

Using Data to Increase Student Achievement:
A Case Study of Success in a Sanctioned School

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Dedication

This dissertation is dedicated to my mother, Florence Berquist, my first teacher, my dearest friend, and the most amazing woman I know. Your unfailing strength in times of hardship has shown me nothing is impossible.

Abstract

The No Child Left Behind Act of 2002 fundamentally changed the ways in which schools are held accountable for the academic achievement of all students. Each year, millions of tests are given to students in the United States to comply with the federal accountability mandates set forth by this unprecedented federal legislation. Since these tests are so plentiful and prevalent and so much time and energy is invested in gathering results, it seems it might be possible for this multitude of data to be used for purposes other than external accountability. Might school leaders be able to utilize the data from mandated standardized tests to strategically enable schools to move toward increased student achievement across curricular goals? This qualitative case study tells the story of how teachers and administrators at one Minnesota elementary school, that was labeled *in need of improvement*, used a variety of data available to them to increase student academic achievement scores. Findings from this study include discussions of the factors and combination of factors that led to increased academic success. This study also includes suggestions for teachers, principals, policy makers, and institutions of higher learning, based on information gained during interviews and from the literature, for creating the conditions under which data can be used as an essential component in the ongoing challenge to increase academic achievement for all students.

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Chapter 1. Introduction

The accountability measures put forth in the No Child Left Behind Act (NCLB) have demanded principals and teachers carefully examine how all students are performing on standardized tests in order to determine what they, as educational leaders, are doing to ensure their students achieve continuous academic improvement.

In 2007 alone, in order to meet the requirements of NCLB, it is estimated that students in the U.S. took 68 million tests (Scherer, 2005). The results from these millions of tests are printed in newspapers, discussed at local coffee shops, and analyzed on the evening news. The results are used to label schools as successful or in need of improvement. These tests hold tremendous power, both real and perceived, over schools. Since these tests are so plentiful and prevalent, and so much time and energy is invested in gathering results, educators demonstrate appropriate professionalism in seeking to use this unprecedented multitude of data for purposes beyond external accountability. How then, might school leaders be able to utilize the data from mandated standardized tests to strategically enable schools to move toward increased student achievement across curricular goals?

This case study investigated the ways in which a low-performing elementary school used the results from their state mandated tests when those scores deemed the school in need of improvement. This study examined the factors and combination of factors the principal and teachers attribute to their success in improving academic

achievement scores, resulting in their removal from the *needs improvement* federal sanctions list.

Background

On January 8, 2002, President George W. Bush signed the reauthorization of the Elementary and Secondary Education Act (ESEA) under the new title of NCLB, with bipartisan support. NCLB linked government funding via Titles 1-10 to high stakes testing with new accountability measures designed to ensure no American child is left behind academically. The overall goal of NCLB is for all students to achieve proficient levels of knowledge and abilities in core subjects by 2014. Schools across the U.S. have been struggling since 2002 to deal with the demands of the required high stakes testing and the accountability system enacted by NCLB. Students are required to take a multitude of tests to prove academic achievement, and schools need to report results that evidence ongoing improvement. Schools receiving significant Title I funds are most accountable when their scores fall below proficient level. These schools face reduction or elimination of impactful federal funding.

NCLB requires each state to create a set of standards, generate and administer assessments that measure attainment of those standards, and to disaggregate the state, district, and school site results into the measured subgroups: (a) gender, (b) ethnicity, (c) limited-English proficiency status, (d) migrant status, (e) disability, and (f) economic status. These disaggregated results from the state standardized tests are used to determine if a school meets adequate yearly progress (AYP) toward proficiency for all by 2014.

Each U.S. state defines AYP for their own schools and school districts by setting the level of student achievement for each of the measured subgroups (U.S. Department of Education, 2007). Schools attain AYP status if the students in each of the measured subgroups meet the targets for the percent of students meeting or exceeding the standards on the state assessments in reading and mathematics, as well as meeting the participation and the attendance or graduation requirements (Minnesota Department of Education, 2009). This information is made public to provide a measure of accountability. As the requirements continue to increase each year, the number of schools being identified as *not making AYP* and *needs improvement* also increases. Depending upon the number of years AYP is not met, schools in need of improvement must offer a range of options to students, including school choice with transportation, supplemental services and restructuring (Minnesota Department of Education, 2009).

In the last few decades the information age has provided tremendous growth in the data now available about schools and student achievement (Earl & Katz, 2006). It is now nearly impossible to attend an educational conference or read an educational journal without being told how to use data to drive your decision making (Hess, 2009). With the massive amount of data now available, school leaders face questions as to how to best sort through it to find and use the data that will be most beneficial (Hess, 2009).

NCLB has distinctly changed the use of data-based and data-informed decision making in two fundamental ways. First, there is an abundance of student achievement data available for schools to analyze, and second, NCLB has created an accountability

climate, a call to action, where there are rewards and sanctions for student progress toward achievement goals (Goldring & Berends, 2009).

Statement of the Problem

The accountability testing demanded by NCLB has illuminated the need for schools to increase the achievement of all students. But identifying a need for improvement is significantly different from providing answers for how improvement will occur. How can individual schools accomplish the daunting task of improving academic achievement for all students? Might the data received from accountability testing in conjunction with the large amount of data from within schools be used to make informed decisions and create systems in schools that will increase academic achievement? Many experts agree schools that are able to use data to take charge of change are more effective and improve more rapidly than those that are not (Gray et al., 1999, Rosenholtz, 1989, Stoll & Fink, 1996, as cited in Earl & Katz, 2006). Determining what the use of data could be and what leadership should know and do about achievement data in order to take effective charge of change has not yet been determined.

Significance of the Study

In 2009, the results from the Minnesota Comprehensive Assessments (MCA) report that 45% of Minnesota's schools are not making AYP (Minnesota Department of Education, 2010a). *Nearly half* of Minnesota's 2,303 schools are already at risk for not achieving the 100% proficiency target by 2014. If this trend continues, each year more and more schools will find themselves labeled as *not making AYP* as proficiency targets

continue to rise. By investigating the means by which one low-performing elementary school was able to use data to improve students' academic achievement, this study has added to the research currently available in this area. There is a desperate need for teachers and administrators throughout the state of Minnesota to have research available on effective means by which schools have used data to increase the achievement of their students.

Rationale for the Study

At its core, this study was about discovering how one school addressed a problem, an incredibly large problem nearly half of the schools in Minnesota are also facing. While this problem is widespread in its scope, its solutions are deeply unique to each school, its staff, leadership, and the population it serves.

Were there one magic solution to improving academic achievement in all students across all subgroups, certainly school leaders across the country would be utilizing that solution. But there is not one right answer, nor one program that works for all students in all classrooms in all schools in all school districts. Each school is facing its own unique challenges. Wheatley (1999) asserts organizations are rarely if ever changed by imposing a model developed elsewhere; for schools to be successful in making positive changes, schools must look internally.

This study examined the processes and procedures a school leader, together with her teaching staff, used to systematically gather and analyze data. It investigated how

they used these data to engage in ongoing, systemic reform efforts that led to increased student academic achievement resulting in the school meeting AYP.

The hypothesis is that systematically utilizing a combination of large scale assessment data, in combination with data focusing on student learning available from within schools, an overall picture of student needs will be available with which to make decisions that will lead to increased academic achievement.

Bernhardt (2009) suggests learning does not take place in isolation and multiple measures must be used to understand the multifaceted world of student learning from everyone involved. She identifies four major measures or categories of data that are essential: (a) demographics, (b) student learning, (c) school processes, and (d) perceptions. While one measure may by itself provide useful information, when used collectively, these measures can reveal a powerful picture that helps decision makers understand the school's impact on student achievement. Ultimately, according to Bernhardt (2009), schools need to be able to use a wide variety of data to ensure they are able to meet the needs of their students.

Research Questions

The following research questions have guided this study:

1. How did a principal and teachers in an elementary school previously identified as not making AYP use data to increase students' academic scores on the MCAs, resulting in their removal from the AYP list?

2. To what factors and combination of factors does the principal attribute the success in increasing student scores on the MCAs, resulting in their removal from the AYP list?

3. To what factors and combination of factors do the teachers attribute the success in increasing student scores on the MCAs, resulting in their removal from the AYP list?

4. What identified factors correlate with concurrent research in school improvement?

Operational Definition of Terms

Accountability –being held to account for both the expenditure of educational funds and for the achievement outcomes of students (Wright, 2008). In this case, assessment that is used to hold individual students or school officials responsible for ensuring that students meet standards (Nitko & Brookhart, 2007).

Achievement – the demonstration of student performance measured against learning goals, learning objectives, or standards (Bernhardt, 2004).

Adequate Yearly Progress (AYP) – the means of measuring, through standards and assessments, the achievement of the NCLB goal of 100% proficiency by 2014 (Minnesota Department of Education, 2009).

Continuous School Improvement – measuring and evaluating processes on an ongoing basis to identify, intervene, and implement improvement (Bernhardt, 2004).

Data – factual information used as a basis for calculation, discussion, and reasoning (Education Commission of the States, 2000).

Data Driven Decision Making – making decisions based on demographic, student learning, perceptions, and school process data (Bernhardt, 2004).

Data-informed Decision Making – using multiple types of assessments and other data to systematically inform decisions (Ronka, Lachat, Slaughter, & Meltzer, 2009).

Minnesota Comprehensive Assessments II (MCAs) – the state developed tests measure student progress toward Minnesota's academic standards and meet the requirements of NCLB.

No Child Left Behind Act of 2002 (NCLB) – the reauthorization of the 1965 ESEA. NCLB calls for increased accountability for states, school districts, and schools; choices for parents and students; greater flexibility for states, school districts, and schools regarding federal education funds; improving the quality of teachers; and 100% proficiency for all students in language arts and math by 2014 (Bernhardt, 2004).

School Reform – a plan or movement that attempts to bring about a systemic change in educational practices.

Assumptions and Limitations

The following assumptions are made for this research study:

1. The principal and teachers interviewed provide honest, thoughtful information during the interviews. Steps were taken to establish trust and rapport prior to the interviews taking place.
2. The information provided through district, state, and national websites was accurate. In order to verify these data, the data was triangulated.

The following limitation is inherent in this research study:

1. The principal and teachers interviewed were from one elementary school in northern Minnesota that failed to meet AYP and in turn attempted to use assessment data to increase academic achievement in their school. The principal and teachers are not representative of all elementary schools in Minnesota.

Nature of the Study

The purpose of this qualitative case study was to tell the story of how one low-performing elementary school used data to improve academic scores on the MCAs, which resulted in the school's removal from the *needs improvement* list. Data was collected using interviews and document analysis.

Case study research involves the study of an issue explored through one or more cases within a bounded system over time through detailed, in-depth data collection involving multiple sources of information (Creswell, 2007). Gall, Gall, and Borg (2007) state, "A good case study brings a phenomenon to life for readers, and helps them understand its meaning" (p. 434). The case study draws from a variety of work in psychology, sociology, medicine, law, and political science. The need for case study research arises out of the desire to understand complex social phenomenon (Yin, 2003). Researchers generally conduct case studies for one of three purposes: (a) to produce detailed descriptions of a phenomenon, (b) to develop possible explanations of it, or (c) to evaluate the phenomenon (Gall et al., 2007).

Organization of the Remainder of the Study

The remainder of this study is divided into chapters. Chapter 2 presents a literature review beginning with the history leading up to NCLB. It focuses on the major themes that provide a context for this study. Examined themes include (a) the No Child Left Behind Act of 2002 in its historical and current context, (b) the accountability measures used in Minnesota, (c) the history and current thinking on school reform efforts, (d) the importance of systematically collecting and using data to inform decisions in schools, and (e) means and effects by which leadership plays roles in cultivating data use within schools.

Chapter 3 delineates the methodology chosen to complete this study. The framework for this research is a qualitative case study. The third chapter provides specifications for the conduct of the interviews, validation procedures, and processes for analysis. Procedures for the collection, transcription, and storage of transcriptions and documents are included. Considerations taken for research on human subjects is also explained.

Chapter 4 presents the context, analysis and findings from the study. Data obtained from interview questions are synthesized and re-told. An explanation of themes emerging from the data is presented as well.

Chapter 5 provides a summary of the findings and identifies possible implications for principals, teachers, policy makers, and institutions of higher education. Chapter 5 also identifies possible areas for future research.

Chapter 2. Literature Review

On January 8, 2002, President George W. Bush signed NCLB with bipartisan support. This act fundamentally changed the ways in which schools are held accountable for the academic achievement of all students. The act itself and the ways in which schools have struggled to deal with implications arising from this act are the focus of this literature review. This literature review addresses six themes:

1. Theme one focuses on NCLB in its context. The history of the legislation is reviewed as well as its status as the current governing legislation.

2. Theme two provides insight into Minnesota's educational accountability system. A brief history of the standards movement as well as the ways in which Minnesota is currently managing NCLB mandates.

3. Theme three investigates school reform efforts in elementary schools. This theme highlights ways in which schools attempted to reform in the past, what research articulates regarding school reform efforts, and what has worked in the past for elementary schools seeking to make reform.

4. Theme four discusses the use of data in schools. A synthesis of the research currently available about the use of data to inform decision making processes is presented.

5. Theme five defines the role of elementary principal as leader in school reform efforts. Examples of principals who have been successful in reform efforts are shared in

conjunction with research defining the role of the elementary principal as a leader in reform efforts.

6. Theme six identifies the rationale for professional development in attempting school reform efforts. A new definition of professional development is presented as well as an assortment of research identifying the key characteristics of effective professional development.

No Child Left Behind

NCLB is the eighth and newest iteration of a decades-old education law, the ESEA, and is often cited as the most ambitious federal education law ever enacted (Guilfoyle, 2006; Hess & Petrilli, 2006; McGuinn, 2006; Weaver, 2006; Zhao, 2009). NCLB links government funding to high stakes testing with explicit accountability measures designed to ensure no child is left behind. The overall goal of NCLB is for all high school students to achieve proficient levels of knowledge and abilities in core subjects by 2014.

NCLB originates from the ESEA of 1965. This piece of legislation was part of Lyndon B. Johnson's *War on Poverty* and emphasized educational opportunities for poor children. ESEA was not meant to be a general package of aid to all schools; the allocation formulas directed assistance to the local school districts with the greatest proportions of poor children. The funds were purposely distributed through the state to avoid the perception that the federal government was intervening in the rights and obligations of states to provide public education (McGuinn, 2006).

The original ESEA included five specific areas of entitlement, referred to as Titles. Title I served as the heart of the law, providing funds to aid in the education of disadvantaged children, Title II provided funds to purchase instructional resources, Title III supported the development of innovative curriculum and instructional techniques, Title IV funded grants to strengthen the capabilities of state education agencies, and Title V provided financial support for educational research (Hess & Petrilli, 2006; McGuinn, 2006). The majority of ESEA spending was allocated to Title I, which helped pay for compensatory education programs targeted at our nation's most economically disadvantaged students (Hess & Petrilli, 2006; McGuinn, 2006). Title I funding, while aimed at improving education for students who are most underprivileged, was distributed using a formula that provided at least some money to 94% of all school districts in the country (Hess & Petrilli, 2006). Concern over the ways in which schools were using funds intended for education of the most disadvantaged students was widespread nearly from the inception of ESEA (Hess & Petrilli, 2006; McGuinn, 2006). While the goal of ESEA was very clear — to improve educational opportunities for the poor, the legislation on how this goal was to be achieved was vague. School districts were not held accountable directly for the ways in which they were using Title I funds or the effectiveness of those programs (Hess & Petrilli, 2006; McGuinn, 2006). Like all federal legislation, ESEA had to be reauthorized at regular intervals. Subsequent reauthorizations continued to add new provisions and to expand the law, but the basic

fundamental design stayed the same throughout the 1960s and 1970s (Hess & Petrilli, 2006).

