading First initiative to ensure every child can read by the end of grade three; and improving the quality of teachers.

Professional Development – Planned activities that help teachers and administrators change the manner in which they work, i.e., how they make decisions; gather, analyze and use data; plan, teach and monitor achievement; evaluate personnel; assess the impact of new approaches to instruction and assessment on students.

Proficiency – Having or demonstrating an expected degree of knowledge or skill in a particular area.

Public School Choice – Students in schools identified as in need of improvement will have the option to transfer to better public schools in their districts. The school districts will be required to provide transportation to the students. Priority will be given to low income students.

Quantitative Data – Data based on “hard numbers” such as enrollment figures, dropout rates and test scores.

Standard – An agreed-upon and established statement of expectations for students-focused on issues of learning, attitude and behavior.

Standards-Based Assessments – A collection of items that indicate how much students know and/or are able to do with respect to specific standards.

Standards-Based Education – An agreement among educators what students should learn in each grade level, what level of achievement should be expected and how

academic performance will be evaluated.

Summative Assessment – A snapshot of student performance at a given point in time, judged according to pre-established standards and criteria. Summative assessments typically lead to a status report on success or degree of proficiency.

Supplemental Educational Services (SES) – Students from low-income families who are attending schools that have been identified as in need of improvement for two years will be eligible to receive outside tutoring or academic assistance. Parents can choose the appropriate services for their child from a list of approved providers. The school district will purchase the services.

Value-Added – A statistical method used to measure the academic progress rates of individual students and groups of students from year to year.

Summary

In summary, NCLB has set the foundation to study the effectiveness of the ABC Middle School EAP after-school tutoring program on student achievement in reading and mathematics on the high-stakes summative assessment PSSA and the periodic benchmark assessment 4Sight. Utilizing the student data, it was the purpose of this study to obtain a greater understanding of the effects the program had on improved student achievement in reading and mathematics on the PSSA and 4Sight by comparing achievement gains of scores of students identified for additional targeted instruction with those scores of students who did not participate in the program. The program was initiated by state funding and the study was conducted during the 2006-2007 and 2007-2008 school years. Reading was held Mondays and Wednesdays and mathematics was held Tuesdays and Thursdays 3:05-4:05 p.m. Students who qualified for the program scored Basic (not

Advanced or Proficient) on the PSSA. The population sample were students in grades five, six, seven and eight who scored Basic on the 2006 and 2007 PSSA.

Chapter two will review pertinent literature on NCLB, Standards-Based Education, Data-Driven Decision Making, Value-Added Assessment, Pennsylvania Value Added Assessment System (PVAAS), PSSA, 4Sight and tutoring. Each of these components is essential in the argument for implementing additional learning opportunities like after-school tutoring for non-proficient students to meet the challenges and expectations of NCLB to close the achievement gap between all students regardless of race and socio-economic status.

Chapter three will describe the ABC Middle School's EAP after-school tutoring program that was done to meet the challenges of NCLB. The study will include the methodology, the design used in study, population, sample and data collection.

Chapter four will be the data analysis of the study. The eight research questions will be analyzed and tested using the Pearson Chi-Square test. The impact the after-school tutoring program made on non-proficient students for the PSSA and 4Sight will be discussed.

Chapter five will summarize the study. During the summarization, conclusions will be made along with recommendations for further studies.

CHAPTER II

LITERATURE REVIEW

Educational reforms have come and gone; therefore, educators have become resistant and feel threatened by change. Many reforms have not had proper funding, have had a lack of the proper support and proper implementation by not only educators but also politicians. Public Law 107-110, the No Child Left Behind Act of 2001 (NCLB) has had the most impact on public education than any other reform model. Some examples of the types of impact have been financial support and schools and school districts being held much more accountable for student achievement on high-stakes summative assessments in a more structured system than previous years. NCLB reauthorized the Elementary and Secondary Education Act (ESEA). ESEA was first enacted in 1965 and was the principal federal law affecting and funding public education. Over the years, \$267 billion was funded through Title I and was spent to assist states in educating disadvantaged children and address equal educational opportunities for students from low socio-economic status.

NCLB requires all public schools to test students in reading and mathematics in grades three, four, five, six, seven, eight and one year in high school. The imperative goals of NCLB are for all students to reach proficiency in reading and mathematics by the 2013-2014 school year and to close the academic achievement gap between low-income and minority student performance on standardized assessments as compared with their higher income and white peers. For many years, low-income and minority children have been falling behind their higher income and white peers in high academic achievement.

This chapter reviews the recent history of public education and the impact both positive and negative that NCLB has had on public education. Literature will be reviewed regarding data driven decision making in education along with value-added assessment and the Pennsylvania System of School Assessment (PSSA), 4Sight and tutoring.

Education in Recent Years

In 1950, four years before the United States Supreme Court decision in *Brown v. Board of Education*, fewer than 20 percent of African-Americans had finished high School (Abramson, 2007). Equal access for all groups and other civil rights issues were given a major legal and moral boost when *Brown v. Board of Education* struck down the notion of “separate but equal” as an accepted law or value. The decision directly and indirectly led to a variety of laws and legislation that has included the rights of equal school entry for all races, ethnic groups and religions; the importance of gender equity; fairness for students with disabilities and issues relating to limited English proficiency.

By 2005, fewer than 20 percent did not have a high-school diploma. *Brown v. Board of Education* was a landmark decision for allowing blacks and whites to be integrated into the same public schools. Public schools spend billions of dollars each year trying to close the achievement gap between low-income and minority students compared to white and affluent kids. Still, the gap persists (Abramson, 2007). The nation has made steady progress in reducing the achievement gap but equality of achievement remains the biggest challenge in public education.

In 1965, ESEA was intended to improve the education of the country’s poorest children and letting them have access to the same kind of schooling that non-poor

children had. In summary, all students regardless of race and socio-economic status were to have the same educational and equitable opportunities for academic achievement.

In 1983, the United States Department of Education (USDE) published a report on public education called *A Nation at Risk*. The report stated that the following:

- educational standards were low
- higher education was critical that students were not prepared for post-secondary education
- business and industry blamed public schools for the economic woes of the 1980's.

This report brought about reform toward student achievement in public education by making the following recommendations:

- state and local high school graduation requirements be strengthened
- schools, colleges and universities adopt more rigorous and measurable standards, and higher expectations for academic performance and student conduct, and that four-year colleges and universities raise their requirements for admission
- significantly more time to be devoted to learning the New Basics
- improve the preparation of teachers or to make teaching a more rewarding and respected profession
- citizens across the nation hold educators and elected officials responsible for providing the leadership necessary to achieve these reforms, and that citizens provide the fiscal support and stability required to bring about the reforms proposed

Bracey (2002) has the following comment regarding *A Nation at Risk*:

In its propaganda-laden 1983 publication *A Nation at Risk*, the commissioners had this to say: “If only to keep and improve on the slim competitive edge we still retain in world markets, we must dedicate ourselves to the reform of our educational system (p. 7).” The commission thus tightly yoked the economic health of the nation to the standardized test performance of children aged five to eighteen. (p. 7)

In the 1990’s, President Clinton introduced Goals 2000. There was a rise of content specific standards and benchmarks, to describe precisely what students should know and be able to do across grade levels and measurable through classroom tasks and a standardized test. Standards-based instruction provides a solid foundation for all students to master academic content, skills and processes for lifelong personal and professional growth. The highlights of Goals 2000 were:

- all students will start school ready to learn
- there will be a high school graduation rate of 90%
- students will leave grades four, eight and twelve having demonstrated competency in challenging subject matter so they may be prepared for responsible citizenship, further learning and productive employment in our modern economy
- students will be the first in the world in science and mathematics achievement
- every adult will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and

responsibilities of citizenship

- every school will be free of drugs and violence and will offer a disciplined environment conducive to learning

On January 16, 1999, Chapter 4 (Academic Standards and Assessment) of the Pennsylvania (PA) School Code became law. These regulations delineate requirements for curriculum, instruction and assessment along with strategic planning and graduation requirements at the local level based on academic standards. Educators, parents, community members and business leaders from PA developed the academic standards. These standards specify what students should know and be able to do at specified grade levels. These standards provide consistent targets for students, teachers and parents in meeting the challenge of educating our students at high levels and increasing student achievement. PA Standards are designed to be rigorous, measurable, clearly written and applicable to the world in which we live.

Reeves (2005) has the following comment about the standards movement:

In an astonishingly short period of time, the standards movement has swept the nation. While only a handful of states had adopted academic standards in the early 1990's, the use of standards is now a matter of federal law and all 50 states have adopted one version or another.

Although the terminology surrounding standards varies widely, the notion that an educational system should have a coherent set of expectations about what students should know and be able to do is widely held in public and private schools throughout the world. (p.45)

A standards-based system can be described by the following:

- standards aligned
- assessments aligned
- curriculum aligned
- instructional materials aligned
- professional development aligned
- interventions aligned

In standards-based systems, we have a change in focus; from focusing on “teaching” to focusing on “learning.” The message of the 1990’s standards movement was direct: to have a curriculum to improve teaching, to help teachers communicate among themselves and to give teachers a clear instructional path to follow or modify for their own purposes, according to their own preferences (Pollock, 2007). In a standards-based educational system, academic standards make it fair for all students, that all students must learn the agreed upon skill or concept (Reeves, 1998). Efforts toward improving public education resulted in progress but the federal government wanted more accountability for public education. Elmore (2000) says:

The logic of standards-based reform has become, over the past 15 years, a fundamental part of the architecture of policy and governance in American education. Virtually all states have adopted some form of content and/or performance standards. Like it or not, standards-based reform represents a fundamental shift in the relationship between policy and institutional practice. In terms of policy it is a direct attack on the most fundamental premises by which public education has been governed since its current structure emerged in the late 19th century. We must fundamentally re-

design schools as places where both adults and young people learn. (p.35)

Reeves (2002) offers another view:

Although standards have been inextricably linked to the existence of testing, it is important to note that the foundation of the standards movement stands in stark contrast to the excessive and inappropriate use of the typical standardized test. The essence of educational standards is the comparison of a student performance to a standard rather than to other students. Thus the use of norm-referenced standardized test to determine whether or not a student has met a standard is contradictory and absurd. Students can be above average and appear adequate in the context of the norm-referenced test and nevertheless fail to meet a standard. (p. 4)

Today, all 50 states have academic content standards and some form of testing based on those standards (Reeves, 2004). The standards-based assessments are different than traditional tests. The central focus of a standards-based system is the achievement of standards by as many students as possible. Standards communicate what students are expected to know and be able to do.

In a standards-based system, benchmarks identify specific expectations for certain grade levels or groups of grade levels. Scoring guides (sometimes called “rubrics”) provide the most specific expectations for students by identifying what they are expected to accomplish on individual assignments and assessments. Students should know and be able to demonstrate knowledge of standards on a test. Properly implemented, standards provide a framework for teaching and learning (Reeves, 2004). The bell curve is no longer acceptable as all students are expected to be at least on grade level (proficient) in

reading and mathematics by the 2013-2014 school year.

The Pennsylvania (PA) Academic Standards detail what students should know (concepts) and what students should be able to do (competencies) as they progress through school. They reflect the increasing complexity and rigor that students are expected to achieve as they advance through school. The standards are specific content-related skills and knowledge that students at any given grade level are expected to learn. Standards help make learning expectations for all students clear and consistent. When teachers have specific standards, they know what they are responsible to teach.

The No Child Left Behind Act of 2001

President G. W. Bush signed NCLB in effect on January 8, 2002. This was the first time the nation ever declared that schools have a responsibility to teach every single child to meet their state's standards of learning. This was a landmark in educational reform and the national priority was to improve student achievement and close the achievement gaps. The President called for bipartisan solutions based on accountability, choice and flexibility in federal education programs. NCLB represents a significant change in the federal government's role in public schools.

The law requires states to annually test all students in grades three, four, five, six, seven, eight and one year in high school in reading and mathematics and to disaggregate their scores by subgroups. The subgroups (N is greater than or equal to 40) would be disaggregated by race, students with Individualized Educational Plans (IEP's) and economically disadvantaged. States are required to improve the achievement of disadvantaged pupils, including English language learners and students who live in poverty. No child should be trapped in a failing school.

The following are the subgroups that schools and school districts are being held accountable for under NCLB:

- American Indian or Alaskan Native
- Asian or Pacific Islander
- Black/African-American (Non-Hispanic)
- Latino/Hispanic
- White/Caucasian (Non-Hispanic)
- Multi-Racial/Ethnic
- IEP (Special Education)
- ELL (English language Learner)
- Economically Disadvantaged

Ravitch (2007) describes achievement gaps as the following:

Achievement gaps are persistent differences in achievement among different groups of students as indicated by scores on standardized tests, grades, levels of educational attainment, graduation rates and other data. Achievement on each of these measures strongly correlates with the socio-economic status of a student's parents, especially their income and education. Race and ethnicity are also correlated with socio-economic status. The achievement gap most frequently referred to in the United States of America (USA) is that between whites and Asian Americans on the one hand and African Americans and Hispanics on the other. Needless to say, not all whites and Asian Americans are high academic performers and not all African Americans and Hispanics are low academic

performers. Many researchers believe that a significant part of the gap may be attributed to poverty, high mobility rates and low expectations. Narrowing or closing this gap is one of the rationales for standards-based reform, which aims to ensure that additional attention is paid to low-performing students and that expectations are similar for all students. (pp. 9-10)

Educators and those who are concerned about education are not quite sure what to make of this legislation and they are not even sure of what it requires of them. One of the shortcomings of NCLB, like so many other programs to improve education, is that it places too much emphasis on what teachers should do, and not enough on what parents and students should be doing. African-American children are not behind simply because of bad teachers, they are behind because of a myriad of factors and all of these factors need to be addressed if they are to make significant gains on those students who are in front of them (Jenkins, 2004). The federal government would do all in its power to guarantee every child in America, regardless of race, economic background, language or disability, the opportunity to get an education (Kennedy, 2007). All states have developed benchmarks to measure student progress and are required to disaggregate student achievement data holding schools accountable for subgroups of students.

