A MIDCYCLE EVALUATION OF AN INTERVENTION PROGRAM ON

MIDDLE SCHOOL MATH SCORES

A Doctoral Thesis Presented to the
Faculty of the College of Education
University of Houston

In Partial Fulfillment
of the Requirements for the Degree

Doctor of Education
in Professional Leadership

by

Jason W. Craig

May, 2012

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Approved by Doctoral Thesis Committee:

_____
Dr. M. Wayne Emerson, Co-Chairperson

_____
Dr. Steven Busch, Co-Chairperson

_____
Dr. Angus MacNeil, Committee Member

_____
Dr. Scott VanBeck, Committee Member

_____
Dr. Robert H. McPherson, Dean
College of Education

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Craig, J.W. "A Midcycle Evaluation of an Intervention Program on Middle School Math
Scores" Unpublished Doctor of Education Doctoral Thesis, University of Houston, May,
2012.

ABSTRACT

The purpose of this study was to conduct a mid-cycle examination on the effects

of a nonprofit organization's middle school intervention program on sixth grade math

TAKS scores at a suburban middle school in Houston, Texas. This study examined the

effectiveness of two of the project goals in the first year of a two-year implementation:

Increased achievement for targeted cohort students and all students in the sixth grade.

The program consists of six components (baseline analysis of student data, targeted

collaboration among teachers and schools, performance coaching to improve teaching

and learning, continuous assessment for learning, family engagement, and extra

instructional time and support to meet higher standards). Although scores did not

improve in the first year of implementation, this study evaluated the goal to improve

student performance in middle school that leads to increased success toward college and

career readiness standards in high school.

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CHAPTER 1

INTRODUCTION

At a time when schools look toward intervention programs to help bridge the gap for targeted students, one program has attempted to grasp pedagogical concepts geared toward the teacher, rather than the student. A regional middle school intervention program was established by a non-profit organization in the Houston area that specializes in building successful teachers and leaders in public schools. In 2010, the non-profit organization announced its newest intervention, a school-based program focused on improving middle school standardized test scores. The program was designed to be a two-year implementation of strategies and additional personnel to improve student success in English Language Arts (ELA) and mathematics in middle schools that could be sustained well after the implementation cycle (Houston A+, 2011). It provided professional development and financial assistance to teachers and administrators of the selected schools in order to utilize the best teaching strategies. By building on the professional relationships that this non-profit organization has made in the education community over the past several years, it was able to utilize the network for schools to share best practices (2011). What made this program unique for this organization was the focus toward the whole school, rather than simply the individual teachers.

The initial phase in the first year of the middle school intervention program consisted of six schools selected from around the Houston area that agreed to take part in the training provided to the schools and allow them to collect and analyze data to monitor success. This phase consisted of schools taking part in professional development, allowing a performance coach from the non-profit organization to be housed on the

campus and a social worker to help with at-risk students and their families, and allowing frequent observations in the classroom from professional educators (Houston A+, 2011). A program director oversaw the six other intervention schools and met regularly with all of the performance coaches and building principals to discuss the status of the program and make suggestions for improvement. The nonprofit organization listened to the needs of the school and worked to build capacity in the teachers and administrators to sustain best practices long after they leave (2011).

The school-based intervention program was different from many other programs that are aimed at student success. The focus was geared toward those middle school students that have shown success on previous administrations of the Texas Assessment of Knowledge and Skills (TAKS) test, yet have not shown mastery of the subject material (2011). These students have shown they have the ability to be successful, and with the help of the middle school intervention program, can produce higher quality work that in turn, leads to higher scores and increased learning. The ultimate goal of increasing TAKS scores is to better prepare students for high school and college (2011).

The school selected as one of the middle schools, is located in a Northeastern suburb of Houston, Texas. The student population of sixth, seventh and eighth grade students was a little more than 1,100. Of those, 53% were Anglo, 25% were Hispanic, and 19% were African American. Students that were classified as economically disadvantaged comprise 19% of the population and 2% limited English proficient students. The school is a part of a middle sized suburban school district in a Northeastern suburb of Houston.

History of the Nonprofit Organization

The nonprofit organization was started in 1997, and was founded by a major foundation to reform the nation's public schools. Funding for the nonprofit organization has come from local foundations, individual philanthropists and business leaders (Houston A+, 2011). They have helped to raise over $90 million for local public school teachers, principals, and district leaders to improve teaching and learning for Houston area students (2011). The nonprofit organization works with schools on programs that reflect a child-centered focus by concentrating on the issues of teacher learning, school and class size, and the problem of teaching in isolation (2011). They have helped to strengthen the engagement between school campuses, within each individual school, and between schools and the community to build capacity to foster better student learning (2011). This nonprofit organization has been an important factor by investing in the reformation of Beacon schools to bring about and sustain changes in underperforming public schools. They have provided principal and leadership training, teacher development, innovative ideas and opportunities for districts, as well as multiple direct grants to schools (2011). In 2002, the nonprofit organization was renamed to reflect the direction it was leading students.

In 2009, the Board of Trustees for the nonprofit organization adopted a new mission, vision and strategic plan to implement in targeted schools and districts to improve student post-secondary readiness (2011). The new mission of the nonprofit organization was to "serve as a catalyst for change in the public schools that educate nine of every ten children in the region, teaming with principals and teachers in targeted schools to ensure that every student is prepared for post-secondary success" (Houston

A+, 2011). The non-profit organization partnered with five local school districts, the local regional service center and Communities in Schools to launch the middle school intervention program in 2010. This new initiative was aimed at significantly increasing the number of students who are not just proficient, but who are truly on track to achieve post-secondary success (2011). Teachers and school leaders in six schools have begun their first year of this new pilot program.

The middle school intervention program had four main project goals in which it hoped to capitalize on in the new pilot project:

- Increase the achievement and college readiness of targeted middle school students;
- Improve teacher practice and capacity through hands-on coaching and targeted, customized professional development for teachers and principals;
- Increase student achievement for all students in the targeted cohort grades; and
- Sustain gains at each campus beyond the first two years of engagement (2011).

Students were identified and placed into a cohort of about 150 students who scored between proficient and commended on TAKS the previous academic year. The goal was to move these "Scholars" up to commended levels within two years, while simultaneously improving instruction for students at all levels (2011).

Program Components

The middle school intervention program implemented six common program components on each of its campuses:

- Baseline analysis of student data;

- Targeted collaboration among teachers and schools;

- Performance coaching to improve teaching and learning;

- Continuous assessment for learning;

- Family Engagement; and

- Extra instructional time and support to meet higher standards (2011).

From these components, the middle school intervention program's goal has been to build capacity in schools in order to increase the number of students who are on track to be ready for post-secondary success while increasing the capacity of teachers and school leaders pedagogically, in order to sustain gains beyond the two years of assistance from the middle school intervention program. If the results prove to be promising, this nonprofit organization hopes to expand the middle school intervention program to 70 schools throughout the Houston area within the next six years (2011).

These six program components were the driving force behind the middle school intervention pilot program. The first component was a baseline analysis of student data. In order to determine where students need additional assistance, each teacher would be given data that showed where students were struggling and succeeding. This data would be derived from the fifth grade TAKS test as well as district-based assessments (DBA) that scored students on math concepts. This data would be used to determine how each student performed compared to others in the district. From this data, an individualized educational plan would be created for each student in the cohort that would track the students' progress.

The next component, targeted collaboration among teachers and schools, was implemented to help teachers plan and learn from one another. The suburban middle

school selected had given the sixth grade Math team a common planning time to meet, in addition to their personal conference period. This common conference gave the teachers a set time for planning, discussing student interventions and evaluating data. The nonprofit organization had plans for teachers to collaborate with the other schools participating in this project to discuss best practices and intervention strategies. It was the hope that through this collaboration, teachers would benefit from a network of knowledge and ideas they share with one another (2011).

One of the most noticeable components of this program was the performance coach that was provided by the nonprofit organization to each school. This coach was employed by the nonprofit organization to be housed at the school for the duration of this project. The performance coach was charged with the duty of implementing the bulk of the components of the project at the school level. His or her goal was to help generate data, work with the teachers and students, and create parental involvement events for the families of the students in the cohort. The coaches were all to be former teachers that attended professional development and regular meetings with the nonprofit organization and shared with the teachers at the campus.

The assessment for learning component of the intervention program included the principle of using ongoing formative assessments for the purpose of promoting learning. Black and William (2004) defined assessment for learning as "any assessment for which the first priority in its design and practice is to serve the purpose of promoting pupils' learning." The assessment for learning strategies was designed for teachers to continuously assess students throughout the lesson cycle. By using the various strategies, "phrased as questions from the student's point of view: Where am I going?; Where am I

now?; and How can I close the gap?" (Chappuis, 2009) teachers would be able to build success through student engagement with valid and reliable assessments. To be successful, formative assessments must "provide information to be used as feedback, by teachers and by their pupils in assessing themselves and each other, to modify the teaching and learning activities in which they are engaged" (Black & William, 2004). The nonprofit organization has adopted this philosophy of assessment for learning as a "way for teachers to gain a shared understanding of individual students and work with them to shape their learning. It can heighten student significance" (Kucey & Parsons, 2010).

Another component of the middle school intervention program was family involvement. Research has shown that students with parental involvement at school have a greater outcome for achievement at school (McDermott & Rothenberg, 2001). The performance coach conducted regular family meetings and held events in the evenings to involve families in the project and update them on their child's progress. Trainings on how to be an involved parent, how to look at their own child's data, and how to make the families feel comfortable with talking to school staff were areas targeted in the parental involvement component. It was the intention of the nonprofit organization to establish strong family bonds with the school in which parents have a voice and an understanding of services and options that they and their child have at the school. Increasing family involvement was a topic of importance and a major responsibility for the performance coach.

Statement of the Problem

The driving force behind the change of the nonprofit organization's mission stemmed from the recent publicity and push toward college and career readiness standards adopted by the state of Texas. In 2006, the 79th Texas Legislature passed House Bill 1, the Advancement of College Readiness in Curriculum. From this, Texas Education Code 28.008 was enacted to "ensure that students are able to perform college-level coursework at institutions of higher education" through the creation of the Texas Higher Education Coordinating Board (THECB, 2009) to develop College Readiness Standards in English/language arts, social sciences, mathematics and science in direct collaboration with the Texas Education Agency (TEA). These standards were developed by the THECB with vertical teams composed of public school educators and institution of higher education faculty and adopted as the Texas College Readiness Standards in January 2008. These standards were not based upon the idea that every child needs to go to college; rather these are the skills that most students entering the workforce will need to be successful in addition to meeting the demands for entry-level college classes.

The TEA and THECB set out to determine what scale score on the exit level TAKS test in 11th grade English Language Arts and Math would be the best indicator for a student to be successful in college and the workplace. Additionally, the "standards included a cut score to identify whether students had acquired the necessary knowledge and skills to enter a Texas higher education institution without enrolling in a remedial course" (Fuller 2009). According to Fuller (2009), TEA and THECB set the cut score at a scale score of 2200 for both exams. In 2006, the National Center for Educational Accountability (NCEA) reviewed the findings and determined that the 2200 scale score

was not an adequate indicator of college readiness and instead proposed that a cut score of 2300 for both English Language Arts and Math be used to measure college readiness. In this study, Dougherty, Mellor, and Smith (2006), found that students who scored a 2300 had a much higher probability of scoring higher on the ACT, SAT, and THEA, measures of college readiness that would require less remediation in English and College Algebra classes. The authors found a staggering difference in college readiness between the 2200 and 2300 scale score. In Math, a scale score of 2200 on the exit level TAKS test was associated with a mere 26% probability of not needing remediation while a score of 2300 was associated with a 77% probability of not needing remediation. In English Language Arts, the difference was not as great, but still indicated a 77% probability of not needing remediation with a scale score of 2200, and a 90% probability of not needing remediation with a 2300 scale score. At this time, the THECB has adopted the Texas College and Career Readiness Standards (CCRS) with the lower scale score, but is changing this for those ninth graders entering high school in 2011. With the adoption of the new CCRS, these students will be taking end-of-course assessments instead of the TAKS test. Two of the end-of-course exams will have a greater impact on college readiness. According to the THECB article on College Readiness Initiatives, "English III and Algebra II assessments will include a college readiness component and performance expectations that must be used by Texas public higher education institutions as the measure of eligibility for entry-level college courses." From this, the State Board of Education incorporated the CCRS into the Texas Essential Knowledge and Skills (TEKS) curriculum, changing it to help prepare students to meet the new CCRS standards. With

such emphasis on students being college and career ready upon completion of high school, much of the focus has shifted to preparing students at an earlier age.

Using the current CCRS standards of 2200 and the suggested NCEA standards of 2300, Fuller examined the correlation of 8th grade students' outcomes on the TAKS test and how they compared to their performance on the 11th grade exit test. He found that among 8th grade students who passed the TAKS mathematics test and scored between 2100 and 2199, only 44% met the state standard for college readiness and only 16% met the higher NCEA standard. He found that students had to score at least a 2300 on the 8th grade mathematics test to have a 70% probability of meeting the college readiness standards. In 2009, about 29% of 8th grade students in Texas scored 2300 or higher. Fuller concluded that less than one-third of the 8th grade students in 2009 were on track to be college ready in 11th grade.

These results show that there is a need to address many students in the middle school grades (typically grade 6-8). Additionally, it has been found that student success in middle school has a direct relationship to success in high school. The focus of many schools has been getting students to pass the TAKS test with at least the minimum score (2100 scale score), but research shows this is not enough. If students are to increase their chance of meeting the CCRS in 11th grade, success greatly depends on how well the students score on the 8th grade TAKS tests.

Purpose of the Study

This research examined the effectiveness of two of the four project goals the middle school intervention program had set for their implementation in the first year of a two year project: Increased achievement of the targeted students in the cohort and

increased achievement of all students in the cohort grades (Houston A+, 2011). This was

based on the implementation of the six program components (baseline analysis of student

data, targeted collaboration among teachers and schools, performance coaching to

improve teaching and learning, continuous assessment for learning, family engagement,

and extra instructional time and support to meet higher standards) that the nonprofit

organization has established for sixth grade student success in mathematics at a large

suburban middle school (2011). The premise of the intervention program is for all

students to demonstrate increased achievement after the two-year implementation.

Since research has shown that school leaders' impact on student learning and

success of initiatives are second only to classroom instruction (Leithwood, 2012), this

study was designed to be used by members of the nonprofit organization, school leaders

and teachers involved with the intervention program. Each component of the program is

thoroughly investigated in the review of literature that demonstrates the research-

supported functions that make up the foundation of this intervention. In order to evaluate

the effectiveness of this intervention program from its first year of existence, an

examination of each component was conducted to determine what to continue, modify,

and eliminate in future years. This information was designed for use by the nonprofit

organization to improve the program and make the necessary changes for all middle

schools in the network. School leaders used this research to help ensure successful

implementation at individual campuses by focusing on the pervious research on each

program component and improvement recommendations based upon observations made

in the first year of this pilot program.

Research Question

This study was designed to determine if the targeted sixth grade students and the entire sixth grade cohort show increased TAKS achievement from the middle school intervention program. In order to determine this, a midcourse evaluation was conducted. Although the middle school intervention program components would be implemented for two years, this study was used to determine if there were any significant gains in the first year of implementation at the school. The research question was based on the nonprofit organization's project goals for increasing achievement for students. This question was used as a guide in examining the success of the program: Do math TAKS results show achievement gains among the selected sixth grade students and all students in the sixth grade participating in the middle school intervention program?

This research also examined any differences in potential gains among various demographic subgroups, such as African-American, Hispanic and Low Socioeconomic status students within the school. As this is a mid-cycle evaluation of the intervention program, the research evaluated the scores of the targeted cohort students' sixth grade math TAKS test compared to each of those students' fifth grade math TAKS test scores. The research also examined all student test results in the sixth grade class containing the targeted cohort to see if there was any increase in their scores. These results were used to determine if the program has made any immediate effect in its first year of implementation of the middle school intervention program.

From the data gathered in this research, suggestions were offered to improve the program, as well as identifying problems that occurred during this first year that could have been avoided. The nonprofit organization is anticipating ongoing changes and

modifications to this program to ensure success and to give feedback to other campus leaders at different schools to ensure successful future implementation. Data gathered from this mid-cycle examination was provided to the members of the intervention program team and school leaders to evaluate and use as part of many factors to implement changes for the second year and beyond.

CHAPTER II

LITERATURE REVIEW

In order to meet the need of the state of Texas' requirement of college and career readiness standards for high school students, the nonprofit organization's initiative with the middle school intervention program is attempting to bring best practices to schools across the Houston area in order to create a culture of student success. These fundamental principals are the driving force behind the educational change in schools through research and best practices. By refining this research and best practices to fit the needs of the individual schools, the middle school intervention program hopes to build capacity and student success in the areas of English language arts and mathematics. By using these measures, the intervention program holds to create a higher college bound culture from students that are not achieving to their potential.

This literature review examined the research behind each of the six components that are implemented throughout the middle school intervention program. The components are the backbone of the project that is being implemented at the selected suburban middle school and five other schools across the Houston area. The components are: student data, collaboration, performance coach, assessment for learning principals, family engagement and extra instructional time and support. This will give a general background to the theoretical framework that the nonprofit organization uses to guide its project.

Student Data

Student data is crucial to any form of accountability in an education system. Over the years, "the amount of and demand for high-quality, accessible education data are

increasing" (Reese 2009). Much of this demand is attributed to the greater accountability required by the No Child Left Behind Act (Reese, 2009; Hess, 2009; Flowers & Carpenter, 2009; Hess & Fullerton 2009). Although the accountability aspect is something that most public schools deal with on a regular basis, the way they use this data is of the most importance.

In the article, *Harnessing The Power of Data*, Susan Reese (2009) discusses this importance of collecting student data and ways of using it in a beneficial manner for student success. Reese (2009) discusses some of the important needs for collecting student data, such as documentation for improvement, a tool for reform, and also a means to demonstrate effectiveness of a program or function within a school. "The demand is for hard, cold facts - data to back up the need for, and success of [a program]" (Reese, 2009). Reese argues that anecdotal evidence is always there, but you need to have data to back up what is being done and make decisions.