In 1983, the National Commission on Excellence in Education, appointed by then Secretary of Education T.H. Bell, came out with its ominous report on American education. The report, entitled *A Nation at Risk: The Imperative of School Reform*, reported that American school children were at risk of falling behind our worldwide competitors in the areas of commerce, industry, science, and technology. The report called for high standards that would develop the talents of all to their fullest and that schools have genuinely high standards rather than minimum ones (National Commission on Excellence in Education, 1983). *A Nation at Risk* emphasized while education had been primarily a local and state issue, the dire performance of American students was most certainly a national problem (McGuinn, 2006). *A Nation at Risk* shifted the focus from merely providing additional funding to support schools to widespread school reform efforts as the answer to improving education in our nation's schools. This focused effort to reform schools and to focus on standards and outcomes led to the development of the reauthorization of ESEA in 1994, which included the Goals 2000: Educate America Act (Hess & Petrilli, 2006, McGuinn, 2006).

Goals 2000, coupled with the 1994 reauthorization of the ESEA which was titled Improving America's Schools Act (IASA), required each state to establish challenging content and performance standards and to implement assessments to measure students' performance against those standards (McGuinn, 2006; North Central Regional

Educational Laboratory, n.d.). The required assessments needed to be aligned with content standards and administered at some point between grades 3 and 5, between grades 6 and 9, and once again between grades 10 and 12. Performance on these assessments need to be disaggregated within states, districts, and schools by (a) gender, (b) race, (c) limited-English-proficient status, (d) migrant status, (e) disability, and (f) economic status. States were also responsible for creating a plan to describe what constituted AYP in their particular state (McGuinn, 2006). Disadvantaged students in Title I schools would be expected to make progress toward the challenging content and performance standards expected of other students in the state (McGuinn, 2006).

The Obey-Porter Act, also known as the Comprehensive School Reform (CSR) Act, quickly followed on the heels of the 1994 reauthorization of ESEA. This act established the Comprehensive School Reform Demonstration Program (CSRDP) which allowed schools to apply for federal funds to be used to purchase services from independent whole school reform developers who devised research-based programs that aligned school governance, curriculum, and instructional practice (Gross, Booker, & Goldhaber, 2009). The CSRDP program provided three-year grants for schools to implement one of several CSRDP designs. The appeal of this type of school-wide reform effort was due in large part to the relatively poor outcomes of earlier reforms that appeared to be fragmented and disjointed (Gross et al., 2009; Keltner, 1998). After doling out more than \$1.8 billion to more than 6,700 schools across the country, the federal government began phasing out funding for CSRDP in 2006 (Gross et al., 2009).

CSR, however, or at least contracting with an external agent, still remains as one of the recommended reform options available to schools required to restructure when they enter in their fifth consecutive year of failing to meet AYP under NCLB (Gross et al., 2009).

In 1999, ESEA was up for reauthorization once again. Positions on the ESEA debate broke into three camps: (a) conservative Republicans wanted to give states more discretion, give parents more choice, and decrease federal red tape; (b) liberal Democrats wanted additional federal funding, additional programs, and increased safeguards that those monies would go to the most disadvantaged students; and (c) President Bill Clinton and moderates from both sides wanted increased funding and flexibility in tandem with testing and accountability measures (McGuinn, 2006). With the 2000 presidential elections closely looming, all of these proposals were left behind (Hess & Petrilli, 2006).

The 2000 election brought in a new president, George W. Bush, who would sign the most current reauthorization of the ESEA, titled NCLB, that serves as the current legislation to which our nation's schools are held accountable. The stated mission of NCLB is to "close the achievement gap between high- and low- performing children, especially the achievement gaps between minority and nonminority students, and between disadvantaged children and their more advantaged peers" (NCLB, 2001, p. 1440). The act centers around four pillars: (a) stronger accountability for results, (b) more freedom for states and communities, (c) proven educational methods, and (d) more choice for parents (NCLB, 2001). Each of these pillars has distinct implications for education in our country.

The first pillar, stronger accountability for results, is perhaps the most complicated and most prescriptive (Williams, 2006). In its previous reauthorizations, the ESEA determined success by the numbers of persons who were served (U.S. Department of Education, 2002; Williams, 2006). NCLB requires states to adopt statewide standards, create and administer assessments to measure students' attainment of the standards, and disaggregate the state, district, and school assessment results into the categories of students identified as served in Titles I-X (U.S. Department of Education, 2007; Williams, 2006). States must provide yearly test results in language arts, mathematics, and science broken down categorically by (a) gender, (b) ethnicity, (c) limited-English proficiency status, (d) migrant status, (e) disability, and (f) economic status (Wenning, Herdman, Smith, & McMahon, 2003; Williams, 2006).

The second pillar, which calls for more freedom for states and communities, allows flexibility for school districts to spend federal funds to support technology, safety, drug prevention programs, or other areas of particular need to the school (U.S. Department of Education, 2002; Williams, 2006).

The third pillar, proven education methods, requires schools use research-based educational programs that have been identified as effective through rigorous scientific research (U.S. Department of Education, 2002; Williams, 2006).

The fourth and final pillar, more choice for parents, provides a range of options for parents of children attending schools that are low performing. Parents with children in schools failing to meet AYP for at least two consecutive years may transfer their

children to a better performing public school, including a public charter school, within their district with transportation paid by the school district. If the school fails to meet AYP for three years, the students are eligible to receive supplemental educational services, including tutoring, after-school services, and summer school (U.S. Department of Education, 2002; Williams, 2006).

While the original ESEA contained five titles, the current NCLB contains nine separate areas of entitlements from Title I to Title IX:

- Title I – Improving the Academic Achievement of the Disadvantaged
- Title II – Preparing, Training, and Recruiting High Quality Teachers and Principals
- Title III – Language Instruction for Limited English Proficient and Immigrant Students
- Title IV – 21st Century Schools
- Title V – Promoting Informed Parental Choice and Innovative Programs
- Title VI – Flexibility and Accountability
- Title VII – Indian, Native Hawaiian, and Alaska Native Education
- Title VIII – Impact Aid Program
- Title IX – General Provisions

Schools in every state are qualified to receive funds provided by NCLB; however, none are required to access these funds. In order to receive the federal funds, school

districts must create, enact, and comply with the mandates set forth in the act (Williams, 2006).

Compliance with NCLB also currently requires each state to create a system for determining AYP for each categorical reporting unit, and to institute a system of sanctions and assistance to enforce the mandate. The act itself, however, is due for reauthorization once again, and current requirements may change in the process.

On Saturday, March 13, 2010, the Obama administration released its blueprint for revising the ESEA, which would ask states to adopt college- and career-ready standards and reward schools for producing dramatic gains in student achievement. The proposal challenges the nation to embrace educational standards that would put the U.S. on a path to global leadership (U.S. Department of Education, 2010a).

The blueprint outlines five priorities in reauthorizing the current ESEA:

(a) college and career ready students, (b) great teachers and leaders in every school, (c) equity and opportunity for all students, (d) raise the bar and reward excellence, and (e) promote innovation and continuous improvement (U.S. Department of Education, 2010b).

The first priority, college and career ready students, calls for all states to develop and adopt standards in language arts and mathematics that build toward college- and career-readiness by the time the student graduates from high school. It also supports the development and use of new assessments that are aligned with the college- and career-ready standards (U.S. Department of Education, 2010b).

The second priority, great teachers and leaders in every school, focuses on states and districts developing and implementing systems of teacher and principal evaluations and identification of teacher and principal effectiveness based on student growth and other factors. A more effective pathway for preparing and supporting beginning teachers and principals is also discussed in this priority.

The third priority, equity and opportunity for all students, supports an accountability system that rewards states, districts, and schools to improve outcomes for their students and to close the achievement gap. In turn, the lowest-performing schools that have not made progress over time will be held accountable and called upon to make dramatic changes (U.S. Department of Education, 2010b).

The fourth priority, to raise the bar and reward excellence, encourages state and local leaders to work together to receive the Race to the Top incentive funds by embarking on reforms at the state level and expanding the program to school districts willing to take on bold, comprehensive reforms (U.S. Department of Education, 2010b).

The fifth and final priority, promoting innovation and continuous improvement, will encourage and support local innovation by creating more flexible funding around areas key to student success. Programs that include comprehensive redesign of the school day, week, or year, promote schools as the center of the communities, or partner with community organizations will be given priority to federal funding (U.S. Department of Education, 2010b). Countless hours of debate are sure to accompany the new

blueprint for the reauthorization of ESEA; however, it is evident accountability in the form of standards and testing is not going away.

Annual Yearly Progress in Minnesota

Years before NCLB legislation was passed, Minnesota's Department of Children, Families and Learning (CFL) was answering the call for standards based reform with a its own program, the Profile of Learning (Kersten, 2003; Larson, 2000). The purpose of the Profile of Learning, which was adopted in 1998, was twofold: "to establish clear, rigorous academic standards for all Minnesota students and to ensure objective and consistent assessment of students' knowledge and skills, so that parents, colleges, and employers could reliably assess their accomplishments" (Kersten, 2003, p. 37). The idea was to use the same common metric across the state so comparisons could be made among schools and districts. The original legislation called for each student to complete 24 of the 48 standards in order to graduate; however, in 2001 Minnesota's legislators agreed that while every school district must implement all standards, individual school districts could choose how many standards were necessary for graduation (Jax, 2001; Kersten, 2003).

While well intended in its efforts, the Profile of Learning met resistance from educators across the state. Many educators felt that the Profile of Learning contained standards that were vague and difficult to test, burdensome record keeping requirements, and performance assessments which were time consuming and subjective in scoring (Jax, 2001; Kersten, 2003; Ravitch, 2001).

In September 2002, Education Minnesota adopted a resolution calling for Minnesota's graduation standards to be reconciled with the requirements of ESEA [NCLB] and for changes in the standards to be thoughtful, based on research, reliable data, teacher involvement and directly related to the improvement of learning. (DeLapp, 2008, p. 223)

This required each state to create a plan to establish a set of standards, create and administer assessments that measure attainment of those standards, and disaggregate the state, district, and school site results into the categories identified as served in Titles I-IX. States must report the disaggregated results from the tests in math, language arts, and science. AYP is determined for the entire school district as well as subgroups including (a) gender, (b) ethnicity, (c) limited-English proficiency status, (d) migrant status, (e) disability, and (f) economic status. Schools make AYP if the students in these subgroups meet the targets for the percent of students meeting or exceeding the standards on the state assessments in reading and mathematics as well as meeting the participation and the attendance or graduation requirements (Minnesota Department of Education, 2007, 2009).

Schools receiving federal Title I dollars that fail to meet AYP two or more years in a row in the same subject are identified as being *in need of improvement*. Depending on the number of years they do not make AYP, schools in need of improvement must offer a range of options to students, including school choice with transportation,

supplemental services, and restructuring (Minnesota Department of Education, 2009).

Table 1 illustrates the progression of sanctions as a school continues to fail to meet AYP.

Table 1

Title I Schools in Need of Improvement

AYP Stage	AYP Stage Requirement
Stage 0 – Did Not Make AYP	Public Reporting
Stage 1 - School Choice	Students may choose to attend a higher performing school in the district with transportation provided
Stage 2 - Supplemental Education Services (SES)	Students have the option to participate in SES, such as tutoring, and continue to have School Choice
Stage 3 - Corrective Action	School begins to take corrective action and continues to offer School Choice and SES
Stage 4 - Pre-Restructuring	School prepares to restructure the following year and continues to offer School Choice and SES
Stage 5 - Restructuring	School reopens as a newly restructured school

Note: Adapted from “*Updated Guidelines for the Title I Schools Identified in Need of Improvement*,” Minnesota Department of Education, 2009.

The MCAs are the metric with which students, schools, and school districts are being measured. If schools do not meet AYP, the schools face the sanctions listed in Table 1. Schools face extreme pressure to find ways in which to quickly improve student performance once they have been identified as in need of improvement.

The *needs improvement* list has traditionally been released in August, coinciding with the Minnesota State Fair. Historically, the fair has provided a place to display achievement in many areas in Minnesota, including education. The Minnesota Schools Report Card has been unveiled at the fair: a list of schools performing well and making AYP as well as the schools who have failed to make AYP and will be facing sanctions (Williams, 2006). The *Minneapolis Star Tribune* and other local newspapers print the results from each school and district in the state. These data are used by Minnesotans to informally rank schools and districts. Realtors use the data to sell homes in areas with good school districts, private schools use the data to market to parents in poor-performing schools, and educators deal with the labels attached to the buildings they serve. While AYP performance data may have not been intended for use in this manner, each year it happens, and each year schools are forced to live with the label placed upon them.

Whether intended or not, the results released at the Minnesota State Fair and printed in newspapers create a culture of high stakes accountability. When schools are faced with the label of *needs improvement*, they are faced with the need to make changes that will result in increased student achievement. School reform efforts have perhaps

never been more important than at this point in this current culture of high stakes accountability.

Reforming Elementary Schools

“We talk as though we want results, but we generally fail to make the kind of systematic, organized effort that produces them” (Schmoker, 1999, p. 4). The kinds of sustained, systematic, and organized reform efforts about which Schmoker (1999) speaks can be seen as a response to the dissatisfaction with school reform efforts in the past (Gross et al., 2009; Keltner, 1998; Smith & O’Day, 1990). Earlier reform efforts focused on educational inputs and ensuring basic skills (Smith & O’Day, 1990). While these reform efforts were well intentioned, Elmore (2006) points out they did little to actually improve the academic achievement of students within the school building. With the increased accountability required under NCLB, schools can no longer afford to engage in reform efforts that do not end in improved academic achievement, especially for those student populations who are failing to meet AYP. As Darling-Hammond (1996) explains, “With the accountability of NCLB, society is reshaping the mission of education. Schools are now expected not only to offer education, but to ensure learning” (p. 5). In his book, *School Reform from the Inside Out: Policy, Practice, and Performance*, Elmore (2006) argues there is not necessarily a relationship between what policy makers mandate will happen in schools and classrooms and what actually happens in them. Elmore (2006) believes “shifts in policy improve teaching and learning only if they are accompanied by systematic investments in the knowledge and skills of

educators” (p. 211). The idea that educators know what to do and all they need are enticing incentives to do it is fundamentally wrong. Educators learn most of what they know from what they do and the best predictor of what will happen in the future is what has happened in the past.

Educators cannot simultaneously be the cause of failure and the source of success. Teachers and administrators generally do what they know how to do. They do not deliberately or intentionally engage in actions they know will produce substandard results, nor do they withhold knowledge that they know will be useful to student learning. Schools fail to meet expectations for student learning largely because they do not know what to do to get better results. (Elmore, 2006, p. 217)

Schools must find ways in which they can make systematic changes based on the specific needs of the students they serve.

Options for school reform abound. Coyne (2006) recently completed a comprehensive review of nine successful school reform efforts. She found there were consistently five major themes present in each of the school reform efforts. The five themes identified were (a) professional development, (b) frequent use of student achievement data to guide decision making, (c) collaboration, (d) leadership, and (e) school culture.