Schools and school districts must show Adequate Yearly Progress (AYP) in several measurable indicators: student achievement, attendance or graduation rates (high school only) and test participation. A school or school district that does not meet AYP for two straight years is considered to be in need of improvement. AYP is an individual state's measure of yearly progress toward achieving state academic standards and is the

minimum level of improvement that states, school districts and schools must achieve each year. Due to NCLB's focus on subgroups, schools and school districts can no longer hide behind their averages. The schools must know not only who the student is but also what personalized plan of progress he or she will need to meet with success (Morrison, Morrison and Bedford, 2007).

Table 1 lists the required minimum PA proficiency targets to meet NCLB requirements for schools and school districts in reading and mathematics for all schools in PA:

Table 1 – PA Proficiency Targets for NCLB

| Year | Reading | Mathematics |
|-----------|---------|-------------|
| 2002-2004 | 45% | 35% |
| 2005-2007 | 54% | 45% |
| 2008-2010 | 63% | 56% |
| 2011 | 72% | 67% |
| 2012 | 81% | 78% |
| 2013 | 91% | 89% |
| 2014 | 100% | 100% |

In addition to schools meeting the established proficiency targets to meet AYP, high schools are expected to meet graduation requirements and non-graduating schools are held to an attendance requirement. Test participation is a requirement for all schools.

There are other ways to meet the established proficiency targets for AYP in PA: Pennsylvania Performance Index (PPI) and Safe Harbor are the two most occurring ways to make AYP. PPI measures growth across all levels of the PSSA, not just Basic to

Proficient but Below Basic to Basic. This index starts each school and subgroup at its own baseline and is aligned with NCLB as it aims for 100% proficiency by 2014. PPI can be used by schools and school districts to demonstrate significant growth, and thereby meet AYP targets. Since this index shows significant growth including growth at the lowest levels, it is a good indication that low performing schools are building a foundation to meet AYP objectives.

For the 2006-2007 school year, there was one high school outside Pittsburgh, PA who met AYP because all six of their individual academic targets were met using PPI.

The Safe Harbor status allows a school to achieve AYP without meeting the standard achievement targets. These schools qualify under NCLB's "Met AYP by Safe Harbor Target." If a school or subgroup does not meet the performance targets but does reduce the percentage of below-proficient students by 10% or more, it will be considered to have met AYP. These schools are recognized as having met AYP because such improvement is significant.

Two other ways AYP can be met are: Met AYP Target using 95% Confidence Interval and Met AYP by Safe Harbor Target using 75% Confidence Interval. Confidence intervals take into account the fact that the students tested in any particular year might not be representative of students in that school across the years. Confidence intervals control for this sampling error or variation across years by "passing" schools or subgroups whose performance percentages are statistically indistinguishable from the AYP annual performance thresholds.

The final way a school or school district can achieve AYP is by using value-added assessment, which will be explained in more detail later in the chapter.

Since NCLB's inception, progress has been made in and improving student achievement (*School Leader News*, 2007). There has been more money allocated for tutoring, more teacher trainings and added technical assistance. The most positive effect of NCLB is the focus of attention and resources on poor and minority students, English language learners and students with disabilities. Schools that do not meet AYP or show improvement among all of the subgroups can find themselves identified as failing, which makes them eligible for extra assistance to help them improve their high-stakes test scores (Abramson, 2007).

On April 4, 2007 new regulations were developed under NCLB to allow states to test certain students with disabilities using an alternate assessment that more appropriately aligns with students needs and yields more meaningful results for schools and parents (www.ed.gov/print/news/pressreleases/2007/04/04042007.html, 2007).

According to the Center on Educational Policy (2006), NCLB is the culmination of 15 years of standards-based reform. NCLB has directed greater attention to low achieving students and intensified efforts to improve persistently low-performing schools. There have been positive effects of NCLB on public schools:

- state and district officials report that student achievement on state tests is rising, which is a cause for optimism
- schools are paying much more attention to the alignment of curriculum and instruction and are analyzing test score data more closely
- low-performing schools are undergoing restructuring
- schools and teachers have made considerable progress in demonstrating that teacher's meet the law's academic qualifications

- schools are paying much more attention to achievement gaps and the learning needs of particular groups of students
- the federal government is playing a bigger role in education
- NCLB requirements have meant that state governments and school districts also have expanded roles in school operations

The four foundational pillars of NCLB are intended to offer every child, particularly the neediest, a quality education. The four pillars are: (1) accountability for results in education, (2) flexibility in the way states and communities can use educational funds, (3) use of research-proven instructional methods and materials and (4) parental influence, information and choice.

Also, schools and school leaders can facilitate this ideal by working collaboratively with others and using educationally sound and innovative strategies to firmly pursue a vision of success for all students.

NCLB requires schools and school districts to meet annual goals largely based on student test scores. When schools fail to make AYP the law assigns them a label and requires them to take certain corrective steps.

- Year 1 – schools are put on notice but do not have to take any specific steps but are encouraged to conduct a local study
- Year 2 – schools are labeled “School Improvement I” but they have to offer to send their students to other public schools in the district and pay the transportation cost and develop a plan for improving student performance
- Year 3 – schools are labeled “School Improvement II” and must offer free

tutoring to students and continue offering public school choice

- Year 4 – schools are placed in “Corrective Action I” that requires doing things such as implementing a new curriculum, replacing some employees or extending the school day
- Year 5 – schools are in “Corrective Action II” that requires doing things such as implementing a new curriculum, replacing some employees or extending the school day
- Year 6 – schools are restructuring and must implement their plan

Making Progress is when a school and/or school district meets all of its requirements for AYP but is not clear of any school improvement status yet. For example, if a school and/or school district does not meet AYP in Year I but makes it in Year II, they are Making Progress. If all AYP requirements are met in Year III, the school and/or school district will have made AYP and it’s status will be cleared. If a school and/or school district meet all of its AYP targets for two or more consecutive years is classified as Making AYP.

Table 2 compares schools in PA with schools in the US by listing the total number of schools who made AYP, did not make AYP and/or in school improvement for the 2003-2004 and 2004-2005 school years:

Table 2 – AYP Comparison of Schools in PA with Schools in the US

| Year | Total Schools | Not Making AYP | School Improvement |
|--------------|---------------|----------------|--------------------|
| PA 2003-2004 | 3,009 | 18.8% | 11% |
| US 2003-2004 | 90,237 | 24.7% | 11.4% |
| PA 2004-2005 | 3,011 | 23.2% | 9.9% |
| US 2004-2005 | 89,493 | 25.6% | 12.9% |

Table 3 lists the results for AYP for the 3,121 schools in PA that existed for the 2005-2006 school year:

Table 3 – AYP for Schools in PA for 2005-2006

| | |
|--|-------|
| Met AYP/Making Progress | 2,570 |
| Met AYP | 2,458 |
| Making Progress | 112 |
| Warning | 242 |
| School Improvement | 98 |
| School Improvement II | 50 |
| Corrective Action (One of Four Stages) | 116 |

Table 4 lists the results for AYP for schools in PA for the 2006-2007 and 2007-2008 school years:

Table 4 – AYP for Schools in PA

| Status | 2006-2007 | 2007-2008 |
|------------------------------|-----------|-----------|
| Met AYP/Making Progress | 2,404 | 2,235 |
| Met AYP | 2,302 | 2,138 |
| Making Progress | 102 | 97 |
| Warning | 380 | 461 |
| Did Not Make AYP | 700 | 870 |
| School Improvement | 81 | 149 |
| School Improvement II | 53 | 75 |
| Corrective Action I | 44 | 33 |
| Corrective Action II, Year 1 | 66 | 29 |
| Corrective Action II, Year 2 | 19 | 59 |
| Corrective Action II, Year 3 | 10 | 15 |
| Corrective Action II, Year 4 | 28 | 13 |
| Corrective Action II, Year 5 | 19 | 18 |
| Corrective Action II, Year 6 | -- | 18 |

Table 5 lists the results for AYP for school districts in PA for the 2006-2007 and 2007-2008 school years:

Table 5 – AYP for School Districts in PA

| Status | 2006-2007 | 2007-2008 |
|------------------------------|-----------|-----------|
| Met AYP/Making Progress | 460 | 461 |
| Met AYP | 452 | 455 |
| Making Progress | 8 | 6 |
| Warning | 40 | 39 |
| Did Not Make AYP | 18 | 21 |
| School Improvement | 0 | 2 |
| School Improvement II | 2 | 1 |
| Corrective Action I | 12 | 2 |
| Corrective Action II, Year 1 | 4 | 7 |
| Corrective Action II, Year 2 | 1 | 3 |
| Corrective Action II, Year 3 | 0 | 0 |
| Corrective Action II, Year 4 | 0 | 0 |
| Corrective Action II, Year 5 | 3 | 0 |
| Corrective Action II, Year 6 | -- | 3 |

The Wall Street Journal (2008) reported the following nationwide AYP results for the 98,905 public schools in the US for the 2006-2007 school year:

- 64,546 met AYP
- 1,003 schools were planning restructuring (missed AYP 5 years)
- 1,299 schools were implementing restructuring (missed AYP 6 years)

Education Week (2009) reported data that more schools are facing sanctions under NCLB. One in five schools failed to make AYP and are in some stage of penalty

under the federal law. In the 2007-2008 school year, almost 30,000 schools failed to make AYP nationwide. For states with comparable data for the 2006-2007 school year, the number of schools increased by 28 percent. Half of those schools missed their achievement goals for two or more years. The number facing sanctions represents a 13 percent increase for states with comparable data over the 2006-2007 school year.

Public School Choice is a policy giving parents the right to decide where to send their children to school rather than being required by law to assign them to an assigned public school. Under NCLB, school districts must permit students to transfer out of consistently low-performing or persistently dangerous schools. Low-performing schools have students consistently earning lower-than-average test scores, as compared with schools with similar demographics that make little or no progress toward improving their academic performance. Failing schools have an unacceptable low proportion of students meeting established standards as compared with schools that have students with similar demographic profiles. School districts will be required to provide transportation and priority will be given to low-income students.

According to Barnes and Thompson (2007), NCLB has changed the educational landscape in our nation by demanding improved achievement, enhancing our understanding of teacher quality and strengthening classroom practice. These changes have benefited students, families, schools and our nation.

Challenges of the No Child Left Behind Act

NCLB has inspired reactions ranging from anger to admiration during the time it has re-shaped public education in every city and Hamlet in America (Asimov, 2007). Federal rules have 253 measures for schools and if schools fail at just one measure than

the entire school is considered failing to make AYP. Many states are getting their final AYP information in October. Many feel the law has created a larger gap in education. There are individuals, groups, critics of NCLB, schools cheating and many discrepancies on reports on the law and the progress that has been made. Critics are lobbying Congress to reduce the 100% target, delay the 2014 deadline or measure the growth of students from year to year instead of expecting them to meet the fixed standards. Federal officials have been criticized for requiring immigrant children who have been in schools for a little more than a year to meet the standard. Under NCLB, teachers feel great pressure to focus their energies solely on preparing students to excel on standardized tests. Also, science and social studies are being shortchanged due to the emphasis on testing. In addition, middle grades students need an extended curriculum that enables them to explore world languages, music, art, careers, service learning and character education (Guilfoyle, 2006).

According to the Center on Educational Policy (2008), more than 60 percent of school districts have increased instructional time in elementary schools for either or both English language arts and mathematics since 2001-2002, just before NCLB was enacted. Time spent on reading and mathematics in many districts has been bumped up by about 150 minutes per week, while time for social studies, science, art, music, physical education and other subjects has decreased by one-third on average. The survey completed in 2006 and 2007, represents systems nationwide, urban and rural, large and small.

Scherer (2006) is of the opinion on NCLB: "The greatest shame of a failed NCLB would be that these students will suffer more from the withholding of a rich curriculum in

favor of a test-heavy education.

McLaren (2007) offers the following comments on NCLB:

NCLB is an egregiously flawed act that does not support school improvement. It uses flawed standardized tests and reactionary approaches to the notions of assessment and accountability. The mandates of NCLB call for the closing of achievement gaps but it is woefully unable to fulfill its promises. Schools that fail to improve their test scores must use federal funds to pay for extra-curricular tutoring and the possibility of transferring to another so-called high-achieving school. Legislative provisions clearly make the process of privatizing education a lot easier through testing and accountability that will increase the likelihood of failure of students in economically disadvantaged schools. NCLB is all about transferring funds and students to profit-making private school corporations through vouchers. This punitive test driven “reform” puts inordinate pressure on teachers to teach to the test-to narrow their focus on what subjects should be taught and what themes and topics should be addressed. (p. 38)

Bracey (2007) believes that “NCLB has a conservative approach rather than a progressive approach to educational reform. There is little scientific evidence to suggest students performance on standardized test scores is an effective indicator of future success.”