Data is often used to justify and evaluate if schools are successful in student learning outcomes. Reese (2009) argues that the demand is increasing for more data from the growing number of stakeholders within and outside of the educational system, calling for better information about student's educational experience. It provides stakeholders with evidence of how a school or program prepares students for future careers and postsecondary education (2009). If not used properly, this demand for collecting data may come at the cost of wasted money, resources and time.

Reese (2009) interviewed Richard Lynch, professor emeritus and former director of the School of Leadership and Lifelong Learning at the University of Georgia. Lynch warned, "It is better not to mandate collecting more data from teachers, especially if the

sole purpose seems to be for state or federal report purposes, but rather we should use the data that we already collect from and about students and teachers to help improve where warranted" (2009). The idea of collecting data for the sake of simply having it is very counter-productive. It needs to be used for more than just accountability reporting (2009). Lynch argued the need for data to be analyzed at the local level prior to it being sent off to the next level for accountability.

Data can be very useful in the education environment. "The data currently being collected and in student files can provide to teachers and administrators objective information to help plan instruction on identified and objectively analyzed data" (2009). We have access to some of the best data that can be used to help students, such as demographics, programs of study, standardized test scores, socio-economic status, attendance, grades, and teacher qualifications (2009). This data can prove to be a helpful and effective resource for decision-making.

In most schools, educators have readily available data, but do not always have the tools to correctly use it. In their article, *You Don't Have to Be a Statistician to Use Data: A Process for Data-Based Decision Making in* Schools, Flowers and Carpenter (2009) explain how making data-based decisions doesn't have to be intimidating to school personnel. Educators do not use data as often as they should in schools because they feel it isn't appealing and is very time intensive. Flowers and Carpenter (2009) argue that educators should focus on "only the most relevant data for the decision at hand" (p. 64). By narrowing the focus, schools can work toward their collective efforts of making decisions with data that pertains to a specific issue or concern instead of digging through mounds of information not related to their needs.

One concern is that many schools focus their data collection and analysis primarily on achievement exam scores. Although this information is important, Flowers and Carpenter (2009) warned that all data must be reliable and accurate in order to make valid data-driven decisions. In order for achievement exam data to be useful, it must be disaggregated and analyzed by gender, grade, economic status, and other factors, then linked to different data to use for instructional improvements (Halverson, et. al., 2007; Mulhar, Flowers, & Mertens, 2002; Murnane, Sharkey, & Boudett, 2005). These other factors play an important role in improving instructional programs by giving specific causes of low performance. Lesson plans, examples of student work and other contextual information about the school and community should be used in conjunction with data from achievement scores. This will help to develop an overview of the student, as a whole, to form a better understanding of the circumstances surrounding the scores in order to better improve instructional programs (Flowers & Carpenter, 2009).

In order to find a more efficient way of using student data, Flowers and Carpenter (2009) created a process for using data in a five-step plan. This plan was created under the assumption that educators have "limited time for data gathering and exploration, little training in data analysis and interpretation, and a desire to make informed decisions by raising key questions among stakeholders (Flowers & Carpenter, 2009, p. 65). It involves reviewing the school improvement plan, determining how the data will be used, identifying relevant data, examining and discussing the data, then setting goals and evaluating the progress. In this process, Flowers and Carpenter (2009) stress the importance of working collaboratively with a team of teachers and staff, involving as many teachers and staff as possible. Parents and community members should be

involved as well as dedicated to reviewing data, even in the face of daily demands (Flowers & Carpenter, 2009).

When used correctly and collaboratively, the authors point to the benefits of using data effectively in a school. "Using data to make decisions can have an extraordinary effect on a school" (Flowers & Carpenter, 2009, p. 64) if done correctly. By making better decisions based on an informed reflection, campuses can greatly benefit from student data. It gives schools a way to evaluate the success or failure of its decisions and programs that are in place. It can also assists school leaders in demonstrating needs of the campus in order to obtain resources for assisting the implementation of programs and to help secure funding (Flowers & Carpenter, 2009). With the proper data, schools can judge whether they are moving in the direction that the school leader has set forth.

Frederick Hess (2009) outlines new problems in a data driven society in which data based decisions can be made in a counter-productive manner. In his article, *The New Stupid*, Hess (2009) outlines how data is being used in education that hinders progress. This can negatively affect decisions that are regularly made regarding staffing, operations, and instruction that are based on data. He considers this misuse, the "new stupid", as having three key elements in taking useful data and not getting the desired results: Using data in half-baked ways, translating research simplistically and giving short shrift to management data (2009).

Hess (2009) claims that often, school leaders use data in half-baked ways in their decision-making, such as seeing data from teachers with outstanding results on student achievement tests and expecting the same results to be duplicated at other schools (p. 14). There are too many other factors that are often ignored when school leaders make

decisions blindly without seeking more information. This often leads to unintended

consequences that school districts were not prepared for. Rather, "the key is not to retreat

from data but to truly embrace the data by asking hard questions, considering

organizational realities, and contemplating unintended consequences" (Hess, 2009, p.

14).

Although research should be used in making informed decisions, Hess (2009)

cautioned that translating research simplistically could lead to problems. An example he

provides is how adopted legislation on class size in California came from research

collected from the Student Teacher Achievement Ration (STAR) project in Tennessee.

This study found significant achievement gains for early elementary students with a very

low class size. Because of the cost, the study was a pilot program that served a limited

population. The legislators in California used this data and expected the same results on

a statewide level. Subsequently, they required districts to reduce the class size to 20

students per class, but found no effect on student achievement. It was argued that the

lack of results was due to several factors when implementing on a statewide scale. They

found the class sizes, although smaller than before, were not as small as what the STAR

project used. They also found that school districts had a difficult time finding new

teachers in a short amount of time, leading to a dilution of teacher quality (p. 14). Hess

(2009) concludes that school leaders must recognize the limits of what research can tell

us. "Policies or practices informed by rigorous research can prove ineffective if the

translation is clumsy or ill considered" (Hess, 2009, p. 14).

Finally, Hess (2009) warns that many school leaders give short shrift to

management data (p. 15). School districts have readily available access to student

achievement data and measures to collect this type of information, but Hess (2009) argues that this data alone does not point to other important aspects in a school environment. Relevant data needs to be considered for the operation, hiring and financial practices of school districts (2009, p. 15). Simply using student achievement data as performance indicators can be irrelevant for many school district employees. Other measures of data need to be collected and analyzed to ensure success for those that support instruction throughout the school district.

Although student achievement data is very important to the school districts when making decisions, Hess (2009) points out that this data alone yields a "black box". This data will merely point out how students "are faring but do not enable an organization to diagnose problems or management" (2009, p. 16). In order to make the most out of data in a school district, Hess (2009) proposes four keys for educators to avoid (p. 16). First, school leaders need to use common sense and good judgment when using data or research for decisions. "Data-driven decision making does not simply require good data; it also requires good decisions" (2009, p. 16). Second, schools not only need to seek achievement data for external sources, but need to reflect for internal purposes. Districts must look toward external accountability and internal management systems for accurate data. Next, school leaders must understand the limitations of research, its intent and proper uses. Finally, school systems should not look to just reward those for high performance for student achievement, but rather reward leaders and administrators for pursuing more efficient ways to deliver services. This will help to ensure that school leaders avoid the "new stupid" in the use of data.

In the article, *Measuring What Matters*, Mike Schmoker (2009) looked at consortium schools in New York that have had success in student achievement without having to take the five Regents exams for high school credits. All exams (except for the English exam) have been waived for these special schools. Instead of focusing on passing the exams, students must demonstrate proficiency on final projects in core academic areas that require students to research, think critically, construct an argument and publicly present their knowledge. These schools focus on 21st century education and use data to assist the educators in two ways: Information on how many students are on track to successfully complete the major projects required for graduation and data on students' individual performance on key rubrics (p. 72).

Schmoker (2009) argues the reason these consortium schools are successful are due in part to the fact that the way data is collected and used in these schools is different from those used in traditional educational institutions. Although educators have come to embrace data as an indispensable tool for school improvement, it can often hinder the educational process if the focus is purely on accountability. "[Data] has morphed into an unintended obstacle to both effective instruction and an intellectually rich, forward-looking education" (2009, p. 70). Schools have shifted their focus of decision making to that of "standardized-test-data-driven decision making" (p. 70). This has caused some educational practices to fixate on standardized test data that has hindered instructional improvement. Although many schools have shown success in improving standardized test scores, Schmoker (2009) found that test prep activities were responsible for much of the improvement, not authentic teaching and learning (p. 71).

Schmoker (2009) does not advocate against using standardized test scores in education, but warns that it should not be the primary focus. "Standardized test items can operate as proxies- imperfect but useful indicators of legitimate learning" (p. 70). It has become common practice for educators to count on the importance of utilizing data to improve learning in schools, but there must be a balance in the way that it is used to guide instruction. Strictly focusing on one aspect of data will not necessarily lead to positive results, but can when combined with important information that reflects the entire scope in the education process. "When higher test scores are the result of sound curriculum and effective teaching, we should applaud these gains" (p. 71).

Collaboration

Having student data is a necessary part of a successful school, but is not effective unless teachers have the ability to collaboratively analyze this information and determine the next steps. Collaboration is "a style of direct interaction between at least two co-equal parties voluntarily engaged in shared decision making as they work toward a common goal" (Friend & Cook, 1992, p. 5). When teachers collaborate, they form a partnership with each other where they can use each other's expertise to create solutions and goals for their students. Collaboration must be done correctly, however, for student success to be realized.

Steele and Boudett (2008) conducted a case study of teacher collaboration in elementary schools in Boston. Teachers at one school were proud of the amount of writing their students did in class, as they were frequently reflecting on books they read independently. They were shocked when the state standardized test showed an area of weakness was in writing about what they read. When the teachers met to try to figure out

why the scores were so low, they found that they did not all agree on what the writing should look like. They analyzed the student data then began examining student work to identify an explanation. The teachers saw the need to change instruction, based upon achievement data, thus initiating change in instructional practices.

The study by Steele and Boudett (2008) looked at eight schools in Boston using the Data Wise improvement process. This was developed by a team of educators in these schools along with researchers at the Harvard Graduate School of Education. Steele and Boudett (2008) found one central theme, using data collaboratively, prevalent across each of these schools as they worked on school improvement. Three main benefits were found in these schools from this collaborative approach to data: organizational learning, improved internal accountability, and a safety net for professional growth (2008).

Organizational learning was utilized in these schools through analyzing student work to determine what learning focus the teachers needed. The need for understanding student learning was one organizational learning target for a shared instructional solution. The next benefit, internal accountability, is the "staff members' shared sense of responsibility to one another" (Steele & Boudett, 2008, p. 56). This shared responsibility helps teachers to see their contributions and instruction as only one factor of a larger effort to improve student learning. Finally, a safety net for professional growth helped to give teachers the knowledge necessary to take educated risks in implementing new methods in the classroom. By understanding these educational practices, teachers were more willing to take risks that would help to improve student success.

Steele & Boudett (2008) also found that the right conditions must exist for collaboration to be effective. The eight schools in this study (2008) have actively

cultivated three strategies that create supportive conditions for collaborative data use.
One of the most important, allocating time for collaboration, is often very difficult.
Teachers "need routine meeting times to examine the data and plan for instructional
improvement" (Steele & Boudett, 2008, p. 57). However the educational leader can
accomplish this, a routine amount of time given to teachers to collaborate is essential
(2008). The next strategy used by these schools is to delegate data management.
"Collaborative data use requires organized, accessible data and well-planned, smoothly
facilitated meetings" (Steele & Boudett, 2008, p. 58). Steele & Boudett (2008) found that
school leaders in the successful schools delegated data to coordinators to manage,
organize and facilitate meetings. This can be achieved with either a single person or a
team of staff members. The last of the strategies that Steele & Boudett (2008) observed
was that successful schools establish norms that foster trust. Even if ample time is given
to collaborate, it does not guarantee success without having defined norms. These norms
must include trust built among members of the team. "The data-use process needs to
emphasize solving problems, not passing judgment" (Steele & Boudett, 2008, p. 58).
This trust must be established in order for teams to look at the big picture and solve
problems to help students become successful.

  To help build this relationship of collaboration using assessment data and student
work to identify instructional strategies to meet student needs, many schools have turned
to Professional Learning Communities (PLC) (Thessin & Starr, 2011). A professional
learning community is defined as "educators committed to working collaboratively in
ongoing process of collective inquiry and action research to achieve better results for the
students they serve. Professional learning communities operate under the assumption that

the key to improved learning for students is continuous, job-embedded learning for educators" (DuFour, DuFour, Eaker, & Many, 2006, p. 14). DuFour, DuFour, & Eaker (2008) developed six characteristics of a successful Professional Learning Community. The PLC must have a (1) shared mission (purpose), vision (direction), values (collective commitments), and goals that are all focused on learning. (2) A collaborative culture with each person held mutually accountable must be established with a focus on learning. With the building of shared knowledge of the PLC, there needs to be (3) collective inquiry into best practices that build upon that knowledge. The PLC must be (4) action oriented by which they put the best practices in place. There needs to be a (5) commitment by all for continuous improvement and the team must be (6) results oriented (DuFour, DuFour, & Eaker, 2008).

DuFour (2004) looked at what he called the three "big ideas" that represent the core principles of PLCs. The first is ensuring that students learn. This idea takes the focus away from teachers focusing on teaching, but rather focusing on student learning. The focus on student learning takes place by focusing on three crucial questions: What do we want students to learn, how will we know when each student has learned it, and how will we respond when a student experiences difficulty in learning (2004)? DuFour (2004) claims that the last question is what makes a PLC successful. In order to do this, DuFour states that the PLC's response to these students needs to be timely, based on intervention rather than remediation and directive toward the students. This intervention will focus on learning for all students rather than teaching all students.

The second idea from DuFour (2004) is that a PLC builds a culture of collaboration. Most schools understand that teachers need to work together, but they

consider collaboration as a way to focus on team building or ways to develop consensus. DuFour (2004) argues that collaboration in a PLC is a "systematic process in which teachers work together to analyze and improve their classroom practice" (p. 9). In order for a PLC to show true collaboration, "teachers work in teams, engaging in an ongoing cycle of questions that promote deep team learning" (DuFour, 2004, p. 9) in order to lead to high levels of student achievement.

Finally, DuFour's (2004) third big idea is for PLCs to focus on results. "Professional learning communities judge their effectiveness on the basis of results (DuFour, 2004, p. 10). Teachers begin working with a routine of identifying student knowledge, setting goals, and providing support for the students who are not successful. By focusing on results, the data will become a catalyst for improved teacher practice (2004). Also, by focusing on results, schools can set goals that teachers work for to improve student learning.

Thessin and Starr (2011) discuss ways in which districts should implement successful professional learning communities. They looked at Stamford (Connecticut) Public Schools that introduced PLCs in the 2007-2008 school year as part of an overall system re-design. The district set aside time weekly for teachers to meet and discuss teaching practices. The collaboration was centered around how to support and improve student achievement. One unexpected outcome was that creating time was not enough, as many teachers who met during PLC time were confused and frustrated from not knowing how to proceed. "Simply putting well-meaning individuals together and expecting them to collaborate was not enough" (Thessin & Starr, 2011, p. 50). By the

third year of implementation of the PLC, Stamford identified the "critical responsibilities

for district leaders if PLCs [are] going to operate successfully" (p. 51).

According to Thessin and Starr (2011), there are four key roles districts play in

implementing PLCs: ownership and support, professional development, clear

improvement process and differentiated support. To build a sense of ownership and

support, teachers and administrators must be involved in developing the PLC process.

Feedback and suggestions need to be made by those directly related to the collaboration

process. Professional development is necessary to build capacity in teachers and

administrators in correctly administering PLC meetings. There must be a clear

improvement process developed by the district that demonstrates how PLCs fit into the

improvement plan. This helps to ensure that everyone is aligned to the districts goals.

Finally, support from the district must be differentiated for each school within the district.

Since each school will have unique needs to build student success, the district must

recognize this and lend support that will be beneficial for each individual school (2011).

Performance Coach

An element that is of significant importance to the middle school intervention

program is the use of a campus based performance coach. The function of the

performance coach is to "work alongside teachers in classrooms to implement the best

lessons, assessments, and interventions for students" (Houston A+, 2011). The coach is

expected to help the schools by working closely with the teachers and students in order to

build capacity through skills and development of rigorous lessons. The coach works in

the classroom with teachers to help give additional support and small group interventions

during the school day. This was one of the most visible aspects of this intervention program the campus.

 The performance coach (commonly referred to as an instructional coach) is an important part of many schools' instructional programs. They are used in many capacities, but primarily as a way to "support teachers in their efforts to provide high quality teaching in academic areas including reading, math, and science" (Denton & Hasbrouck, 2009, p. 151). The role of coaching varies between districts and even campuses, which makes this topic more ambiguous toward finding the most practical way for helping schools. Although there is little research in terms of the effectiveness of instructional coaches in the educational setting, there have been studies done on best practices for helping teachers to become more successful.

Denton and Hasbrouck (2009) looked at various implementations of instructional coaching. One popular model is using the instructional coach to provide individualized and sustained professional development to teachers (Deussen, Coskie, Robinson, & Autio, 2007; Denton & Hasbrouck, 2009). By using instructional coaches in ways to help bridge the gap between newly learned information and implementation in the classroom, professional development can be more sustainable through good coaching practices (Denton & Hasbrouck, 2009). However, it was found that during the 1980s and early 1990s, coaches spent more time focused toward intervention instruction with students rather than professional development of teachers (p. 153).

The instructional coaching position has become more popular over the last decade. The Reading First Initiative (RF) that was included with the 2002 No Child Left Behind (NCLB) legislation provided funds to help teachers strengthen their skills in

effective reading instructional techniques. As a way to help sustain effective professional

development in this area, the RF legislation suggested literacy coaching as a viable way

to provide this (Denton & Hasbrouck, 2007). Although coaches can be found in many

different content areas, because of the RF initiative, there tends to be more literacy

coaches across the educational system. These coaches are generally effective and skilled

teachers that are asked to use their strengths from the classroom to help other teachers.

They are asked to work closely with teachers by observing, modeling, providing

feedback, and planning lessons (Deussen et al., 2007). They can offer additional support

by using assessment data to group students and provide interventions, conduct workshops

to help introduce teachers to new strategies, lead study groups, and help with classroom

management to improve student achievement (Denton & Hasbrouck, 2007). With

districts looking to meet NCLB requirements to find more effective means to enhance

instruction and learning, instructional coaching has increased in many areas across the

country (Deussen et al., 2007).