Williams and Kirst (2006) report a large scale study conducted by EdSource and researchers from Stanford University, the University of California, Berkeley, and the

American Institutes for Research found higher performing schools tend to have four interrelated practices: (a) prioritizing student achievement; (b) implementing a coherent, standards-based curriculum; (c) analyzing student assessment data from multiple sources; and (d) ensuring availability of instructional resources.

The U.S. Department of Education has offered its own program for turning schools around. The CSRD allowed schools to apply for federal funds to be used to purchase services from independent whole school reform developers who devised research-based programs that aligned school governance, curriculum, and instructional practice (Gross et al., 2009). The CSRD program provided three-year grants for schools to implement one of several CSRD designs. These CSRD designs are defined by 11 components that represent a complete and scientifically based approach to school reform (U.S. Department of Education, 2002). The 11 components are:

1. employs proven strategies and methods for student learning, teaching and school management based on scientifically based research that have been successfully replicated in schools
2. integrates a comprehensive design for effective school functioning with all components aligned
3. provides high quality and continuous professional development
4. includes measurable goals and benchmarks for student academic achievement
5. is supported by all school staff
6. provides support for all school staff

7. provides for meaningful parent and community involvement in planning, implementing, and evaluating school improvement
8. uses high quality external support from an entity with experience and expertise
9. includes a plan for annual evaluation of the implementation of school reforms and student academic achievement results
10. identifies resources that should be used to coordinate services that will support and sustain the reform effort
11. has been found through scientifically based research to improve the academic achievement of students or demonstrates evidence that it will improve the academic achievement of students. (U.S. Department of Education, 2002, n.p.)

The appeal of this type of school-wide reform effort was due in large part to the relatively poor outcomes of earlier reforms that appeared to be fragmented and disjointed (Gross et al., 2009; Keltner, 1998). After distributing more than \$1.8 billion to more than 6,700 schools across the country, the federal government began phasing out funding for CSR in 2006 (Gross et al., 2009). CSR, or at least *contracting with an external agent*, still remains as one of the recommended reform options available to schools required to restructure because they are in their fifth consecutive year of failing to meet AYP under NCLB (Gross et al., 2009).

Newman, King, and Rigdon (1997) suggest the challenge in this climate of reform is for schools to be able to connect their internal accountability systems with the external accountability systems of their district and state. One task of school leaders has been to develop meaningful links between state standardized test scores and the data teachers have traditionally relied upon, such as student work. Research on effective school improvement strongly suggests the ability to use data to inform educational practices and improve student achievement is critical in this era of accountability for academic outcomes (Education Commission of the States, 2000).

Evident in the majority of the literature on school reform efforts is the need to systematically look at student data and to use those data to make decisions. Using data to formulate a plan of action specifically for a particular school ensures that a “one size fits all” model is not being utilized, rather each school is focusing on the specific needs of its students.

Using Data

Accountability and data are at the center of contemporary school reform efforts around the world (Earl & Katz, 2006; Reeves, 2010). The idea of systematically using data to guide decision making in education is a relatively new concept (Earl & Katz, 2006). For most of our educational history, decisions have been based on the best judgments of those people who were in authority positions. Very little data were available about schools until the 1970s (Earl & Katz, 2006). In the last few decades, however, our information age has allowed for tremendous growth in the data now

available about schools (Earl & Katz, 2006). It is now nearly impossible to attend an educational conference or read an educational journal without being told how to use data to drive your decision making (Hess, 2009).

In his book, *Results: The Key to Continuous School Improvement*, Schmoker (1999) cautions we are passing up “one of education’s greatest unexploited opportunities” (p. 43) if we fail to use student data because “group data maximize our ability to develop the most effective improvement and corrective action and to focus that action on the highest-priority areas, though with the greatest opportunity for helping the greatest number of students” (p. 43). Using the data available to schools can provide keen insights into what particular needs are of most importance in creating a stronger, higher achieving school. However, focusing on simply the data from one achievement test, perhaps the number of students who did not reach the proficiency level, provides no information about changes in the achievement of students who remain at or below this level (Barton & Coley, 2009). Focusing on one set of data leaves out a myriad of important questions such as what is happening with students well above or below the proficiency cut point.

Utilizing the vast amount of data available to schools can be a daunting task. Collecting and organizing the data is essential for them to be functional. Bernhardt (2009) identifies four major measures or categories of data: (a) demographics, (b) student learning, (c) school processes, and (d) perceptions. One measure by itself gives useful information. Used together, however, these measures can provide a powerful picture that

helps us understand the school's impact on student achievement. Ultimately, schools need to be able to use a wide variety of data to ensure they are able to meet the needs of their students. The information gleaned from the intersecting points of these four measures (demographics, perceptions, student learning, and school processes) helps to define the questions we need to ask, and helps to focus on the data necessary to find the answers.

Kaplan and Miyake (2010) report the systematic use of data was the key difference in a dramatic improvement over a ten-year period in academic achievement in the Atlanta Public Schools. The authors claim, "If you can't measure it, you can't manage and improve it; and measurement motivates" (Kaplan & Miyake, 2010, p. 11). Kaplan and Miyake (2010) report the simple act of measuring and monitoring caused people to pay attention and look for answers. Cowart (2010), a superintendent in Monroe County in central Georgia, found focused conversations around student assessment data allowed for stakeholders to see where improvement was needed and to progressively follow assessment data to see results.

A study in several urban schools found when school leaders used questions to focus the collaborative examination of data, school staff became more engaged in the process and were able to learn how to identify and use different types of data to answer those questions (Lachat & Smith, 2004).

Using data wisely can inform decisions and provide pathways of understanding as to how to proceed forward (Love, 2009; Sharkey & Murnane, 2003). But using data must

be done wisely. In his article, “The New Stupid,” Hess (2009) warns us against falling victim to using data in ways not appropriate. Hess (2009) reminds us data should not be used as a substitute for good judgment. We must still ask the hard questions relevant for our situation. Hess (2009) reminds us we must seek the data we need. Data used for external accountability (measurement of performance) and data used for internal accountability (measurement for performance) are needed to make informed decisions. We must stop thinking about data as something done to the school and start thinking about data as something done by the school and for the school (Sutherland, 2004).

Earl and Katz (2002) inform us it is essential for the whole school to change their thinking about data to begin seeing data as a core part of school culture. But this does not just happen. Insightful leaders empower collaborative teams, engage their staffs in purposeful analysis of their systems, and guide them in making data-based decisions (Sargent, 2004).

Bernhardt (2003) suggests when schools gather, analyze, and use the information about their school communities they are better equipped to make important decisions, not only about what to change but also how to institutionalize systemic change.

Schools that understand the needs of their primary customers – the students – are more successful in planning changes and remain more focused during implementation than those schools that simply gather, but make no sustained effort to analyze and use, data. Schools that use data understand the effectiveness

of their reform efforts; those that do not can only assume that effectiveness.

(Bernhardt, 2003, p. 2)

A leader must deliberately and systematically set up the conditions for this type of change in culture to occur. To do this, to create a *culture of inquiry*, a leader needs to:

- Involve others in interpreting and engaging with the data – When groups of people look carefully at the data and have honest conversations about its meaning and application they can move toward a shared vision of action based on the insights from those data.
- Stimulate an internal sense of urgency – No school is as good as it can be; data can be the vehicle for identifying what needs to happen next and instill an urgency in creating and implementing a plan of action.
- Make time – Using data to create collective meaning is not a quick nor easy process. A good deal of time is needed to think about and discuss important issues, to consider the data and try to make sense of them, to argue, challenge, reflect, and make plans.
- Use critical friends – Critical friends offer support and critique in an open, honest manner (Earl & Katz, 2006).

While school reform efforts have been around for many years, and the use of data within those efforts has been gaining steady support, educators are just now recognizing they will need to use data even if they do not know how to use them well (Earl & Katz, 2006; Ronka et al., 2009). It makes sense to them that better decisions can be made when

they use information to help clarify issues, identify possible solutions, and to target resources more effectively (Earl & Katz, 2006; Ysseldyke et al., 2003). Working together in teams, teachers can make better use of data when they work together than when they work alone (David, 2009). “Asking teacher and administrators to increase academic performance for students without fundamentally altering the conditions under which they failed to produce student learning in the first place is a dead end” (Elmore, 2006, p. 217).

Principals as Leaders: From Low-Achieving to High-Performing

“Leadership is second only to classroom instruction as an influence on student learning” (Louise, Leithwood, Wahlstrom, & Anderson, 2010, p. 7).

As more and more schools across the country find themselves being identified as *in need of improvement* it is critical to examine the ways in which principals and other school leaders have been successful in turning around low-achieving, high-poverty schools. In their study of high-poverty elementary schools, Parrett and Budge (2009) found the key to *finding the answers* to lead school reform was in *asking the right questions*. The authors suggest the questions fall into three interrelated domains: (a) building the necessary leadership capacity; (b) focusing the staff’s everyday core work on student, professional, and system learning; and (c) creating and fostering a safe, healthy, and supportive learning environment for all (Parrett & Budge, 2009). Questions focused on *building the necessary leadership capacity* focus on data systems, policies and procedures, available learning time, and professional development. The questions

related to *focusing the staff's everyday core work on student, professional, and system learning* investigate curriculum, instruction, assessment, and interventions. Finally, asking questions about the *safe, healthy, and supportive learning environment* involve issues of safety in the school, the influence of poverty on student learning, and the level of parental and community support. Taken together, the answers to these questions focus the needs of a particular school (Parrett & Budge, 2009). Sustained improvements in the high-poverty schools began with an individual or small group of leaders committed to equity and to the goal of successfully teaching every student (Parrett & Budge, 2009).

Togneri and Anderson (2003) examined five midsize high-poverty school districts from around the country that were improving student academic achievement. The authors found each school district had the courage to acknowledge poor performance and was willing to seek solutions; had put in place a system-wide approach to improving instruction; focused on student learning and guided instructional improvement; and made decisions based on data, not instinct. Each adopted new approaches to professional development, redefined leadership roles, and was committed to sustaining reform over the long haul.

Conclusions from a study by the U.S. Government Accountability Office (2009) found the three most common strategies principals and teachers were engaging in to improve student academic success were (a) using student achievement data to inform instruction and school improvement, (b) providing additional instruction to low-achieving students, and (c) aligning curriculum and instruction with standards and/or assessments.

These strategies were used more often at schools with high-poverty and high-minority students (U.S. Government Accountability Office, 2009).

Taken together, the literature available on turning around low-performing elementary schools with high-poverty students provides a vision for what is possible. To realize this degree of success, however, school leaders must ensure their staffs receive the ongoing training necessary to embrace the responsibility that is needed.

Professional Development

In the last two decades, research has provided a new definition for professional development – one that rejects the ineffective drive-by workshop model of the past (Cotton, 2003; Sparks & Hirsh, 1997; Stein, Smith, & Silver, 1999). Research indicates professional development is most effective when it includes the following essential characteristics: (a) a focus on student learning, (b) clearly defined and measurable goals, (c) a focus on collegiality, and (d) is sustained and coherent (Darling-Hammond, 2004; Darling-Hammond & Richardson, 2009; Garet, Porter, Desimone, Birman, & Yoon, 2001; Holloway, 2003; Reeves, 2010; Sparks & Hirsh, 1997). An approach that meets these criteria and has been increasingly popular in the literature on professional development is the professional learning community (PLC).

The term *professional learning communities* is often overused and has been known to describe everything from grade level teams to state departments of education. However, DuFour, DuFour, Eaker, and Karhanek (2004) advise a true PLC is identified by three defining qualities: (a) a distinct focus on student learning for all students, (b)

members working collaboratively in the effort to promote learning for all students, and (c) a clear focus on results. When schools begin to align their practices with a commitment to learning for all, the educators within them begin to function as a PLC (DuFour et al., 2004). The use of PLCs is one way for schools to work from within to embrace a results oriented approach to exploring their own school systems to focus on student results.

Educators involved in a PLC embrace the idea that the fundamental purpose of school is learning, not teaching, which is an enormous distinction. Focusing on student learning, rather than teaching, forces teachers to think about what it is they expect all students to learn, how they will know when students have achieved the intended knowledge and skills, and how they will respond when students experience difficulties (DuFour, 2004). Collaborative teams of educators work interdependently to achieve commonly agreed upon goals. These teams learn from each other and with each other in a cyclical pattern aimed at continuous improvement. PLCs are focused on action and aspire to turn their visions into reality (DuFour et al., 2004). Finally a PLC “realizes that all of its efforts in these other areas – shared mission, vision, values, and goals; collaborative teams, collective inquiry; action orientation; and continuous improvement – must be assessed on the basis of results rather than intentions” (DuFour et al., 2004). PLCs rely on results to determine whether or not they are making purposeful improvement.

For PLCs to be effective, however, it is critical principals and other school leaders support the fundamental principles that guide PLCs. Principals need to emphasize to teachers that success is attainable if everyone works together. Leaders must have high expectations for their teachers, holding them accountable for keeping up-to-date in both content and pedagogy. School leaders must also guide the PLCs toward self-governance. Urging staff members to assume prominent roles in the learning communities over time is important. Ensuring needed data are available is also a key duty of school leaders in supporting PLCs. Staff members need access to data and training in how to use them effectively. Finally, and perhaps most importantly, school leaders must take the time to build trust with their staff members. Mutual trust must exist in order for school leaders and staff members to openly communicate in order to ask the kinds of questions that will lead to the answers necessary to create the conditions for increasing student achievement (Hord & Hirsh, 2009).

Summary

Placing a problem in its context is an important step in seeking to better understand the problem. This review of literature has considered the major themes that provide the perspective from which this problem was examined. A brief history of NCLB and how it came to be such a powerful piece of federal legislation offered an explanation of the political climate that schools are currently working under. The accountability measures required by NCLB necessitate each state to establish a set of standards, and create and administer assessments that measure attainment of those

standards. Examining how Minnesota meets those requirements and determines AYP is crucial to understanding this problem. Systematically exploring the accountability climate in the U.S. and particularly in Minnesota provided the backdrop for this study. As Darling-Hammond (1996) comments, “schools are now expected not only to offer education, but to ensure learning” (p. 5). For those schools not meeting the accountability targets prescribed, school reform efforts become a reality. Looking at a variety of school reform efforts provides a depiction of the options low-performing schools are forced to consider. Much of the research on school reform efforts leads directly to the practice of using data to inform decision making. This theme focused on the ways in which researchers suggest schools best use the data available to them to make informed decisions and increase student achievement. Of course, reform of any type requires leadership in place to make it happen. Focusing on the ways in which leaders in elementary schools have been able to turn around struggling schools provided insight into trends proven successful for others. Finally, this review examined how elementary principals working collaboratively with their school staff members to focus on student learning above all else can result in the outcomes now expected from every school. Together, these themes provided a starting place, a vantage point from which to investigate the proposed problem. Can elementary school leaders use data to inform their decisions, work collaboratively with their staffs, and indeed, increase student achievement?

Chapter 3. Methodology

The accountability testing demanded by NCLB has illuminated the need for schools to increase the achievement of all students. But identifying the need for improvement is significantly different than providing the answer for how improvement will occur. A multitude of questions could be used to focus research, including: “How can schools accomplish the daunting task of improving academic achievement for all students?” and, “Might it be possible to use the data received from accountability testing in conjunction with the large amount of data from within our schools to make informed decisions and create systems in schools that will, indeed, increase academic achievement?”