Wolk (2004) believes that “Standardized tests have too many deficiencies to be the determining factor in assessing student achievement, but their most egregious flaw is that they don’t address the qualities and values that most parents want their children to

have – the skills and attitudes needed to continue learning on their own and to be good citizens, productive workers and fulfilled human beings.” (p. 80).

Ladd (2008) has the following comments: (1) “Test-based accountability has not generated the significant gains in student achievement that proponents intended. Nor is the country on track to meet either the high proficiency standards required under NCLB or the equity goals suggested by its name: (2) Also, NCLB tends to be punitive and pays too little attention to promoting effective process and practice within schools: and (3) tests are not very effective at evaluating and promoting 21st century skills such as problem-solving, teamwork and collaboration within diverse environments.” (pp. 26-27).

Gessner (2008) has the following opinion of NCLB: “While the goal of bringing up underachieving students is certainly a good one, NCLB stops there. It provides no support for those students who can and must go beyond mere proficiency.” (p. 28).

Hershberg (2005) has this opinion on high-stakes testing: “The mediocre, high-stakes standardized tests found in the large majority of states need to be replaced with a new integrated assessment system that would provide not only a high quality “summative” exam at year’s end focused on the development of higher-order thinking skills, but “formative” assessments throughout the school year designed to give teachers regular feedback in the form of suggested pedagogical interventions to support improved instruction for this year’s students.”

So far, NCLB has not yet achieved its key goals. Improvement in student scores and a narrowing of the achievement gap between white, middle-class children and their poor, minority counterparts. The law must help pay for and design better tests that are true measures of what students are supposed to learn. The success of a nation depends

largely on the quality of its educational system. The key to improving it is enforcing realistic and rigorous standards. NCLB has the standards and the enforcement, but it could use more realism and rigor (Los Angeles Times, 2007).

Fifty years after *Brown v. Board of Education*, American schools remain largely segregated. Schools serving mostly wealthy and white students have a distinct advantage when it comes to testing due to the environment these students are raised in (Abramson, 2007).

The National Assessment of Educational Progress (NAEP) is a congressionally mandated project overseen by the National Center for Education Statistics (NCES) to continuously monitor the knowledge, skills and performance of the nation's children and youth. As the "Nation's Report Card," NAEP has measured and reported on a regular basis what America's fourth, eighth and twelfth graders know and can do since 1969. It provides objective data about students' performance at national, regional and state levels. Statewide tests use different standards to measure student progress. NAEP is the closest thing the US has to a national test and is an independent benchmark. Most of these state tests are set much lower than NAEP. It is the only nationally representative and continuing assessment of what American students know and can do in various subjects. There are states with discrepancies on the percentage of students scoring proficient. There are a few states with large discrepancies and one state has over a 70% discrepancy (Russo, 2007). NAEP assessments are conducted in the following subjects:

- reading
- mathematics
- writing

- science
- US History
- geography
- civics

African-American students had made some progress on the NAEP but recently it has stalled and progress has been slow. For some groups, the gap has actually widened.

Only 2% of urban students are eligible for the school choice option and are using it and that only 16% of urban students who are eligible for SES are receiving those services (Bracey, 2007).

According to the Center on Educational Policy (June, 2007), the following are key findings in NAEP results:

- since 2002, many states with improved scores on state tests have shown declines or flat results on the NAEP-results on state tests and NAEP diverged more often at the grade eight level than at the grade four level-the most similar results were in grade four math, where almost all states showed gains on both assessments
- even when the percentage of students scoring at the proficient level on state tests is compared with the percentage scoring at the basic level on NAEP-a more equivalent comparison according to many analysts-states show more positive results on their own tests
- correlations between average yearly percentage point gains on state tests and gains on NAEP were low-the states with the greatest gains on their own tests were usually not the same states that had the greatest gains on

NAEP-the only significant correlation between state and NAEP results was a moderate relationship in grade four reading-it is possible that state tests and NAEP tests in grade four reading tend to be more closely aligned in content and format than tests in other grades and subjects

- NAEP results should not be used as a “gold standard” to negate or invalidate state test results; instead they provide an additional point of information about achievement-while state tests are far from perfect, they are best available standardized measures of the curriculum being taught in classrooms-NAEP provides a useful independent measure, but it also has limitations (p. 24)

SES is for students from low-income families who are attending Title I schools that have been identified as in need of improvement. SES is intended to improve student achievement. Parents can choose the appropriate services for their child from a list of approved providers. The school district will finance the services. States are struggling to monitor the impact of SES available to students in schools identified for improvement under NCLB (*School Leader News*, 2007).

The National Education Association (NEA) (Weaver, 2006) is in support of NCLB but feels the following needs to be addressed:

- support quality educators in every classroom
- promote smaller class sizes
- enhance family and community involvement
- provide adequate resources
- replace punitive mandates with positive support

As pressure grows for students, teachers and administrators to increase performance on high-stakes standardized tests, so has the temptation to cheat. As the pressure increases, more and more people are pushed over the ethical line (Williams, 2007). Two teachers in the state of Maryland resigned after it was discovered they gave copies of questions from a state test to teachers and students. Maryland, Pennsylvania, Delaware, New Jersey and the District of Columbia have hired monitors during the testing windows to visit schools and school districts to observe testing practices.

The National Governors Association, the Council of Chief State School Officers and the National Association of State Boards of Education are recommending that Congress allow states to use their own state accountability systems for growth models and to give out rewards and consequences for schools that do not meet AYP (Klein, 2007).

According to the Center on Educational Policy (2006), NCLB is the culmination of 15 years of standards-based reform. NCLB has directed greater attention to low achieving students and intensified efforts to improve persistently low-performing schools. There have been these challenging effects of NCLB on public schools:

- schools are spending more time on reading and mathematics, sometimes at the expense of subjects not tested
- students are taking a lot more tests
- the percentage of schools on state “needs improvement” lists has been steady but is not growing

Regarding NCLB, according to the Center on Educational Policy (2007), there are five main conclusions:

- in most states with three or more years of comparable test data, student achievement in reading and mathematics has gone up since 2002, the year NCLB was enacted
- there is more evidence of achievement gaps between groups of students narrowing since 2002 than the of gaps widening – still, the magnitude of the gaps is often substantial
- in nine of the 13 states with sufficient data to determine pre-and post-NCLB trends, average yearly gains in test scores were greater after NCLB took effect than before
- it is very difficult, if not impossible, to determine the extent to which these trends in test results have occurred because of NCLB – since 2002, states, schools and school districts have simultaneously implemented many different but interconnected policies to raise achievement
- although NCLB emphasizes public reporting of state test data, the data necessary to reach definitive conclusions about achievement were sometimes hard to find or unavailable, or had holes or discrepancies – more attention should be given to issues of the quality and transparency of state test data (p. 1)

Test scores have value, but if it is the only thing you are doing, you are not making a coherent and substantial judgment of how a student, school and school districts are doing.

Data

Policymakers and the public have increased pressure on low performing schools

and school districts across the nation. Under NCLB and numerous state initiatives, the number of schools and districts identified as low performing has grown, often outpacing efforts to address their needs (Harvey, 2006). NCLB has impacted schools in at least two ways: (1) use of data to improve student achievement imperative and (2) continuous improvement processes within schools (Bernhardt, 2004). Data-based decision making is the process of making decisions about curriculum and instruction on the basis of statistical analysis of classroom data, school data and the results of standardized tests. Continuous improvement is the process of planning, implementing, evaluating and improving student achievement all the time.

One of the perennial challenges in education and human development is how to make the most of information-whether test results, research findings and/or other data. Harvey (2006) asks the following questions: How do we ensure that information is accurate, relevant and timely? What happens with all the data generated by testing students? How do the results translate into improvements in practice?

Schools and school districts can get a better picture of how to improve learning for all students by gathering, intersecting and organizing different categories of data more effectively to drive educational practice. Data driven decision- making is a popular practice in public education based on demographic, student learning, perceptions and school process data.

Data helps schools develop a culture with a common vision and set of goals. It is imperative for schools to find a way to provide time and resources for teachers to meet regularly to interpret their data and make timely and important decisions about their students and their progress. Data-informed instruction is essential for high achievement.

Research indicates that formative assessment is one of the strongest interventions schools can make to raise test scores for all students with the greatest gains occurring among the lowest-performing students.

A database is a system of organized information that is easily retrievable. Student information systems are databases that electronically collect and organize data such as attendance, discipline referrals, gender, ethnicity and grades. According to Bernhardt (1999), databases can help with the following:

- classify and cluster data elements to understand the impact of standards implementation
- predict scores, in order to prevent failure
- understand what needs to change to get different results

Student information systems lead to educational data warehouses. Educational data warehouses allow for the manipulation and integration of multiple databases.

Databases are used for student information systems and educational data warehouses. The purpose of data warehousing is for rapid retrieval and querying. Also, it is a very useful tool for examining large amounts of data in order to find casual relationship (Preuss, 2003).

Teachers are using instructional management systems. This helps teachers align lessons to standardized learning objectives, provide instructional resources and assessments and measure student performance on learning objectives (Bernhardt, 2005).

Effective use of data can allow schools and school districts to set specific and measurable goals for student performance. A culture will be built that values regular and consistent data in a user-friendly data-management system (Olson, 2007).

Value-Added Analysis

One criticism of NCLB is there is too great of an emphasis on standardized testing, while doing little to measure student's progress effectively over time. Critics say the current accountability measures fail to reward schools and districts that produce student-achievement gains. Schools that start with low achievement can show dramatic gains but still miss short-term goals that would put their students on the road toward proficiency in reading and mathematics-the law's ultimate goal (Hoff, 2007). Value-added analysis is a measurement of the learning that a student achieves in one year. It is not only a proposed growth-model application but is very similar to what states had to do to win approval for their accountability plans under NCLB. Most tests are written to determine whether students are achieving at grade level. This information can be used to identify not only struggling students seeking to master state standards, but also proficient students at risk of stalling and falling behind. It is important to point out that a growth model is a tool to achieve proficiency by 2014, not a loophole to avoid it (Spellings, 2007). Value-added analysis provides the following:

- provides a measure of what "effect" schooling has in a single year
- formally described mixed model multivariate longitudinal analysis
- reporting has been used by educators for more than ten years
- how much progress students have made in each subject area/grade level

Value-added analysis offers an objective and more precise way to measure student progress and engage in professional dialogue with a focus on achievement and progress. It can be used to project future academic performance. Value-added systems are designed to indicate whether student achievement in a school is exceeding or keeping

pace with or falling behind the growth that would be expected as students move from one grade to the next. Questions can be answered about the average growth of specific groups, such as low-or-high achieving students. The big value of growth models is that educators focus on what their goal is: that is, to grow kids academically (Dougherty, 2007). The purpose of value-added analysis is to recognize the efforts of schools whose students have not achieved proficiency but are on trajectories towards proficiency on future exams.

To use a growth model, the United States Department of Education (USDE) requires states to meet a number of conditions:

- the model must demonstrate that it will meet NCLB's goal that all students will be proficient in reading and mathematics by the 2013-2014 school year
- accountability systems must require schools and districts to meet annual goals for student achievement in both reading and mathematics
- state's testing systems must report results that can compare one grade with the next year's
- states must track all students achievement in a statewide data system

USDE has approved the following states to use a growth-based accountability model:

- Alaska
- Arizona
- Arkansas
- Colorado
- Delaware

- Florida
- Iowa
- Michigan
- Minnesota
- Missouri
- North Carolina
- Ohio
- Pennsylvania
- Tennessee
- Texas

Dr. William L. Sanders and his colleagues at the University of Tennessee completed the first value-added assessment studies in education in the early 1980's. Out of this work, Dr. Sanders developed a complex statistical methodology that demands very sophisticated computer capabilities. This methodology runs thousands of algorithms simultaneously to do this analysis to ensure high-quality reporting. SAS is the world's largest software company and is the leader in integrating data warehousing, analytics and traditional business intelligence applications. SAS solutions are used at more than 40,000 sites including 96 of the top 100 companies on the fortune Global 500 and more than 2000 educational institutions.

In 2002, the PA League of Urban Schools approached the Pennsylvania Department of Education (PDE) regarding the potential benefit of value-added analysis. PDE passed a resolution starting the implementation of a "value-added approach." In response to the resolution, PDE collaborated with SAS's Education Value-Added

Assessment System (EVAAS) and the statistical methodology of Dr. Sanders in Cary, NC to provide the statistical analysis of data.

The Pennsylvania Value-Added Assessment System (PVAAS) measures growth and progress rates of individual students and groups of students from year-to-year and it is intended to serve as a complement to existing achievement measures. Recently, PVAAS was approved by the USDE as one way schools and school districts in PA can achieve AYP. PVAAS functions as a statistical analysis system that studies a school's own historical assessment information to demonstrate measures of the school's influence on indicators of student learning. PVAAS uses a highly-sophisticated and statistical-mixed model to analyze score changes from year-to-year on standardized assessments. In this process, it provides unbiased estimates of the effects of schooling on individual and group academic progress. PVAAS provides numerous reports that allow educators to analyze data, discover strengths and needs in developing an aligned system and identify evidence-based solutions to maximize learning. PVAAS has the capability to calculate the likelihood of a student achieving a specified target performance level on a future PSSA test. Also, PVAAS provides statistical analysis of existing assessment data and precise measurement of student progress/growth over time. Also, diagnostic reports are available to break down low, middle and high levels of performance along with performance reports by levels of proficiency.