As part of the No Child Left Behind legislation, Reading First made very specific

stipulations about how schools that qualified for funds were to conduct their operations

toward reading instruction. One such mandate was for each RF school to be served by a

reading coach, but it failed to give any details as to what their role would be. The

Northwest Regional Educational Laboratory conducted a study of the roles of literacy

coaches in Reading First schools in 203 different schools (Deussen et al., 2007). What

they found was that each state had their own variation of mandates for the coaching role.

This would range from some states requiring a heavy emphasis on the coach to be in the

classroom to one in which the coach was to spend a great deal of time working on student

achievement data to drive instructional decisions (Deussen et al., 2007). Deussen et al. (2007) studied the way coaches in five states (Alaska, Arizona, Montana, Washington, and Wyoming) focused their time and efforts. They found that coaches could be categorized as data-oriented, student-oriented, managerial, or teacher oriented instructional coaches.

The data-oriented coaches in this study (Deussen et al., 2007) spent an average of 45 percent of their workweek on data and assessment-related tasks and only 18 percent working directly with teachers. They found that much of the interactions with the teachers were focused on assessments, using and interpreting data, and very little (14 percent) providing one-on-one coaching to teachers. They spend a great deal of time interpreting and sharing the results and making decisions based on outcomes. These coaches would know exactly where the students were academically and would collaborate with teachers to use the data to group students for additional interventions. Many of these coaches felt that the data was a great way to demonstrate weaknesses, which was often the catalyst for change.

The student-oriented coaches in this study (Deussen et al., 2007) were characterized as those that spent more time working directly with students and a comparatively small amount of time working with teachers. These coaches would generally place their students in the center when defining their role on the school campus. About a third of their time was devoted to assessing students, using the results to organize interventions and to provide the interventions themselves. Many of these coaches reported they delivered instruction directly to students, would substitute for other teachers, and provide additional support through tutorials. This is different than other

coaches in that the focus is more on the student rather than the teachers. They spent only 10 percent of their time on one-on-one coaching of teachers. Many of these coaches attributed their lack of focus on coaching teachers to feeling more confortable working with students than with teachers. Some reported the reason for this was that they were uncomfortable in their role as a coach and others as a way to earn legitimacy for their position in the eyes of other teachers. Many still felt the need to work with the students, as the reason they joined education in the first place.

Managerial coaches were found to work with teachers about 25 percent of the time in this study (Duessen et al., 2007), but spent more time (35 percent) on managing systems, facilitating meetings, and keeping up with projects and paperwork. These coaches seemed to "focus of being a 'resource' to teachers rather than working with them directly" (Duessen et al., 2007, p 17). They supported teachers through finding research, curriculum and classroom materials. One problem many of these coaches felt was that the additional duties and responsibilities that were assigned to them made them feel less effective toward their duties of helping teachers.

Duessen et al. (2007) divided the teacher-oriented coaches into two categories: group and individual. Compared to all other categories, both of these coaches spent less time on data-based tasks, paperwork, or unrelated activities as well as very little time planning or providing student interventions. Their focus was primarily on teacher professional development including "observing in classrooms, demonstrating good teaching, providing in-service training and other professional development, facilitating teacher meetings, helping teachers use data to pinpoint areas for instructional

improvement, and acting as a resource for both information and materials" (Duessen et al., 2007, p. 18).

Coaches in the individual teacher-oriented category reported they spent 48 percent of their time working with individual teachers and spent very little time working with groups of teachers. These coaches also were found to spend less time with assessment data than any other category of coach (Duessen et al., 2007). The group teacher-oriented category reported they spent about 25 percent of their time with individual teachers and 10 percent of their time coaching teacher groups. They did spend substantially more time working with data (23 percent) and was the most common group between the two (Duessen et al., 2007).

With the differences in the methods and styles of instructional coaches, there are concerns that there is insufficient training being provided to these coaches (Duessen et al., 2007; Denton & Hasbrouck, 2007). When developing training for coaches, "[these] professionals need to be equipped with content-specific knowledge, as well as skills related to establishing, maintaining, and working within professional relationships with teachers and other school personnel" (Denton & Hasbrouck, 2007, p. 169). However, Denton and Hasbrouck (2007) argue that without having a well-defined and articulated model of coaching, the instructors may give information that is confusing or even contradictory to the coaches. If coaches receive training from multiple sources, this conflicting information may make them confused about the purpose and process of their role (Denton & Hasbrouck, 2007).

L'Allier, Elish-Piper, and Bean (2010) looked at literacy coachers in the elementary grades. They came up with seven guiding principals for literacy coaches to

use to focus their work on improvement of literacy teaching and learning. Although this research focused on elementary literacy coaches, it can apply to any content coach at any grade level. These guiding principles offer research-based suggestions for literacy coaching.

The first guiding principle developed by L'Allier et al. (2010) for coaching is that specialized knowledge is a requirement for successful coaching. Coaches help classroom teachers by providing presentations, small study groups, facilitating grade-level meetings, and helping assist individual teachers. This involves knowledge of specific content, assessment and instruction to be an effective coach. The coach needs to also have knowledge of adult learning concepts so they can be successful in providing professional development to teachers. They need to have successful classroom teaching experience to form a foundational base. Also, a graduate degree is helpful in that it helps the coach to have a better understanding of education knowledge to help them be successful (2010).

The second guiding principle by L'Allier et al., (2010) is that time working with teachers is the focus of coaching. The instructional coaches should not be spending a vast amount of their time working on administrative duties such as covering classrooms, supervising students and other tasks that take them away from the teachers. Research has shown that schools where instructional coaches spend more time working directly with teachers had a greater percentage of student success than coaches that spent their days in other capacities. (L'Allier et al, 2010).

Collaborative relationships is the third principle L'Allier et al., (2010) gives as an essential element in coaching. What they found is that having just a common goal of student achievement is a good start, but more is needed to build collaborative

relationships. "Coaches must build on that foundation by establishing trust, maintaining confidentiality, and communicating effectively with teachers (L'Allier et al., 2010, p. 547). Trust is built from following through with commitments made to teachers and openly respecting teacher's professional expertise (2010). In order to maintain confidentiality, coaches must not discuss observations of teachers with other teachers or administrators that evaluate (2010). Discussions should stay focused on the students' performance rather than the teacher's classroom performance to encourage effective communication with teachers (2010). Put together, theses aspects will help build a stronger collaborative relationship between the teachers and the instructional coach.

L'Allier's et al. (2010) fourth principal is that coaching that supports student achievement focuses on a set of core activities. These activities include administering and discussing student assessments with teachers, giving supportive feedback after a classroom observation, holding regularly scheduled conferences with teachers about student achievement and modeling instruction in the classroom. These teacher-centered activities put the focus of the instructional coach on assisting the teachers in building student success.

The fifth principal is coaching must be both intentional and opportunistic (L'Allier et al., 2010). A coach must be intentional in the way she/he deals with teachers. L'Allier et al. (2010) gives an example of a coach's approach towards a novice teacher may be more forward with modeling a lesson, co-teaching, then observing and giving feedback as compared to an experienced teacher that may need conversations during a team meeting to be invited in to observe a particular aspect of the lesson cycle. The coach must be flexible and adapt to the situation at hand to assist the varied personalities

of teachers. Opportunities, no matter how superficial, can be a moment that shows

support through openness and dedication. This can be done during passing periods

through brief conversations with teachers to being available with an open door policy.

These strategies can lead to more intense interactions that can become intentional (2010).

Being a content leader in the school is L'Allier's et al. (2010) sixth principal for

instructional coaches. They must have the fundamental knowledge in order to understand

teacher deficiencies to address. They have to know how their particular content area

plays into the school to get involvement across other departments and areas around the

school to make the most impact for their students. They must have a good understanding

of developing and redesigning the organization (2010) in order to ensure an environment

that is conducive to learning. This can be through working with the schedule for

collaborative planning times as well as seeking paraprofessional assistance with small

group instruction. Knowing their content to address the needs of the students and

teachers are essential in being an effective instructional coach.

Finally, L'Allier et al. (2010) describes the instructional coaching role as

continuously evolving over time. Although many coaches have a proven track record of

student success, they find it different when working with adults. Often, a new coach may

feel there is little structure and they are alone in their role. There may be uncertainty in

working with teachers from a new role and it can be intimidating trying to push teachers

in a new direction. A coach must realize that it takes time to build the confidence

necessary to make the changes and the trust that needs to be fostered with the teachers

that they are there to help them be successful in educating students.

Instructional coaches play an important role in supporting instruction on a campus. When used correctly, coaches can build those relationships and trust that are very difficult to gain as an administrator. Their level of content and pedagogical knowledge can have a greater impact if there is trust built within the department. The instructional coach must maximize time with the teachers and not get caught up in the administrative duties that can easily be assigned to them. The team must have a shared focus of student achievement to shape their goals for a common purpose. This can lead to a higher level of collaboration from all about what is necessary for student success.

Assessment for Learning

Many studies of assessment practices conducted at various levels of instruction offer strong evidence of achievement gains on standardized tests based upon student performance (Bloom, 1984; Black & William, 1998; Black, 2003; Meisels, Atkins, Burnett, Xue, Bickel, & Hon, 2003; Rodriguiz, 2004). These results have shown that the way assessments are used have a great effect on student learning. When compared to reduced class sizes, assessment for learning strategies has a four to five times greater impact on student learning (Ehrenberg, Brewer, Gamoran, & Williams, 2001). Instead of using assessments as an indicator of success of an instructional intervention, the idea behind assessment for learning is that it should be used as the catalyst of learning (Stiggins, Arter, Chappuis, & Chappuis, 2006).

The research of Black and William (2004) helped to transform the notion that the knowledge of how to assess students has a major impact on student learning. They conducted a global comprehensive review of students from many countries from all grade and subject areas and found that students whose teachers used formative assessments

achieved two to four grade levels higher on standardized tests. "The gains reported in the studies were among the largest found for any educational intervention" (Chappuis, 2009, p. 3). Black and William (1998) identified the classroom assessment features that brought about the largest achievement gains are assessments that result in accurate information, gives descriptive rather than evaluative feedback to students and enables student involvement in the assessment.

In order to differentiate the types of assessments, Black and William (2004) defined what they call assessment for learning. "Assessment for learning is any assessment for which the first priority in its design and practice is to serve the purpose of promoting pupils' learning. It thus differs from assessment designed primarily to serve the purpose of accountability, or of ranking, or of certifying competence" (p. 3). To distinguish between the types of assessments Black and Williams give examples of assessment for learning from assessment activities that "can help learning when it provides information to be used as feedback, by teachers and by their pupils in assessing themselves and each other, to modify the teaching and learning activities in which they are engaged" (p. 2-3). Assessment for learning is used "freely as an on-going process of discourse between teacher and student and values the ethical and aesthetic aspects of education" (Kucey & Parsons, 2010, p. 6).

Stiggins, Arter, Chappuis, & Chappuis (2006) argue that all assessments used in the classroom can be generalized into two categories - assessment FOR learning and assessment OF learning (p. 29). Both are used in the educational system for a variety of ways, but with very different purposes. Assessment of learning are those assessments that are used to determine what learning has already taken place. It is used to measure

student knowledge and understanding of a particular subject or concept that can make

statements of student learning status "at a point in time to those outside the classroom, as

when making student referrals or making decisions about programs" (p. 31). Other

examples of external assessment of learning are college admissions tests, state

assessments and local standardized tests.

Assessment for learning happens while learning is still underway (p. 31). It is not

tied to accountability or finalized grades. It is the use of assessment throughout the

learning process as a method of teaching. It provides students with feedback they can use

to improve their quality of work while enabling students control over how they learn. It

guides students in how to improve each time and is a method of coaching the students to

improve, rather than being used as a punitive measure. The authors realize that both

types of assessment are essential in the modern educational environment, but urge that

assessment for learning has the greatest impact on student learning.

To better understand the differences between assessment for learning and

assessment of learning, Stiggins, et. al. (2006) provide examples as to how each are used.

Assessment for learning promotes increased achievement to help students meet more

standards and supports ongoing student growth, whereas assessment of learning

documents individual or group achievement or mastery by students and measures

achievement status at a point in time for the purpose of reporting or accountability. For

the teacher, assessment for learning "provides students with insight to improve

achievement, helps to diagnose and respond to student needs, helps parents see progress

over time and gives parents a method to support learning. The teacher uses assessment of

learning to determine if standards are being met and uses the results to compare student

performance. For the student, assessment of learning is something to study to meet the standards, obtain the highest possible score or to avoid failure as compared to self-assessing while keeping track of his/her own progress while setting goals based upon the assessment results to improve in the future. The motivation factor for students is in a belief that success in learning is achievable rather than bending to the threat of punishment or promise of rewards.

The biggest difference between assessment for learning and assessment of learning is when the assessments are conducted. Assessment for learning is an ongoing process that occurs during learning. Assessment of learning is an event that is conducted after learning has already taken place. A method of assessment for learning can be rubrics, student self-assessment and descriptive feedback given to students. Assessment of learning includes achievement tests, final exams and short cycle assessment.

Many in the education field will compare assessment of learning and assessment for learning as summative and formative assessments. The premise behind AFL is based upon these types of assessments, but the authors argue that it is much more. Assessment of learning can easily be compared directly to summative assessments. Assessment for learning is a type of formative assessment, but "it involves teachers providing descriptive rather than evaluative feedback to students. It also includes students - from clarifying targets to self-assessing to communication with others about their own progress" (p. 36). The biggest difference is the descriptive feedback and student-involvement aspect that make this more than just formative assessment.

Assessments for Learning on Student Motivation. Research on the human brain has shown that we all have an innate desire to learn and that we are born with intrinsic motivation (Caine & Caine, 1997; Jensen, 1998). According to this research, the brain is built to seek information, integrate it with other information, interpret it, remember it, and bring it to bear at the appropriate times. This intrinsic motivation to learn is supported when the learner has a sense of control and choice, gets frequent and specific feedback on performance, encounters tasks that are challenging but not threatening, is able to self-assess accurately and participates in learning tasks related to everyday life (Stiggins, et. al., 2006, p. 39). Those conditions that tend to drive out intrinsic motivation are coercion, intimidation, rewards or punishments linked to evaluative judgments, comparing one student to another, infrequent or vague feedback, limitation of personal control, and responsibility without authority (Stiggins, et. al., 2006, p. 39).

Many traditional assessments tend to follow along the negative conditions of motivation. "In our current system, assessments and grades are used to engineer compliance, deliver evaluative feedback (grades, which many students receive as a judgment of themselves and their worth as people), and compare students to each other (engendering negative competition, thus reinforcing a judgment of self-worth). Students also receive single grades on work without indication of what they did well or what might be their next steps in learning (reducing student control), and feedback pointing out only what they can't do yet instead of describing what they can do (emphasizing negatives instead of positives)" (Stiggins, et. al., 2006, p. 39).

Using what we know about assessment and student motivation, we realize that our current common assessment practices of earning an A or the threat of an F for a grade does not affect many students' motivation for learning. Students that are failing or performing marginally tend to not be motivated by the threat of a failing grade (Stiggins, et. al., 2006, p. 283). In order to help motivate students to perform well, assessments cannot be punitive in nature. When used as a punitive means, it only discourages students further, whereby students that are the most at-risk of failure are only validated at their lack of understanding. In order to help motivate students, they need to "know the learning target, constantly receive feedback about where they are in relationship to the target, and are able to practice, without penalty and with as much assistance as they need" (p. 283).

One of the recurring themes in AFL is the importance of feedback. Stiggins, et. al, (2006) strongly advocate "reducing evaluative feedback and increasing descriptive feedback to affect motivation and achievement" (p. 283). Black and William (1998) show that the type of feedback given to students affects their motivation to learn. They found that the quality of the feedback (the use of descriptive, criterion-based feedback as opposed to numerical scoring or letter grades), determines how effective it is on student learning. The feedback should emphasize the importance of learning rather than the implication of being compared to others. It should focus on strengths or weaknesses and is most effective when it points out strengths in the work as wells as areas needing improvement. It should be used to maximize student motivation by encouraging students to want to improve.

Principles of Assessment for Learning. Research has looked at strategies that have helped to transform the assessment environment in the classroom. "In AFL classrooms, teachers and students form learning partnerships where students are empowered to become active learners" (Kucey & Parsons, 2010, p. 10). According to Sadler (1989), "a key premise is that for students to be able to improve, they must have the capacity to monitor the quality of their own work during actual production. This in turn requires that students know what high quality work looks like, be able to objectively compare their work to the standard, and have a store of tactics to make work better based on their observations" (p. 119). Stiggins, et. al., (2006) have taken this research and developed the ideals that students need to know where they are going, where they are now and how to close the gap (p 34) as the fundamental principles behind AFL. "Under these circumstances students can be challenged without being threatened" (p. 40).

Assessment for learning should be an ongoing process between student and teacher in which students are active participants in thinking about their learning and not just test takers. Students should take active responsibility for their learning and take steps to answering the fundamental questions: "Where am I going?; Where am I now?; How can I close the gap?" (p. 41). This leads to AFL's Seven Strategies of Assessment for Learning:

Where am I going?

1. Provide a clear and understandable vision of the learning target.

2. Use Examples and models of strong and weak work.

Where am I now?

    3.   Offer regular descriptive feedback.

    4.   Teach students to self-assess and set goals.

How can I close the gap?

    5.   Design lessons to focus on one aspect of quality at a time.

    6.   Teach students focused revision.

    7.   Engage students in self-reflection, and let them keep track of and share their learning.

With these seven strategies of AFL, teachers and students are encouraged to answer each of these three essential questions at all times, though it needs to be implemented correctly. "The tone of the classroom, embodied within teacher-student relationships and rapport between students themselves, impacts the effectiveness of AFL implementation. The purpose of AFL is to enhance student learning, but the learning environment must be psychologically safe to ensure student comfort in the assessment process" (Kucey & Parsons, 2010, p 10). A closer look at these strategies give a better understanding of what AFL truly represents.