The proposed research attempted to answer the following questions:

1. How did a principal and teachers in an elementary school, previously identified as not making AYP, use data to increase students’ academic scores on the MCAs resulting in their removal from the AYP list?
2. To what factors and combination of factors does the principal attribute the success in increasing student scores on the MCAs resulting in their removal from the AYP list?
3. To what factors and combination of factors do the teachers attribute the success in increasing student scores on the MCAs resulting in their removal from the AYP list?

4. What identified factors are correlated with concurrent research in school improvement?

Design of the Study

The purpose of this qualitative case study was to tell the story of how one low-performing elementary school used data to inform the process that led to increased academic scores on the MCAs, which resulted in their removal from the *needs improvement* list. Case study research involves the study of an issue explored through one or more cases within a bounded system over time through detailed, in-depth data collection involving multiple sources of information (Creswell, 2007; Stake, 1995). Gall et al. (2007) advise a good case study brings a phenomenon to life for readers, and helps them understand its meaning. Case study research seeks to appreciate the uniqueness and complexity of the particular case (Stake, 1995).

The case study draws from a variety of work in psychology, sociology, medicine, law, and political science. The need for case study research arises out of the desire to understand complex social phenomenon (Yin, 2003). Researchers generally do case studies for one of three purposes: (a) to produce detailed descriptions of a phenomenon, (b) to develop possible explanations of it, or (c) to evaluate the phenomenon (Gall et al., 2007). This case study produced a detailed description and developed possible explanations of the processes and procedures used by a school leader, together with her teaching staff, to gather and analyze, focusing on an assortment of data in a systematic way, and how they then used these data to engage in ongoing, systemic reform efforts.

The descriptions and explanations resulting from this case study could potentially benefit other school leaders who find themselves in a similar situation.

In general, case studies are the most appropriate strategy when how or why questions are being investigated, when the researcher has little control over events, and when the focus of the study is on a contemporary phenomenon within a real-life context (Yin, 2003). In this study, the researcher has no control over the events being studied. This study also focuses on a contemporary phenomenon within a real-life context, that being schools that face sanctions due to low performance on assessments used to determine AYP in compliance with NCLB mandates. It is the researcher's design that this case study will "contribute to the knowledge of individual, group, organizational, social, political, and related phenomena" (Yin, 2003, p. 1).

Concerns exist regarding case study research. Three major criticisms that have arisen in the research are (a) the possibility of sloppy research and biased findings, (b) the inability to generalize from the findings of case studies, and (c) that case studies take too long and produce unmanageable amounts of data (Blaikie, 2006). The researcher is aware of these concerns and has taken precautions in designing the study to limit the possibility of these criticisms.

Sampling

In case study research, two levels of sampling are often necessary. First, the case to be studied must be selected. Then, unless the researcher plans to interview, observe, or analyze all the people, activities, or documents within the case, there is a need to do some

sampling within the case (Merriam, 1998). To find the most appropriate case to study “it is important to establish the criteria that will guide the case selection and then select a case that meets those criteria” (Merriam, 1998, p. 65). In this case, the criteria were as follows: (a) Title I elementary school, (b) elementary school did not meet AYP during the 2006-2007 school year, (c) elementary school did make AYP in the 2007-2008 school year, and (d) the principal leading the school used student data in the school improvement process. The elementary school identified for this case study was located in Minnesota. It served close to 400 students with over 60% of those students qualifying for the federal free and reduced lunch program and over 25% qualifying for special education services. A letter of introduction explaining the purpose of the research and inviting participation was sent to the principal of the school (see Appendix A). Upon receipt of IRB approval the researcher scheduled the first face-to-face interview at a mutually available time. During this first interview, the researcher requested the name of teachers who were involved in the reform process following the school’s identification of *in need of improvement* status.

Instrumentation

According to Yin (2003), one of the most important sources of case study information is the interview.

We interview people to find out from them those things we cannot directly observe...we cannot observe feelings, thoughts, and intentions. We cannot observe behaviors that took place at some previous point in time. We cannot

observe situations that preclude the presence of an observer. We cannot observe how people have organized the world and the meanings they attach to what goes on in the world. We have to ask people questions about those things. The purpose of interviewing, then, is to allow us to enter into the other person's perspective. (Patton, 1990, p. 196)

The researcher contacted the principal of the elementary school to request an interview. During the first interview, the researcher requested the names of teachers who were teaching in the school during the time period under study and were a part of the reform efforts in the school. A letter of introduction explaining the purpose of the research and inviting participation was then sent to those teachers (see Appendix B). Upon receipt of permission from the teachers, interviews were scheduled at mutually available times.

The principal was interviewed three times, as per protocol recommended by Seidman (1998), and the interviews took place at the elementary school. The researcher used the Principal Interview Guide (see Appendix C) to lead the interviews with the elementary school principal. Each teacher who agreed to participate in the study was interviewed on two separate occasions. Interviews with the teachers also took place at the elementary school. The Teacher Interview Guide (see Appendix D) was used to lead the interviews. The Interview Guides assisted the researcher in establishing reliability between interviews and validity in focusing questions specifically on the research questions. A panel of experts, consisting of five licensed administrators, reviewed and

provided suggested revisions for the interview guides, which were incorporated into the instruments before use.

Validity and Reliability

The issues of validity and reliability are of critical concern when conducting research of any kind. Yin (2003) notes validity and reliability in case study research parallel quantitative research when the case study researcher subscribes to a positivist philosophy of scientific inquiry. Yin (2003) describes the importance of both validity and reliability in case study research.

Reliability is the “extent to which other researchers would arrive at similar results if they studied the same case using exactly the same procedures as the first researcher” (Gall et al., 2007, p. 460). The goal of reliability is to minimize errors and biases in the study (Yin, 2003).

Validity concerns focus on the degree to which the research actually measures that which it set out to measure. “Responses may well be reliable and yield similar results each time they are administered, but if they do not measure what they claim to measure, the results may not only be meaningless, but they may also be misleading” (Williams, 2006, p. 93). External validity concerns in case study research include the extent to which the findings of a case study can be generalizable to similar cases (Yin, 2003).

Data Collection

Data for this case study were collected using three sources: (a) data from state and local websites, (b) data produced by the school and school district under study, and (c) transcriptions of interviews with the building principal and teachers. The use of multiple sources of evidence in case studies allows a researcher to address a broad range of issues and to develop converging lines of inquiry (Yin, 2003). Findings or conclusions reached in a case study are more convincing and accurate if they are based on several sources of information (Yin, 2003).

Demographic and achievement data from state and local websites were summarized and synthesized to describe the elementary school specifically as well as to place it in the context of the school district and state it resides in. The documents from the school and school district provided insight into reform efforts, how data were used, and levels of academic achievement. As Yin (2003) suggests, all interviews were conducted in a place that is both convenient for the interviewee and also in the environment being studied.

Based on the recommendations of Seidman (1998) the principal was interviewed on three separate occasions. The purpose of three interviews was to build trust, establish validation, and promote and utilize reflection. The initial interview focused on the principal's history, the second interview focused on the stated research questions, and the third interview provided an opportunity for reflection on the experience. To accommodate the schedules of the teachers being interviewed, each participating teacher

took part in two separate interviews. The initial interview focused on the professional history of the teacher and the experiences of the teacher regarding the research questions. The focus of the second interview was analysis and reflection of the actions taken. The interview questions were sent to the participants prior to the interviews taking place. This allowed the participants sufficient time to think about the period of time that was discussed (2007-2008 academic school year) and to provide them with the general parameters for the interviews.

Once all of the interviews were transcribed and the researcher had compiled the findings from the study, the principal was sent an electronic copy of those findings. In doing so, the principal had the opportunity to review the findings before they became public. This was done to ensure the accuracy of the findings from this study.

Data Analysis

Yin (2003) advises there are four areas of focus to insure the data analysis is of highest quality. These areas include the researcher (a) attending to all the evidence, (b) addressing all major rival interpretations, (c) addressing the most significant aspect of the case study, and (d) using prior knowledge and expertise when analyzing the data.

Attending to these areas the researcher then followed the recommendations of Creswell (2007) to analyze the data. These recommendations included (a) organizing and preparing the data for analysis, (b) reading through and making sense of the data, (c) coding the data, (d) using codes to generate description of categories and themes, (e)

describing the findings of the analysis including interrelated themes, and (f) interpreting the meaning of the data.

To organize and prepare the data, the researcher created an electronic database where all demographic data, achievement data, researcher notes, and interview transcripts were stored. All data were reviewed multiple times and notes were added throughout the process. Following numerous readings of the interview transcripts, the researcher developed codes to identify themes and patterns as they emerged.

In the final stages of data analysis, the researcher attended to each of the four areas Yin (2003) suggests to insure that every attempt had been made to preserve the integrity of the analysis and that it was of the highest possible quality.

Ethical Considerations

Subjects interviewed in this study were selected from a Title I elementary school in Minnesota whose school was identified as *in need of improvement* status during the 2007-2008 school year under Minnesota's interpretation of the federal NCLB of 2002. Participants were volunteer adults with no special characteristics, and did not fall under any category of protected subjects. The identity of Minnesota schools entering *in need of improvement* status is public information and is accessible through a variety of venues, including the Minnesota Department of Education website.

A letter of introduction explaining the purpose of the research and inviting participation was sent to the principal of the school. The researcher contacted the principal of the elementary school to request an interview. During the first interview, the

researcher requested the names of teachers who were teaching in the school during the time period under study. A letter of introduction explaining the purpose of the research and inviting participation was then sent to the teachers identified by the principal. The identity of the school, the school district, the principal, and the teachers were not disclosed in any way. All participating teachers were referred to as Teachers A, B, C, and so on in notes, on tapes, and during interviews to establish and maintain confidentiality.

The principal was interviewed three times at the elementary school. The researcher used the Principal Interview Guide (see Appendix C) to lead the interviews with the elementary school principal. The researcher used the Teacher Interview Guide (see Appendix D) to lead the interviews with the elementary school teachers. The Interview Guides assisted the researcher in establishing reliability between interviews and validity in focusing questions specifically on the research questions.

Chapter 4. Data Collection and Analysis

The purpose of this study was to investigate the ways in which a low-performing elementary school was able to use data to increase students' academic performance.

Specifically, the research questions were:

1. How did a principal and teachers in an elementary school previously identified as not making AYP use data to increase students' academic scores on the MCAs, resulting in their removal from the AYP list?

2. To what factors and combination of factors does the principal attribute the success in increasing student scores on the MCAs, resulting in their removal from the AYP list?

3. To what factors and combination of factors do the teachers attribute the success in increasing student scores on the MCAs, resulting in their removal from the AYP list?

4. What identified factors are correlated with concurrent research in school improvement?

The study focused on the use of data in increasing academic achievement as measured by the MCAs between the 2006-07 school year and the 2009-10 school year. This study was conducted in an elementary school in Minnesota that serves students in grades kindergarten through fifth. This school was identified as *in need of improvement* status under Minnesota's interpretation of the federal NCLB prior to the 2006-07 school

year. Schools are notified of this status based on the student scores on the MCAs. The school was chosen for this study because academic achievement scores increased to the level that they met all targets necessary to be removed from the *in need of improvement* list.

Demographic Context

The elementary school in this study is part of a school district that serves over 9,000 students, with approximately 40% of those students qualifying for the federal free and reduced lunch program. The elementary school under study currently enrolls close to 400 students, with over 60% of those students qualifying for the federal free and reduced lunch program and over 25% qualifying for special education services. This school has historically been labeled as a “tough” school, as noted by Teacher B, who grew up attending schools within the school district:

This has always been known as a rough school even when I went to school we thought those kids who came from [Elementary School A] were the tough kids they were the troubled kids. That reputation has been around forever. It was no different coming in here as a professional. This school is the tough school with the tough kids.

In addition to the high population of students qualifying for the federal free and reduced lunch program, the elementary school houses the district’s special education program to provide services to students with emotional behavioral disorders, learning disabilities, developmental cognitive disabilities, and autism. The elementary school also

operates the only special education kindergarten in the school district. Because this school offers such a comprehensive special education program, students are bused from other elementary schools to have their specific needs met. Because of the way in which Minnesota reports its MCA results (disaggregating by subgroups), the high population of special education student scores reported with this elementary school increases the challenge of this school to reach its annual AYP targets.

During the 2009-10 school year, the elementary school in this study combined with another elementary school within the school district. The demographics for the two schools before the merger are presented as they provide a more comprehensive view of the school being studied. The current elementary school, referred to as School A, remained in operation while School B dissolved and sent those students to School A at the start of the 2009-2010 school year. Prior to the merger of the two schools in 2009-2010, School A served 201 students, of which 24% received special education services and 92% qualified for free and reduced lunch. School B served a population of 206 students, of which 22% received special education services and 39% qualified for free and reduced lunch. The distinctions are important to make, as School A was able to make sufficient academic gains to be removed from the *in need of improvement* sanction status well before the two schools merged.

Prior to the principal's arrival at School A, the 2007-08 MCA scores showed the school did not meet AYP in seven areas:

1. Reading for students identified as Black,

2. Reading for students receiving special education services,
3. Reading for students who qualify for free and reduced lunch,
4. Math for students identified as American Indians,
5. Math for students identified as Black,
6. Math for students who qualify for free and reduced lunch,
7. Attendance for all students.

The principal interviewed in this study began her work in School A in the fall of the 2007-08 school year. When she arrived at the elementary school the MCA scores from the previous two years (2005-06 and 2006-07) had already placed the school *in need of improvement* status.

The MCA scores for the 2007-08 school year showed substantial gains. The school made AYP in all but one area: reading for special education students. These scores put School A in *Safe Harbor Status*, which meant they were safe from sanctions according to Minnesota's interpretation of NCLB. In 2008-09, School A's MCA scores had achieved AYP in every subject, in every subgroup. The MCA results from 2009-10, the first year that the two schools merged, reported that again, the school made AYP in every subject, in every subgroup.

Table 2

AYP Proficiency Results for MCA Scores in Reading and Math

	2006		2007		2008		2009		2010	
	Read- ing	Math	Read- ing	Math	Read- ing	Math	Read- ing	Math	Read- ing	Math
All Students	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
American Indian	Yes	Yes	Yes	No	Yes	Yes	-	-	-	-
Black	Yes	Yes	No	No	Yes	Yes	-	-	Yes	Yes
White	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LEP	-	-	No	Yes	-	-	-	-	-	-
Special Education	No	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Free and Reduced-Price Meals	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes

Note. 2010 was the first year the two elementary schools were combined

This case study elicited responses via interview with four participants, one elementary school principal, and three elementary school teachers. Participants interviewed in this study were selected from a Title I elementary school in Minnesota identified as *in need of improvement* status during the 2007-2008 school year under

Minnesota's interpretation of the federal NCLB of 2002. Participants were all volunteer adults with no special characteristics, and did not fall under any category of protected subjects. The identity of Minnesota schools entering *in need of improvement* status was public information and was accessible through a variety of venues, including the Minnesota Department of Education website.

Once IRB approval was obtained, data were collected from each participant. The interview questions were semi-structured with the use of prompt questions when necessary. Prior to meeting with the participants, the interview protocol was vetted by a panel of experts. The panel of experts consisted of three individuals, all of whom hold PhD degrees and have backgrounds in qualitative research methods.