Schools can use value-added analysis to ensure that high-achieving students are on the path to maintain their proficient or advanced standing through appropriate yearly growth. If a school detects a pattern of low growth among these students, it can intervene as needed before achievement levels slip below expectations. The final benefit of value-

added analysis is to track student growth over time without having to correlate different assessments from year to year.

Pennsylvania System of School Assessment

The PSSA is the annual standards based criterion-referenced and summative assessment used to measure a student's competency and attainment in all PA schools and school districts of the PA Academic Standards, Assessment Anchors and Eligible Content to make an overall judgment of progress made at the end of a defined period of instruction. The PSSA is a high-stakes assessment used in conjunction with NCLB and AYP to measure local and/or state accountability. The reading and mathematics assessment anchors and eligible content clarify the standards assessed on the PSSA and can be used by educators to help prepare their students for the PSSA. Assessment is a system of testing and evaluating individual students, groups of students, schools and school districts. Common formats for standardized tests include multiple-choice, short response and open-ended response. Criterion-referenced standards-based tests measure the performance of a student or a group of students in relation to the skills and knowledge of state standards and frameworks. These exams evaluate student achievement against an identified body of knowledge, not a comparable group of students (O'Shea, 2005). The goal is to have everyone attain a passing mark.

The PA Assessment Anchors and Eligible Content are specific statements of information and skills at developmentally appropriate levels that add definition and detail to content standards. They clarify the standards that are assessed by the PSSA and can be used by educators to focus their instruction grade to grade. The assessment anchors and eligible content were developed by PDE to better align curriculum, instruction and

assessment to the PSSA.

For reporting purposes, the assessment anchors and eligible content are grouped into reporting categories to provide more items per category to make the results more reliable.

For instructional purposes, individual student scores, provided only to their respective schools, can be used to assist school personnel in identifying students who may be in need of additional educational opportunities. School scores (assessment anchors and eligible content results) provide information to schools and school districts for curriculum and instruction improvement discussions and planning.

The PSSA (2007) is to serve the following purpose:

- provide students, parents, educators and citizens with an understanding of student and school performance
- determine the degree to which school programs enable students to attain proficiency of the state academic standards
- provide results to school districts, including charter schools and Area Vocational-Technical School's (AVTS's) for consideration in the development of strategic plans
- provide information to state policymakers including the General Assembly and the board on how effective schools are in promoting and demonstrating student proficiency of academic standards
- provide information to the general public on school performance
- provide results to school districts, including charter schools and AVTS's based upon the aggregate performance of all students, for students with an

Individualized Education Program (IEP) and for those without an IEP
(p.7)

PDE first administered the PSSA in 1992 to measure student performance in reading, writing and mathematics. The PSSA became mandatory in 1998. NCLB placed even more emphasis on the results as schools and school districts strive to meet AYP. Since the assessments are designed to help determine the quality of the schools programs, all students are to be included in the assessments, except for a few students who meet specific criteria. Each student will take three sets of items for each of the reading and mathematics assessments. Some sets will be the same for all students and some sets will consist of different groups of items distributed randomly. These different items allow broader coverage of the reading and mathematics content taught by schools.

All items chosen for the PSSA are written by experienced content experts and field-tested by PA students and scored by teams of experienced trained readers with at least a four-year degree and a strong content-specific background. All items have been reviewed by committees of PA teachers to determine their appropriateness for each grade level. Items were chosen based on professional experience and knowledge of the most commonly made mistakes by students at each level.

The PSSA Reading Assessment is designed to evaluate students' abilities to apply their knowledge, skills and strategies to reading situations that they may encounter in their daily lives. The test is based on the idea that reading is a holistic and reflective process. It measures students' abilities to engage meaningfully with a variety of texts. In order to gain the most complete picture of each individual's abilities, students are asked to respond to a combination of multiple-choice and open-ended questions.

Multiple-choice items require students to select the correct answer from four possible responses with one being the correct response. The student is awarded one score point for each correct response chosen. These items indicate whether or not the student has grasped important information, such as setting, main idea or the sequence of events.

Open-ended questions require students to write a response to demonstrate an understanding of the text. Students are awarded a score for each task based on the scoring guidelines (rubrics). Students use both prior knowledge and text-based information to express their ideas. Students might be asked to explain a character's actions, compare information on events, examine different points of view or analyze a particular reading passage.

Multiple-choice items in mathematics are used to assess a variety of skills, from short-term recall of specific facts or terms to problem solving.

Open-ended questions in mathematics require students to read a problem and write out their answers. Students must present their computations clearly and explain the steps they followed to solve the problem. These tasks present real-life situations that call for students to apply mathematics concepts learned in the classroom. These responses provide insight in to the students' reasoning processes.

Students are scored on one of four achievement levels (Advanced, Proficient, Basic and Below Basic) on the reading and mathematics sections. The performance levels describe how well students did on a given test. These achievement levels and variations of them have been adopted by many states to describe levels of student performance on state exams. Achievement levels are established by panels of educators and other informed citizens who make a judgment about what students should know and be able

to do at different grade levels.

The PA State Board of Education approved specific criteria for advanced, proficient, basic and below basic levels of performance. The following describes the four performance levels:

- Advanced – superior academic performance, in-depth understanding and exemplary display of skills
- Proficient – satisfactory academic performance, solid understanding and adequate display of skills and knowledge for a specific grade or subject
- Basic – marginal academic performance, partial mastery and limited display of skills of what students should know and be able to do
- Below Basic – inadequate academic performance on state tests, little understanding and minimal display of skills considered necessary for proficient performance

PSSA Data Interaction (eMetric) is an interactive website designed to provide quick, easy and secured access to student performance results. It provides detailed PSSA data queries in a variety of formats: student, school, anchor and subgroup. Reports can be created in tables and graphs. PSSA Data Interaction is currently available to all school districts.

Also, PA Academic Achievement Reports by the Grow Network provides customized reports for teachers, parents, administrators and students. The reports provide web tools that offer guidance based on test results, instructional materials designed to target student needs and professional development resources that build skills and enhance meaningful instruction. The Grow Network is responsible for developing student, school

and school district AYP reports by producing the PA AYP website (www.paayp.com) and managing an on-line instructional resource site for PA educators.

Student achievement in PA continues to improve as students have exceeded the ever-increasing targets for reading and mathematics. Compared to 2002, 29% more students are on grade level in 2008. The following are notable gains in 2008:

- student achievement has increased in every subject, at all grade levels and for all ethnic, racial and socio-economic groups of students since 2002
- 72 school districts have increased the proportion of students who are on grade level by at least 40% over the past six years
- in the 5th, 8th and 11th grades (the grades PA has tested the longest), the proportion of students on grade level in reading has increased 58% in 2002 to 68% in 2008
- during the same period, the proportion of students on grade level in mathematics has increased from 52% in 2002 to 66% in 2008
- 479 school districts have a majority of students on grade level in 2008, compared to 375 school districts in 2002, nearly a 30% increase
- the number of students scoring below basic has decreased by 38%, while the number scoring advanced has grown by 88%
- the achievement gap has narrowed by an average of 26% for African-American students, 20% for Latino students and 23% for low-income students

Table 6 shows the improvement by percentage that students in PA have made in achieving grade level proficiency (on grade level or above) in reading:

Table 6 – Percentage of Students Achieving Grade Level Proficiency in Reading

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|------------------|------|------|------|------|------|------|------|
| 3 rd | -- | -- | -- | 68% | 69% | 73% | 77% |
| 4 th | -- | -- | -- | -- | 68% | 70% | 70% |
| 5 th | 57% | 58% | 63% | 64% | 61% | 60% | 62% |
| 6 th | -- | -- | -- | -- | 66% | 64% | 67% |
| 7 th | -- | -- | -- | -- | 68% | 67% | 70% |
| 8 th | 59% | 63% | 69% | 64% | 71% | 75% | 78% |
| 11 th | 59% | 59% | 61% | 65% | 65% | 65% | 65% |

Table 7 shows the improvement by percentage that students in PA have made in achieving grade level proficiency (on grade level or above) in mathematics:

Table 7 – Percentage of Students Achieving Grade Level Proficiency in Mathematics

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|------------------|------|------|------|------|------|------|------|
| 3 rd | -- | -- | -- | 81% | 83% | 79% | 81% |
| 4 th | -- | -- | -- | -- | 77% | 78% | 80% |
| 5 th | 53% | 56% | 62% | 69% | 67% | 71% | 73% |
| 6 th | -- | -- | -- | -- | 68% | 70% | 72% |
| 7 th | -- | -- | -- | -- | 66% | 67% | 71% |
| 8 th | 52% | 51% | 58% | 63% | 62% | 68% | 70% |
| 11 th | 50% | 49% | 49% | 51% | 52% | 54% | 56% |

4Sight

Educators have come to understand that effective instruction requires periodic, benchmark standards-based assessments to determine what students have learned and

what they still need to learn in order to meet learning goals and standards. Such information plays a critical role in planning how and what to teach at every level—classroom, school and district. Norm-referenced standardized tests rely on test questions of varied difficulty to identify low-and-high-performing students. The purpose of these tests is to compare the performance of a student or group of students with the performance of a population of other students, typically a state or national population. Although they are effective in comparing one student’s skills or knowledge with that of other students, they serve no purpose in measuring student achievement of the content of the standards (O’Shea, 2005).

4Sight is a benchmark assessment. Benchmark assessments give students the best chance to access and demonstrate what they know. Teachers have an opportunity to improve instruction and provide student feedback. Formative assessments are an ongoing analysis of how students are engaged in their studies and performing in class activities. They can help determine if benchmark assessments are working. Examples of formative assessments are curriculum-based assessments and class grades. Teachers can use these assessments to provide specific feedback so that students can see the progress they make toward their individual goals and what information they still need to become proficient. Also, teachers align both curriculum and assessment with standards and the goals of the school. By discussing benchmark assessment data, teachers improve their practices, analyze data and work collaboratively to improve curriculum, instruction and assessment. It is possible to increase the achievement of more students by attending to information gathered on student differences and aligning learning experiences to them. For the 2006-2007 school year, more than 350 school districts in PA used 4Sight.

The 4Sight Benchmark Assessment is a PSSA-like assessment that can be given up to five times a year to gauge student growth. 4Sight developed by the Success for All Foundation (SFAF) is a quarterly predictive benchmark assessment tool that helps predict how students will perform on state assessments that day in reading and mathematics and provide useful data for focusing professional staff development and instructional goals. 4Sight assessments are one-hour tests that have similar formats to state assessment tests. The test can be given up to five times a year in time to take action in the areas in which students need help. 4Sight provides a useful guide to help teachers focus instruction on key subskills designed around PA Academic Standards, Assessment Anchors and Eligible Content. With easy-to-use scoring masks and scoring rubrics, teachers can determine each child's strengths and weaknesses by viewing student reports on proficiency levels. 4Sight data can be organized through the SFAF Member Center website. SFAF Member Center is an easy-to-use computer-based data management system to provide clear summaries that help school leaders chart progress and target resources to particular grades, classes and/or subgroups often critical to achieving AYP.

According to Pennsylvania and 4Sight (July, 2007), 4Sight has high correlation coefficients for each of the assessments ranging from 0.80 to 0.89. The results are shown in Table 8:

Table 8 – Comparison of 4Sight Third Quarter Scores to PSSA Scores for 2007

| Grade/Subject | 4Sight Percent Passing | PSSA Percent Passing |
|-----------------------------|------------------------|----------------------|
| 3 rd Mathematics | 73 | 78 |
| 4 th Mathematics | 80 | 78 |
| 5 th Mathematics | 69 | 70 |
| 6 th Mathematics | 73 | 69 |
| 7 th Mathematics | 65 | 66 |
| 8 th Mathematics | 68 | 67 |
| 3 rd Reading | 68 | 72 |
| 4 th Reading | 72 | 70 |
| 5 th Reading | 62 | 60 |
| 6 th Reading | 74 | 63 |
| 7 th Reading | 69 | 66 |
| 8 th Reading | 70 | 74 |

Tutoring

Tutoring has undergone a transformation over the last 100 years. Once a practice reserved for the elite, tutoring today reaches into the inner cities through business-supported efforts and volunteer programs (Franklin, 2003). Americans spend billions of dollars on tutoring and other supplemental education services. NCLB contains provisions requiring school districts to provide extra academic assistance for eligible children in schools deemed low performing. NCLB enables parents to seek outside assistance for their children who are struggling or attending low-performing schools. School districts are required to provide parents with an approved list of approved tutors

and other supplemental education services to help their children increase achievement. One-to-one adult-to-child tutoring is one of the most effective instructional strategies known and it essentially solves the problem of appropriate levels of instruction (Slavin, 1991).

