THE IDAHO STATEWIDE SYSTEM OF SUPPORT: SCALING UP WHOLE-SYSTEM REFORM IN A RURAL WESTERN STATE

by

Steven M. Underwood

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Steven M. Underwood

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The following individuals read and discussed the dissertation submitted by student Steven M. Underwood, and they evaluated his presentation and response to questions during the final oral examination. They found that the student passed the final oral examination.

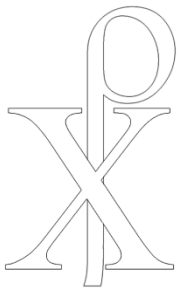
William Parrett, Ph.D.	Chair, Supervisory Committee
Jonathan Brendefur, Ph.D.	Member, Supervisory Committee
Ross Burkhart, Ph.D.	Member, Supervisory Committee
Marybeth Flachbart, Ed.D.	Member, Supervisory Committee
Evelyn Johnson, Ed.D.	Member, Supervisory Committee

The final reading approval of the dissertation was granted by William Parrett, Ph.D., Chair of the Supervisory Committee. The dissertation was approved for the Graduate College by John R. Pelton, Ph.D., Dean of the Graduate College.

DEDICATION

I dedicate this dissertation to my beautiful wife, Dawn, and my daughter, Eva. Dawn, you have sacrificed countless days, nights, weekends, and more over the past few years to support me. Without you, I would not be who I am, let alone where I am today. Thank you for your relentless love, grace, and encouragement to keep going. You believed in me, even when I did not believe in myself. I am excited to have reached the end of this adventure so that we can embark together on whatever new journey awaits us. I love you, I thank God for the wonderful woman that you are, and I appreciate you more than words can say.

To my darling daughter, Eva, I have been working toward this since you were just 9 months old. For the past 5 years, you have always been such a gracious little girl when you wanted simply to play with Papa, but I had to go and do my "homework." I look forward to spending much more time with you. I love you, and I am proud to have a daughter who is as beautiful, sweet, and smart as you.



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AUTOBIOGRAPHICAL SKETCH

Steve Underwood is the Director of the Statewide System of Support in the Idaho State Department of Education. In this role, he leads a team responsible for the programs and support structures available to assist schools and districts in the process of systemically improving their professional practices. He has 17 years of experience in the field of education and has served as a teacher, instructional coach, and technical assistance provider in roles that have provided leadership in a variety of areas, such as literacy, action planning, and assessment and data utilization. Prior to his current role, Steve was a member of the Idaho Reading First school improvement team and supported school and district leaders in systemically improving student outcomes through evidence-based literacy instruction. Steve has also served as a design team member for the National Network of State School Improvement Leaders through a partnership with the Council of Chief State School Officers and the National Center for Innovation and Improvement. Steve holds a Master of Arts in Education and a Bachelor of Arts in Biblical and Theological Studies from Biola University.

ABSTRACT

The Idaho Statewide System of Support (SSOS) assists schools in meeting state standards for all students. In 2009, it created and implemented a revised theory of action which emphasized improvement planning and capacity-building support programs. This study examined the impact of the SSOS in general and its Idaho Building Capacity (IBC) Project in particular on Reading and Mathematics outcomes for students who are economically disadvantaged in Title I funded schools. A Pooled Interrupted Times Series design was employed to examine possible changes in the level of achievement or rate of improvement in schools. Within-subjects comparisons of trends before the intervention (2006-2007 through 2008-2009) were made to trends during the intervention (2009-2010 through 2011-2012). The study selected schools using a purposeful, stratified sample and added a comparison group time series to strengthen the design.

There were no significant differences found between SSOS and IBC treatment groups and their respective comparison groups. However, differences were found in within-subjects performance. Before the intervention, all schools consistently improved at a faster rate than during the intervention. In every case, SSOS and IBC treatment and comparison groups demonstrated unexpected negative changes from their projected slopes, and their rates of improvement slowed from 2009-2010 through 2011-2012.

The implications of this unexpected pattern in the data led to additional exploration of state data which examined the achievement outcomes of all Idaho Title I

schools to determine if the negative changes in slope were an artifact of a systemic change in the larger population. The study found that the population of Idaho Title I schools did in fact demonstrate a significant negative change in slope in both Reading and Mathematics, which co-occurred with the interventions of this study and provides evidence that an unknown systemic change may have suppressed school improvement trajectories. As a result, the outcomes of the original research questions may not be conclusive since the degree to which the systemic change impacted treatment schools could not be discerned.

Considering this additional finding, SSOS and IBC treatment groups demonstrated promising trends. SSOS and IBC treatment groups had rates of improvement that were consistently greater than comparison schools during the intervention period. This marked a reversal from previous performance since comparison schools had improved faster than treatment schools during the pre-intervention period in three of four instances. Also, the differences between the rates of improvement grew to be consistently larger during the intervention period, consistently favoring the SSOS and IBC treatment groups, than during the pre-intervention period. This possibly meant that SSOS and IBC treatment groups were closing the achievement gap more quickly than before in relation to comparison schools. However, all schools had slower overall rates of improvement during the intervention period and in some cases exhibited declining achievement. Therefore, since trend data indicate that all Idaho Title I schools apparently experienced an unknown systemic change which negatively impacted their ability to maintain projected rates of improvement, these patterns in the data may indicate that the

SSOS and IBC interventions helped to minimize the negative impact of the larger statewide influences.