A letter of introduction explaining the purpose of the research and inviting participation was sent to the principal of the school (see Appendix A). The researcher contacted the principal of the elementary school to request an interview. During the first interview, the researcher requested the names of teachers who were teaching in the school during the time period under study. A letter of introduction explaining the purpose of the research and inviting participation was then sent to the teachers identified by the principal (see Appendix B). Face-to-face interviews were conducted by appointment at the elementary school beginning in November and continuing through December. All interviews utilized the established interview guide protocol, were conducted by the researcher, and were digitally tape-recorded. The researcher transcribed the recorded interviews. Upon completion of the transcriptions, the researcher began manual analysis

of the data. The researcher coded one document at a time, highlighting significant statements (Creswell, 2007). Content analysis was used to categorize transcribed text and develop themes for interpretation. The use of color-coding and matrices to identify patterns and themes further reduced the data. These themes were analyzed in conjunction with the questions for this study, noting identified themes had cross-referenced implications for multiple research questions. A second rater was used to increase inter-rater reliability and accuracy for the study. The second rater independently identified common themes and like conclusions were reached.

Study Participants

The principal in this study began her career in education as a teacher of mathematics after returning to college in her early 30s to obtain her teaching degree. Upon persuasion and support by her administrators, she became a principal after 12 years in the classroom. She has now been an administrator for 11 years, six years as an assistant principal, and five years as a principal. She was hired as the principal of the school under study at the start of the 2007-08 school year.

One of the participants has been a teacher for over 13 years in the school district under study. She has taught in six different elementary schools within the school district. She has experience working in a number of elementary schools within the school district, including those showing consistently high academic achievement and those showing a pattern of relatively low academic performance.

Another participant has been a teacher for over 15 years, mostly teaching in the school district under study. She has taught in both a middle school setting as well as an elementary school setting. She grew up attending schools within the same school district as the elementary school in the study.

The final participant has been a licensed elementary teacher for over 14 years, all of those years at the school district under study and the past nine in the elementary school where the study took place. She has worked in the highest achieving elementary schools within the school district as well as the lowest achieving elementary schools within the district.

Presentation of the Data

When the principal was hired to lead the elementary school in the fall of the 2007-08 school year, she faced a situation requiring immediate attention. The school had failed to meet AYP the previous year in seven separate areas. She knew she was expected to increase student achievement scores to ensure that the school would reach AYP goals. From the start, the principal took charge in defining clear and measureable goals for teachers to work toward. On the first day she met with the teachers, the principal presented a large graph that contained colored circles representing each student's score on the MCA test. She wanted the teachers to see the data in general terms, patterns of how students were scoring, but also wanted to visually show that each student was important, each colored circle was a real child with real needs. She says,

I just wanted to show them [the teachers] a visual picture of how we can just move those kids a little bit and it will make a big difference in whether or not they reach proficiency which in turn makes a big difference in whether or not our school makes AYP.

The principal clearly stated she expected students to improve in their academic achievement, and used this graph to show the teachers it was attainable; it was something they could all achieve. When viewing the graph it was quite apparent how powerful it was for teachers. Rather than viewing MCA data as a large set of nebulous scores, the graph made each child a priority. It showed some students exceeded the standard, some met the standard, some partially met the standard, and some did not meet the standard. For perhaps the first time, teachers could see that a student was really close to meeting the standard and began to think about ways in which they could better support learning. Or teachers were able to see a group of students who were, perhaps, all struggling in the same strand of reading or math. This prompted teachers to begin discussions about how they could supplement the current instruction to ensure additional opportunities for students to go back and revisit concepts not mastered. Teacher B reported,

It's one thing to see the numbers, to see the percentages of how many students met the standard or didn't meet the standard. It's just kind of overwhelming.

This made it real. It was easy to see who needed what to be successful.

The teachers subsequently sat down together in collaborative teams and analyzed data to determine the specific needs of each of the students in their classrooms. The data were

not limited to standardized test scores. The teachers also analyzed demographic data, benchmark assessments, classroom assignments, end of unit tests, and teacher observations. Teachers used these data to set specific goals for students. Once these goals were set, the teachers and principal worked collaboratively to devise a system whereby students' academic achievement levels would be assessed in an organized, structured manner. Teachers met at least once each month to again analyze a variety of student data including benchmark assessments, unit tests, teacher observations, and student daily work. Teacher B reported,

We looked at our results, assessments and student work, and saw maybe our curriculum didn't teach these so we found ways to do it in other ways. We talked to one another and shared what worked for us. We also talked to the teachers from the previous year and the next year and talked about what we needed from one another. These conversations really helped us understand the students' strengths and weaknesses.

These monthly meetings also provided opportunities for teachers to share strategies and ideas they were finding successful within their classrooms. In addition, the monthly meetings provided a time for teachers to determine which students needed additional assistance in specific concepts and to devise strategies and interventions to continue to assist them toward meeting their goals. Teacher A shared,

We talked about things that have worked and helped each other. We solved problems together and focused on what we could do to move the student forward.

If we saw a low test score, we asked questions, we tried to figure out where the problem was. Was it academic, something happening at home, you know? We just tried to really pinpoint the problem so we could focus on solutions.

Teacher C added,

One test score can't really tell us anything. But when we looked at a lot of data, over a period of time, then we can really start to get to know the student, really start to understand them... that's powerful, when I can look at a student and know exactly where their strengths and weaknesses are.

This systematic use of data to inform goal setting is firmly grounded in the research on school reform (Coyne, 2006; Education Commission of the States, 2000; Gross et al., 2009; Hirsh & Killion, 2009; Newman et al., 1997; U.S. Department of Education, 2002; Williams & Kirst, 2006). The result was increased academic achievement evidenced in a variety of ways, including the scores on the MCAs.

Major Themes

As themes emerged it became evident there was overlap, and the identified themes had cross-referenced implications to inform more than one of the research questions. In this section, the study's first three research questions are addressed within the descriptions of each theme. The final research question, which seeks to determine the degree to which identified factors are correlated with concurrent research in school improvement, is addressed following the description of the themes.

The major themes identified from the transcripts are (a) collaboration, (b) trust, (c) clear and measurable expectations, and (d) systematic use of data to inform instruction.

Collaboration. The importance of collaboration was the most often identified theme throughout the interviews. All four participants agreed for any data to be useful, they must be used in a collaborative setting. The principal and the teachers all maintained that to truly understand the data and to make them meaningful for their students' needs, they needed to work with and analyze the data themselves in a collaborative setting, rather than have someone else do it for them. The principal claimed, "The biggest thing was for teachers to have time to collaborate together because that's when they talked about what's worked and what hasn't worked with particular students. That collaboration time was by far, I think, the most important thing." Teacher B pointed out the importance of having time to "dig in" and look at the data. She stated,

The principal gave us time to look at data and use that to make decisions, it was kind of given back to us to figure out how we wanted to do that. It was more shared leadership that way. The data were there for us to use to better our own instruction and make better decisions. They trusted us to use it well.

Teacher C also noted teachers needed to be working together in a collaborative setting for data to be genuinely useful for teachers. She stated,

They [the school district leaders] can give you data sheet, upon data sheet, upon data sheet but if you don't do anything with it, if you don't get to actually look at it and analyze it with your grade level partners, it's not very useful.

The principal and the teachers all reported this collaborative process began with the principal seeking input from her staff. The principal shared,

I tried to get input from everybody. They knew that, in the end, I would have to make the decisions, but they also knew that I couldn't make the best decision if I had not heard from the teachers, if I hadn't received their input.

The principal often asked the teachers directly what they needed in terms of time and/or support to best utilize the data available to them. Teacher A said,

In the past, the district assessment person would come and do a presentation for the whole school. They presented the MCA data and told us how our school did, explained how each of the subgroups scored... They tried to make it specific to our site but it's not quite the same when it comes from someone downtown who's given the presentation fifteen times. You know that, as a staff, you could understand and manipulate the data on your own and it would be much more meaningful. That's what I think they're trying to do now. They're trying to give more ownership of the data to the teachers so they can see how it relates to what they do, so they can actually use it.

Each teacher commented on how they must work directly with the data personally and with partners and grade level teams to more fully understand and utilize the data.

Teacher C commented,

The data meant nothing until we, as teachers, did something with it. For example, we did benchmark testing in the fall. We used the graphs to see a strand where our kids were weak. Then we knew where we needed to put more emphasis. But if we weren't given the time or the resources to do something with that data it meant nothing. So actually being able to work with your colleagues and to have time to discuss and do some planning made all the difference.

Teacher B reports a similar thought,

Having time to actually analyze the data about my own students was the most beneficial to me. I used the data that I collected on math assessment and then graphed out the results. I could then say, "OK these kids understood this concept but these kids didn't understand this concept." Then I could focus my instruction on exactly what each student needed. I talked with my grade level partners to see if they were seeing the same kinds of things I was. We all went back and reemphasized concepts that the students just didn't seem to understand very well.

Trust. The subjects interviewed all spoke of the high level of trust that was critical among teachers and administrators. The administrators needed to trust the teachers were capable of doing their best work and the teachers in turn needed to trust the administration was supporting their work with children in their pursuit of academic

achievement. This was not always the case. In the past, the school district held district-wide grade level meetings and shared the benchmark scores at those meetings. Teacher A remembered feeling uncomfortable at those meetings because of the inherent competition that surrounded them,

The district used to have grade level meetings downtown so all the kindergarten teachers or first grade teachers would come together. That was fine, but then they would hand out a sheet with every teacher's name and what school they were at and how their students' had scored on a benchmark test. So if you were from some schools you looked great and if you were from other schools, you looked pretty bad. And it wasn't because we weren't all doing our job; it was that we were all working with different populations of students. It certainly didn't foster a sense of trust or community; it became really competitive.

When the school initially failed to meet AYP the district provided a large number of experts and consultants to come in and provide assistance. The teachers felt while they could benefit from the experience and expertise of others, they also wanted to be trusted as professionals and have the opportunity to make changes based on what they knew their students' specific needs were. Teacher B recounts,

When we first failed to meet AYP before [the current principal] got here it was really hard, really hard because we just had people coming in all the time trying to help us fix things. It got old really fast. I know everyone was just trying to be helpful, but when you've got a revolving door of experts coming in to help you

fix your school, it hurts. It felt very invasive like we weren't capable of doing anything on our own.

The current principal had a very different approach. She sat down with her staff and discussed their AYP status, what it meant, and what their plan was to improve achievement so they could get out of AYP sanctions. It was decided the financial resources previously used to hire consultants would, in part, be used to pay for professional development time for teachers to work collaboratively to analyze student data and to make changes based on their findings. The principal clearly had a great deal of trust in her teachers which is evident as she commented,

Teachers are the experts at what they teach. Second grade teachers are the experts in teaching second grade curriculum, I certainly am not. I gave them direction and the support they needed, but they're the ones who really knew what specific things they were teaching in that grade level. They just needed my trust and support.

The teachers appreciated the trust and support provided by their principal, as noted in the comments they made, and worked diligently to show they could be trusted as professionals to use the data provided to make necessary changes. "When we needed to sit down and look at data, she [the principal] asks us what we needed in terms of time and then she made it happen, within reason" (Teacher B). "She [the principal] trusted us; she knew that we were working hard each day to help those kids get to where they needed to be" (Teacher C). The principal herself summed up her philosophy best when she said, "It

sounds so simplistic but I always go back to the same thing: you find out what teachers do well and you find ways to make that happen.”

Clear and measurable expectations. The principal and each of the teachers interviewed spoke at length regarding the importance of having clear expectations. The school had seen a turnover in administration in previous years and the teachers felt there had often been a lack of clarity in what was expected of them.

When [the principal] came it helped to finally have a clear vision. She was willing to listen to the staff and say, “Our goal is to get out of AYP, how are we going to work together to do that?” She didn’t micromanage. She just said, “Here’s our goal. This is where we need to get to. Now, let’s find ways to make that happen.” (Teacher B)

Teacher C commented,

When [the principal] came she said, “Here’s what we need to do, we need to get out of AYP. I need all of your help to make that happen. We need to look carefully at these goals, determine how we’re going to meet them and figure out how we can measure our progress along the way.” And then she came to us and really, truly asked us how we thought we could best make that happen. She helped us figure out who needed to do what to make good things happen. She’s the first administrator I can remember who did things that way.

The principal herself very succinctly stated, “I give people very clear expectations. I let them know what my expectations are.” She made the expectations clear and then sought

input from the teachers regarding the ways in which they could best reach those expectations. Teacher B says, “I think that was the first time we actually looked at goals and what they were, and how we were going to attain them and who would be responsible for working on them.” Teacher C comments, “Finally having a clear vision was critical to our success.”

The principal and the teachers focused on the goal that all students would increase their academic achievement. Once that goal was in place, they collaboratively created a process whereby teachers would meet on a monthly basis and sit down together and analyze student assessment data to ensure that progress toward that goal. During those meetings, teachers came together in grade levels and spent a minimum of four hours looking at data in relation to their students’ achievement levels. Teacher A explained,

So, at least monthly we looked at student work and assessments to see where students were at and made changes if we needed to. We could make changes to whole group instruction, or small group, or work with students individually. It’s very powerful to know that every student’s learning is accounted for on a monthly basis.

Once the teachers all knew what the expectations were for their school, their classroom, and for their students, they felt they knew exactly what they needed to do. The ongoing, systematic approach to monitoring student learning that followed was a key factor in increasing students’ academic scores. Teacher A commented,

Really, a student can't get away with not learning anymore. We can tell, by looking at our common assessments, where every single kid is at in reading and math. And we found ways to make sure that those gaps in learning got filled. I don't think we'd ever been that systematic about monitoring their learning.

That's really something.

The teachers in the study found ways to fill the gaps in learning that were identified.

They found that when they worked with the class in large group settings they were more aware of those students who understood the concepts and those who did not. They knew more precisely what they were looking for. The teachers used the data to determine which students needed re-teaching or accommodations to reach their goals. Teacher A reported,

I was able to spend more time working with a student on specifically what they needed and didn't waste time on the things they already knew. I know it sounds simple, but I realized that I was spending a lot of time teaching my students things they already knew. When I looked more carefully at assessment data and student work samples I could easily see where my instructional time needed to be spent.

Systematic use of data to inform instruction. The specific ways in which the principal and teachers began to use data appeared beneficial for their students. All subjects interviewed discussed the importance of looking at a variety of data to gain insight into student learning. The teachers tended to focus on data specific to their grade level, classroom, and individual students, while the principal focused most of her

attention on district-wide, school-wide, and grade-level data. The principal reported the data most valuable to her included:

...MCA scores, benchmark assessments, and attendance. Attendance was as important as the test scores because if you had poor attendance you would have kids failing the test. Those are the things that I looked at and those are the things that we all have in common, so it was something that we could compare grade-to-grade and be able to talk about district-wide.

Using data as a means to monitor and make adjustments was not a new phenomenon for the principal. She had a great deal of previous background in using data to guide practice. She had worked with a variety of significant grants that required multiple data to demonstrate effectiveness and retain funding. When faced with the *in need of improvement* status, she was aware she would need to carefully analyze the data available from the MCA's to guide her. On the very first day of teacher workshop in the fall following their *in need of improvement* status, she brought the entire staff together. She unveiled a large chart, hand-made with dot stickers and chart paper, to show the performance of every student in grades three, four, and five.

Just seeing, physically seeing a dot representing each and every student in the school makes it real. We can no longer talk in general terms about students not passing; we *see* that they have not met the target. That's powerful. (Teacher B)

While attending to the scores of all students, the principal focused additional attention toward those students who were very close to *meets the standard*, both those whom

barely met the standard as well as those who had narrowly missed with *partially meets the standard*. She emphasized the fact that one or two questions for those students makes the difference in whether or not they meet the standard. “So, showing them this visual really helped them get a picture of how we can just move those kids a little bit and it will make a big difference in our school” (Principal).