Tutoring can be an after-school program. Even though after-school programs are on the rise, mixed results have emerged in recent years regarding effective tutoring programs (Hock, Shumaker and Deshler, April, 2001). With the current emphasis on improving academic achievement, it is only natural that educators should look at extending learning time as one strategy. Faced with the demands of NCLB, schools are turning to after-school programs that have a strong academic focus as an option for helping struggling students become more proficient (Lockwood, Barton and Kemp, 2008). These are activities that take place after the regular school day ends. NCLB allocates \$1 billion in funding for after-school programs. Students can benefit considerably from extracurricular and after-school programs. Research shows that after-school programs provide the following benefits:

- increase in academic achievement regardless of socioeconomic status, ethnic background or parents' education level
- decrease in at-risk behavior
- higher graduation rates and increased enrollment in postsecondary education

According to Miller (2001):

A wide variety of studies focused on various program models link after-school program participation with improved attitudes toward school,

higher expectations of school achievement, better work habits and higher attendance rates, especially for low-income students. (p. 220)

In the 2003-2004 school year, PA Governor Rendell signed into law the the Educational Assistance Program (EAP) for targeted tutoring at a funding level of \$38 million. EAP is a special tutoring program funded by the state of PA and targeted to the state's most academically challenged school districts by funding evidence-based tutoring instructional practices and programs. This program provides extended learning opportunities and is designed to boost student achievement and help all students succeed. EAP is an assessment-driven description of curriculum content and teaching practices. Educators who provide assessment-driven instruction start with the assessment and then figure out what students need to know and be able to do to be prepared for the assessment. Districts are now able to offer tutoring services to eligible students in grades K-12.

In the first year, almost 35,000 students in 82 academically challenged school districts were serviced. In the 2004-2005 school year, the same funding was granted and over 46,000 students were serviced. During the 2005-2006 school year, \$66 million was allocated for 175 school districts and AVTS's. For the 2007-2008 school year, the ABC School District in which the ABC Middle School is a part of, received \$185, 941 for EAP.

Tutoring is to be conducted using an evidence-based instructional model that is aligned with the PA academic standards. All materials, supplies and programs used are to be approved by PDE for funding to be approved. The district has the flexibility of providing the tutoring with a PDE approved community provider.

Students eligible for EAP have below proficient scores (Basic or Below Basic) on the PSSA or on an approved eligible test. Eligible students may receive tutoring before school, after school, weekends and/or summer. Tutoring may be provided during the normal school day provided that the tutoring is an addition to and does not interfere with the regular scheduled reading and/or mathematics class. Also, if the student has an IEP, it cannot be substituted. Many students in the program are at-risk students. Schools and school districts are required to provide a minimum of 45 hours of instruction for reading and mathematics.

A system of data-driven decision making will help schools meet the challenges of NCLB by students showing improvement on the PSSA on annual basis and quarterly on the 4Sight. EAP is a step toward achieving the goals of NCLB and creating a system to provide instructional opportunities for non-proficient scoring students.

To measure school effectiveness, we need to pay attention not only to proficiency levels but also to how much progress students make in a given year. Schools need to be sure they are headed in the right direction. Our role in schools is to meet students where they are when they enter our schools, assess their skills and match our instruction to their instructional needs. Educational standards for our youth in America have increased substantially over the last two decades, yet we have not provided students with the additional time or support they need to achieve those higher standards. There is a focus on after-school programs to help students become proficient in reading and mathematics. However, there are not many research-proven programs for any of these purposes. There is a need to develop and evaluate programs for small-group remedial interventions in reading and mathematics for all grades.

Tutoring studies have produced mixed results. A study was done analyzing the following nine urban school districts: Baltimore, Chicago, Denver, Long Beach, Los Angeles, Palm Beach, Philadelphia, San Diego and Washington, D.C. It found students who received tutoring in five of the districts improved in mathematics and reading. Researchers found no change in student scores in two districts. The results were set aside in two other districts because not enough students got tutoring there to yield valid results (Zuckerbrod, 2007).

Research suggests, federally mandated public after-school tutoring isn't always reaching the children it is intended to help. Findings from Los Angeles, Pittsburgh and Milwaukee find that few children take up the offer. In Milwaukee, 90% of students registered in 2003 attended sessions but only 34% in 2006. Also, there was no rise in scores. Researchers in Los Angeles found similar results though children tutored for several years did better. In Pittsburgh, tutors got better results grouping students by achievement level rather than grade level (Toppo, 2008).

The Chicago Public Schools spent \$50 million in federal money on after-school tutoring for 56,000 students last year but test scores show it got limited bang for its buck. Tutored elementary students showed only slightly more gains in reading on state tests in 2006 than comparable kids who were eligible for tutoring but did not get the extra help. Researchers called that small but "significant" uptick. There was a "negligible" gain in mathematics, according to an analysis by the Chicago Public Schools. Low-scoring kids ineligible for tutoring-because they went to a higher achieving school or came from a higher income family-made the most progress in reading and mathematics (Grossman, 2007).

Recent studies on the 21st Century Community Learning Centers indicated that they had a limited effect on elementary students' academic achievement between 1999 and 2002, which led to implementing "enhanced" mathematics and reading after-school programs (Educational Research Service, 2008). Enhanced after-school programs were designed in for reading and mathematics for grades two, three, four and five and targeted students who were behind grade level by less than two years. The SFAF developed the Adventure Island reading program and Harcourt School Publishers adapted its existing mathematics material to develop the Mathletics program. Teachers were trained for the programs and each was instituted in 25 sites.

Adventure Island had limited success. There was no statistical effect on students' performance but there were positive effects on two measures of the DIBELS fluency test. Mathletics demonstrated notable success. Students recorded 8.5% more growth than students in traditional programs. This report only reflects only one year of study.

Chapter two reviewed pertinent literature on NCLB, Standards-Based Education, Data-Driven Decision Making, Value-Added Assessment, PVAAS, PSSA, 4Sight and tutoring. Each of these components is essential in the argument for implementing additional learning opportunities like after-school tutoring for non-proficient students to meet the challenges and expectations of NCLB to close the achievement gap between all students regardless of race and socio-economic status.

Chapter three will describe an after-school tutoring program that was done to meet the challenges of NCLB. The study will include the methodology, design used in study, population, sample and data collection.

Chapter four will be the data analysis of the study. The eight research questions

will be analyzed. The impact the after-school tutoring program made on non-proficient students for the PSSA and 4Sight will be discussed.

Chapter five will summarize the study. During the summarization, conclusions will be made along with recommendations for further studies.

CHAPTER III

METHODOLOGY

Public Law 107-110, the No Child Left Behind Act (NCLB) of 2001 has set the foundation to study the effectiveness of the ABC Middle School Educational Assistance Program (EAP) after-school tutoring program. Utilizing the student data, it was the purpose of this study to obtain a greater understanding of the effects the program had on improved student achievement in reading and mathematics on the Pennsylvania System of School Assessment (PSSA) and the 4Sight benchmark assessment by comparing student scores of those identified for additional targeted instruction in the after-school tutoring program with those student scores who did not receive additional targeted instruction and did not participate in the after-school tutoring program.

This study was conducted during the 2006-2007 and the 2007-2008 school years in the ABC Middle School in the ABC School District. ABC is the only middle school in the ABC School District located in Pennsylvania (PA). The ABC Middle School is approximately 30 minutes from Pittsburgh, PA and approximately one hour from Youngstown, OH. Table 9 has the demographic information for the ABC Middle School for the 2006-2007 and 2007-2008 school years.

Table 9 – Demographics for the ABC Middle School for the 2006-2007 and 2007-2008

School Years

| Demographics | 2006-2007 | 2007-2008 |
|----------------------------|-----------|-----------|
| Students | 387 | 351 |
| Caucasian | 18% | 20% |
| African-American | 82% | 79% |
| Economically Disadvantaged | 73% | 89% |
| Special Education | 17% | 19% |

The ABC Middle School initiated with state funding an after-school tutoring program. Reading was held Mondays and Wednesdays from 3:05-4:05 p.m. Mathematics was held Tuesdays and Thursdays from 3:05-4:05 p.m. Students could qualify for one or both groups. Students qualified for the program by scoring Basic on the 2006 and/or 2007 PSSA. The ABC Middle School teachers developed lesson plans from using supplemental materials directly connected to the PSSA, PA academic standards, assessment anchors and eligible content. Programs implemented in both reading and mathematics requires teachers to place/group students appropriately according to their academic needs. Students in the after-school tutoring program were grouped by grade level and placed/grouped according to their needs.

For reading, the materials used in the tutoring sessions were McGraw Hill's SRA Reading Labs and Specific Skill Series Labs. SRA Reading Labs present a diverse collection of topics to meet a wide range of reading levels for students. The labs build a foundation of cross-curricular knowledge, spark student interest and inspire students to get the most from each assignment. Also, the reading labs focus on building strong

reading and comprehension skills with an assortment of high-quality reading selections including biographies, fictional narratives and nonfiction works. Both of these kits target isolated reading skills. Students work independently on their weakest skills. The specific skills labs focus on the following:

- using phonics/word study
- getting the main idea
- finding detail
- comparing and contrasting
- identifying cause and effect
- identifying fact and opinion
- drawing conclusions
- sequencing
- making inferences

For mathematics, the materials used in the tutoring sessions were *America's Choice Mathematics Navigator*. *America's Choice* is a school reform program created by Marc Tucker and the National Center on Education and the Economy, based on study of schooling on other nations. This whole-school redesign is based on the idea that instruction, assessment, teacher training and professional development should be aligned with curricular standards. *Mathematics Navigator* consists of 12 modules. Each module consists of 20 sessions and each session is 30 minutes. The 12 modules focus on the following concepts:

- beginning place value
- knowing addition and subtraction facts

- knowing multiplication and division facts
- understanding addition and subtraction
- understanding multiplication
- understanding division
- knowing fractions
- understanding fractions
- understanding and reading word problems
- multiplying multi-digit whole numbers
- measurement
- place value from decimals to billions

Mathematics Navigator is a tier-two intervention program. The 20-day modules that target the math concepts that cause students difficulty by addressing the root causes of these misconceptions. A diagnostic screener test helps identify which students need this level of extra help. Student progress is monitored using pre-tests, post-tests and checkpoints.

Thousand and Villa (2005) reported that technology is a catalyst for transforming schools by fostering excitement in learning for all children. Two web-based programs called *Study Island* and *Skills Tutor* were used for reading and mathematics in the after-school tutoring program.

Study Island is an instructional and diagnostic tool that enables teachers to help students master the state standards and prepare for their state tests.

Skills Tutor, published by Houghton Mifflin, is a comprehensive resource for diagnosing and remediation for students' basic skills. Also, *Skills Tutor* aligns to state

standards, addresses individual learning needs by prescribing instruction, monitors and reports skill mastery and extends learning time. *Skills Tutor* provides the following:

- includes 1600 K-12 online lessons and activities in all core academic areas
- is web-based so students can access it from any computer with an Internet connection
- is aligned to state standards
- helps students meet federal AYP goals
- identifies skill gaps and assigns learning activities
- allows utilization of reports to track both student and class progress

Design of the Study

The study employed an Ex-Post Facto design. All data has been collected and parental consent was obtained at the beginning of the project since the data had been already available. Achievement data measured by the 2006 and 2007 PSSA reading and mathematics scores for students in grades 4, 5, 6 and 7 were used to determine eligibility for participation in the study and were used to create comparison groups. PSSA scores for 2007 and 2008 4Sight scores from September 2006, May 2007, September 2007 and May 2008 will also be analyzed.

The eight research questions addressed in this study were:

1. For the 2006-2007 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the PSSA?
2. For the 2006-2007 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students

- with the non-tutored students on the mathematics portion of the PSSA?
3. For the 2006-2007 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the May 4Sight benchmark assessment?
 4. For the 2006-2007 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight benchmark assessment?
 5. For the 2007-2008 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the PSSA?
 6. For the 2007-2008 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the PSSA?
 7. For the 2007-2008 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the May 4Sight benchmark assessment?
 8. For the 2007-2008 school year, what correlation did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight benchmark assessment?

A Pearson Chi-Square test analysis was used to test the eight research questions in relation to the students who participated and those who did not participate in the program. For this study, there was no true randomization and the distribution was not even for the 2006-2007 and 2007-2008 school years. For the 2006-2007 school year, in reading, there were 49 students tutored and 45 students not tutored. In grades five, seven and eight, there was a difference of five students more or five students less who were tutored as to those students not tutored. In mathematics, there were 44 students tutored and 32 students not tutored. In grade five, only four students were tutored and two students not tutored. In grades six, seven and eight, there were fewer students tutored than not tutored.

For the 2007-2008 school year, in reading, there were 33 students tutored and 48 students not tutored. In grades six, seven and eight, there were fewer students tutored than not tutored. In grade seven, there were seven fewer students tutored and in grade eight, there were six fewer students tutored. In mathematics, there were 26 students tutored and 39 students not tutored. Grades six and eight had the biggest discrepancies. Grade six had three fewer students tutored and grade eight had nine fewer students tutored.

To confirm the Pearson Chi-Square test analysis, a Wilcoxon Signed Ranks test analysis was done to see whether there was a significant change in test scores for either the tutored or non-tutored group. The Wilcoxon Signed Ranks test is non-parametric test like the Chi-Square test.

The Wilcoxon Signed Ranks test is a statistical hypothesis test for repeated measurements on a single sample or for two-related samples. It involves comparisons of differences between measurements.