Where am I going? The first two strategies help students to develop a clear understanding of what is expected to be learned. These expectations are an important aspect as it clearly defines what students should be expected to know and produce. At this phase, students should understand why they are doing this activity and be clear about any misunderstandings they may have. The teacher has already determined learning targets based on curricular learner outcomes that are translated to student friendly language. Examples of strong and weak work are provided as visual representations and

levels of quality required to achieve the specified outcomes. The teacher should model

creating a product or performance and show students the issues that they may run into. In

order to assist students in the development and revision of their own work, it is important

for the teacher to demonstrate as much as possible. Without this guidance, students will

have difficulty in understanding how to formulate their own product correctly. Involving

the students "in the design of rubrics increases students' understanding of the criterion

and leads to more polished work" (Kucey & Parsons, 2010, p. 9). This can be motivating

to the students because often times, the lack of understanding "why" can cause students

to shut down.

  Where am I now? Offering regular descriptive feedback and teaching students

to self-assess and set goals are the strategies to identify what they know. Quality

feedback is an important aspect of AFL. Chappuis (2009), finds that quality feedback has

the following characteristics: (1) it directs attention to the learning intended, focusing on

strengths and providing information for improvement; (2) occurs during learning while

there is still time to make corrections; (3) directly addresses partial understanding; (4) it

does not provide the student with answers; and (5) it takes into account how much

information students can process and act upon at a given time. "All learners, especially

struggling ones, need to know that they did something right, and our job as teachers is to

find it and label it for them before launching into what they need to improve" (Stiggins,

et. al., 2006, p. 43). Not all issues and mistakes need to be addressed at one time.

Identifying issues that students can successfully act on at one time, then determining how

to build upon that is key to keeping students motivated. Eisner (2001) states, "for the

student the aim is to recognize what needs attention; for the teacher it is to be in a position to choose a course of pedagogical action" (p. 170).

Teaching students to self-assess and set goals is a difficult process. It should be viewed as a necessary part of learning and not an add-on that we do if we have time. Stiggins, et. al., (2006) gives examples of self assessment such as having students identify their own strengths and areas of improvement, creating a response log at the end of class recording key points learned and questions they still have, having students provide samples for their portfolio that proves a certain level of proficiency and explaining why it qualifies as such, offering descriptive feedback to classmates and using feedback from different sources (other students, teacher and self) to identify what they need to work on and set goals for future learning (p. 44). "When students are involved in self-assessment, they provide themselves with regular and descriptive feedback to guide their learning" (Gregory, Cameron, and Davies, 2000, p. 10). Students need to learn how to use teacher feedback, constructive criticism from other students, and self-assessment to identify what they need to work on and to set goals for future learning. Identifying personal strengths and areas of improvement before handing in their work is a difficult task. Students can learn to interact and offer descriptive feedback to classmates. Self-assessment thus becomes an essential aspect to learning, and struggling students benefit the most from this AFL practice (Black, 2004; Kucey & Parsons, 2010, p. 10-11).

Closing the Gap. Designing Lessons to focus on one aspect of quality at a time is the first strategy in answering the question: "How can I close the gap?" Again, being more specific with more depth is much more effective than hitting many points on the surface. To do this, teachers are encouraged to focus on only a few aspects, and build

competence one block at a time before moving to other areas. All the while, students need to understand that all parts must still come together (Stiggins, et. al., 2006, p. 44). When a student is struggling, the teacher focuses the attention on a particular concept or skill that needs revision before addressing other concerns (Kucey & Parsons, 2010, p. 12). Students need to learn focused revision (strategy seven) in order for them to take ownership of their work and make corrections based upon each criterion. Guiding students on this process is essential as students have a difficult time accomplishing this.

Engaging students in self-reflection and letting them keep track of and share their learning is the last strategy in AFL for closing the gap. Students must be engaged in tracking, reflecting on, and communicating their own progress. Learning is reinforced when students are able to reflect on what they are learning and share their progress with others (Stiggins, et. al., 2006, p. 45). By having a collection of their work used as evidence of learning, they are able to identify their strengths and feel in control of their learning. "Based on clear learning targets, students compare previous and current knowledge. Both previous and current knowledge serve as evidence of learners' achievements and growth" (Kucey & Parsons, 2010, p. 12). By reflecting on their learning, students deepen their understanding (Chappuis, 2009).

Parental Involvement

Another important component in this middle school intervention program is increased parental involvement. In order to fulfill this goal, the performance coach along with the administration at the suburban middle school, have endeavored to involve cohort parents in numerous ways. There have been sessions for parents including interpreting TAKS scores, educational research and ways of helping parents. The school has also

included evening sessions at local restaurants in which parents can meet with the principal and discuss school issues. The school is trying different ways to involve parents in their child's education because research shows it has a positive effect.

Research on parental involvement has shown there to be a positive impact on improving students' achievement (Sheldon & Epstein, 2005; Sirvani, 2007b). There is an accepted recognition of parental involvement as part of a remedy for educational problems (Fan & Williams, 2009). Although parental involvement can come in many different forms, it has had a broad definition that generally refers to participation in the child's education to promote academic and social success (Fishel & Ramirez, 2005). This can range from attending regular conferences with the teacher, attending school functions, volunteering at the school to rules at home regarding academics (Fan & Williams, 2009).

Fan and Williams (2009) looked at the effects of parental involvement on students' academic self-efficacy, engagement, and intrinsic motivation. They concluded that the "various dimensions of parental involvement differentially linked to students' engagement in academic activities, senses of self-efficacy and intrinsic motivation in maths and English" (2009, p. 68). One such dimension was the content of the communication with school-parent contact. There was a significant difference in the associations between positive school-parent contact and negative school-parent contact on student success. Fan and Williams (2009) looked at the content of the communication from the school to parents. When schools focused on contacting parents when behavior problems arose or to discuss poor student performance, the communication had a negative association on student outcomes. However, when schools "initiated contact

with parents regarding more benign school matters, such as academic programming, future educational plans and helping students at home, had positive associations" (p. 68) with student success. According to this research, it is very important for schools to keep open communication between the school and parents on many different aspects of school, not just when there is a problem or concern.

Fan and Williams (2009) looked at the causes behind the negative effects of only parent communication to notify of student concerns. "We subscribe to the view that the consequential reactions and behaviors of parents after conversing with teachers are likely to be associated with adolescents' academic [success]" (p. 69). "Parent-school communications concerning students' school problems can easily lead to certain discouraging conversations, criticisms or punishments from parents, which decrease students' confidence, interest and engagement in learning" (p. 69). On the other hand, positive communication from the school can lead to more positive conversations about school that can help build confidence and motivation for the student. "Parents are more likely to communicate with and provide guidance to their children in a positive manner following these information contacts with teachers and, as a result, benefit students' perceived competence, engagement and intrinsic motivation" (p. 69).

Fan and Williams (2009) also found a strong positive relationship with parents' educational aspirations for their children. They found that "students who perceived that their parents valued their education and had high expectations for their academic success were likely to feel interested and engaged and confident toward their academic endeavors" (p. 69). This notation leads to an understanding that the parental involvement from these parents are communicated and conveyed in a way that shapes the child's

motivation to be successful in school. "The findings are also indirectly consistent with documented evidence of the strong association between parental values and improved academic achievement, as achievement motivation often serves as a pathway to mediate students' academic performance" (p. 69).

Finally, Fan and Williams (2009) looked at parent participation in school functions. What was found was a positive relationship when parents actively participated in school functions when it came to student success. "When parents are engaged with school-related activities, they can strengthen the bond between home and school and demonstrate that they value their children's education" (p. 70). This involvement may be contributed to their children setting higher goals and having greater confidence in school. However, Fan and Williams (2009) warn that too much involvement could end up putting additional pressure on adolescents. The adolescent child may feel that the additional involvement gives opportunity for the parents to be asking many questions about their child, which could be positive. However, "as adolescents desire more independence and autonomy, it is possible that they will feel as if their actions are being scrutinized and restricted when their parents obtain information from their teachers or other parents. From this perspective, parents' participation in school functions may be perceived as controlling by adolescents and hinder the relationship between parental involvement in school activities and intrinsic motivation" (p. 71).

McCoach, Goldstein, Behuniak, Reis, Anne, Sullivan, and Rambo (2010) conducted research based on surveys to schoolteachers, administrators and parents. They looked at outlier schools with low socioeconomic populations. These outliers were both schools that had achievement profiles that exceeded or fell short of their expected

achievement levels. What they found was that the perception of the school staff was related to the involvement of the parents. The positive outlier schools did have more positive perceptions of parents; however, those same teachers "perceived the parents in their school as being more involved in their children's education, and they encouraged high levels of parent involvement" (p. 427). These schools had a better partnership with the parents in working with their children to increase student achievement. They also found that these same involved parents reported greater satisfaction with their schools than parents in the negative outlier schools. "Parental involvement and parental perceptions were key variables that helped to explain differences of the over and underachieving schools. Thus, communication and collaboration among parents, teachers, and staff appear to be critical factors predicting the success of low-SES schools" (McCoach, et al., 2010, p. 427).

Additional Instructional Time

The final component the middle school intervention program is extra instructional time and support to meet higher standards. This additional time and support is implemented in many ways to help build capacity in students. This can come in the form of small group interventions after school to having additional support in the classroom for teachers to work with small groups of students during the school day. This component is important in the role of student achievement for this program.

Adding additional instructional time in schools is often a difficult situation to create. Often, budgetary constraints hinder the ability of schools to offer additional time (Baker, Fabrega, Galindo, & Mishook, 2004). However, instructional time has been the focus of political debate when providing support for schools (Yair, 2000). Regardless,

research has shown that it is not just the additional instructional time that creates better

student achievement, but rather how you use that additional instructional time (Harn,

Linan-Thompson, & Roberts, 2008).

The Center on Education Policy (2008) looked at instructional time in elementary

schools in various districts and how that instructional time increased or decreased in

certain subjects since 2002. It was found that "shifts in instructional time toward English

language arts (ELA) and mathematics and away from other subjects were relatively large

in a majority of school districts," (Center on Education Policy, 2008) 43% on average.

Of those districts, over half increased the time allotted for ELA instruction by 150

minutes or more (2008). As for math, 65% of districts added at least 75 minutes of

instruction each week. The classes that have reduced instructional time include social

studies, science, art and music, physical education, recess, and lunch (2008). It was

found that 62% of all school districts had increased the amount of time spent in

elementary schools on ELA and/or math (2008). Out of those districts increasing

instructional time for ELA and/or math, 44% of them cut time for other content subjects

(2008).

Harn, Linan-Thompson, and Roberts (2008) looked at the effects of additional

instructional time for at-risk first-grade students. They studied seven schools looking to

intensify instructional time from 30 to 60 minutes. This study "examined the role of

instructional time on the outcomes for the students most at risk by holding group size,

setting, and instruction approach constant" (p. 124). The results from the study indicated

"students who received 30 minutes of intervention made significantly more growth on

measures of [reading]" (Harn et al., 2008, p. 117). They concluded that interventions in

small group formats at two to three times a week for a minimum of 15 to 30 minutes produced the greatest effects. The more time given for intervention had a significant impact on student outcomes in reading (2008). Although additional instructional time did have significant results in student achievement, Harn et al. (2008) noted that it is only successful with quality intervention and instruction. Just giving additional instructional time without high quality instruction will not prove to be successful for student achievement (2008).

Yair (2000) looked at the gap between allocated and productive time in academic classes. One major factor, engagement, represents a small amount of time. Regardless if the instructional time is longer, Yair (2000) argues if student engagement remains low, instructional time will have little effect. The amount of time students stayed engaged averages slightly over 50% for students and the remainder of the time is off task behavior. Yair (2000) claims the gaps between allocated and productive time in school are exceptionally large. This study "suggests that only by securing students' active involvement with instruction" (p. 504) has positive results, but additional time with teacher-centered instruction may exacerbate student disengagement. If additional instructional time is given, it can be very successful when utilizing teaching strategies that provide engagement.

CHAPTER III

METHODS

In order to address the importance of the College and Career Readiness Standards, a nonprofit organization has established a middle school intervention program in six Houston area schools. The goal of the middle school intervention program is to increase student achievement in math for middle school students to help them on the path to success in high school. Through the use of the six components of the middle school intervention program (baseline analysis of student data, targeted collaboration among teachers and schools, performance coaching to improve teaching and learning, continuous assessment for learning, family engagement, and extra instructional time and support to meet higher standards), the hope is to increase the number of students who meet the commended performance standards of the Texas Assessment of Knowledge and Skills (TAKS) test.

Purpose

The purpose of this study was to determine the impact of the middle school intervention program in its first year of implementation at a large suburban middle school approximately 25 miles northeast of Houston. The nonprofit organization's pilot program was scheduled to be implemented at the school for a minimum of two years to improve student results during a typical middle school cycle in grades six through eight. The goal was to have a significant improvement of student math TAKS scores resulting in commended levels of achievement before exiting middle school. This research evaluates indicators at the mid-cycle of the first year of implementation of the two-year cycle to evaluate and identify trends emerging from the intervention program

Research Question

The intention of this program was for all students to demonstrate increased achievement after the two-year intervention. The research question was based on the nonprofit organization's project goals for increasing student achievement. This question was used as a guide in examining the success of the program: Do math TAKS results show achievement gains among the selected sixth grade students and all students in the sixth grade participating in the middle school intervention program? The null-hypotheses for the research question is as follows: The targeted sixth grade students and all students in the sixth grade will show no statistically significant difference on the math TAKS posttest results.

Subjects

The targeted grade for this intervention program at the selected middle school for this research was the sixth grade class. These students were to be tracked and monitored over several years by the nonprofit organization to determine any success toward college readiness. A group of these students was selected by the nonprofit organization to form the cohort. The cohort consisted of about 150 sixth grade students that were determined to have passed the Math TAKS test in fifth grade, but scored less than commended performance. Students chosen to be in the cohort were those who scored greater than 603 for the minimum scaled score and less than 738 for the upper scale score. These students represented the targeted cohort that the middle school intervention program was attempting to improve to above the commended performance range. Table 1 shows the vertical scale scores for the fifth and sixth grade Math TAKS test. This table shows the minimum passing standard set for the Math TAKS test, as well as the minimum standard

set to meet commended performance. Students that scored between the minimum

standard and commended performance were selected as the cohort.

Table 1

Minimum Passing and Commended Vertical Scale Scores for Math TAKS

Performance Standard	Grade 5	Grade 6
Met Standard	603	637
Commended Performance	738	783

The sixth grade targeted cohort group used for this research was comprised of 137

students of mixed gender, ethnicity and socio-economic status. These students consisted

of those who were "in the middle" according to their fifth grade math TAKS score.

Table 2 provides a summary of the demographic composition of the sixth grade student

cohort group. The sixth grade cohort contained 17.5% African American, 32.8%

Hispanic, 7.3% other, and 41.6% White students. Economically disadvantaged students

comprised 32.1% of the group with 7.3% LEP students and 5.1% Special Education

students.

Table 2

Demographic Composition of the Sixth Grade Cohort

Demographic	Frequency	Percent
African American	24	17.5%
Hispanic	45	32.8%
Other	10	7.3%
White	57	41.6%
Economically Disadvantaged	44	32.1%
LEP	10	7.3%
Special Education	7	5.1%

The grade level group was comprised of all students in the sixth grade at the middle school, including the targeted cohort students. The sixth grade group was comprised of 317 students of mixed gender, ethnicity and socio-economic status. Table 3 provides a summary of the demographic composition of the sixth grade group used for this study. The sixth grade group contained 17.7% African American, 24.8% Hispanic, 5.0% other, and 52.5% White students. Economically disadvantaged students comprised 27.0% of the group with 4.7% LEP students and 3.5% Special Education students.

Table 3

Demographic Composition of the Entire Sixth Grade

Demographic	Frequency	Percent
African American	53	17.7%
Hispanic	79	24.8%
Other	16	5.0%
White	167	52.3%
Economically Disadvantaged	86	27.0%
LEP	15	4.7%
Special Education	11	3.5%

This research also examined whether the middle school intervention program had any effect on the entire sixth grade class consisting of both cohort and non-cohort students. The non-cohort students were those that did not pass the Math TAKS test (less than 603 scale score) and those students that scored commended performance (higher than 738 scale score). Since the strategies used by the intervention program are part of good teaching practices and offered to all students, consent was not needed for participation in this program. The nonprofit organization did, however, inform all families of the components and goals of the program and how it may benefit the students, and had all the parents sign a commitment letter to ensure parental support.

Setting

This research was conducted at a larger middle school located in a suburban community about 25 miles northeast of Houston, Texas. The total student population of sixth, seventh and eighth grade students was about 1,100. Of those, 53% were Anglo, 25% were Hispanic, and 19% were African American. Students that were classified as economically disadvantaged comprised about 20% of the population with 2% being limited English proficient. This school was one of only six schools selected for the middle school intervention program during this pilot phase of the program.

Design

For this study, the researcher used a one-group pretest-posttest design. Using inferential statistics, a paired samples *t*-test was used to compare the mean scores of the Math TAKS test for the cohort group before and after the treatment to determine if any observed gain was significant. A paired samples *t*-test compares the means of two variables by computing the difference between the two variables for each case and tests to see if the average difference is significantly different from zero (Archambault, 2000). If the significance value is less than .05, there is a significant difference. Anything above .05 will show no significance. The pretest baseline used for this research was the fifth grade Math TAKS test. The treatment was the implementation of the six components of the middle school intervention program that was ongoing throughout the school year (baseline analysis of student data, targeted collaboration among teachers and schools, performance coaching to improve teaching and learning, continuous assessment for learning, family engagement, and extra instructional time and support to meet higher standards). As this research evaluates the first year of implementation of the intervention

program, the posttest evaluation is from the sixth grade math TAKS test. The same design and inferential statistics to determine gains for the cohort was also used to determine gains for the entire sixth grade class.

The use of the vertical scale scores on the TAKS test was used as a way to determine growth over a school year. The scale score for the TAKS test "is a conversion of the raw score onto a scale that is common to all test forms for that assessment" (Texas Education Agency, 2011). These scores "allow direct comparisons of student performance across different test administrations" (TEA, 2011). "The scale score quantifies a student's performance relative to the passing standards or proficiency levels for tests" (TEA, 2011).

Data Collection

The researcher used archival data of the 2009-2010 fifth grade Math TAKS test for the pretest data and the 2010-2011 sixth grade Math TAKS test for the posttest data. This data was readily available in my role as an administrator at the campus in which the research was being conducted. Permission from the school district was obtained prior to conducting any data analysis or performing any research for this report.