The principal recognized teachers needed to look at data in a slightly different manner than she did. She explained a process that was vitally important for her teachers, one that all of the teachers interviewed for this study applauded:

For example, last year we had a couple of days where our fourth grade teachers had subs for the day. In the morning they met with the third grade teachers and in the afternoon they met with the fifth grade teachers. This time allowed the teachers to talk about specific needs those students may have as well as what had worked well the previous year. The teachers could talk about areas where the students were struggling and talk about any gaps or specific concepts the students had struggled with. It was also a wonderful time for the teachers to collaboratively analyze the MCA data and the benchmark test data to see where they needed to provide additional attention. It really worked well. We did it for all the grade levels.

Teacher C made this comment about that process,

Teachers need to be able to see where the gaps and holes are when we look at the MCAs, and we look carefully at them, and then figure out how we can fill those

holes. We look at the standards and then at our curriculum and see that maybe we're not teaching all that we should be, so we find ways to do it. We talk to one another and share what works for other teachers. We also talk to the teachers from the previous year and the next year and talk about what we need from one another. We've always tried to collaborate but I think [the principal] giving us specific time to do this has made all the difference in the world. Communication is key. Looking at your curriculum and seeing where the holes are is huge. Being able to talk to the next year's teacher and say that we struggled with geometric shapes, so you'll want to make sure and hit them hard this year, really does make a difference.

As this example illustrates, teachers felt data must be relevant to their current teaching situation and to the students they were currently serving for it to be important. Teachers in the study felt the opportunities to work with their colleagues in this manner and discuss specific teaching strategies was an integral part of the process leading to increased academic scores. Teacher B stated,

For the first time in my many years of teaching, I found that I was able to focus specifically on each student's needs. I felt like I knew enough about how each student was doing in math and reading to know exactly what they needed to move forward. It's a little bit like having a classroom full of IEPs (Individual Education Plans) because you know what each student needs so you don't waste your time on the stuff they don't need.

All of the teachers in the study commented that using the data available to them (MCA scores, benchmark tests, formative and summative classroom assessments in conjunction with collaboratively reviewing student work) was a process that they found to be invaluable. Teacher A suggested,

Every school should do this, really, set aside time for teachers to sit down and look at all the data about each student and use that to guide the student for the year. Not every student starts at the same place. Think of what teachers could do with that information. We really might be able to move every student forward if we carefully plan in this way. If each student got the instruction that they needed, wow, that would make a difference for every student.

The teachers in this study were willing to take the extra time necessary to make this process work because they felt it was beneficial. Two teachers, however, were quick to point out that this process will only work if teachers feel that their time is not being wasted. Two teachers voiced the criticism that in years past, their time, and their students' time, had been wasted when they were required to give common assessments that were never followed up on by district personnel. Teacher B commented,

What I hate is when the district requires us to give benchmark assessments or other common assessments and then we never hear a word about them. It's like they just disappear. If I'm going to give my students assessments, then I want to spend the time to analyze them and talk about them with other teachers, to see how we're doing. I don't want to just jump through a hoop.

Teacher C agrees with her statements,

I actually like that we did the benchmark testing. It gave me a chance to see how my kids were doing, and to know what I still needed to do to help them in certain areas. What I hated is when we had to give tests and then we never did anything with the information. We used to just send it off [to the district office] and never hear about it again. Having the time to analyze the data in grade level meetings was so beneficial.

The teachers appreciated the time they were given to analyze data, but were quick to share their frustration when they felt as though their time was being wasted. They wanted to make sure that the data they were collecting were going to be useful to them.

The principal and teachers also felt strongly that aligning the curriculum to the standards and having a variety of ways to measure progress toward those standards was also a key factor. The principal encouraged teachers to be very specific when looking at their MCA data,

Last year when I met with teachers about the MCA scores, I had them graph out the three triangle areas showing students who were doing well, students on the borderline, and students who were at risk. The paper showed how each of the students were doing in each sub-strand so teachers could see exactly how each student was doing in every area. It was easy to see where needs were. To see if a small group or a large group of students needed help with a skill. It was very visual and very easy for teachers to see what their students needed. For example,

ten kids needed help with comprehension but only three with fluency. A teacher could then work with the large group on comprehension but then pull a small group or work individually with the ones who need help in fluency. Last year we really worked on what should be large group, what should be small group and what should be individual.

Correlation with Concurrent Research

The final research question was to determine if, and to what degree, the identified factors correlated with concurrent research in school improvement. The themes that emerged in this study had a high correlation with the current research on school improvement, most notably where experts agree the research is unequivocal: When schools build collaborative cultures, commit to all students' learning, and use data systematically to improve instruction, they improve results for students (Berry, Wade, & Trantham, 2009; Darling-Hammond, 2004; DuFour, 2004; Elmore, 2003; Hirsh & Killion, 2009; Lee & Smith, 1996; Loucks-Horsley, Love, Stiles, Mundry, & Hewson, 2003; Louise, Kruse, & Marks, 1996; Love, 2004, 2009; McLaughlin & Talbert, 2001; National Staff Development Council, 2001; Steele & Boudett, 2009; Wayman, Midgley, & Stringfield, 2007). The principal and teachers in this study engaged in each of the areas described. They built a collaborative culture. They committed to increasing student achievement, and they systematically used data to improve their instruction. They did not follow any one prescribed model of school improvement or school reform; however, each of the factors that contributed to their success was steeped in research.

Collaboration. It would be difficult to find reliable current research on school improvement or school reform that did not propose collaboration as a key element to success. Studies show teachers can make better use of data when they work together than when they work alone (David, 2009; Love, 2009). The principal in this study found ways to provide time for her teachers to meet on a monthly basis to discuss data. She placed a high priority on the collaborative efforts of her teachers. The teachers found when they worked with data in small groups they were better able to make meaning of the data that led to well informed decisions concerning instructional strategies. Coyne (2006) concurred collaboration was a key factor in each of the nine schools she studied in a recent comprehensive review of successful school reforms. But collaboration does not just happen. Insightful leaders empower collaborative teams, engage their staffs in purposeful analysis of their systems, and guide them in making data-based decisions (Sargent, 2004).

Trust. Collaboration cannot occur without a high degree of trust among teachers and principals. A leader must deliberately and systematically set up the conditions for this type of change in culture to occur. To build this culture of inquiry, Earl and Katz (2006) suggest the principal needs to actively involve others in interpreting and engaging with the data. When groups of educators looked carefully at the data and had honest conversations about its meaning and application, they could move toward a shared vision of action based on the insights from that data. However, using data to create collective meaning is not a quick or easy process. A good deal of time is needed to think about and

discuss important issues; to consider the data and try to make sense of it; to argue, challenge, reflect, and make plans (Earl & Katz, 2006). The principal must have a high degree of trust in the teachers. She must trust the teachers will use the time and resources given to them in a productive manner. In turn, the teachers must trust the principal is supportive of their work throughout the process. And both groups must trust they can reach their goal to increase achievement for all students.

Systematic measurement and accountability. As Darling-Hammond (1996) explains it, “With the accountability of NCLB, society is reshaping the mission of education. Schools are now expected not only to offer education, but to ensure learning” (p. 5). The principal in this study was not satisfied with simply offering an education to the students in her school. She created an environment where high levels of academic achievement were expected for all students. The first day the principal met with her teaching staff, she shared a visual model depicting the academic achievement of all students. Using this as her starting point, she clearly defined the level of achievement each student was expected to reach by the end of the school year. In doing so, she provided a clear target for each student. She set up a system that ensured every student’s achievement would be systematically measured and monitored throughout the school year, which allowed for teachers to monitor and adjust their teaching as necessary. This process is consistent with research from the U.S. Government Accountability Office (2009) which concluded the three most common strategies principals and teachers were engaging in to improve student academic success were (a) using student achievement

data to inform instruction and school improvement, (b) providing additional instruction to low-achieving students, and (c) aligning curriculum and instruction with standards and/or assessments. The teachers in this study all reported the systematic, organized method they began using to assess, monitor, and adjust instruction as needed was a key factor in the academic success their students achieved.

In his book, *Results: The Key to Continuous School Improvement*, Schmoker (1999) cautions us that we are passing up “one of education’s greatest unexploited opportunities” if we fail to use student data because “group data maximize our ability to develop the most effective improvement and corrective action and to focus that action on the highest-priority areas, though with the greatest opportunity for helping the greatest number of students” (p. 43). Using the data available to schools can provide keen insights into what particular needs are of most importance in creating a strong, high achieving school. Newman et al. (1997) suggest the challenge in this climate of reform is for schools to be able to connect their internal accountability systems with the external accountability systems of their district and state. One task of school leaders has been to develop meaningful links between state standardized test scores and the data teachers have traditionally relied upon, such as student work. Research on effective school improvement strongly suggests the ability to use data to inform educational practices and improve student achievement is critical in this era of accountability for academic outcomes (Education Commission of the States, 2000). As noted earlier in this chapter, each of the subjects interviewed in this study relied on a variety of data to inform their

practice. This is consistent with current research on school reform, which advocates using a variety of data to make decisions (Bernhardt, 2009). Using a variety of data, including district-wide, school-wide, classroom, and individual student data allowed the principal and the teachers in this study to carefully analyze the areas needing improvement. Based on the conclusions derived from the thorough analyses of the data available to them, the teachers were able to make adjustments to their teaching. Teachers, with the ongoing support of the principal, identified gaps in their students' understanding and made systematic alterations to their instruction. Certainly the MCA data were valuable in providing a measuring stick of academic levels, but data in the form of benchmark assessments, attendance rates, unit testing, teacher observation, and informal assessments provided insight to the specific needs of each student. This school used the external accountability measures, the MCA test data, to guide goal setting. They then used internal data in an ongoing manner to guide their day-to-day work with students.

Professional learning community practices. Sustained improvements in high-poverty schools most often begin with an individual or small group of leaders committed to the goal of successfully teaching every student (Parrett & Budge, 2009). The school in this study concentrated on teaching every student in a systematic, focused manner. The faculty used the data available to them to collaboratively determine the levels of achievement, to seek out areas of concern, and to alter instruction to increase the learning for each student. The steps that were taken by the principal and teachers align directly

with current research on PLCs. PLCs are an effective means to increasing student achievement and are identified by three defining qualities: (a) a distinct focus on student learning for all students, (b) members working collaboratively in the effort to promote learning for all students, and (c) a clear focus on results (DuFour et al., 2004). The school in this study never identified the specific use of learning communities; however, the transcripts from their interviews clearly pointed to the fact they were, indeed, working as a learning community. The principal herself perhaps summed it up best when she said with a smile,

I could provide the direction, but the teachers, they did the hard work. They sat down with their grade level partners, analyzed the data and determined what instructional changes need to be made. They could pinpoint which students needed help in which areas. I trusted them.

The themes that emerged from this study (collaboration, trust, clear and measurable expectations, and systematic use of data to inform instruction) provided the conditions in which one school was able to significantly increase their academic achievement scores. When these factors were used in conjunction with one another over time, the results indicated a high level of academic success for all students. The following chapter will provide additional conclusions and recommendations based on these findings.

Chapter 5. Results, Conclusions, and Recommendations

We must reform our schools to accelerate student achievement, close achievement gaps, inspire our children to excel, and turn around those schools that for too many young Americans aren't providing them with the education they need to succeed in college and a career. (President Barack Obama, U.S. Department of Education, 2010a, n.p.)

The accountability measures that began in 2002 with the passing of NCLB continue today. These accountability measures have forced states to test students and use those test scores to rank and sort schools in ways we have not seen in the past. A school's ability to score well on the state mandated tests can literally determine the future of the school. These accountability measures do not appear to be going away. The U.S. Department of Education under President Barack Obama continues to support accountability measures for schools. President Obama's administration calls for several reform efforts in the current accountability system, asking for standards that will prepare students for college and careers, creating a more equitable system that recognizes and rewards growth and progress, providing increased flexibility to state and local educators, and focusing interventions and support for the lowest-performing schools (U.S. Department of Education, 2010a). These measures may well improve the current accountability system in place, but regardless, schools are and will continue to be accountable for the academic achievement of all the students they serve. While the ways

in which accountability measures are used may continue to be controversial, the fact that students will be tested and those test results will be used as a measure of school success appears to be here to stay. This study investigated the ways in which one low-performing elementary school dealt with the situation they found themselves in when their school failed to meet the accountability measures put forth; specifically, how this elementary school was able to use data to increase students' academic performance. The research questions were:

1. How did a principal and teachers in an elementary school previously identified as not making AYP use data to increase students' academic scores on the MCAs, resulting in their removal from the AYP list?
2. To what factors and combination of factors does the principal attribute the success in increasing student scores on the MCAs, resulting in their removal from the AYP list?
3. To what factors and combination of factors do the teachers attribute the success in increasing student scores on the MCAs, resulting in their removal from the AYP list?
4. What identified factors are correlated with concurrent research in school improvement?

In order to address the determined questions, the researcher conducted a series of interviews in November and December of 2010 with one elementary principal and three elementary teachers. The study participants were employed in an elementary school identified as *in need of improvement* status under Minnesota's interpretation of the

federal NCLB Act prior to the 2007-08 school year. The school increased the academic achievement scores such that they were removed from *in need of improvement* status in 2007-08 and made their AYP targets in the both the 2008-09 and 2009-10 school years.

To frame and conceptualize the interviews and the roles of the principal and teachers in this study, a review of literature was conducted that examined six themes and the ways in which each of these themes informed one another. Themes included (a) NCLB Act of 2002 in both its historical and current context, (b) Minnesota's educational accountability system under NCLB, (c) school reform efforts in elementary schools, (d) data use in schools, (e) the role of the elementary school principal as a leader in reform efforts, and (f) current research regarding professional development.

The establishment of the need for this study included a discussion of current trends in schools failing to meet AYP in Minnesota as determined by the MCAs. The review of the literature and the current situation, whereby nearly half of Minnesota schools are failing to meet AYP, revealed there was a need to further investigate ways a low-performing, high-needs school could increase the academic achievement of its students.

Those participants interviewed in this study included a principal and three teachers who were all employed in the elementary school during the years of the study's focus. All four participants in this study were trained and had relevant experience in their educational backgrounds.

This qualitative case study tells the story of how one low-performing elementary school used data to inform the process that led to increased academic scores on the MCAs, which resulted in their removal from the *in need of improvement* list. In doing so, the researcher provided a detailed description of the processes and procedures used by the school leader and her teachers to gather and analyze, focusing on an assortment of data in a systematic way, and how they then used this data to engage in ongoing, systemic reform efforts. A qualitative case study was chosen as it seeks to bring a phenomenon to life for readers, to help them understand its meaning. It seeks to appreciate the uniqueness and complexity of the particular social phenomenon (Gall et al., 2007; Stake, 1995; Yin, 2003). Like all schools, the elementary school in this study had its own unique needs and circumstances. This case study aims to validate the complexity of their experience within its context. It does not in any way presume the same experience exists in other schools. The results from this study are meant to offer a thorough description of the lived experiences of those participants involved in the study as they created the conditions that led them out of AYP sanctions.

Results

The passing of NCLB in 2002 brought with it a considerable increase in the use of high stakes accountability measures across the nation. The overall goal of the act was to ensure that all students achieve proficient levels of knowledge and abilities in core subjects by 2014. Beginning in the fall of the 2002-03 school year, the Minnesota Department of Education created its plan to comply with these federal mandates.