The alpha level used in the Pearson Chi-Square and Wilcoxon Signed Ranks tests was .05. After the aforementioned tests were run, the significance levels determined the effect of the after-school tutoring program. For significance levels less than the alpha level (.05), the results would be in favor of the tutored group that there was effectiveness in the program. The evidence would be beyond a reasonable doubt. The closer the observed significance levels or p-values are to zero, the more significant they are. For values on or close to the borderline between accepting and rejecting, marginal results are produced that can go either way.

For observed significance levels or p-values above the alpha level (0.05), there would be no effectiveness of the tutoring group compared to the non-tutoring group. The sample data does not contain enough evidence to refute it.

Population and Sample

The students eligible to participate in the after-school tutoring program are all students of the ABC Middle School and all scored Basic in reading and/or mathematics on the 2006 and/or 2007 PSSA in reading and/or mathematics. Letters were sent to parents of all students eligible followed by a telephone call. Students who were given parental permission to participate became the tutoring group. Students who responded not interested or there was no response at all became the non-tutored group.

Scaled scores could not be used in this study because proficiency levels at different grade levels have different scaled scores required for proficiency.

Table 10 lists the number of students who participated and did not participate in the ABC Middle School EAP after-school tutoring program for the 2006-2007 school year in reading and mathematics.

Table 10 – ABC Middle School 2006-2007 After-School Tutoring Program

| | Reading | | Mathematics | |
|---------|---------|-------------|-------------|-------------|
| | Tutored | Not Tutored | Tutored | Not Tutored |
| Grade 5 | 15 | 10 | 4 | 2 |
| Grade 6 | 8 | 9 | 13 | 10 |
| Grade 7 | 16 | 11 | 14 | 10 |
| Grade 8 | 10 | 15 | 13 | 10 |
| Total | 49 | 45 | 44 | 32 |

Table 11 lists the number of students who participated and did not participate in the ABC Middle School EAP after-school tutoring program for the 2007-2008 school year in reading and mathematics.

Table 11 – ABC Middle School 2007-2008 After-School Tutoring Program

| | Reading | | Mathematics | |
|---------|---------|-------------|-------------|-------------|
| | Tutored | Not Tutored | Tutored | Not Tutored |
| Grade 5 | 8 | 8 | 4 | 4 |
| Grade 6 | 11 | 13 | 9 | 12 |
| Grade 7 | 9 | 16 | 8 | 9 |
| Grade 8 | 5 | 11 | 5 | 14 |
| Total | 33 | 48 | 26 | 39 |

Table 12 lists the number of students in the 2006-2007 school year who improved, had no change or worsened on the PSSA and 4Sight. Also, the number of students who scored Advanced, Proficient, Basic and Below Basic are categorized for the PSSA.

Table 12 – After-School Tutoring Results for the 2006-2007 School Year

| | PSSA Reading | 4Sight Reading | PSSA Mathematics | 4Sight Mathematics |
|--------------------------|----------------------------|-------------------|----------------------------|-----------------------|
| Tutored Improved | 0 Advanced 9 Proficient | 19 | 0 Advanced 7 Proficient | 26 |
| Tutored No Change | 22 Basic | 19 | 19 Basic | 12 |
| Tutored Worsened | 18 Below | 11 | 18 Below | 6 |
| Not Tutored Improved | 1 Advanced 9 Proficient | 24 | 0 Advanced 7 Proficient | 20 |
| Not Tutored No Change | 23 Basic | 13 | 16 Basic | 9 |
| Not Tutored Worsened | 12 Below | 8 | 9 Below | 3 |

Table 13 lists the number of students in the 2007-2008 school year who improved, had no change or worsened on the PSSA and 4Sight. Also, the number of students who scored Advanced, Proficient, Basic and Below Basic are categorized for the PSSA.

Table 13 – After-School Tutoring Results for the 2007-2008 School Year

| | PSSA Reading | 4Sight Reading | PSSA Mathematics | 4Sight Mathematics |
|--------------------------|-----------------------------|-------------------|----------------------------|-----------------------|
| Tutored Improved | 2 Advanced 4 Proficient | 13 | 1 Advanced 3 Proficient | 15 |
| Tutored No Change | 17 Basic | 15 | 14 Basic | 11 |
| Tutored Worsened | 10 Below | 5 | 8 Below | 0 |
| Not Tutored Improved | 2 Advanced 17 Proficient | 24 | 1 Advanced 6 Proficient | 12 |
| Not Tutored No Change | 17 Basic | 14 | 19 Basic | 22 |
| Not Tutored Worsened | 12 Below | 10 | 13 Below | 5 |

Data Collection

Data were collected on participating students each day of the ABC Middle School EAP after-school tutoring program. Teachers kept a record of attendance and student performance. The September and May 4Sight scores were recorded on the last days of tutoring.

Data Analysis

In an attempt to analyze the data answering the research questions, the tutoring and non-tutoring groups were established. Each group was chosen from the students identified as Basic from the 2006 and 2007 PSSA reading and mathematics scores whose parents elected to enroll or to not enroll them in the ABC Middle School EAP after-school tutoring program.

Data collected from the Pearson Chi-Square and Wilcoxon Signed Ranks tests were performed using the statistical software program Statistical Package of Social Sciences (SPSS) for Windows Version 16.0 (SPSS, 2008). SPSS is a leading worldwide provider of predictive analytics software and solutions. SPSS is a comprehensive system for analyzing data. It can take data from almost any type of file and use them to generate tabulated reports, charts, plots of distributions and trends, descriptive statistics and complex statistical analyses. This program was used to calculate all statistics required to answer the eight research questions.

CHAPTER IV
ANALYSIS OF DATA

This study examined the impact of the ABC Middle School EAP after-school tutoring program on student achievement in relation to the PSSA and 4Sight by comparing the scores of students who participated in the program and did not participate in the program. The eight research questions in this study were answered by performing a Pearson Chi-Square and the Wilcoxon Signed Ranks tests.

Table 14 lists the number of students in the 2006-2007 school year who improved, had no change or worsened on the PSSA and 4Sight. Also, the number of students who scored Advanced, Proficient, Basic or Below Basic are categorized for the PSSA. Also, the p-value of the Chi-Square test is listed.

Table 14 – After-School Tutoring Results for the 2006-2007 School Year

| | PSSA Reading | 4Sight Reading | PSSA Mathematics | 4Sight Mathematics |
|--------------------------|----------------------------|-------------------|----------------------------|-----------------------|
| Tutored Improved | 0 Advanced 9 Proficient | 19 | 0 Advanced 7 Proficient | 26 |
| Tutored No Change | 22 Basic | 19 | 19 Basic | 12 |
| Tutored Worsened | 18 Below | 11 | 18 Below | 6 |
| Not Tutored Improved | 1 Advanced 9 Proficient | 24 | 0 Advanced 7 Proficient | 20 |
| Not Tutored No Change | 23 Basic | 13 | 16 Basic | 9 |
| Not Tutored Worsened | 12 Below | 8 | 9 Below | 3 |
| p-value | .575 | .365 | .497 | .850 |

Impact on PSSA Reading 2007

To answer the question relative to the reading portion of the PSSA for the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the PSSA? The Pearson Chi-Square and the Wilcoxon Signed Ranks tests were used to answer this question. The PSSA proficiency levels (advanced, proficient, basic and below basic) and whether or not the students were tutored were used as the variables.

On the PSSA, tutored students had an 18.4% improvement while the non-tutored students had a 22.2% improvement. The p-value of the Pearson Chi-Square test was .575. The Wilcoxon Signed Ranks test confirmed the results of the Pearson Chi-Square test. Therefore, the evidence does not support that there was a statistically significant improvement on the 2007 PSSA for tutored students in reading.

Impact on PSSA Mathematics 2007

To answer the question relative to the mathematics portion of the PSSA for the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the PSSA? The Pearson Chi-Square and the Wilcoxon Signed Ranks tests were used to answer this question. The PSSA proficiency levels (advanced, proficient, basic and below basic) and whether or not the students were tutored were used as the variables.

On the PSSA, tutored students had a 15.9% improvement while the non-tutored students had a 21.9% improvement. The p-value of the Pearson Chi-Square test was .497.

The Wilcoxon Signed Ranks test confirmed the results of the Pearson Chi-Square test. Therefore, the evidence does not support that there was a statistically significant improvement on the 2007 PSSA for tutored students in mathematics.

Impact on 4Sight Reading 2007

To answer the question relative to the reading portion of the May 4Sight benchmark assessment for the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the May 4Sight benchmark assessment? The Pearson Chi-Square and the Wilcoxon Signed Ranks tests were used to answer this question. The PSSA proficiency levels (advanced, proficient, basic and below basic) and whether or not the students were tutored were used as the variables.

On the 4Sight, tutored students had a 38.8% improvement while the non-tutored students had a 53.3% improvement. The p-value of the Pearson Chi-Square test was .365. The Wilcoxon Signed Ranks tests confirmed the results of the Pearson Chi-Square test. Therefore, the evidence does not support that there was a statistically significant improvement on the May 2007 4Sight benchmark assessment for tutored students in reading.

Impact on 4Sight Mathematics 2007

To answer the question relative to the mathematics portion of the May 4Sight benchmark assessment for the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight

benchmark assessment? The Pearson Chi-Square and the Wilcoxon Signed Ranks tests were used to answer this question. The PSSA proficiency levels (advanced, proficient, basic and below basic) and whether or not the students were tutored were used as the variables.

On the 4Sight, tutored students had a 59.1% improvement while the non-tutored students had a 62.5% improvement. The p-value of the Pearson Chi-Square test was .850. The Wilcoxon Signed Ranks tests confirmed the results of the Pearson Chi-Square test. Therefore, the evidence does not support that there was a statistically significant improvement on the May 2007 4Sight benchmark assessment for tutored students in mathematics.

Table 15 lists the number of students in the 2007-2008 school year who improved, had no change or worsened on the PSSA and 4Sight. Also, the number of students who scored Advanced, Proficient, Basic or Below Basic are categorized for the PSSA. Also, the p-value of the Chi-Square test is listed.

Table 15 – After-School Tutoring Results for the 2007-2008 School Year

| | PSSA Reading | 4Sight Reading | PSSA Mathematics | 4Sight Mathematics |
|--------------------------|-----------------------------|-------------------|----------------------------|-----------------------|
| Tutored Improved | 2 Advanced 4 Proficient | 13 | 1 Advanced 3 Proficient | 15 |
| Tutored No Change | 17 Basic | 15 | 14 Basic | 11 |
| Tutored Worsened | 10 Below | 5 | 8 Below | 0 |
| Not Tutored Improved | 2 Advanced 17 Proficient | 24 | 1 Advanced 6 Proficient | 12 |
| Not Tutored No Change | 17 Basic | 14 | 19 Basic | 22 |
| Not Tutored Worsened | 12 Below | 10 | 13 Below | 5 |
| p-value | .116 | .209 | .917 | .045 |

Impact on PSSA Reading 2008

To answer the question relative to the reading portion of the PSSA for the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the PSSA? The Pearson Chi-Square and the Wilcoxon Signed Ranks tests were used to answer this question. The PSSA proficiency levels (advanced, proficient, basic and below basic) and whether or not the students were tutored were used as the variables.

On the PSSA, tutored students had an 18.2% improvement while the non-tutored students had a 39.6% improvement. The p-value of the Pearson Chi-Square test was .116. The Wilcoxon Signed Ranks test confirmed the results of the Pearson Chi-Square test.

Therefore, the evidence does not support that there was a statistically significant improvement on the 2008 PSSA for tutored students in reading.

Impact on PSSA Mathematics 2008

To answer the question relative to the mathematics portion of the PSSA for the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the PSSA? The Pearson Chi-Square and the Wilcoxon Signed Ranks tests were used to answer this question. The PSSA proficiency levels (advanced, proficient, basic and below basic) and whether or not the students were tutored were used as the variables.

On the PSSA, tutored students had a 15.4% improvement while the non-tutored students had a 17.9% improvement. The p-value of the Pearson Chi-Square test was .917. The Wilcoxon Signed Ranks test confirmed the results of the Pearson Chi-Square test. Therefore, the evidence does not support that there was a statistically significant improvement on the 2008 PSSA for tutored students in mathematics.

Impact 4Sight Reading 2008

To answer the question relative to the reading portion of the May 4Sight benchmark assessment for the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the May 4Sight benchmark assessment? The Pearson Chi-Square and the Wilcoxon Signed Ranks tests were used to answer this question. The PSSA proficiency levels (advanced, proficient, basic and below basic) and whether or not the students were tutored were used as the

variables.

On the 4Sight, tutored students had a 39.4% improvement while the non-tutored students had a 50% improvement. The p-value of the Pearson Chi-Square test was .209. The Wilcoxon Signed Ranks test confirmed the results of the Pearson Chi-Square test. Therefore, the evidence does not support that there was a statistically significant improvement on the May 2008 4Sight benchmark assessment for tutored students in reading.

Impact on 4Sight Mathematics 2008

To answer the question relative to the mathematics portion of the May 4Sight benchmark assessment for the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight benchmark assessment? The Pearson Chi-Square and the Wilcoxon Signed Ranks tests were used to answer this question. The PSSA proficiency levels (advanced, proficient, basic and below basic) and whether or not the students were tutored were used as the variables.

On the 4Sight, tutored students had a 57.7% improvement while the non-tutored students had a 30.8% improvement. The p-value of the Pearson Chi-Square test was .045. The Wilcoxon Signed Ranks test confirmed the results of the Pearson Chi-Square test. Therefore, the evidence does support that there was a statistically significant improvement on the May 2008 4Sight benchmark assessment for tutored students in mathematics.