The TAKS data was obtained through the Campus Online database that was currently in use by the district. The Campus Online reports were formatted into a Microsoft Excel spreadsheet and then imported into the IBM SPSS software so that the statistical measures could be easily computed. The researcher was able to obtain a comparison of each student in the cohort and grade level Math TAKS data for both fifth grade (2009-2010 school year) results and sixth grade (2010-2011 school year) results.

This data was then analyzed for any statistical improvements in the first year of implementation of the middle school intervention program.

Procedures

Prior to the 2010-2011 school year, fifth grade Math TAKS results were analyzed by the middle school intervention program's performance coach to determine the cohort for incoming sixth grade students. Students were placed in the cohort if they scored above 603 and below 738 on the vertical scale score. This cohort represented those students that had passed the Math TAKS test, but did not achieve commended performance. The number represented was about 150 students.

The employees of the nonprofit organization met regularly prior to the 2010-2011 school year to train the performance coaches and school administration on the components of the program. School administration made commitments and identified ways to schedule teachers for common planning times. The performance coaches were introduced to the schools' sixth grade math teachers and were given an office at each respective campus. Training on data analysis and classroom best practices were conducted during that summer. The coaches worked closely with the program director that oversaw the six schools in the network of schools in the intervention program.

Throughout the 2010-2011 school year, the performance coach and program director worked closely on overcoming obstacles and ensuring the six program components were being implemented throughout the year. Data analysis was conducted regularly throughout the school year and teacher training and support was ongoing. The students took the regularly scheduled math TAKS test in April 2011 and the results were delivered to the school in June 2011.

Once permission to conduct this research was granted by the University of Houston and the local school district, archival data was used to begin analyzing the results. Data was stored on secured district servers in Microsoft Excel and IBM SPSS formatting. Using the results found in this research, the researcher was able to determine if the first year of the middle school intervention program showed any gains in student achievement on the math TAKS data.

Data Analysis

After data was collected, an analysis was conducted using a paired samples *t*-test design to determine if any statistical significance existed between the fifth grade Math TAKS test scores and the sixth grade Math TAKS test scores. Using the vertical scale scores, I found the mean of the TAKS test for the cohort students from the fifth grade Math TAKS test and the sixth grade Math TAKS of the following year. I conducted a *t*-test for repeated measures and obtain a *t*-statistic. The statistical significance was set at the .05 alpha level for a two-tailed test and degrees of freedom was calculated from the total number in the cohort. If the obtained *t*-value was more than the determined *t*-statistic, the results would be determined to be significant and unlikely to be a chance result (Fraenkel & Wallen, 2010). The same analysis was conducted in the same manner with all students in the cohort grade.

In order to see the distribution of the scores for students taking the test, histograms were created to easily view where most of the students scored on the math TAKS test. One histogram was created to show student fifth grade Math TAKS scores and another was created for sixth grade Math TAKS scores. The results from the targeted cohort group and the entire grade level were also separated to distinguish any variation in

the different groups. Histograms for the amount the students increased or decreased from fifth grade (gain scores) were also created to show where the majority of the students scored.

Summary

In order to better prepare students to meet the Texas College and Career Readiness Standards, the nonprofit organization's middle school intervention program was attempting to raise the bar for middle school students in Math. Although the program consisted of at least two years on the campus to achieve these goals, this research looked at the first full year of implementation of the program. By using a one-group pretest-posttest design, a paired samples *t*-test determined statistically if any improvement has been made during the first year of implementation on the Math TAKS test. Since many of the middle school intervention program components were designed to assist all students, the same statistical measurements for the entire sixth grade class was used to see if any improvements were realized for all students.

CHAPTER IV

RESULTS

This study was a mid-cycle examination on the effects of a middle school

intervention program on sixth grade students' TAKS results in its first year of

implementation at a large suburban middle school. These results show the impact of the

first year of the pilot program that was to be implemented for at least two years at the

school. Although the program was being conducted in different schools across the same

region with varying backgrounds, the focus of this study was at one middle school in a

Houston suburb.

Research Question

The research question was based on the nonprofit organization's project goals for

increasing achievement for students. This question was used as a guide in examining the

success of the program: Do math TAKS results show achievement gains among the

selected sixth grade students and all students in the sixth grade participating in the middle

school intervention program? The reason for examining the increase in student

achievement on the TAKS test, rather than an increase in commended performance (as is

the goal of the intervention program) was to evaluate any increases in achievement. The

nonprofit organization sponsoring this intervention program realized, in order to show

growth in the number of students that obtain commended performance; the process must

begin by showing improvements in the overall TAKS scores of the students.

Hypothesis

As this was a mid-cycle evaluation of a middle school intervention program, a

null-hypothesis was used to predict the outcome. Significant results were not expected in

the first year of the program by the nonprofit organization or the researcher. The null-hypotheses for the research question is as follows: The targeted sixth grade students and all students in the sixth grade will show no statistically significant difference on the Math TAKS posttest results.

Data Analysis Procedures

A paired samples t-test was used to determine whether the group means significantly improved due to the interventions from this study. Since this study examined the improvements over a one-year period, the paired samples t-test was the appropriate statistical design to compare the fifth grade TAKS scores to the sixth grade TAKS scores. Since this study included all students in the sixth grade at this suburban middle school, no control group was needed and would be unnecessary.

All of the student performance data were analyzed using SPSS, Version 20.0. Descriptive statistics including means and standard deviations were used to summarize the data. In addition, histograms were constructed for both groups of students in order to illustrate the shape of the distribution of students' pretest scores (fifth grade TAKS scores), posttest scores (sixth grade TAKS scores), and gain scores (posttest score minus pretest score). Students that had missing data or did not take the TAKS test either year were removed from the sample. Also, students that were administered the TAKS Modified test were not included in this study since this test assesses different information and would not be a valid comparison to the other students.

In order to address both areas of the research question, a paired samples t-test was chosen to test for any significant changes in the groups' math TAKS scores from fifth grade to sixth grade. This was conducted for both the sixth grade targeted cohort group

and the entire sixth grade class. An alpha level of .05 was used to determined statistical significance.

Results

      The results of the data analysis are presented and discussed by each part of the research question (cohort and sixth grade).

      Research Question – Cohort. The first part of the research question examined whether there was an increase in achievement of targeted middle school students that made up the intervention program cohort of targeted students on the math Texas Assessment of Knowledge and Skills (TAKS) test between fifth grade and sixth grade. The descriptive statistics are presented first followed by the results of the significance testing.

      The results in Table 4 indicate that the targeted cohort scored lower on the math TAKS test (682.41 vs. 675.15 mean test score) from 2010 to 2011.

Table 4

Cohort TAKS Performance

Test	Mean	N	Std. Deviation
TAKS Math Scale Score 2010	682.41	137	63.65
TAKS Math Scale Score 2011	675.15	137	77.12

      The standard deviation also increased by 14 points (63.65 vs. 77.12) to indicate a greater range in performance indicated by these test scores. Figure 1 shows the

distribution of fifth grade scores for the targeted cohort students in 2010. Figure 2 shows

the distribution of sixth grade scores for the targeted cohort students in 2011. A

histogram has been used to show the range of students that scored within each category.

Data analyses demonstrated most students scored between 600 and 700 both years;

however, the scores were distributed higher for the sixth grade test administration. While

most of these students scored just above 700 in fifth grade, they scored in the low 600's
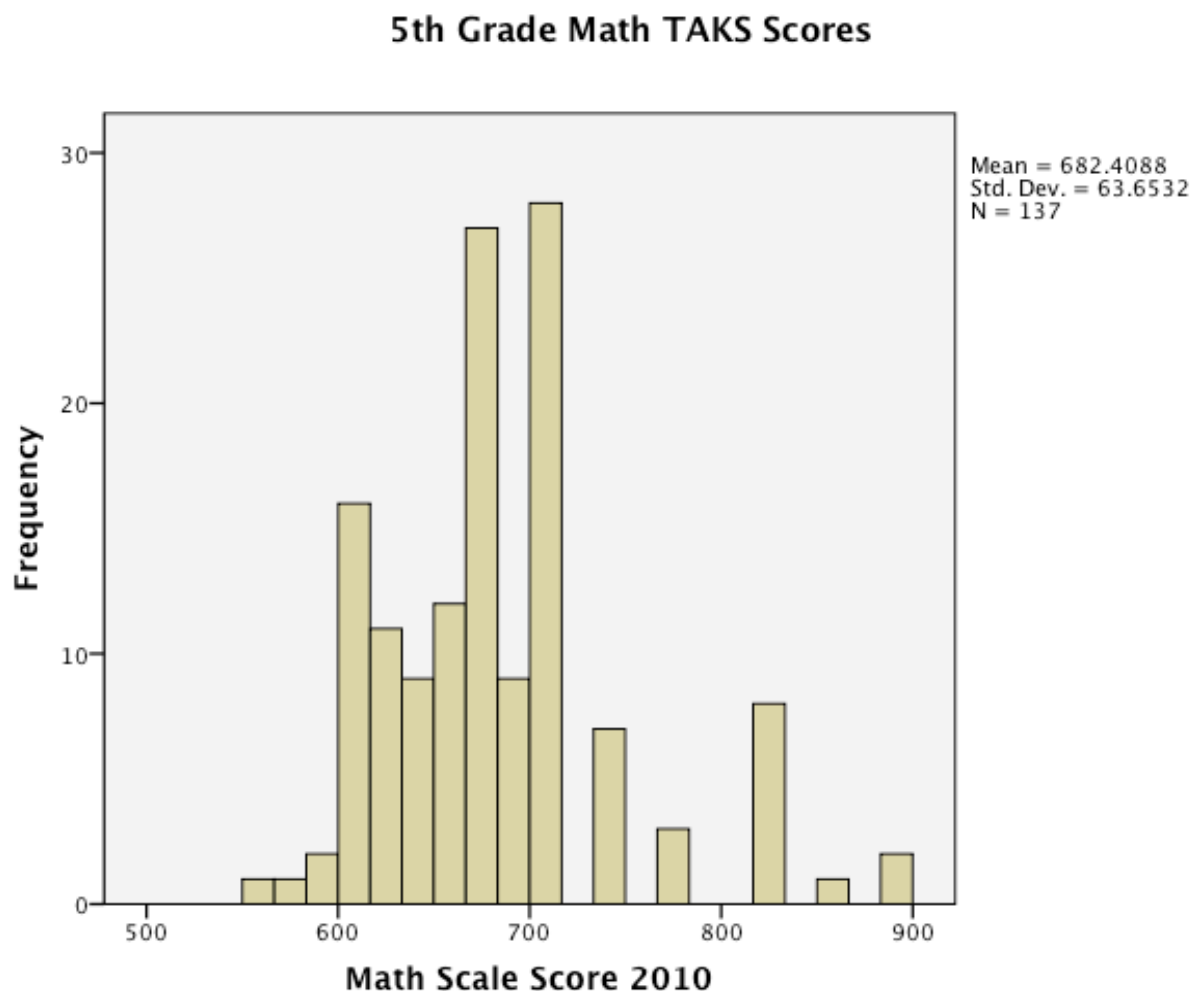
on the sixth grade exam.

5th Grade Math TAKS Scores

Figure 1. Fifth grade TAKS scores for targeted cohort students. This histogram
demonstrates the distribution of student's scores on the 2010 Math TAKS test.
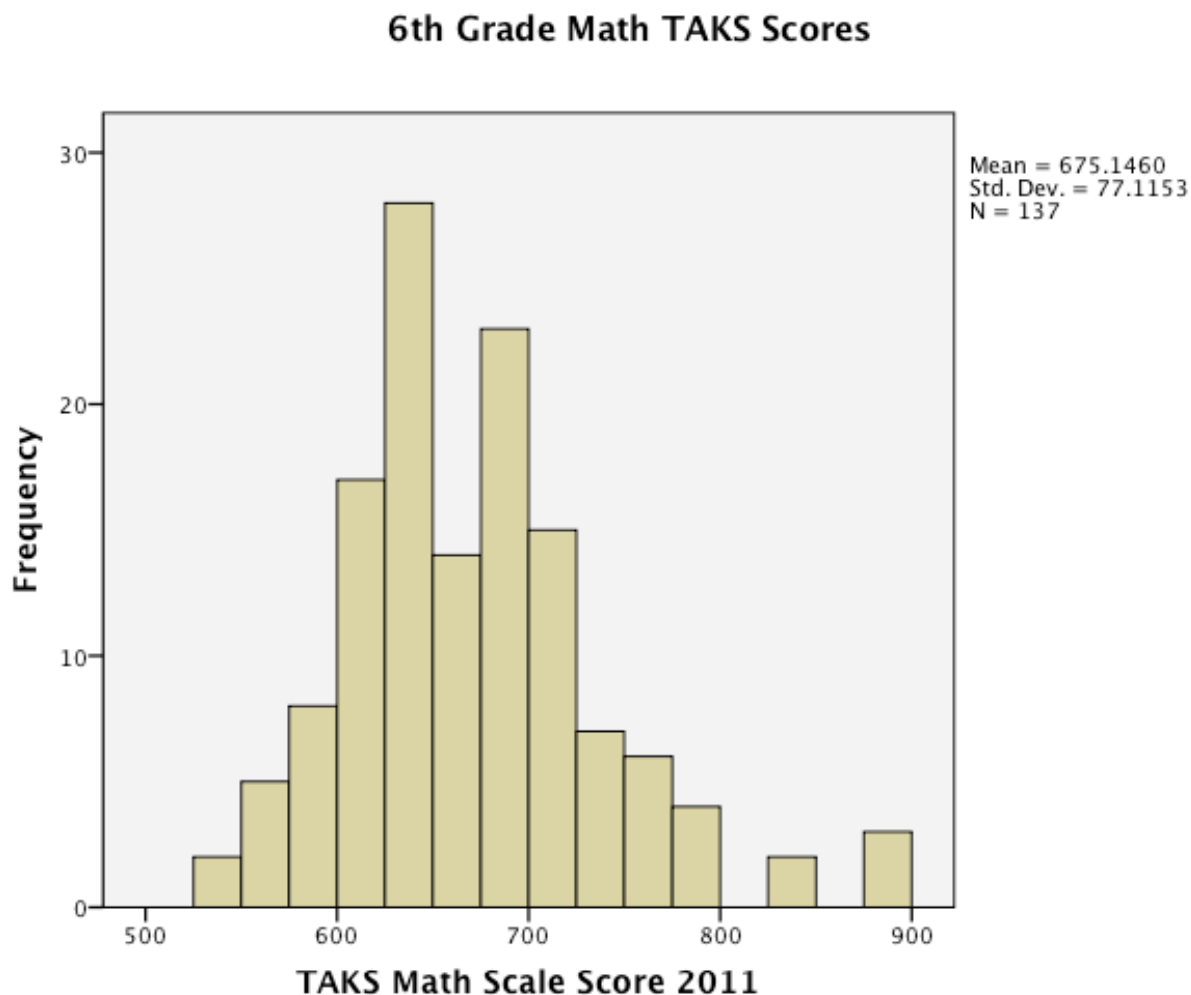
6th Grade Math TAKS Scores

Figure 2. Sixth grade TAKS scores for targeted cohort students. This histogram demonstrates the distribution of student's scores on the 2011 Math TAKS test.

The distribution of gain scores for the targeted cohort students from fifth grade to sixth grade is shown in Figure 3. This histogram illustrates that most of the students showed either slight gains or decreases, with more students showing a decline. Most of the students showed a loss or gain of around 75 points from the previous year. It should be noted that with the difference in the vertical scale scores from fifth grade to sixth

grade, it is impossible to have no gain since the minimum standard increased from 603 to

637. All students were forced to show either a gain or a loss because of this change.
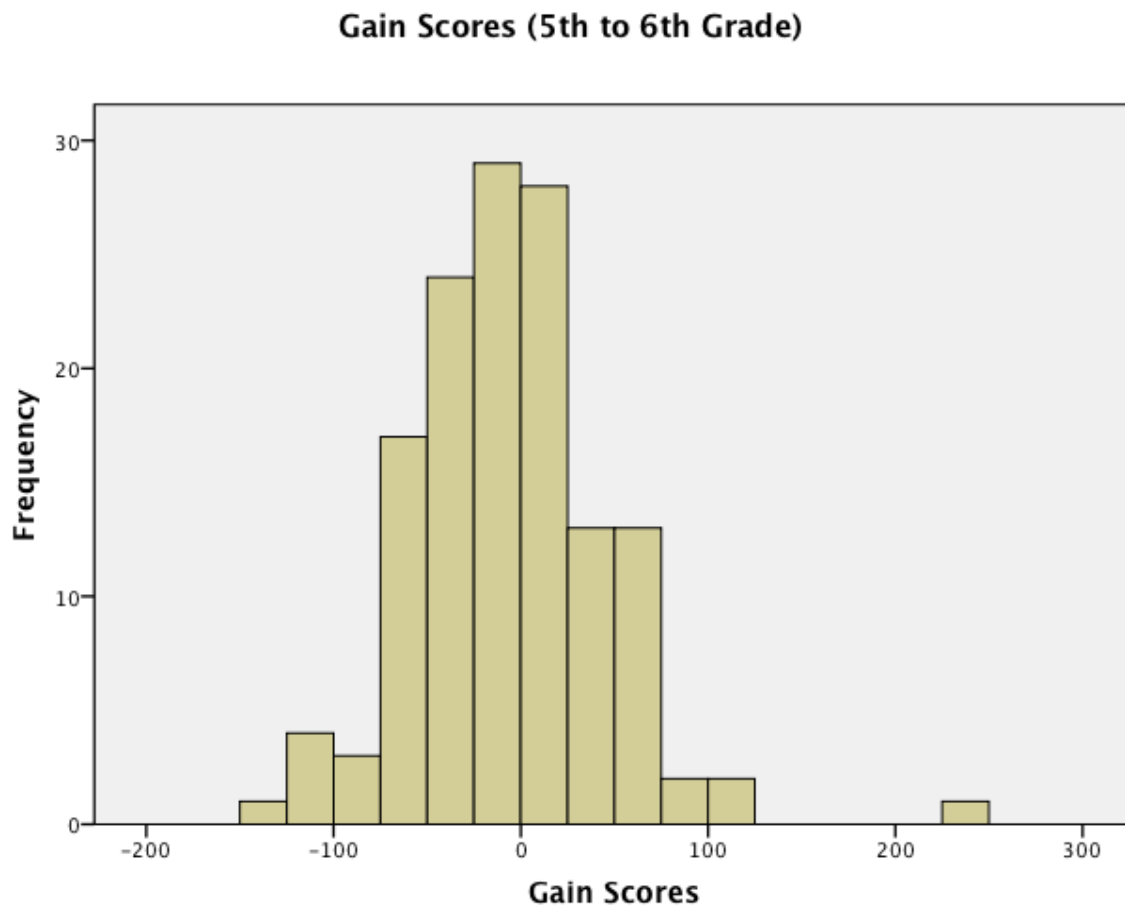
Gain Scores (5th to 6th Grade)

Figure 3. Sixth grade gain scores for targeted cohort students. This histogram demonstrates the distribution of how much students gained or fell from the 2010 to 2011 Math TAKS test.