Minnesota established a set of standards, created assessments designed to measure attainment of those standards entitled the *Minnesota Comprehensive Assessments*, and a procedure to disaggregate the state, district, and school site results into the categories identified as served in Titles I-IX. As mandated, Minnesota reports the disaggregated results from the tests in math, language arts, and science to the schools and to the public. AYP is determined for the entire school district as well as subgroups including (a) gender, (b) ethnicity, (c) limited-English proficiency status, (d) migrant status, (e) disability, and (f) economic status. Schools attain AYP if the students in these subgroups meet the targets for the percent of students meeting or exceeding the standards on the state assessments in reading and mathematics, as well as meeting the federally required participation and attendance and graduation rates (Minnesota Department of Education, 2007, 2009). If Minnesota schools do not meet AYP, the schools face a progressive set of sanctions. Schools face extreme pressure to find ways in which to quickly improve student performance once they have been identified as in need of improvement. With nearly half of the schools in Minnesota currently identified as not making AYP, the need abounds for ways in which schools can increase student achievement.

This study has begun to reveal and validate some of the responses to the issues and concerns that have surrounded educators when schools have been labeled *in need of improvement* under the Minnesota interpretation of NCLB. Concerns regarding how it is possible to increase achievement scores to the level where all students attain proficiency

on the MCAs have plagued principals and teachers since the first schools were identified as *not making AYP* in 2003. Since scores are disaggregated and reported separately for each reporting category, additional pressure is placed on those schools serving high populations of students with high needs. The intended purpose for the disaggregation of student results by all subgroups was to ensure that no child is left behind academically. This practice forces educators to identify and account for the performance of every population of students. It does not allow schools to discount small populations of at-risk or high-needs students. It is, perhaps, common knowledge that children of poverty have higher probabilities of being exposed to factors not highly correlated with success in school. Some of these factors include (a) homelessness, (b) having one or no parental figures at home, (c) limited access to health care, (d) living in homes with little or no reading material, (e) crime filled neighborhoods, (f) abuse, (g) neglect, and (h) a host of other factors that do not correlate to high achievement in schools (Williams, 2006). However, it is also commonly agreed NCLB reporting categories can count children of poverty several times under its reporting mandates. A student who qualifies for free and reduced lunch could also be included in several other categories as well, resulting in the same students' scores being counted and represented in multiple categories. Schools serving a population of students disproportionately qualifying for free and reduced lunch may well have those same student scores reported in several categories making it increasingly difficult for schools to meet AYP targets (Williams, 2006). Since schools are required to reach AYP targets set forth in each reported category, this practice

inherently makes it more difficult for schools serving high populations of students of poverty to reach levels of proficiency and attain AYP targets each year. The school in this study is representative of that particular situation. During the years this study investigates, the site's demographics reflect between 65% and 95% of students qualified for the federal free and reduced lunch program. Of that population, a percentage also qualified as eligible for special education services; identified as Black, American Indian, or Hispanic; students whose first language is not English; and/or other mandated reporting categories. As per mandate, these students' scores were reported in a variety of reporting categories. If a student failed to score proficiency and was eligible for the federal free and reduced lunch program, and was also identified as a student eligible for special education services, that student's failing score was reported in two separate categories. This multiple representation creates additional challenges for those schools serving high-poverty populations.

Accountability mandates have forced school administrators and teachers to be far more diligent in their monitoring of student achievement. The principal interviewed in this study applauded the efforts made to increase accountability. While she did not unequivocally agree with measures used to determine academic progress, she felt as though, for the first time, educators were having conversations about individual students or pockets of students that in the past did not take place. She recounted she spends far more time looking through student data to insure all students are progressing academically than she ever did before. She stated,

Do I think the expectation that all students will reach proficiency by 2014 is realistic? No. But I can tell you that we are certainly taking more care in addressing the academic needs of all of our students, each and every one of them, than we ever did before.

The increased emphasis on the academic success of all students led the school in this study to look at student academic progress in new ways.

Minnesota schools that fail to meet the mandated academic achievement levels find they are faced with the task of creating a plan for how they intend to make improvements. The review of literature provides a number of current examples of reform efforts that have been successful to varying degrees. Should a school fail to meet AYP for three or more years in Minnesota, they are forced to select a specific school reform model to follow. The participants in this study were afforded flexibility in establishing their plan as they began to make significant changes before they would be forced to select a specific reform model. The principal expressed agreement with Wheatley (1999), who asserts organizations are rarely if ever changed by imposing a model developed elsewhere. For schools to be successful in making positive changes, schools must look internally. The principal in this study did just that; she looked within her own elementary school building and worked collaboratively with her staff to provide a clear, systematic plan for the teachers to follow. In doing so, she gained a tremendous amount of respect from the teachers and provided remarkable learning opportunities for the students.

Schmoker (1999) states, “We talk as though we want results, but we generally fail to make the kind of systematic, organized effort that produces them” (p. 4). It would appear the elementary school in this study beat the odds; they were able to make the kind of systematic, organized effort that achieved results. The principal and teachers managed to do this utilizing a combination of factors that specifically met the needs of their particular school setting. These factors were presented in detail in the previous chapter and include (a) collaboration, (b) trust, (c) clear and measurable expectations, and (d) systematic use of data to inform instruction. This systematic use of data to inform instructional planning and goal setting is firmly grounded in the research on school reform (Coyne, 2006; Education Commission of the States, 2000; Gross et al., 2009; Newman et al., 1997; U.S. Department of Education, 2002; Williams & Kirst, 2006). The process the principal and teachers used was successful, in part, because it had been created from within the system it would be serving. It was well grounded in research but also designed specifically for the needs of the educators and students it was serving. The process was set in motion by the school leader, in this case the principal, and led to an ongoing culture of collaboration and systematic data use.

“Leadership is second only to classroom instruction as an influence on student learning” (Louise et al., 2010). This statement emphasizes the importance of the role of the principal in this study. The principal used her leadership to bring together her teachers to work in a collaborative setting. David (2009) reminds us this is not always the case,

Teacher collaboration does not occur naturally; it runs against prevailing norms of teacher isolation and individualistic approaches to teaching. Without specific training, teachers often lack the necessary collaboration skills as well as skills in collecting data, making sense of the information, and figuring out its implication for action. (p. 88)

The principal in this study gained the trust of her teachers by asking for their input when making decisions, on both small-scale and large-scale levels. The teachers quickly learned the principal valued their input and their ideas as professionals. This reciprocal trust was critical for collaboration to take place. A significant amount of research supports the efforts of leaders developing a high level of trust when embarking on school reform efforts (David, 2009; Earl & Katz, 2006; Ysseldyke et al., 2003). Earl and Katz (2006) define a process of creating a culture of inquiry by which the leader involves others in interpreting and engaging with the data, using data to create collective meaning, providing time for educators to work with data, and providing a trusting collaboration where educators can support and critique one another in a professional manner. Each of these factors was in play as the principal in this study led her teachers through the process of systematically using data to make decisions that led to increased academic performance. The student data available to teachers, in conjunction with the clear goals collaboratively established, allowed the school to function as a community of educators focused on the goal of leaving no child behind.

Conclusions

The American education system is facing unprecedented demands for accountability. There is an exorbitant amount of pressure on school administrators and teachers to find ways by which they can increase student achievement on the millions of state mandated assessments required by NCLB. When schools fail to reach the rigorous academic standards placed before them, their schools are placed *in need of improvement* sanctions. With nearly half of the schools in Minnesota facing this situation, and with many schools sure to follow, it is vital for teachers and administrators to be able to look to the research for ways in which low-performing schools have been able to beat the odds and be removed from AYP sanction status. The purpose of this study was to add to that body of research, to provide yet another account of what one school did to increase academic achievement and meet AYP targets.

While mindful of the mistakes of thinking that one solution, one method, will be appropriate for all schools in all situations, the results from this study provide evidence driven framework for the use a combination of factors that, used in conjunction, provide conditions that can lead to success. There is currently an extensive body of research available regarding school reform efforts (Coyne, 2006; Darling-Hammond, 1996; Elmore, 2006; Gross et al., 2009; Keltner, 1998; Newman et al., 1997; Schmoker, 1999; Smith & O'Day, 1990; U.S. Department of Education, 2002; Williams & Kirst, 2006).

This researcher is cautious about using the term *school reform*, as it can have an array of meanings depending on the context in which it is used. In this study, the reform

focus was clearly aimed at academic achievement. In his book, *Results: The Key to Continuous School Improvement*, Schmoker (1999) supports the notion real reform in education should always have as its goal increased student achievement. Schmoker (1999) argues three components must be in place: (a) teamwork, (b) goals, and (c) selective and judicious use of data. When these three components are combined they constitute a powerful force for improvement (Schmoker, 1999). These three components fit together nicely with the current body of research supporting the use of PLCs.

The literature review provides an in-depth explanation of the prevalent term, *professional learning communities* in school reform literature. PLCs are identified by three qualities: (a) a distinct focus on student learning for all students, (b) members working collaboratively in the effort to promote learning for all students, and (c) a clear focus on results.

The major findings from this study support the current research. The distinct focus for this principal and her teachers was on student achievement. The site had a clearly defined goal, which was informed by their judicious use of data, and focused on measurable results. They worked collaboratively in a trusting community to promote learning and to improve instruction for students. These factors in conjunction provided the framework necessary for increased student achievement to be realized. These factors are clearly supported by the research in the field of school improvement and professional development (Darling-Hammond, 2004; Darling-Hammond & Richardson, 2009;

DuFour, 2004; DuFour et al., 2004; Garet et al., 2001; Holloway, 2003; Hord & Hirsh, 2009; Reeves, 2010; Schmoker, 1999; Sparks & Hirsh, 1997).

Recommendations, Suggestions, and Considerations

The aim of this research has always been descriptive: to describe in detail the ways in which one school faced the challenge of increasing academic achievement in a low-income, high-needs school. The researcher cautions against these findings being interpreted as a prescription as no two schools are exactly alike. Each school faces its own challenges and needs based on the population of students it serves, the public demands pressed upon them, and the myriad of factors unique to that school. The findings of this study may be of use to other educators facing similar situations inasmuch as they provide factors that when collectively utilized and implemented may indeed lead to increased student achievement. It is with this in mind that the researcher offers recommendations, suggestions, and considerations.

Implications to consider: Principals. School leaders need to establish a trusting, collaborative environment to study achievement data. “The best thing to invest in right now is collegiality. The number one skill that teachers will need is to be team-based, collegial, sharing their knowledge and wisdom” (November, 1998, p. 6). Participants in this study unilaterally agreed collaboration was the single biggest factor in their school’s ability to increase student academic achievement. But a trusting, collaborative environment does not happen by itself. School leaders need to create environments that promote trust and collaboration. Principals must seek input from their teaching staffs and

build upon the unique strengths of each teacher. Principals need to honor the expertise and experience of the teachers and provide specific opportunities for them to have their voices heard in the educational conversations taking place within the school building. Time is always a scarce commodity in schools, but for trust and collaboration to occur, time must be provided for teachers and principals to come together in small groups to work with one another. Using data to create collective meaning is not a quick or easy process. A significant amount of time is needed to think about and discuss important issues; to consider the data points; and to argue, challenge, reflect, and make plans. Principals need to make sure time is built into the calendar in such a way as to provide quality, systematic opportunities to work together with teachers to support the ongoing efforts toward increased academic achievement.

Educators need to engage in systematic use of data to inform decision-making. Educators must be data literate. Principals and teachers must be able to use multiple types of data to inform decisions that lead to higher student achievement. Principals need to serve as leaders in this capacity, exemplifying the power of data to inform decisions. Principals need to be able to gather, analyze, and synthesize multiple forms of data. The principal in this study, without necessarily realizing it, followed a process that aligns with the recommendations of Bernhardt (2004) which follows a series of nine steps:

(a) identify the problem, (b) describe hunches and hypotheses, (c) identify questions and data, (d) analyze multiple measures, (e) analyze political realities and root causes, (f) develop an action plan and resolution, (g) implement the action plan, (h) evaluate and

implement, and (i) improve the process. Within this process, it is imperative for principals to be able to use descriptive statistics, disaggregate results into needed subgroups, engage in gap analysis, graph data in multiple ways, and accurately and succinctly report the data to a variety of audiences. It is essential principals feel comfortable with the data and stay current as changes are made within the accountability systems they are using. Data are useless until they can be analyzed within the context needed.

Collaboratively using data to inform decision making is an ongoing process. Time must be set aside to examine data and plan for instructional improvement. Collaborative data use also requires teachers have access to organized, accessible data with which to make instructional decisions. No school is as good as it could be; data can be the vehicle for identifying what needs to happen next and instill urgency in creating and implementing plans of action. School leaders must provide training for teachers so they feel confident in their abilities to use data well.

Schools should be guided by clear, measureable goals. Educators must embrace the idea that the fundamental purpose of school is learning, not teaching, which is an enormous distinction (DuFour, 2004). Learning is measurable and should be the focus for principals. When the principal and teachers come together to focus on student learning, the goal is unmistakable: students need to achieve. The principal must be the instructional leader, supporting teachers as they work toward the goal of increasing

student learning. When this concept is embraced, principals and teachers know what is expected of them.

School leaders need to work in partnership with their teaching staffs to ensure clear, measurable goals are created, goals that enable all students to strive for a high level of academic success. Educators need to critically examine the data to determine disparities between targeted goals and attainment toward those goals. This process of gap analysis provides the information needed to monitor progress toward the goals and highlights the areas most in need of attention. When groups of people look carefully at the data and have honest conversations about their meaning and application, they can move toward a shared vision of action based on the insights from those data (Earl & Katz, 2006). The particular ways in which this may happen will certainly depend upon the specific factors within each school building.

Implications to consider: Teachers. “Evidence of student learning can be a powerful tool to guide professional development and teacher collaboration” (Holloway, 2003, p. 85). Teachers cannot do their best teaching in isolation. Teachers need to request time to work in collaboration with one another. They need to partner with their school administrators and advocate for professional development time that will provide them opportunities to sit down together and focus on student work and student achievement. Schmoker (2006) encourages teachers to work in collaboration with one another, using feedback and data to adjust instruction as necessary. Too often, teachers are denied the important opportunity to learn from their results, to use data on student

learning to make instructional changes. Focusing on student learning rather than teaching forces teachers to think about what it is they expect all students to learn, how they will know when students have achieved the intended knowledge and skills, and how they will respond when students experience difficulties (DuFour, 2004). This shifts the focus away from how teachers teach, which can lead to teachers working in isolation within their classrooms, to focusing on how well students are learning, which can best be accomplished by a team of teachers working together. When teachers come together, they should focus their conversations on how students are achieving in their classroom. They should review student work collaboratively, and use the data to inform their decision making. When the data suggest additional needs, teachers can work with one another to create alternative pathways to success. That being said, it is essential for teachers to be data literate. In the current data-rich environment, teachers must be able to use multiple types of data to inform decisions that lead to higher student achievement. Teachers need to develop the skills necessary to ask the right questions, seek out the appropriate data, disregard irrelevant data, identify themes, recognize longitudinal patterns, and use gap analysis results to focus instructional decisions and to communicate results effectively (Bernhardt, 2004; Earl & Katz, 2006).

If teachers are going to use data collaboratively, there must be time set aside specifically to examine the data and plan for instructional improvement. Teachers must utilize this time to indeed focus on collaborative analysis of student work and other data to inform their instructional practices.

Teachers must also embrace the idea that the fundamental purpose of school is student learning (DuFour, 2004). Teachers must take a large share of responsibility for their students' learning. The goal should be increased student achievement, so when teachers come together they are focused on solving problems and not on passing judgment. This focus on student results can and should provide a clear target for teachers to use as they plan their instruction and monitor progress toward that target. This provides teachers the opportunity to focus on each student individually, as well as a systematic manner in which to examine the trends of specific student groups. When the teacher knows where students are, it becomes easier to determine areas that need additional attention.