In summary, this chapter included an analysis of the 2007 and 2008 PSSA and the

May 2007 and May 2008 4Sight benchmark assessment data using the Pearson Chi-Square and the Wilcoxon Signed Ranks tests to measure the effectiveness of the ABC Middle School EAP after-school tutoring program. Utilizing the scores of the students, it was the purpose of this study to obtain a greater understanding of the effects the program had on improved student achievement in reading and mathematics on the PSSA and the 4Sight benchmark assessment by comparing student scores of those identified for additional targeted instruction in the after-school tutoring program with those student scores who did not receive additional targeted instruction and did not participate in the after-school tutoring program.

Chapter 5 will discuss and summarize the findings of the study along with other conclusions and recommendations.

CHAPTER V

SUMMARY, CONCLUSIONS and RECOMMENDATIONS

The final chapter of the dissertation restates the research problem and reviews the major statistical analysis used in the study. Included in this chapter will include a summary of the study's results and a discussion of their implications and connections to research literature, recommendations, suggestions for further study and a final summary of the study.

Restatement of the Problem

The No Child Left Behind Act of 2001 (NCLB), Part A, Section 1116(b)(5) mandates schools and school districts show Adequate Yearly Progress (AYP) to avoid being in warning, school improvement or corrective action. If a school or school district does not meet AYP, there school or school district status is Warning. Schools and school districts are put on notice but no specific action needs to be taken. While a school is in Warning and does not make AYP, the school's status would change from Warning to School Improvement I. In School Improvement I, a school improvement plan needs to be done, Title I funds need to be used for professional development and school choice needs to be made available within the school district. If AYP is not met in School Improvement I, then the school or school district's new status is School Improvement II. The same procedures follow but Supplementary Educational Services (SES) needs to be made available to students. If AYP is not met in School Improvement II, the new status is Corrective Action I. During each year in corrective action, there is an expectation for curricular changes. Curricular changes are the biggest difference between school improvement and corrective action status.

Schools and school districts must focus on closing the achievement gap between wealthy and poor students, minorities and their peers. Over the last couple of school years, the ABC Middle School in the ABC School District has begun to use summative and benchmark data to help students score proficient or better on the reading and mathematics portions of the Pennsylvania System of School Assessment (PSSA). School personnel have analyzed data, made instructional decisions, developed school improvement plans and individualized student improvement plans.

To meet AYP, the ABC Middle School began an after-school tutoring program called the ABC Middle School Educational Assistance Program (EAP) after-school tutoring program. The program focused on students in grades five, six, seven and eight who scored Basic in reading and/or mathematics on the March 2006 PSSA and the March 2007 PSSA. EAP is a special tutoring program funded by the Pennsylvania Department of Education (PDE) and targeted to the state's most academically challenged school districts by supplying funding for evidence-based tutoring instructional practices and programs. All supplemental materials and programs used in the tutoring sessions were approved by PDE. Students who participated in the tutoring program were expected to attend on a regular basis and commit to a minimum of 45 hours of instruction per subject. The program would begin in October and end in April. Parents received letters and follow-up telephone calls explaining the goals and the rationale of the program. The students were provided drinks, snacks and bus transportation home. The program was used in the 2006-2007 and 2007-2008 school years.

The materials used in the tutoring sessions for reading were McGraw Hill's SRA Reading Labs and Specific Skill Series Labs. The materials used in the tutoring sessions

for mathematics was *America's Choice Mathematics Navigator*. Two web-based software programs called *Study Island* and *Skills Tutor* were used in both reading and mathematics. The materials were chosen due to their alignment with the PA academic standards, assessment anchors and eligible content. The tutors in the program were all members of the faculty at the ABC Middle School and developed lesson plans for their tutoring sessions. Reading lessons were held on Mondays and Wednesdays after school for one hour and mathematics lessons were held on Tuesdays and Thursdays after school for one hour.

Eight research questions were investigated in this study:

1. For the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the PSSA?
2. For the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the PSSA?
3. For the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the May 4Sight benchmark assessment?
4. For the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight benchmark assessment?

5. For the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the PSSA?
6. For the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the PSSA?
7. For the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the May 4Sight benchmark assessment?
8. For the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight benchmark assessment?

Review of Methodology

Utilizing student data, it was the purpose of this study to obtain a greater understanding of the effects the program had on improved student achievement in reading and mathematics on the PSSA and the May 4Sight benchmark assessment by comparing student scores of those identified for additional targeted instruction in the after-school tutoring program with those student scores who did not receive additional targeted instruction and did not participate in the after-school tutoring program. This study was conducted during the 2006-2007 and the 2007-2008 school years in the ABC Middle School in the ABC School District. ABC is the only middle school in the ABC School

District located in southwestern PA. Student scores that determined eligibility for the program were 2006 and 2007 PSSA reading and mathematics scores. The grades of student scores used for eligibility were four, five, six and seven for the tutoring program. Comparisons groups were created for the non-tutored students who had a Basic score the previous school year also. The study employed an Ex-Post Facto design. All data were collected and parental consent was obtained at the beginning of the project. The Pearson Chi-Square and the Wilcoxon Signed Ranks tests were used to test the effectiveness of the program for those students who were tutored compared to those not tutored.

Summary and Discussion of the Results

Research Question #1

For the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the PSSA?

Summary

This question was tested by the Pearson Chi-Square and the Wilcoxon Signed Ranks tests. The evidence does not support that there was a statistically significant improvement on the 2007 PSSA for tutored students in reading.

Discussion

For the tutored students, there was an 18.4% improvement and the non-tutored students had a 22.2% improvement. The two extra hours per week of instruction focusing on student weaknesses did not help those students do better than those students who were not receiving additional individualized and/or small group instruction.

Surveyed tutors felt the amount of time designated after-school was appropriate

and 75% of the them felt student learning was evident. Also, surveyed tutors felt 75% of the students were willing to participate and student behavior problems were limited. One conflict in the survey was 75% of the surveyed tutors felt the program was a success but only 25% felt the students were prepared for the PSSA. The SRA Labs were reported to be an asset to reading success by 80% of the tutors and 80% used them on average once per week. All reading tutors reported *SkillsTutor* to be an asset and used on average once per week. Only 40% of the tutors reported *Study Island* to be an asset but 60% used on average once per week. One tutor reported to use a variety of materials in addition to the available resources. One tutor commented on problems related to grouping because of the multiple levels of the students.

Research Question #2

For the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the PSSA?

Summary

This question was tested by the Pearson Chi-Square and the Wilcoxon Signed Ranks tests. The evidence does not support that there was a statistically significant improvement on the 2007 PSSA for tutored students in mathematics.

Discussion

For the tutored students, there was a 15.9% improvement and the non-tutored students had a 21.9% improvement. The two extra hours per week of instruction focusing on student weaknesses did not help those students do better than those students who were not receiving additional individualized and/or small group instruction.

Surveyed tutors felt the designated time was appropriate and learning was evident. Also, 80% of the surveyed tutors felt students participated willingly and there were limited behavior problems. One conflict in the survey was 75% of the surveyed tutors felt the program was a success but only 25% felt the students were prepared for the PSSA. The *Mathematics Navigator* was used by 75% of the tutors but only 60% used it on average once per week. All tutors felt *Study Island* was an asset and on average used it once per week. *SkillsTutor* was reported by 50% of the tutors to be an asset and 25% of the tutors used it on average once per week. Two tutors reported being challenged by the multiple skill levels of their groups.

Research Question #3

For the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the reading portion of the May 4Sight benchmark assessment?

Summary

This question was tested by the Pearson Chi-Square and the Wilcoxon Signed Ranks tests. The evidence does not support that there was a statistically significant improvement on the May 2007 4Sight benchmark assessment for tutored students in reading.

Discussion

For the tutored students, there was a 38.8% improvement and the non-tutored students had a 53.3% improvement. The two extra hours per week of instruction focusing on student weaknesses did not help those students do better than those students who were not receiving additional individualized and/or small group instruction. Improvement on

the 4Sight was better than the PSSA for the tutored and non-tutored students. This might have occurred because the PSSA is a summative annual assessment. The 4Sight benchmark assessment is given four to five times in a given school year were data is being analyzed more often. Also, the students may have become more familiar with the test.

Surveyed tutors felt the amount of time designated after-school was appropriate and 75% of the them felt student learning was evident. Also, surveyed tutors felt 75% of the students were willing to participate and student behavior problems were limited. Of the tutors surveyed, 75% felt the program was a success. The SRA Labs were reported to be an asset to reading success by 80% of the tutors and 80% used them on average once per week. All reading tutors reported *SkillsTutor* to be an asset and used on average once per week. Only 40% of the tutors reported *Study Island* to be an asset but 60% used on average once per week. One tutor reported to use a variety of materials in addition to the available resources. One tutor commented on problems related to grouping because of the multiple levels of the students.

Research Question #4

For the 2006-2007 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight benchmark assessment?

Summary

This question was tested by the Pearson Chi-Square and the Wilcoxon Signed Ranks tests. The evidence does not support that there was a statistically significant

improvement on the May 2007 4Sight benchmark assessment for tutored students in mathematics.

Discussion

For the tutored students, there was a 59.1% improvement and the non-tutored students had a 62.5% improvement. The two extra hours per week of instruction focusing on student weaknesses did not help those students do better than those students who were not receiving additional individualized and/or small group instruction. Improvement on the 4Sight was better than the PSSA for the tutored and non-tutored students. This might have occurred because the PSSA is a summative annual assessment. The 4Sight benchmark assessment is given four to five times in a given school year where data is being analyzed more often. Also, the students may have become more familiar with the test.

Surveyed tutors felt the designated time was appropriate and learning was evident. Also, 80% of the surveyed tutors felt students participated willingly and there were limited behavior problems. Of the tutors surveyed, 75% felt the program was a success. The *Mathematics Navigator* was used by 75% of the tutors but only 60% used it on average once per week. All tutors felt *Study Island* was an asset and on average used it once per week. *SkillsTutor* was reported by 50% of the tutors to be an asset and 25% of the tutors used it on average once per week. Two tutors reported being challenged by the multiple skill levels of their groups.

Research Question #5

For the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with

the non-tutored students on the reading portion of the PSSA?

Summary

This question was tested by the Pearson Chi-Square and the Wilcoxon Signed Ranks tests. The evidence does not support that there was a statistically significant improvement on the 2008 PSSA for tutored students in reading.

Discussion

For the tutored students, there was an 18.2% improvement and the non-tutored students had a 39.6% improvement. The two extra hours per week of instruction focusing on student weaknesses did not help those students do better than those students who were not receiving additional individualized and/or small group instruction.

Surveyed tutors felt the amount of time designated after-school was appropriate and 75% of the them felt student learning was evident. Also, surveyed tutors felt 75% of the students were willing to participate and student behavior problems were limited. One conflict in the survey was 75% of the surveyed tutors felt the program was a success but only 25% felt the students were prepared for the PSSA. The SRA Labs were reported to be an asset to reading success by 80% of the tutors and 80% used them on average once per week. All reading tutors reported *SkillsTutor* to be an asset and used on average once per week. Only 40% of the tutors reported *Study Island* to be an asset but 60% used on average once per week. One tutor reported to use a variety of materials in addition to the available resources. One tutor commented on problems related to grouping because of the multiple levels of the students.

Research Question #6

For the 2007-2008 school year, what effect did the ABC Middle School EAP

after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the PSSA?

Summary

This question was tested by the Pearson Chi-Square and the Wilcoxon Signed Ranks tests. The evidence does not support that there was a statistically significant improvement on the 2008 PSSA for tutored students in mathematics.

Discussion

For the tutored students, there was a 15.4% improvement and the non-tutored students had a 17.9% improvement. The two extra hours per week of instruction focusing on student weaknesses did not help those students do better than those students who were not receiving additional individualized and/or small group instruction.

Surveyed tutors felt the designated time was appropriate and learning was evident. Also, 80% of the surveyed tutors felt students participated willingly and there were limited behavior problems. One conflict in the survey was 75% of the surveyed tutors felt the program was a success but only 25% felt the students were prepared for the PSSA. The *Mathematics Navigator* was used by 75% of the tutors but only 60% used it on average once per week. All tutors felt *Study Island* was an asset and on average used it once per week. *SkillsTutor* was reported by 50% of the tutors to be an asset and 25% of the tutors used it on average once per week. Two tutors reported being challenged by the multiple skill levels of their groups.

Research Question #7

For the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the

non-tutored students on the reading portion of the May 4Sight benchmark assessment?

Summary

This question was tested by the Pearson Chi-Square and the Wilcoxon Signed Ranks tests. The evidence does not support that there was a statistically significant improvement on the May 2008 4Sight benchmark assessment for tutored students in reading.

Discussion

For the tutored students, there was a 39.4% improvement and the non-tutored students had a 50% improvement. The two extra hours per week of instruction focusing on student weaknesses did not help those students do better than those students who were not receiving additional individualized and/or small group instruction. Improvement on the 4Sight was better than the PSSA for the tutored and non-tutored students. This might have occurred because the PSSA is a summative annual assessment. The 4Sight benchmark assessment is given four to five times in a given school year were data is being analyzed more often. Also, the students may have become more familiar with the test.