A paired samples t-test was used to determine if the differences in the TAKS

scores from fifth grade to sixth grade were statistically significant for the students

receiving interventions. As shown in Table 5, there was no significant difference in the

scores for the targeted student cohort from the 2010 fifth grade math TAKS test

(M=682.41, SD=63.65) and the 2011 sixth grade math TAKS test (M=675.15,

SD=77.12) due to the interventions from this program [t(136)=1.70, p=0.091]. Since no

evidence was found to indicate that the interventions from this program made a positive impact on the sixth grade cohort in the first year of implementation, the null-hypothesis is accepted.

Table 5.

Paired Samples t-test Results for Targeted Cohort Students

| Test | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | t | d | Sig. (2-tailed) |
				Lower	Upper			
2010 – 2011 Math TAKS Scores	7.26	49.95	4.27	-1.18	15.7	1.7	136	0.091

Note: p<.05

Research Question – Sixth Grade. This part of the research question examined any achievement gains of all sixth grade middle school students in the targeted cohort grade on the math Texas Assessment of Knowledge and Skills (TAKS) test between fifth and sixth grade. This group consisted of all students in the sixth grade, including students that were in the cohort and students that were not, who also received some residual effects of the interventions from this program. As with the first part of the research question, the descriptive statistics are presented first followed by the results of the significance testing.

The results in Table 6 indicate that the cohort grade also scored lower on the math

TAKS test (728.93 vs. 712.20) from 2010 to 2011.

Table 6.

Sixth Grade TAKS Performance

Test	Mean	N	Std. Deviation
TAKS Math Scale Score 2010	728.93	317	84.42
TAKS Math Scale Score 2011	712.20	317	88.48

The standard deviation for this group increased by only four points (84.42 vs. 88.48)

indicating little difference from 2010 to 2011. The reason for the higher standard

deviation is because it included those students that were not in the cohort due to higher or

lower scores. Figure 4 shows the distribution of fifth grade scores for the students in the

cohort grade level in 2010. Figure 5 shows the distribution of sixth grade scores for the

students in the cohort grade level in 2011. The histograms below show the distribution of
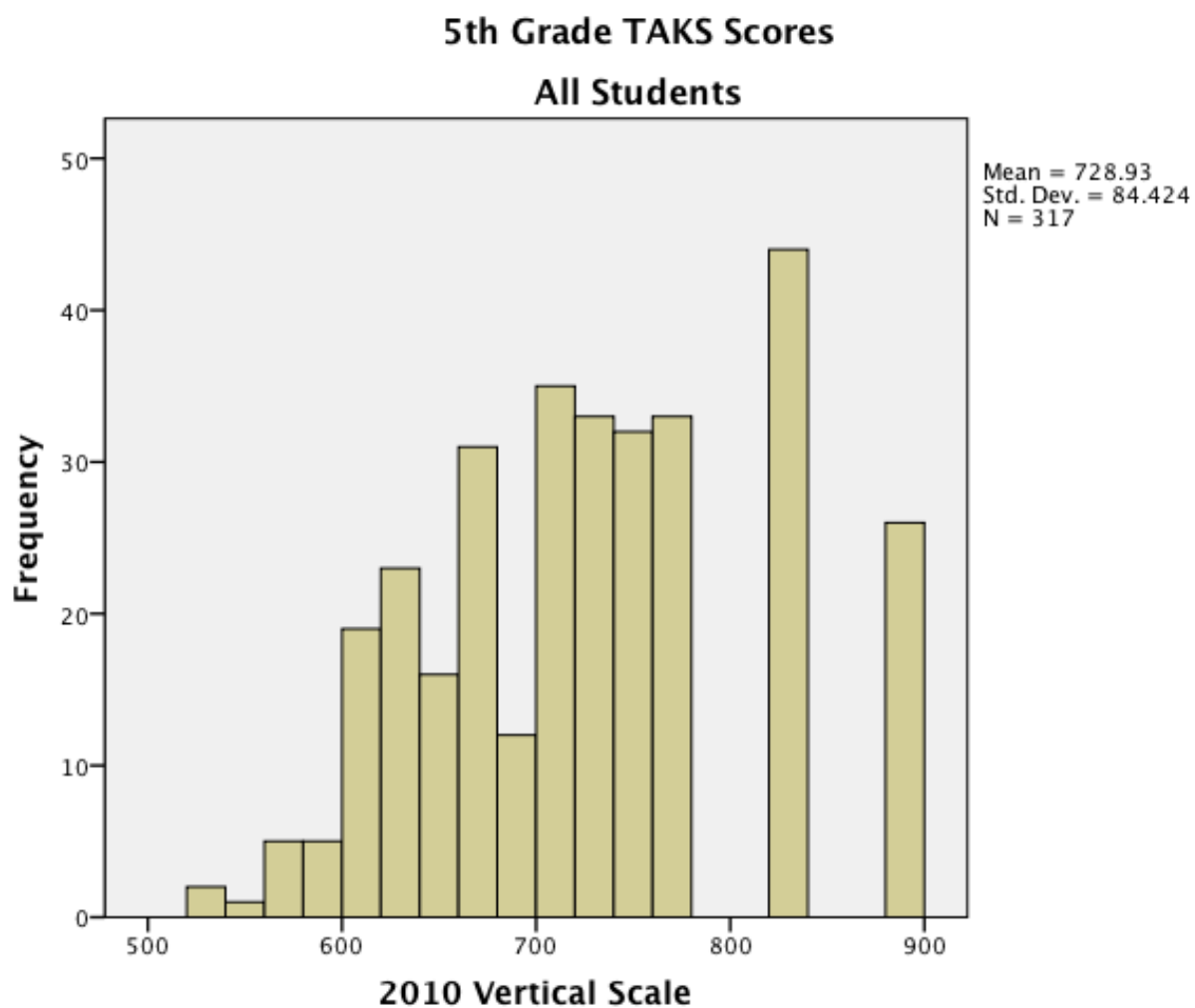
student scores on each test.

Figure 4. Fifth grade TAKS scores for all students in the cohort grade. This histogram demonstrates the distribution of student's scores on the 2010 Math TAKS test.

Figure 5. Sixth grade TAKS scores for all students in the cohort grade. This histogram demonstrates the distribution of student's scores on the 2010 Math TAKS test.
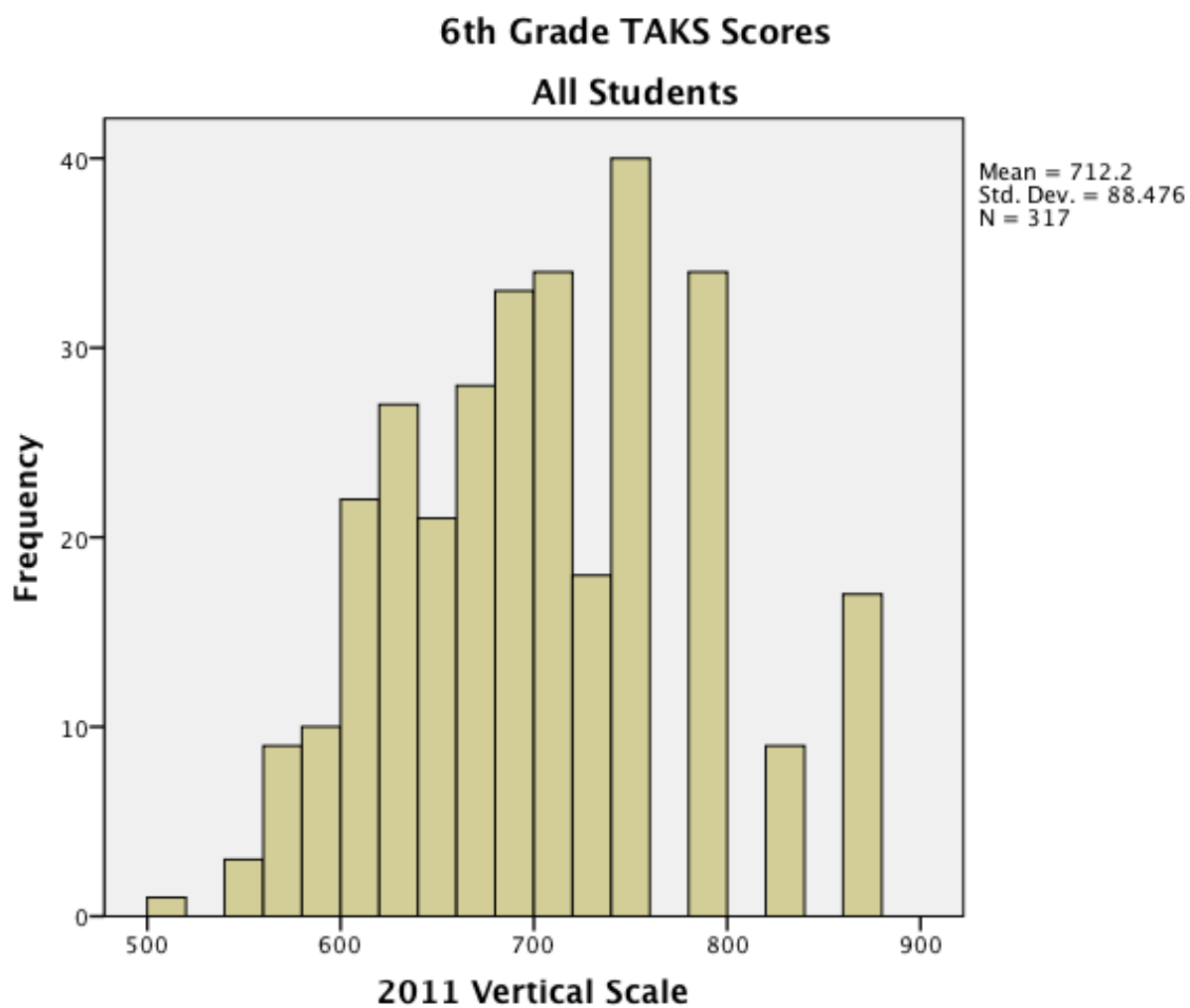
Figure 6 shows the distribution of gain scores for all students in the targeted cohort grade from fifth grade to sixth grade. Similar to the cohort, the grade level scores show that most of the students demonstrated very little gain over the year. More students appear to have decreased over the year indicating they did not perform as well on the math TAKS test from fifth grade to sixth grade.

Gain Scores (5th to 6th Grade)
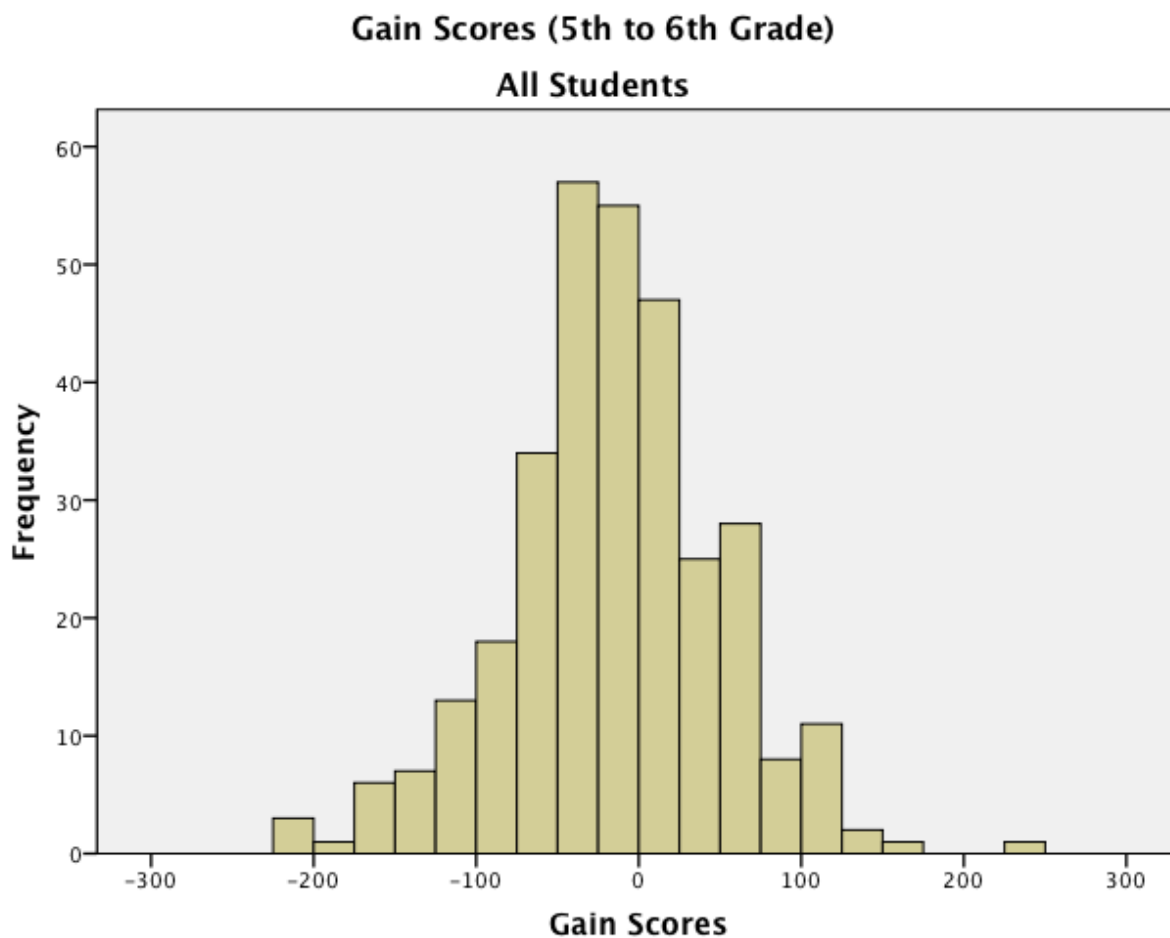**All Students**

Figure 6. Sixth grade gain scores for all students in the cohort grade.

A paired samples t-test was used to determine if the difference in the TAKS scores from fifth grade to sixth grade were statistically significant for the students in the cohort grade level. As shown by the data results in Table 7, there was no significant

improvement, however there was a significant reduction in the scores for the cohort grade

level from the 2010 fifth grade math TAKS test (M=728.93, SD=84.42) to the 2011 sixth

grade math TAKS test (M=712.20, SD=88.48) while utilizing the middle school

program's interventions [t(316)=4.59, p>0.001]. The null-hypothesis is accepted. No

evidence was found to support the intervention program demonstrated a positive impact

on the sixth grade cohort in the first year of implementation.

Table 7

Paired Samples t-test Results for Entire Sixth Grade

Test	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	d	Sig. (2-tailed)
				Lower	Upper			
2010 - 2011 Math TAKS Scores	16.73	64.96	3.65	9.55	23.91	4.58	316	<0.00

Note: p<.05

Summary of Findings

A paired samples t-test was used to determine if the difference in the TAKS

scores from fifth grade to sixth grade were statistically significant for the students in the

targeted cohort as well as the cohort grade level from the intervention program. The

results showed that both groups experienced a decrease in test scores from fifth grade to

sixth grade. For the first part of the research question regarding the cohort students, the

paired samples *t*-test showed there was no significant difference in the scores for the

targeted cohort students from the 2010 fifth grade math TAKS test (M=682.41,

SD=63.65) and the 2011 sixth grade math TAKS test (M=675.15, SD=77.12) from the

nonprofit organization's middle school interventions [t(136)=1.70, p=0.091]. For the

second part of the research question, the paired samples t-test showed no significant improvement; however, there was a significant reduction in the scores for the cohort grade level from the 2010 fifth grade math TAKS test (M=728.93, SD=84.42) to the 2011 sixth grade math TAKS test (M=712.20, SD=88.48) with the middle school program's interventions [t(316)=4.59, p>0.001].

The results of this study indicate the middle school intervention programs first year of implementation at this suburban middle school did not have a significant effect on student performance on the math TAKS test for targeted students and the entire sixth grade group, therefore accepting the null-hypothesis. It was also found that the entire gradel level actually experienced a significant drop in test scores from fifth grade to sixth grade on the math TAKS test. Both groups had an overall decrease in performance on the 2011 math TAKS test. The results of this study indicated that more time is needed to ascertain whether there will be any positive achievement results from the middle school intervention program at this campus.

CHAPTER V

CONCLUSION

The middle school intervention program in this study was a school-based program focused on improving middle school standardized test scores through the six program components:

- Baseline analysis of student data;

- Targeted collaboration among teachers and schools;

- Performance coaching to improve teaching and learning;

- Continuous assessment for learning;

- Family Engagement; and

- Extra instructional time and support to meet higher standards.

The program addressed a culmination of good teaching practices and pedagogy that has been shown to be successful in schools across the country (Houston A+, 2011). The program was designed to be a two-year implementation of strategies and additional personnel to improve student success in English Language Arts (ELA) and mathematics in middle schools that could be sustained well after the implementation cycle. The nonprofit organization over this program provided financial assistance to the campus through the use of professional development for teachers and administrators at the selected schools in order to utilize the best pedagogical strategies.

What made this program unique for this nonprofit organization was the focus toward the school, rather than the individual teacher as was in the past, and more direct contact with the students who were being affected. This middle school intervention program was different from other intervention programs in that the focus was geared toward those

middle school students that had shown success on previous administrations of the Texas

Assessment of Knowledge and Skills (TAKS) test, yet had not shown mastery of the

subject material. These students demonstrated they had the ability to be successful, and

through the use of these six program components, could produce higher quality work

leading to higher scores and increased learning. The ultimate goal of increasing TAKS

scores has been to better prepare students for high school and college by preparing them

to meet the college and career readiness standards.