Implications to consider: District policy makers. School district policy is set by local school boards made up of concerned citizens who may have little, if any, experience or expertise in teaching and learning, accountability, and/or school policy. Therefore, it is vital for school district policy makers to be well versed in the local, state, and federal accountability systems upon assuming their role as a school board member. They need to be familiar with the processes by which students are assessed, how those test scores are reported, and the implications that arise from the results of those tests. It is important for school board members to take advantage of the ongoing training provided by their state and national organizations to better understand the implications of accountability policies on their school district. It is also essential for the local school board to work closely with the school administrators to identify specific needs of the

school district and to find ways to support those needs. Local school policy makers could benefit from becoming familiar with the current research supporting the need for professional development time for teachers to work collaboratively. Providing additional time for teachers to work together often requires financial support from the school district, therefore the importance of this time needs to be understood by policy makers. It would also benefit local school policy makers to embrace the importance of shared decision making. This study's findings support the notion that when a school can work together to create specific, measurable goals focused on student learning, a cohesive vision for all stakeholders is possible.

Implications to consider: State policy makers and state departments of education. This study used the results of the MCAs as one benchmark in determining academic achievement. Participants in this study commented the results from these assessments can and do provide important information on how well students are achieving. These assessments, however, provide one indicator of success. The Minnesota Department of Education needs to continue to investigate ways in which school accountability can be determined using a variety of measurements. Schools serving disproportionately high-needs populations face compounding factors that limit their ability to continuously meet annual progress targets. When these targets are structured around one achievement score, the stakes for one assessment are very high. Research supports the need for additional measures to more accurately reflect a student's

level of academic attainment (DuFour, 2004; Earl & Katz, 2006; Love, 2009; Schmoker, 2006).

Those individuals who create state policy must recognize the need for additional funding to support the work of educators. This study found that increased professional development time for teachers to collaboratively use data was a key factor in increasing student academic achievement. In addition, teachers and administrators must be provided with the necessary skills to use data to make well-informed decisions. Both of these require financial assistance from the local, state and federal levels. Schools cannot continue to do more and more with less and less funding.

Implications to consider: Federal policy makers. NCLB has helped focus the conversation about school reform on student achievement. It highlights the achievement gap and for the first time schools are reporting information about how they are serving all students (U.S. Department of Education, 2010a). But the current NCLB Act still has many flaws. It provides states with incentives to lower standards. It mislabels schools as failing and imposes “one size fits all” interventions, and it does not do enough to recognize student growth or school progress. President Obama intends to address these shortcomings by asking states to set standards that prepare students for college and careers, by creating an accountability system that recognizes and rewards growth and progress, by providing flexibility to state and local educators to create local solutions, and to support interventions for the lowest-performing schools that also have not demonstrated any progress (U.S. Department of Education, 2010a).

Concerns regarding the effectiveness of traditional professional development practices, often one-day workshops with little or no follow-up, were discussed in the review of the literature (Cotton, 2003; Darling-Hammond, 2004; Elmore, 2006; Gross et al., 2009; Keltner, 1998; Schmoker, 1999; Smith & O'Day, 1990; Sparks & Hirsh, 1997). Even though substantial research now supports the relative ineffectiveness of these types of practices, these same comprehensive school reform models, or at least *contracting with an external agent*, still remain as one of the recommended reform options available to schools that are required to restructure because they are in their fifth consecutive year of failing to meet AYP under NCLB (Gross et al., 2009).

This study offers evidence that a “one size fits all” approach to increasing student achievement is not always the answer. The school in this study looked within, and found that when the teachers and principal worked together systematically to use the data available to them and then used those data to set high, measureable goals for their students, they were able to achieve success. There is no one right answer to improve all schools. Each school has unique needs and circumstances. This supports the current research in the field of professional development, when schools work collaboratively. A federal mandate regarding the way in which schools should improve is not necessary. Accountability systems should focus on progress and provide necessary financial support for progress to occur. Schools cannot and do not have the same needs, therefore decisions made at the local level can more readily address the needs of a particular school. Federal policies should provide a framework for the ways in which schools will

be accountable for student learning, but should leave the specific logistics of those accountability systems to the state and local policy makers.

Things to consider: Teacher and administrator training institutions.

Teachers and administrators need to be well equipped to use data in their work.

Institutions of higher education must provide specific, targeted instruction on how to gather, utilize, understand, and explain data. As accountability measures continue to increase, so does the need for data literate teachers and administrators. Higher education institutions that provide educational licensure programs need to examine their current programs to insure that essential outcomes in assessment, measurement, and evaluation are in place. When teachers and principals leave these programs they should be well versed in data use and accountability systems. This background will provide educators the necessary skills and confidence to use data to continuously improve student achievement.

Minnesota has addressed concerns regarding new teacher readiness by establishing the Standards of Effective Practice for Teachers (2009). These standards are unique to Minnesota, but are also aligned with the Interstate New Teacher Assessment and Support Consortium (InTASC) (Council of Chief State School Officers, 2010). The Standards of Effective Practice for Teachers are comprised of ten standards: (a) subject matter; (b) student learning; (c) diverse learners; (d) instructional strategies; (e) learning environments; (f) communication; (g) planning instruction; (h) assessment; (i) reflection and professional development; and (j) collaboration, ethics, and relationships.

Specifically important to the recommendations from this study is standard eight, assessment, which requires that teachers “understand and be able to use formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the student” (“Standards of Effective Practice for Teachers,” 2009, n.p.). This includes being able to

assess student performance toward the Minnesota graduation standards, monitoring teaching strategies and behaviors in relation to student success to modify plans and instructional approaches to achieve student goals and to be able to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning. (“Standards of Effective Practice for Teachers,” 2009, n.p.)

Standard nine, reflection and professional development, requires that the teacher “be a reflective practitioner who continually evaluates the effects of choices and actions on others, including students, parents, and other professionals in the learning community, and who actively seeks out opportunities for professional development” (“Standards of Effective Practice for Teachers,” 2009, n.p.). Standard ten, collaboration, ethics, and relationships, requires teachers to be able to communicate and interact with others to support student learning including understanding data practices and collaborating with other professionals to improve the learning environment for all students. Teachers who are trained under the Standards of Effective Practice for Teachers may well possess skills and understandings in these areas that their colleagues do not, simply based on when their

teacher licensure was obtained. Schools in Minnesota would be well served to find ways in which to provide ongoing opportunities for all teachers to have access to training and mentoring in those areas outlined in the Standards of Effective Practice for Teachers.

Things to consider: Researchers. It appears as though state and federal accountability measures are here to stay, at least for the foreseeable future. This means that, over time, many schools may find themselves unable to reach mandated academic proficiency targets. Educators in these schools will need to have research available to them describing the ways in which other schools were able to increase academic achievement. This study focused on one low-performing, high-needs elementary school. The findings from the study supported current research in the field specifying factors that lead to increased academic achievement.

Future researchers may find it prudent to commence a study on a larger scale, using data from a larger number of schools to determine the factors that were critical to their success. Future researchers may also find value in a case study of a longitudinal nature that follows schools for many years, to better understand the long-term implications of those factors involved in school changes.

There also exists an opportunity to go beyond the scope of this research study and investigate, specifically, the ways in which teachers are adapting their day-to-day instruction based on the analyses of data. Observing teachers in classrooms as they are instructing students could provide key insights into the ways in which teachers alter instruction based on analysis and interpretation of data.

And finally... “It’s this simple: schools won’t improve until the average building leader begins to work collaboratively with teachers to truly, meaningfully oversee and improve instructional quality” (Schmoker, 2006, p. 29). The results from this study are simple in nature, but perhaps difficult in practice. When schools embark on the journey to increase student achievement, they need to be intentional about creating a culture of collaboration and trust. They need to use the data available to them to systematically inform their decision making processes. When these factors come together in just the right way, there is a real opportunity to, indeed, leave no child behind.

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Appendix A

Invitation Letter – Principal

39 Molly Lane
Esko, MN 55733

Name and Address of Recipient

Dear (Principal of Elementary School):

I am writing to ask you to share your experiences with me regarding the ways in which you have successfully led a school out of AYP. I am asking you to consider participating in a research study regarding the ways in which school leaders and teaching staffs use data to inform their decision making process to ultimately increase student achievement.

My name is Brenda Fischer and I am currently an Ed.D. candidate at the University of Minnesota, Duluth. I am also an instructor in the Education Department at UMD. I am in the process of writing my dissertation and feel that you would be an excellent candidate to use in this research process.

My research seeks to inform practice by taking an in-depth look at the ways in which school leaders and teachers can use data within their schools to inform their decisions and increase student academic achievement. As more and more schools are faced with sanctions under NCLB it is imperative that we learn from and with one another. The ways in which you have shown leadership in this area will be a tremendous asset to others who are facing the same situation elsewhere.

I am asking that you be willing to sit down with me, face-to-face, in your office, at your convenience and talk candidly about the ways in which you were able to make significant improvements in your school when your school did not make AYP. I will schedule these interviews in September or October, whenever it is most convenient for you.

If you are willing to join me in the important educational venture, I encourage you to contact me at your earliest convenience. I can be reached at 218-330-2611 or by email at bfischer@umn.edu.

I hope to hear from you soon!

Sincerely,

Appendix B
Invitation Letter – Teachers

39 Molly Lane
Esko, MN 55733

Name and Address of Recipient

Dear (Teacher at Elementary School):

I am writing to ask you to share your experiences with me regarding the ways in which your school made its way out of not making AYP. I am asking you to consider participating in a research study regarding the ways in which school leaders and teaching staffs use data to inform their decision making process to ultimately increase student achievement.

My name is Brenda Fischer and I am currently an Ed.D. candidate at the University of Minnesota, Duluth. I am also an instructor in the Education Department at UMD. I am in the process of writing my dissertation and feel that you would be an excellent candidate to use in this research process.

My research seeks to inform practice by taking an in-depth look at the ways in which school leaders and teachers can use data within their schools to inform their decisions and increase student academic achievement. As more and more schools are faced with sanctions under NCLB it is imperative that we learn from and with one another. The ways in which you have shown leadership in this area will be a tremendous asset to others who are facing the same situation elsewhere.

I am asking that you be willing to sit down with me, face-to-face, on two occasions that are convenient for you, and talk candidly about the ways in which you were able to make significant improvements in your school when your school did not make AYP. I will schedule these interviews in September and October, whenever it is most convenient for you.

If you are willing to join me in the important educational venture, I encourage you to contact me at your earliest convenience. I can be reached at 218-330-2611 or by email at bfischer@umn.edu.

I hope to hear from you soon!

Sincerely,

Appendix C

Principal Interview Guide

Principal Interview Guide

The following questions will guide the first interview:

1. Tell me about yourself. Why did you decide to become an educator?
2. Tell me about your career. What were the experiences that led you to this position?
3. When did you become a principal in this school? Please tell me how that happened.
4. Tell me about this school. What makes it unique, or different from other places?
5. What have been the highlights of your working in this building? Have you had to overcome obstacles? What do you think are your biggest accomplishments here?
6. Tell me about how you lead this building? Why have you chosen to lead this way? Are you leading in the manner you wish to lead?

The following questions will guide the second interview:

1. Tell me how you first learned that your school had not made adequate yearly progress.
2. Tell me about your first, second, third reactions to learning this news.
3. How did you decide to frame the school status to the staff?
4. Did you have a plan for addressing the staff?
5. Did you have a plan for addressing AYP status?
6. What were your goals for addressing the AYP status?

7. What did you see as strengths in the building in dealing with the AYP status and what did you assume to be obstacles.
8. Before the process began what do you know about the use of data and assessment results at your school?
9. Tell me about the process.
10. Which types of data were most valuable to you and your staff in making decisions? What specific assessments did you use? What specific data sets did you use?
11. What processes were effective and what processes were less effective in the use of data for instructional and curricular decisions?
12. Tell me about your staff during this data-informed process.

The following questions will guide the third interview:

1. You led your school through the first year, which of those processes did you continue and why?
2. When you look back on that first year, what would you have done differently?
3. Looking back now, what changes have you seen as a result of the choices that you made regarding the use of data?
4. What advice would you give a school in your situation?
5. What would you like to see happen so that your teachers could better utilize the data available through assessments?

6. What additional information would you like to have available to you?
7. Do you have any final thoughts that you would like to share?

Appendix D
Teacher Interview Guide

Teacher Interview Guide

The following will guide the first interview:

1. Why do you teach?
2. How long have you been teaching at (name of school)?
3. Tell me about this school. What makes it unique, or different from other places?
4. Tell me about your role here at this school.
5. How did being identified as not making adequate yearly progress affect your school?
6. What did you see as strengths and obstacles to addressing AYP status in your school?
7. Describe the ways in which your principal led the school improvement effort after your school was identified as not making AYP.
8. Describe the role you had during this process.
9. What data did you use? How was it used? Was it useful?
10. What processes did you find valuable? Which ones were not as valuable?

The following will guide the second interview:

1. Last time you shared some of the processes that you found to be valuable as well as some that were not as valuable. Which of those processes did you continue in your practice and why?
2. What more do you wish could have happened and what more information would you like to be provided in order to make curricular and instructional decisions?
3. What advice would you give to any school leader trying to emerge from *needs improvement* status?

Appendix E
Informed Consent Form

Consent Form
[Using Data to Inform Decision Making]

You are invited to be in a research study investigating the ways in which an elementary school principal and his/her staff used data to inform decision making which ultimately led to increased academic performance.. You were selected as a possible participant because you are an elementary school principal who has used data to inform decision making in your school. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by: Brenda Fischer through the University of Minnesota Duluth

Background Information

The purpose of this study is to examine the processes and procedures that a school leader, together with his/her teaching staff, used to systematically gather and analyze data. It also intends to investigate how they used the data to engage in ongoing, systemic reform efforts that led to increased academic achievement resulting in the school meet Annual Yearly Progress.

Procedures:

If you agree to be in this study, I would ask you to do the following things:

Engage in three interviews, with each interview lasting approximately 60 minutes in length.

Submit a list of teachers who were involved in the gathering and analyzing of data during the reform efforts.

Review the transcript of your interview to verify accuracy.

Risks and Benefits of being in the Study

There are no perceived risks involved with participating in this study.

By sharing your experiences regarding your use of data to inform decision making, you are adding to the understanding of this process in educational settings. Others may well gain from the experiences that you share.

Compensation:

There will be no compensation for participating in this study.

Confidentiality:

The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify a subject. Research records will be stored

securely and only researchers will have access to the records. All digital recordings will be for the sole use of the researcher and will not be shared.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is: Brenda Fischer. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at:

Brenda Fischer

bfischer@d.umn.edu

218-726-8051 Office
218-330-2611 Cell

111 EduE
Department of Education
University of Minnesota-Duluth
Education Endazhi-gikinoo'amaading
412 Library Drive
Duluth, MN 55812-3029

You may also direct questions or concerns to Brenda Fischer's advisor:

Dr. Joyce Strand
218-726-7233
150 EduE
Department of Education
University of Minnesota-Duluth
Education Endazhi-gikinoo'amaading
412 Library Drive
Duluth, MN 55812-3029

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.

Signature: _____ Date: _____

Signature of parent or guardian: _____ Date: _____
(If minors are involved)

Signature of Investigator: _____ Date: _____