Surveyed tutors felt the amount of time designated after-school was appropriate and 75% of the them felt student learning was evident. Also, surveyed tutors felt 75% of the students were willing to participate and student behavior problems were limited. Of the tutors surveyed, 75% felt the program was a success. The SRA Labs were reported to be an asset to reading success by 80% of the tutors and 80% used them on average once per week. All reading tutors reported *SkillsTutor* to be an asset and used on average once per week. Only 40% of the tutors reported *Study Island* to be an asset but 60% used on

average once per week. One tutor reported to use a variety of materials in addition to the available resources. One tutor commented on problems related to grouping because of the multiple levels of the students.

Research Question #8

For the 2007-2008 school year, what effect did the ABC Middle School EAP after-school tutoring program have by comparing the scores of tutored students with the non-tutored students on the mathematics portion of the May 4Sight benchmark assessment?

Summary

This question was tested by the Pearson Chi-Square and the Wilcoxon Signed Ranks tests. The evidence does support that there was a statistically significant improvement on the May 2008 4Sight benchmark assessment for tutored students in mathematics.

Discussion

The two extra hours per week of instruction focusing on student weaknesses did help those students do better than those students who were not receiving additional individualized and/or small group instruction. This was the third year the Everyday Mathematics program was used in grades five and six. Students in grades seven and eight were strategically assigned a mathematics teacher for the 2007-2008 school year. Also, there was a mathematics consultant from the University of Pittsburgh who met with teachers who may have been tutors on a monthly basis discussing data and effective instructional strategies. Often students need additional instruction in mathematics, so participating in after-school tutoring helped them. Tutors analyzed student data and

provided the appropriate instruction to their students. Improvement on the 4Sight was better than the PSSA for the tutored and non-tutored students. This might have occurred because the PSSA is a summative annual assessment. The 4Sight benchmark assessment is given four to five times in a given school year where data is being analyzed more often. Also, the students may have become more familiar with the test.

Surveyed tutors felt the designated time was appropriate and learning was evident. Also, 80% of the surveyed tutors felt students participated willingly and there were limited behavior problems. Of the tutors surveyed, 75% felt the program was a success. The *Mathematics Navigator* was used by 75% of the tutors but only 60% used it on average once per week. All tutors felt *Study Island* was an asset and on average used it once per week. *SkillsTutor* was reported by 50% of the tutors to be an asset and 25% of the tutors used it on average once per week. Two tutors reported being challenged by the multiple skill levels of their groups.

Recommendations

Tutoring studies have found that tutoring is least effective in improving student achievement when it focuses on passing exams rather than focusing on learning (Rosenblatt, 2002). The overall research done in this study provided negative results for seven of eight research questions. The challenges and expectations of NCLB are not going away from public education. The percentage of students expecting to score proficient or better continues closer to 100 every school year. The ABC Middle School is relatively small compared to other middle schools so many tutors might have had the same students in their regular class during the regular school day. The student needs might have not been met in the classroom during the regular school day along with the

after-school tutoring sessions. If negative results are consistently produced, funding may not be available for tutoring programs to exist in the future.

For better research, more randomization was needed. The number of eligible students for the after-school tutoring program could be extended by using multiple data measures. Students who had a high Below Basic or a low Proficient scaled score could have been eligible for the after-school tutoring program. Also, to extend the number of eligible students, those students who scored Basic on the September 4Sight Benchmark could qualify regardless of their previous spring PSSA proficiency score. Finally, value-added analysis could have been done to see what students are predicted to show growth and approach proficiency in reading and mathematics.

Tutors

In education today, student learning is the focus. While the tutors of the ABC Middle School EAP after-school tutoring program provided individualized and/or small group instruction in the tutoring sessions, the students did not succeed. Tutors did not receive proper training in many of the resources they used in the after-school tutoring program. The trainings were more of an orientation procedure than the process to use the materials effectively.

Also, if teachers who were assigned tutors were absent during the school day, there was a possibility groups were combined with other groups or the tutoring session was cancelled. The program had an optimistic view that two additional hours would help these students but the students might not have received only one hour or none in a given week.

During the 2006-2007 school year, the reading tutors had almost an 84%

attendance rate for tutoring. Three tutors had almost an 87% attendance rate while one had almost a 76% attendance rate.

During the 2006-2007 school year, the mathematics tutors had a 90% attendance rate. The lowest attendance rate for a mathematics tutor was 84%. Two mathematics tutors had over a 90% attendance rate.

During the 2007-2008 school year, the reading tutors had an 89% attendance rate. The highest attendance rate was 91% and the lowest was 88%.

During the 2007-2008 school year, the mathematics tutors had an 89% attendance rate. The lowest attendance rate for a mathematics tutor was 82%. Two mathematics tutors had over a 90% attendance rate.

Recommendations for Tutors

All tutors need to participate in a comprehensive staff development program for tutoring. Ongoing professional development includes onsite training, guided practice and coaching. Also, a well-defined plan needs to be established if tutors are absent so students receive effective after-school tutoring instruction. With the concern of the various skill levels of the students in the tutoring groups, professional development in differentiated instruction is needed. One comment a tutor made in the survey was the program needed more direction, guidance and planning. The tutor felt all tutors were doing their own thing. This comment may be associated with the conflicting comments that the after-school program was a success but the students were not prepared for the PSSA.

Curriculum

There were supplemental programs that were used in the ABC Middle School EAP after-school tutoring program. Two technology programs (*Study Island and Skills*

Tutor) were used. McGraw-Hill's SRA Reading Labs and Specific Skills Series were used in the reading sessions and *America's Choice Mathematics Navigator* was used in the mathematics sessions.

Recommendations for Curriculum

Programs must devote sufficient time to skill enhancement, be explicit about what they wish to achieve, use activities that are coordinated and sequenced to achieve their purpose and require active involvement on the part of the participants (Durlak and Weissberg, 2007). With the lack of success of the after-school tutoring program, these supplemental programs should be reviewed as supplements in the tutoring program or implemented in the everyday curriculum to not only help improve student achievement for all students but for tutors to get more confident in using them so the programs could be used more effectively. To maximize the positive impact of after-school programs on student performance, principals and staff members need to develop a strategy to connect after-school hours seamlessly to the regular school day (Lockwood, 2008).

Research-validated and evidence-based curriculum products and tools (programs and materials) aligned to classroom instruction and are selected to meet the specific skill needs of the students.

Goals

Literature suggests having clear goals and expectations for tutoring programs. A well-detailed program can be accurately correlated to measuring increases or decreases in student achievement. The ABC Middle School EAP after-school tutoring program focused on helping students achieve at least proficiency in reading and mathematics on the PSSA.

Goals Recommendations

Goals need to be established for the future and a more defined use of time is needed.

Communication

After parental signature approving their child to participate in the ABC Middle School EAP after-school program, communication between the school and the student homes was absent. Also, if the student's tutor was not in his/her classroom during the regular school day, there needs to be communication between the tutor and classroom teacher. Literature suggests a need for communication with parents and classroom teachers.

Communication Recommendations

Tutors should send progress reports to administration, classroom teachers and parents. A feedback form should be established and used between the tutor and classroom teacher on a regular basis to share information. Teachers and tutors need to communicate regularly over the course of the tutoring program. Communication should include discussion of the students' academic needs, learning styles and progress.

In cases where the school district offers tutoring through a partnership with a community provider, the district should require ongoing communication between tutors and teachers in its provider contract (PDE, 2007).

Tutor/Student Ratio

The ABC Middle School EAP after-school tutoring program had varied in their tutor/student ratio. There were some groups with a minimum of four students while other groups had a maximum of 10 students. EAP guidelines require no more than 10 students

per tutor.

Tutor/Student Ratio Recommendations

Research has proven that the most effective tutoring groups have a teacher/student ratio of 1:3 and 1:4. Continue to keep groups to a minimal number so tutors can build more effective and personal relationships with their students.

Assessment

The ABC Middle School used PSSA and 4Sight data in determining student eligibility and instructional needs.

Assessment Recommendations

Summative and diagnostic assessment measures are critical to monitoring student achievement. Summarize what students have learned at the conclusion of an instructional segment. Collaborate with all staff to provide specific feedback for the purpose of guiding teaching to improve learning.

Instruction

Did the tutors in the ABC Middle School after-school tutoring program use effective instruction to meet the needs of the students?

Instructional Recommendations

Explicit and systematic instruction is critical to accelerate student learning. The research substantiates the effectiveness of flexible groups that provide targeted and skill-based instruction. These groups are constructed based on initial assessment data and accommodate the movement of students among the groups based on skill mastery.

Program Coordinator

The ABC Middle School did not have a program coordinator for their after-school

tutoring program.

Program Coordinator Recommendations

The ABC Middle School should consider hiring an after-school tutoring program coordinator. The coordinator could provide help with data analysis, instructional coaching and serve as a substitute tutor if a group is not provided a substitute tutor.

Principal Involvement

The ABC Middle School after-school tutoring program was housed in the middle school where the principal supervised.

Principal Involvement Recommendations

The building principal should be actively involved in the after-school tutoring program. The program is part of the principals' leadership domain and can be an integral part of the school improvement process (Lockwood, Barton and Klump, 2008). The principal should build in regular visits to the after-school program and participate formally and informally in instruction just like the regular school day.

Suggestions for Further Study

The results from this study of the ABC Middle School EAP after-school tutoring program have generated many questions. With increasing programs appearing in public schools across the nation, there is a clear need for further research on effective after-school tutoring programs. The literature in general contained a limited number of studies on after-school tutoring. One area of focus for further study is evidence-based curriculum, instruction and assessment techniques. If funding would remain for schools and school districts to continue after-school tutoring services, more accountability will follow for positive results, additional funding and meeting the expectations of NCLB.

Summary

To meet the challenges of NCLB and having the capability to identify students not demonstrating proficiency in reading and mathematics, technologically leads to implementing strategies to assist students who may have fallen behind academically. Knowledge of those students and providing interventions to meet the needs of those non-proficient students should lead schools and school districts to meet the challenges of NCLB. In PA, Chapter 4 mandates that schools and school districts develop and implement plans that provide additional instruction to students to help them meet proficiency in the PA academic standards, assessment anchors and eligible content on the PSSA. These initiatives have provided funding to support endeavors like after-school tutoring.

This study measured the effectiveness of the ABC Middle School EAP after-school tutoring program. The results of the study were negative. Students that were tutored did not perform better (in some cases, worse) than the non-tutored on the PSSA and the May 4Sight benchmark assessments. For the ABC Middle School, this study will help future tutoring efforts reflect students' needs and the practices measured for effectiveness. A similar approach was done for two school years that yielded the same ineffective results. When preparing for their next program, staff development, time, teacher and student commitment along with a detailed plan of action with specific goals is needed led by the building principal and program coordinator. For the 2006-2007 and 2007-2008 school years, the same program was used and essentially the same results were produced. Reliability is being established and if the same procedures are continued than the same results are likely to be produced.

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Appendix A

EAP Tutoring Survey for Tutors for the 2006-2007 and 2007-2008 School Years

**EAP Tutoring Survey
2006-2007 and/or 2007-2008**

Please respond to the following survey on past EAP Tutoring Programs. Feel free to provide any additional comments.

Please answer the following statements by circling the number that best corresponds to the following statement using the key below:

- | | |
|---|-------------------|
| 1 | Strongly Agree |
| 2 | Agree |
| 3 | Disagree |
| 4 | Strongly Disagree |
| 5 | Not Applicable |

- | | |
|---|-----------|
| 1. The amount of time designated after-school was appropriate: | 1 2 3 4 5 |
| 2. Student learning was evident during the after-school sessions: | 1 2 3 4 5 |
| 3. The students participated willingly in the after-school sessions: | 1 2 3 4 5 |
| 4. Behavior problems were limited in the after-school sessions: | 1 2 3 4 5 |
| 5. The students were prepared for the PSSA: | 1 2 3 4 5 |
| 6. The EAP After-School Tutoring Program was a success: | 1 2 3 4 5 |
| 7. In reading, the SRA Kits were an asset to student learning: | 1 2 3 4 5 |
| 8. On average in reading, the SRA Kits were used at least once per week: | 1 2 3 4 5 |
| 9. In mathematics, the Mathematics Navigator Kits were an asset to student learning: | 1 2 3 4 5 |
| 10. On average in mathematics, the Mathematics Navigator Kits were used at least once per week: | 1 2 3 4 5 |
| 11. In reading, Study Island was an asset to student learning: | 1 2 3 4 5 |
| 12. On average in reading, Study Island was used at least once per week: | 1 2 3 4 5 |
| 13. In mathematics, Study Island was an asset to student learning: | 1 2 3 4 5 |
| 14. On average in mathematics, Study Island was used at least once per week: | 1 2 3 4 5 |
| 15. In reading, SkillsTutor was an asset to student learning: | 1 2 3 4 5 |
| 16. On average in reading, SkillsTutor was used at least once per week: | 1 2 3 4 5 |
| 17. In mathematics, SkillsTutor was an asset to student learning: | 1 2 3 4 5 |
| 18. On average in mathematics, SkillsTutor was used at least once per week: | 1 2 3 4 5 |
| 19. Please list any additional materials you may have used: | |
| 20. Additional Comments: | |

Appendix B

Consent Letters to Parent(s)/Guardian(s) for the 2006-2007 and 2007-2008 School Years