Purpose

The purpose of this study was to determine the impact of a middle school

intervention program from a nonprofit organization in its first year of implementation at a

large middle school in a suburb of northeast Houston. The nonprofit organization's pilot

program was scheduled to run for a minimum of two years on the campus to improve

student results during a typical middle school cycle of grades six through eight. The goal

for the program was to have a significant increase in students achieving commended

performance scores before exiting middle school. This research of a mid-cycle evaluation

reports the results for the two-year cycle to identify results.

Research Question

Although the middle school intervention program components would be

implemented for two years, this study was used to determine if there were any significant

gains in the first year of implementation at the school. The research question was based

on the nonprofit organization's project goals for increasing achievement for students.

This question was used as a guide in examining the success of the program: Do math

TAKS results show achievement gains among the selected sixth grade students and all students in the sixth grade participating in the middle school intervention program?

Research Observations

This study examined the current sixth grade students at a large suburban middle school. From these students, approximately 150 students were selected by their fifth grade TAKS scores to be a part of the targeted cohort. These students were selected on the criteria of passing the math TAKS test in 2010, but scoring less than the commended performance level. The goal of this intervention program was to increase these cohort students' scores to commended performance in two years through the six components that make up the middle school intervention program. These components were designed to target the cohort student, while also benefiting all students in the cohort grade level.

To evaluate the effectiveness of the first year of the middle school intervention program on the sixth grade students and the target cohort, data was obtained for the fifth grade math TAKS 2010 administration and sixth grade math TAKS 2011 administration. These results were compared to determine if any changes occurred during the first year of implementation of the middle school intervention program.

In order to gain a better understanding of the impact of this research, this section discusses the possible problems observed as an explanation of the lower scores. These factors are discussed with possible recommendations to improve the middle school intervention program made in the next chapter. These concerns and recommendations come from a variety of sources, including personal observations as well as from interviews with the school principal, the director of the middle school intervention program and the performance coach assigned to the middle school in this study.

Implementation Dip. There are several factors that may have contributed to the decline in sixth grade math TAKS scores. One possible factor could be contributed to the phenomenon of the implementation dip. Fullan (2001) describes the implementation dip as a literal dip in performance and confidence as one encounters innovations that require new skills and new understandings. The implementation dip reflects a feeling of uneasiness with the new programs or practices that can stall reform. As many of the components in this intervention program were challenging to the teachers' way of thinking and operating, this may have been a factor in contributing to the decline in TAKS scores. These components have been viewed as a dramatic change in the way the math department has been operating for the past few years, and teachers may have felt the characteristics described in this phenomenon. School leaders must be prepared for this to ensure teachers are given opportunities to take risks and even make mistakes in implementing the components of the intervention program while providing support and guidance to reflect on and correct their mistakes. It is important for leaders to provide supports yet set expectations for teachers to continue with these new practices rather than allowing a return to previous habits that are unsuccessful.

Lack of Personnel. Another factor contributing to the decline in the math TAKS scores may have been caused by not having a performance coach for an extended period of time. For nearly three months, the middle school in this study was without a performance coach. The coach originally selected for the school left in October of the first semester to pursue other employment opportunities. This left a void where an important element of this intervention program was missing. During this time, the

intervention program had very little direction at the school until a new performance coach began in January.

Once the new performance coach was in place, steps were taken to lead the department in the right direction. The previous coach already had a relationship with the teachers and an understanding of the program, goals and components of the intervention program. Since a new performance coach was hired mid-year, he had to learn "on the job" and develop relationships with the teachers and administrators at the school, where his predecessor had previously established these things before the school year. This was a situation that caused several weeks of lost time in implementing the structures and components of the intervention program. Since the sustainability piece was not already in place, most of the components were not being implemented and teaching became "business as usual".

Another void in personnel from the school's staff also contributed to the lack of progress in the math department. The middle school in this study was structured to have an instructional coach for each department. The instructional coach was not a supervisor, but was there to provide academic support and instruction to the teachers in the department. Due to medical reasons, the math instructional coach that was previously in place had to resign early in the year, and the position was not filled due to district budget cuts. The position was reopened and filled the following year; however, there was no math instructional coach during most of the first year of the implementation of this intervention program, which played a vital role in ensuring compliance with the interventions at the school level. If the position had been filled earlier, the performance coach and the instructional coach would have worked closely together to help the

teachers learn the new concepts and provide more support to the components of the middle school intervention program.

Many times, staffing issues such as those experienced here, are beyond the control of the campus principal. This is an inevitable circumstance that must be overcome. In situations like this, the campus principal must overcome these obstacles by reevaluating the support structure in the school and adding additional duties to others to help fill the void that has been created. The school principal should look to other leaders in the school to ensure that the teachers are being provided the necessary support and to ensure continued implementation of the intervention program regardless of staffing issues.

School-based Administrative Support. There were also concerns at the school level that contributed to the decline in scores that had little to do with the middle school intervention program. The administration believed it should have done more to provide support for the intervention program by ensuring the teachers carried out the program components. Since the nonprofit organization is only in the school as a support, it is up to the administration to ensure that teachers are fully implementing these components in the classroom. Although the expectation was set to fully comply with the requirements of the intervention program, the administration could have been more involved with the performance coach and proactive towards issues and concerns about teaching practices.

Research has shown that school leaders make a significant impact on student learning through developing goals, structure, personnel and school culture (Hallinger & Heck, 1998). It is in the best interest of all stakeholders to have a school leader that understands their impact on student learning and is willing to be held accountable and hold others accountable for student performance. The administration at the school is

ultimately responsible for ensuring the success of the intervention program by building a culture within the school that expects accountability for student achievement though measures that involve frequent monitoring of best practices built into the components of this program. This can be created by having both the principal holding teachers accountable for their students as well as teachers holding the principal accountable for providing the necessary conditions to ensure proper implementation of the program. It is up to the nonprofit organization to identify these leaders to build a network of middle schools that promote this accountability and responsibility throughout to support the willingness to change the way we educate students.

Teacher Effectiveness. Teacher effectiveness also had a tremendous effect in the declining test scores. According to Parsley and Corcoran (2003), ineffective teachers and ineffective teaching strategies have a negative effective on student learning. "Ineffective teachers tend to give directions or assignments and then monitor for compliance" (Parsley & Corcoran, 2003, p 86-87). These methods were regularly observed throughout the math classrooms. The administrative team admitted that the sixth grade math department had many deficiencies in teaching practices. There were instances of resistance to the changes being implemented and a lack of understanding of the new direction in which the nonprofit organization was attempting take the math department through the intervention program. It was not just a lack of teacher effectiveness for the entire team, rather a lack of training that should have been provided at the start of the program. One observation made was that some teachers would attempt a new method and upon seeing little success, would return to the traditional model that was more comfortable for them. The administration identified that this was an issue that needed to be addressed and have

worked to assure teacher commitment or, as a last resort, remove ineffective teachers from the classroom. A decision on how to approach ineffective teaching needs to be made early in the program as an ineffective teacher will only hinder any progress with the intervention.

Issues Within the Six Components

      Baseline Analysis of Student Data. The first component of the middle school intervention program was continuous use of student data. Teachers at the school have been using student data for several years but not always to drive instruction. This researcher observed the use of student data as more of a reactive practice or a tool to assess how things have gone, rather than proactive by driving instruction based on the needs of the students. The members of the nonprofit organization worked hard to give the teachers and administration data that were needed, but often found obstacles in using the data to plan instruction.

      One of the biggest obstacles to overcome was training teachers to use data to inform instruction. As Flowers and Carpenter (2009) discussed, educators do not use data as often as they should in schools because of the impression they have that it is tedious and time intensive. That was the case at this school as the teachers argued that time was a factor in properly analyzing student data; however, inefficient use of data often leads to a more time consuming process for teachers (Flowers and Carpenter, 2009).

      Targeted Collaboration. The next component of the middle school intervention program was targeted collaboration among teachers and schools. Teachers at the middle school met regularly as a sixth grade math team. There was time built into the master schedule that allowed them to meet four times a week, in addition to a weekly late arrival

professional development time for the entire school. During the weekly professional development, the school focused on activities to improve student performance and dedicated at least one week a month to department meetings. One issue observed during this research was the time designated for planning was not utilized as efficiently as it could have been by the teachers in the department. The teachers were not adequately trained on how to efficiently make use of the time that they were allocated, which created meetings that were unorganized and often led to unproductive and wasted time. Meetings within the teacher groups were often centered around what students did not know, behavior problems they were experiencing, and going over methods used in previous years to teach a lesson. Little was done to discuss new practices and innovative ways to teach the lesson differently than before. "Simply putting well-meaning individuals together and expecting them to collaborate was not enough" (Thessin & Starr, 2011, p. 50).

Performance Coaching To Improve Teaching and Learning. The performance coach was one of the most visible components of the middle school intervention program. The coach was the main contact between parents, teachers, administration, and the nonprofit organization's leaders. The goal was to have a performance coach "work alongside teachers in classrooms to implement the best lessons, assessments, and interventions for students" (Houston A+, 2011). Due to a change in employment, the original performance coach left the campus in the middle of the fall semester and the new performance coach did not start until January. There was a few months gap in which the implementation program was not very involved in the school, which led to little innovation in the classrooms.

When the new performance coach started, he experienced great difficulty in changing the mindset of teachers who have been doing things a certain way for a long period of time. This led to the performance coach turning the focus of his attentions toward interventions for the students and away from classroom instruction by the teachers. Deussen et. al. (2009) would describe this role as a student-oriented coach, as more time was spent working directly with students and a comparatively small amount of time spent working with teachers. These coaches generally spend time devoted to assessing students, then using the results to organize interventions themselves (Duessen et al., 2009). The coach at this school was very involved with the cohort students and developed tutorials and activities for the students to take part in outside of the normal school day. This practice was very beneficial, however the focus was intended to be on the teacher in the classroom and not on the students.

Another factor contributing to the ineffectiveness of the performance coach was that the middle school in this study was the only school from the six pilot programs that focused on both math and language arts. Although this study looked at only the contributions made to the math program, all other schools chose only one department, rather than both. By assisting both departments, the performance coach's time was split between those two departments, rather than focusing on just one. Having two departments to focus on meant less time to spend on a math department that had many needs and concerns as the coach's attention was pulled away from being dedicated to the team that was in more need of assistance.

Continuous Assessment for Learning. Although there has been great progress across the school with assessment for learning practices, it should be noted that the math

department did not embrace these practices as fully as other departments in the school. The math department did utilize some aspects of assessment for learning, such as the use of unit plans; however, there was a great deal of difficulty in steering the teachers away from grading formative assessments instead of giving students descriptive feedback on those assignments. This is not very productive, as Stiggens et. al. (2006) points out students "receive single grades on work without indication of what they did well or what might be their next steps in learning (reducing student control), and feedback pointing out only what they can't do yet instead of describing what they can do (emphasizing negatives instead of positives)" (p. 39). The performance coach did work with the teachers to develop ways to implement these new practices and even demonstrated lessons for teachers; however, it was difficult for the sixth grade math team to embrace these ideas and move further with them on their own.

Family Engagement. As studies have shown, research on parental involvement has shown to have a positive impact on improving student achievement (Sheldon & Epstein, 2005, 2005; Sirvani, 2007b). The members of the middle school intervention program made great strides to increase family engagement. Parents of the students in the cohort were notified at the beginning of the school year about their child entering the program. There were family nights scheduled throughout the year in which the performance coach and administrators would highlight the program and give trainings on how to help their child at home. Parents were asked to sign a commitment letter that explained the responsibility and importance of their involvement in their child's education and ensured they were taking advantage of the opportunities from the intervention program.

As Fan and Williams (2009) found, positive and informational parent communication is the most effective way to increase parental involvement. In order to increase this type communication with positive family involvement at the school, the members of the intervention program developed trainings to teach parents various methods to monitor their child's progress and to assist in their learning. This was a powerful component of the intervention program and the parents that did attend stated their satisfaction in the school for reaching out and providing additional supports. The members of the intervention program held morning breakfasts to highlight upcoming events and to give an informal setting for parents to ask questions. A regular newsletter was distributed to the parents of the cohort students that kept them updated on events around the school, in addition to the regular school communication. These meetings and communication allowed for open discussions and solicited feedback for after-school events and activities. The support the members of the intervention program provided in family engagement was seen positively among the school and parents.

Extra Instructional Time and Support to Meet Higher Standards. Since the district and the school's master schedule mandated the instructional time, most students were given the normal amount of time to focus on math. Only those that demonstrated an educational need could be provided an additional period of a math strategies class. Most of these students were below grade level and failed the fifth grade TAKS test, therefore not included in the cohort.

In order to fulfill the intervention program component of extra instructional time, tutors were hired by the performance coach for after school activities. A tutorial and enrichment program was developed to give students additional support in a non-

traditional way. The nonprofit organization provided funding to hire outside tutors for the cohort students. Research has shown that it is not just the additional instructional time that creates better student achievement, but rather how you use that additional instructional time (Harn, Linan-Thompson, & Roberts, 2008). If additional instructional time is given, it can be very successful when utilizing teaching strategies that provide engagement (Yair, 2000). The performance coach and tutors developed lessons that initially focused on study habits, team building, and increasing academic confidence for students through engaging and fun activities. These were guided by the philosophies of the *Seven Habits of Highly Effective Teens* by Stephen Covey. Other lessons were developed to teach the students math by determining which areas the students were struggling with and reinforcing those concepts. This program was designed to support the concepts being taught in the classroom, as well as help to prepare the students for the TAKS test.

One of the problems faced with the after-school activities was a lack of commitment and consistent attendance by the students. The tutorials were scheduled multiple times throughout the week and students were encouraged to attend as many sessions as they could, on a "drop in" basis. After reflecting on this practice, having different lessons scheduled each day, compounded with inconsistency in attendance, students found it much more difficult to benefit from the lessons.

Program Recommendations

Since this was a mid-cycle evaluation of the first year of a middle school intervention program, there have been lessons learned and observations that have contributed to changes as the program moved forward. As this was a program that will

evolve to fit each individual school's needs, the challenges that were unexpected are experiences that can be built upon to ensure the program reaches all targeted students. The nonprofit organization was committed to improving their middle school intervention program and has been open to ideas and suggestions from all parties involved. Specific recommendations toward the program components are listed, followed by general overall program recommendations.

Ensure Better Use of Student Data. A major aspect of the intervention program was centered around the effective use of student data. The teachers and administrators should have been using data to evaluate student performance to formulate a plan based on those results (Thessin and Starr, 2011; Flowers & Carpenter, 2009; DeFour et al, 2008). This was not always evident at the middle school during the research period. Teachers would have access to this data, but would not know how to use the data to successfully tailor lessons toward student needs.

In order to resolve these problems surrounding student data, it is recommend that the members of the intervention program and the performance coach spend time training the teachers on how to efficiently use data to further enhance instruction (DeFour et al, 2008). It appeared that the teachers had access to valuable data, but were not properly trained in how to use this data to determine prior knowledge and historical areas of weaknesses. The performance coach should play a larger role in this by determining a scheduled timeframe in which teachers review student data and formulate an appropriate course of action for students that are struggling. This should be done throughout the year and not only focus on the TAKS test, but also immediately after summative assessments such as unit tests and district benchmark exams. An ongoing process should develop

where teachers can provide specific interventions and instruction for all students, as well as to determine the level at which the students understand the concepts (DeFour et al., 2008).

Improve Collaboration. In order to improve upon collaboration, it is recommended that teachers and administrators meet at the beginning of the year to set norms and expectations for the time dedicated to collaboration and revisit these expectations often throughout the year (DeFour, 2004; DeFour et. al, 2008). Teachers should know and understand the process of professional learning communities in a school to help with productive planning time. The administration should also take a more proactive role in being involved in the planning with the department in order to redirect the team to the norms and expectations when the focus moves away from student learning. As the teachers learn to use their time more efficiently, the administration would not have to be a part of the collaboration as much, but should remain active enough to know what is occurring in the classroom. With the help of the performance coach, teachers could bring in new ideas and research-based methods to explore new modes of teaching (Deussen et al., 2007).

The school leader must ensure that teachers are utilizing their time efficiently during designated collaboration time. Expectations of how the time is to be used needs to be clearly defined in the beginning and monitored throughout the year. The team needs to be held accountable for what they accomplish during this time and be able to provide evidence that this time is used to support student learning. The principal must set the direction of the team and build a culture of both individual and team accountability.

Improving The Role of The Performance Coach. When discussing the first year of the intervention program with the administration and the nonprofit organization's leaders, it was noted that the performance coach had been more student centered rather than teacher centered in his role. This is not a negative aspect of the coach, rather a focus that is counter-productive to the sustainability of the program. A change of focus back to a teacher-centered approach is necessary for long-term success (Deussen et al., 2007). This should also have a much greater impact on student results by increasing quality instruction in the classroom, thus needing fewer interventions for students. Though there will always be a need for interventions for students who fail to understand the material, the fewer students that need interventions, the more direct and individualized instruction the teachers and coach can provide.

Another aspect that would greatly benefit the role of the performance coach would be greater involvement and support from the school administration. More emphasis should be placed on the performance coach to relay what he is doing to ensure sustainability when he is no longer at the school. Regular meetings with the coach and administrators need to be conducted to discuss issues to be addressed and the rationale behind this direction. When the coach observed concerns, was having difficulty with teachers implementing a new strategy or teachers were not willing to try new methods, the administration should have immediately been involved to determine what the school could do to support the teacher and coach in implementing these new methods. When the teachers saw that the performance coach and administrators were working as a team to support their needs and encourage the taking of risks in the classroom, they may have been more willing to attempt and sustain these new strategies (DeFour, 2004). If the

teacher did not have the ability to try these new teaching methods, the administration should have ensured they were working directly with the teacher to provide growth in the area of concern for that individual teacher.

Continuous Assessment For Learning. Introducing assessment for learning practices was a very difficult task that was implemented school-wide. "Students benefit when teachers give consistent, immediate, minute-by-minute feedback. [The performance coaches] help teachers provide consistent, descriptive feedback to students and determine the next steps for teaching" (Houston A+, 2011). Stiggins, et. al, (2006) strongly advocates "reducing evaluative feedback and increasing descriptive feedback to affect motivation and achievement" (p. 283). Black and William (1998) show that the type of feedback given to students affects their motivation to learn, therefore demonstrating an important need of the assessment for learning principles. The three guiding questions that drive the AFL practices are:

- Where am I going?

- Where am I now?

- How can I close the gap?

The school has adopted these practices by implementing school-wide initiatives to assist the teachers with assessment for learning. Unit plans in student-friendly language were adopted as one way for parents and students to see what students are expected to learn, upcoming major assignments and overall learning targets for each unit. Teachers were encouraged to move away from grading formative assessments, instead giving quality descriptive feedback to students on formative assignments. Although there were fewer grades recorded, the idea was to give students more feedback on their work prior to

the summative grade. Students were also provided opportunities to self-assess

throughout the unit, as well as during summative assessments. Some teachers used a

student self-assessment tracking sheet to monitor student progress during a summative

assessment. Students could determine if they knew the answer, guessed, or were confused

on each question. This helped students to retain what they know and to focus on what

they have yet to master. To establish focused revision, students were able to choose to

retest on those areas where they did not perform as well as they would like, rather than

having to reassess everything that was taught, including what they already know.

To ensure the success of the assessment for learning practices, the school leaders

must implement these practices throughout the entire school. All teachers should be

expected to fully embrace each of the components so students will experience them in

each subject area. This will help to create a culture where students understand that

assessments are a tool in their learning, not just something specific to a particular subject.

Students will then embrace the assessment for learning practices that are being provided

by all teachers to help them be successful.

Support For Additional Instructional Time. One of the changes that the

intervention has looked into for future years was to redesign the way tutorials were

structured. They looked to assign each tutor a specific group of students to monitor and

provide extra support for subsequent years. The lessons were to be developed by

objective and students were going to be invited based on their need, indicated by

assessment data. A set schedule was to be created for these students to follow and can

coordinate with other activities ahead of time to make this a priority for attendance.

Incentives, such as a camping trip, were to be based on regular attendance and quality of work completed during these instructional lessons.

Greater Commitment. Since the nonprofit organization is providing tremendous financial and educational support for the schools that are selected, one recommendation is for the members of the intervention program to ensure a commitment from the administrators and teachers at the school. The commitment is essential to ensure all stakeholders are involved and dedicated to the components for student improvement (DeFour, et.al., 2008). Teachers must be willing to take risks and explore new methods to engage students that may force them out of their comfort zone. The school leadership should also be committed to understanding best practices and be able to support teachers in their needs when they are attempting these practices. Involvement with the school's instructional coaches will also play a vital role in implementing the best practices and must include a commitment to the values of the nonprofit organization.

One suggestion to increase administrative commitment is to have the principals that agree to participate in this intervention program take part in the Middle School Leadership Academy that is run by the same non-profit organization. This academy is designed to coach principals "to develop their leadership skills and build a comprehensive, sustainable, research-based action plan for advancing student post-secondary success on their campus (Houston A+, 2012). This support provided by the non-profit organization is designed to help the school leadership prepare for what it takes to implement the reform necessary with this intervention program.

The focus of the six components of the program has been an important factor, but a greater emphasis needs to be made on developing best practices in the classroom.

Research-based practices such as assessment for learning and student engagement in the classroom should comprise a much greater focus throughout the program. This should be implemented at the very beginning with professional development that lays the foundation of what is expected and embedded throughout to ensure students are receiving the best methods of teaching possible. Ongoing professional development is necessary for teachers to overcome obstacles as they arise in the classroom as well as guidance to allow teachers to push-through when confronted with unexpected challenges. This can be accomplished through a focus on strong coaching and leadership practices at the school.

The performance coach did work with the teachers to develop ways to implement these new practices and even demonstrated lessons for teachers; however, it was difficult for the sixth grade math team to embrace these ideas and move further with them on their own. This is where a stronger presence of administrative support should have been a priority to ensure teachers took these risks and to assist in giving additional support where needed.

To help build capacity in these skills utilized by the teachers, the coaches and the leadership team needs to be trained on how to help the teachers. There is greater need for the campus-based coaches and leaders to focus on instructional practices, teacher engagement, and strong coaching skills to assist the teachers throughout the entire process (Deussen et al., 2007). Not only will this help the instruction in the classroom, but will also assist in building the sustainability piece that is needed after this intervention program is removed. In order to carry on what is gained by this intervention program, the

leadership and coaches must be able to replicate the strategies with teachers that later come to the campus.

Recommendations for Further Study

A similar study was recently published by Fuller (2011) of the year one evaluation of this intervention program on all middle schools included in this reform. The study described the findings related to student outcomes in commended status, vertical scale scores comparison and student value-added growth (Fuller, 2011). He found:

> Overall, the data collected and analyzed for the Year One evaluation strongly suggests that the reform effort is having a positive effect on the likelihood of students attaining commended status, student growth as measured through value-added analyses, and student behavior as measured by student self-report (Fuller, 2011, p. 46).

However, he did find that students at the school for this study were "statistically significantly less likely than their peers in comparison schools to achieve commended status in mathematics" (2011). In his report, he noted other factors affecting implementation for this school:

> One reason for the low performance is that the [performance coach] assigned to the school was not present for the full length of time as in the other schools. The inclusion and the disappearance of the [performance coach] was likely to be highly disruptive to the teachers and students and could have had a negative impact on the reform effort of that school (Fuller, 2011, p. 20).

These findings from Fuller affirm the results from this study and demonstrate the need for further research at this school with a performance in place for an entire school year. A similar study needs to be conducted at the conclusion of the second year of the implementation of this intervention program to see if achievement gains can be similar to those of other schools participating.

As this study is a mid-cycle examination looking at the first year of implementation of a new intervention program that will be at the school for two years, more research needs to be conducted to ascertain whether the improvements made will have a positive impact. Since the goal of this program was to increase the number of students that have met passing standards to achieve commended performance on the math TAKS test in order to achieve college readiness standards in high school, a longitudinal study should be conducted with this group of students to track them from fifth grade through eighth grade to determine if the number reaching commended performance has increased.

Further research should also be conducted when these students are in eleventh grade to determine the number who met the college readiness standards set for high school students. A more in-depth look at all of these students should be made to identify the number of students in this cohort that previously achieved commended performance in eighth grade and met the college readiness standards in eleventh grade as well as determine the college readiness of the students that did not meet commended performance in the eighth grade. This longitudinal study should indicate if these teaching and intervention methods are successful for taking students that have historically just met standards and pushing them to higher performance through greater engagement in the

classroom along with having procedures in place to help these students overcome obstacles.

This mid-cycle evaluation of the middle school intervention program looks at two of the four goals set out by the nonprofit organization. The other two goals that have been established (improving teacher practice and capacity through hands-on coaching and targeted, customized professional development and sustaining gains at each campus beyond the first two years of engagement) have been discussed, but will be assessed through further research upon the conclusion of the two year project. In order to better evaluate the effectiveness of the components of this intervention program, research on each of these practices should be viewed in greater detail, as well. If success is to be demonstrated, it would be interesting to learn what aspects of the six components contributed to these improved results. Additional research on other schools with varying demographics could also be compared to determine if any of these factors are more beneficial for a particular group of students.

It is strongly recommended that further research be conducted on this nonprofit organization's programs to help public schools. A great benefit from working with this nonprofit organization is that they were not only concerned with the student's academic performance but the affective side of student learning as well. This intervention program focused on research-based methods that promote the whole student's achievement in addition to their performance on summative assessments. They have provided the financial assistance to schools to help change the focus of learning by providing professional development, personnel, and support to public schools that would not have been able to do this with current funding concerns. With state budget cuts that have hit

education hard, the financial assistance they provided helped bring professional development to campuses that have been forced to reduce these opportunities for teachers. This nonprofit organization had strong community ties and offered networking and solutions to assist campus leaders in providing a vision of high student success.

Although the results were not positive during the first year of this program, it is important to realize that these newly implemented strategies will provide a positive environment for students to build upon and find success. It is a difficult task to change the commonly used practices of teachers and leaders to those methods that may be different and challenging. Mistakes and resistance are inevitable when making these changes; therefore one would expect to encounter such concerns along the way. Since the program was to be implemented over a two-year period, this should help to change the culture of the school, as well as shape the methodology of research driven practices as the norm. It is important to note that this organization has realized that changes need to be made and have made a proactive approach to ensure success of this program. This intervention program will undergo many more changes as the needs arise, but their focus has and will always be on improving student success. Further research should conclude the positive effects this intervention program will have for many students.

REFERENCES

Archambault, S. (2000). *Paired samples t-test*. Retrieve from

    http://wellesley.edu/Psychology/Psych205/pairttest.html.

Baker, D. P., Fabrega, R., Galindo, C., & Mishook, J. (2004). *Instructional time and*

    national achievement: Cross-national evidence. Prospects (Paris) 24(3): 311-334.

Black, P. (2003). *Formative and summative assessment: Can they serve learning*

    together? Paper presented at the American Educational Research Association

    annual meeting, Chicago, April 23.

Black, P. (2004). *The nature and value of formative assessment for learning.*

    Unpublished   manuscript, Educational Testing Service, Princeton, NJ. Retrieved

    from http://74.125.155.132/scholar?q=cache:RzppkZGWasJ:scholar.google.com/

    +The+Nature+and+value+of+formative+assessment+for+learning+author:black&

    hl=en&as_sdt=2000.

Black, P., & William, D. (1998). *Inside the black box: Raising standards through*

    classroom assessment. Phi Delta Kappan, 80(2): 139-148.

Black, P., & William, D. (2004). *The formative purpose: Assessment must first promote*

    learning. In M. Wilson (Ed.), *Towards coherence between classroom assessment*

    and accountability. Chicago: University of Chicago Press.

Bloom, B. (1984*). The search for methods of group instruction as effective as one to one*

    tutoring. Educational Leadership, 41(8): 4-17.

Caine, R. N., & Caine, G. (1997). *Education on the edge of possibility*. Alexandria, VA:

    ASCD.

Center on Education Policy (2008). *Instructional time in elementary schools: A closer look at changes for specific subjects*. Arts Education Policy Review 109(6): 23-28.

Chappuis, J. (2009). *Seven strategies for assessment of learning*. Boston: Pearson.

Chappius, J. (2010). *Seven strategies of assessment for learning*. Portland: Allyn & Bacon, 10-11.

Covey, S. (1998). *Seven habits of highly effective teens*. New York: Fireside.

Denton, C.A., & Hasbrouck, J. (2007). *Student-focused coaching: A model for reading coaches*. Reading Teacher, 60, 690-693.

Denton, C.A., & Hasbrouck, J. (2009). *A description of instructional coaching and its relationship to consultation.* The Journal of Education & Psychological Consultation, 19(2) 150-190.

Deussen, T., Coskie, T., Robinson, L., & Autio, E. (2007). *Coach can mean many things: Five categories of literacy coaches in reading first* Regional Education Laboratory at Northwest Regional Educational Laboratory. Institute of Education Science, U.S. Department of Education (05).

Dougherty, Mellor, & Smith (2006). *Identifying appropriate college readiness standards for all students.* National Center for Educational Accountability (NCEA).

DuFour, R. (2004). *What is a professional learning community?* Educational Leadership, 61(8), 6-11.

DuFour, R., DuFour, R., & Eaker, R. (2008). *Revisiting professional learning communities at work.* Bloomington, IN: Solution Tree.

DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2009). *Raising the bar and closing the gap: Whatever it takes.* Bloomington, IN: Solution Tree Press.

DuFour, R., DuFour, R., Eaker, R., & Many, T. (2006). *Learning by doing: A handbook for professional learning communities at work.* Bloomington, IN: Solution Tree.

Ehrenberg, R.E., Brewer, D.J., Gamoran, A., & Willms, J.D. (2001). *Does class size matter?* Scientific American, 285(5): 78-85.

Eisner, E. (2002). *The centrality of curriculum and the function of standards. Arts and creation of the mind* (pp. 148-176). Retrieved from http://site.ebary.com//lib/ualberta/Doc?id=10170753&pp=163.

Fan, W. & Williams, C.M. (2009). *The effects of parental involvement on students' academic self-efficacy, engagement and intrinsic motivation.* Educational Psychology, 30: 1, 53-74.

Field, R. (2005). *John Dewey (1859-1952). Internet encyclopedia of philosophy: A peer-reviewed academic resource.* Retrieved from http://www.iep.utm.edu/dewey/.

Fishel, M., & Ramirez, L. (2005). *Evidence-based parent involvement interventions with school-aged children.* School Psychology Quarterly, 20(4), 371-402.

Flowers, N., & Carpenter, D.M.H. (2009). *You don't have to be a statistician to use data: a process for data-based decision making in schools*. *Phi Delta Kappan*, *91*(2), 64-67.

Fraenkel, J. R., & Wallen, N. E. (2010). *How to design and evaluate research in education*. (7 ed.). New York: McGraw-Hill Humanities/Social Sciences/Languages.

Friend, M., & Cook, L. (1992). *Interactions: Collaboration skills for school professionals*. White Plains, NY: Longman.

Fullan, M. (2001). *The new meaning of educational change,* 3rd ed. New York, NY: Teachers College Press.

Fuller, E. (2009). *Are Texas middle school students prepared for high school? Examining the effect of middle school on high school outcomes*. Proceedings of the Report to Texas Senate Austin: Texas Business and Education Coalition.

Gravetter, F.J., & Wallnau, L.B. (2004). *Statistics for the behavioral sciences (Sixth edition)*. Belmont, CA: Wadsworth/Thompson Learning.

Gregory,K., Cameron, C., & Davis, A. (2000). *Knowing what counts: setting and using criteria*. Merville, British Columbia: Connections.

Hallinger, P. & Heck, R.H. (1998). *Exploring the principal's contribution to school effectiveness: 1980-1995*. School Effectiveness and School Improvement 9(2): 157-191.

Halverson, R., Grigg, J., Prichett, R., & Thomas, C. (2007). *The new instructional leadership: crating data-driven instructional system in school*. Journal of School Leadership, 17(2), 159-194.

Harn, B., Linan-Thompson, S., & Roberts, G. (2008). *Intensifying instruction: Does additional instructional time make a difference for the most at-risk first graders?* Journal of Learning Disabilities 41(2): 115-125.

Hess, F.M. (2009). *The new stupid*. Educational Leadership, 66(4), 12-17.

Hess, F.M., & Fullerton, J. (2009). *The numbers we need: bringing balanced scorecards to education data.* Phi Delta Kappan, 90(9), 665-669.

Houston A+ Challenge Network (2011). Retrieved from

http://www.houstonaplus.org/challenge-network/.

Kucey, S. & Parsons, J. (2010). *Connecting Dewey and assessment for learning*. Online

Submission, Retrieved from EBSCOhost.

L'Allier, S.K., Elish-Piper, L., & Bean, R.M. (2010). *What matters for elementary*

literacy coaching? A guiding principles for instructional improvement and

student achievement. The Reading Teacher, 63, 544-554.

Leithwood, K., Louis, K.S., Anderson, S., & Wahlstrom, K. (2012). *Review of research:*

How leadership influences student learning. Learning from Leadership Project.

Wallace Foundation.

McCoach, D., Goldstein, J., Behuniak, P., Reis, S. M., Anne C., B., Sullivan, E. E., &

Rambo, K. (2010). *Examining the unexpected: Outlier analyses of factors*

affecting student achievement. Journal of Advanced Academics, 21(3), 426-468.

Retrieved from EBSCOhost.

McDermott, P. C., & Rothenberg, J. J. (2001, April). *New teachers communicating*

effectively with low-income, urban parents. Paper presented at the annual meeting

of the American Educational Research Association, Seattle, WA.

Meisels, S., Atkins-Burnett, S., Xue, Y., Bickel, D.D., & Son, S.H. (2003). *Creating a*

system of accountability: The impact of instructional assessment on elementary

children's achievement test scores. Educational Policy Analysis Archives, 11(9).

Retrieved from http://epaa.asu.edu/epaa/v11n9.

Mulhall, P.F., Flowers, N., & Mertens, S.B. (2002). *Understanding indicators related to*

academic performance. Middle School Journal, 34(2), 56-61.

Murnane, R.J., Sharkey, N.S., & Boudett, K.P. (2005). *Using student-assessment results to improve instruction: Lessons from a workshop*. Journal of education for students placed at risk, 10(3), 269-280.

Parsley, K., & Corcoran, C.A. (2003). *The classroom teacher's role in preventing school failure.* Kappa Delta Pi Record, 39(2), 84-7.

Reese, S. (2009). *Harnessing the power of data.* Techniques: Connecting Education and Careers, 84(2), 16-20.

Rodriguiz, M.C. (2004). *The role of classroom assessment in student performance on TIMSS*. Applied Measurement in Education, 17(1): 1-24.

Sadler, D.R. (1989). *Formative assessment and the design of instructional systems*. Instructional   Science, 18: 119-144.

Schmoker, M. (2009). *Measuring what matters.* Educational Leadership, 66(4), 70-74.

Steele, J., & Boudett, K. (2008). *The Collaborative Advantage.* Educational Leadership, 66(4).

Stiggins, R.J. (2005). *Student-involved assessment for learning,* 4th ed. Upper Saddle River, NJ: Merrill/Prentice Hall.

Stiggins, R., Arter, J., Chappuis, J., & Chappuis, S. (2006). *Classroom assessment for student learning: doing it right - using it well*. Boston: Pearson.

Texas Education Agency (2011). *Vertical Scale.* Retrieved from http://www.tea.state.tx.us/student.assessment/taks/vertscale/.

Texas Higher Education Coordinating Board (2009). *Texas College and Career Readiness Standards*. Retrieved from:

http://www.thecb.state.tx.us/index.cfm?objectid=EADF962E-0E3E_DA80-

BAAD2496062F3CD8.

Texas Higher Education Coordinating Board (THECB) (2009). *College Readiness*

Initiatives. Retrieved from

http://www.thecb.state.tx.us/index.cfm?objectid=B85D3720-0A6F-5485-

D132ED569517.

Thessin, R.A., & Starr, J.P. (2011). *Supporting the growth of effective professional*

learning communities districtwide. Phi Delta Kappan, March 11 92(6): 48-54.

Yair, G. (2000). *Not just about time: Instructional practices and productive time in*

school. Educational Administration Quarterly 36(4): 485-512.