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CHAPTER 1: INTRODUCTION

Public schools in the United States reflect the heart and soul of its society. They are the nation's hope for an educated, democratic citizenry as well as the workhorse that drives the country's economic engine, producing the people who will be the workforce of tomorrow. In short, they are part of a very important societal equation that drives the nation's ability to remain a free and prosperous people. As a result of this important role, America's educators often find themselves at the core of an ideological battle that is grounded in beliefs about what is needed to ensure the quality of life for which the American public hopes and dreams. This national struggle focuses squarely on the improvement of schools and the educational opportunities that they provide to students, especially students that come from disadvantaged circumstances, such as poverty, in preparing them to be ready for college entrance and a career beyond school.

As a national issue, however, school improvement efforts are often affected by many important layers of governance due to the fact that the United States operates as a federal system, or one in which the power is shared between federal, state, and local agencies. Over the past four decades, researchers have conducted numerous studies of school-level improvement efforts, with emerging attention also given to agency-wide improvement efforts in school districts. Gaps remain, however, in understanding how states or the entire nation can attain large-scale improvement of the educational system. Since the Tenth Amendment to the United States Constitution reserves public education

as each individual state's right to govern, an important issue of the present time is to better understand how states might be able to scale up efforts to improve educational outcomes for all students in K-12 public schools system core subject areas. Therefore, this study will attempt to evaluate the impact of the Idaho Statewide System of Support theory of action on the improvement of student achievement in reading and mathematics in Idaho's public schools over the course of three consecutive school years (i.e., 2009-2010, 2010-2011, and 2011-2012) as measured by the percentage of students in schools that scored proficient or advanced on state tests.

Background

The field of school improvement has been growing with steady momentum since the 1960s. The primary reason for this is that many view the improvement of educational outcomes as a Civil Rights issue necessary for guaranteeing successful participation in the American society and economy. As a result, national and state policy efforts have increasingly emphasized school reform by utilizing various policy levers as tools to change the educational system. A notable policy lever is the No Child Left Behind Act of 2001 (NCLB), which brought specific, far-reaching expectations and consequences for school accountability, and which also set the groundwork for the requirement of a Statewide System of Support that will be examined in this study. More recently, since Congress did not reauthorize NCLB with an update to the legislation in 2007, when it was scheduled, the U.S. Department of Education has provided states with an opportunity to receive a waiver from certain accountability elements of NCLB. The flexibility waivers still require strong systems of accountability and support, but with a great emphasis on the lowest performing schools in a state.

School Improvement as a Civil Rights Issue

The emphasis on school reform can be traced to changes in American culture and societal expectations in the United States as far back as the 1960s (Redding & Walberg, 2008). During this time in history, public interest in civil rights resulted in changes to national policy perspectives. Racial tensions and economic worries led policy makers to rethink expectations at the national level for the country's educational system. Fears related to the Cold War and the concern that the United States might slip behind as the top global power, economically and militarily, added to the political momentum to improve public schools. The nation began to view education as a tool to both secure the nation's future as well as to meet the civil rights of those who had for so long been underserved (i.e., ethnic minorities, the economically disadvantaged, and students with disabilities). As a result of this shift in thinking, national leaders began using the policy levers available to them to promote a change in schooling at the state level. Because education is a state's right to govern under the Tenth Amendment, federal laws were put into place that offered something states would want (generally funding) in response for something the federal government wanted (generally changes in educational structures). This quid pro quo relationship began in earnest around the issues of national security and civil rights more than 40 years ago, and it has remained as a constant part of the federal-state school reform relationship to this day.

No Child Left Behind (NCLB)

The most recent iteration of the federal-state quid pro quo educational agreement is embodied in the No Child Left Behind Act of 2001 (NCLB), the signature education program of President George W. Bush and a bipartisan Congress. The authorization of

NCLB built upon Congressional experience with three decades of former federal policy. Title I, originally authorized under the Elementary and Secondary Education Act of 1965 (ESEA), was specifically designed to supplement the educational experience of students that were disadvantaged. The federal government offered states large sums of funding to redesign the schooling experience of the educationally disadvantaged. In order to attain its goals of educational equity, the federal government currently spends billions of dollars annually on the Title I program alone, which is the basic delivery system used for school accountability and reform, and this budget continues to expand annually. For example, in 1996, the annual federal Title I budget was $6,730,348,000 and expanded to over $14.5 billion in 2010 (U.S. Department of Education, 2000; U.S. Government Accountability Office, 2011). The allocation for Idaho was just over $50,000,000 in 2012. Furthermore, in 2012, the U.S. Department of Education provided states with the opportunity to seek ESEA Flexibility Waivers, for which states would have to submit new accountability plans that aligned with new federal priorities, such as adopting common standards, building accountability and support systems that turn around the lowest performing schools, and which raise expectations for educator evaluation (U.S. Department of Education, 2012). The reason states were willing to change accountability plans and align with new federal priorities that were not technically required was that ESEA Flexibility waivered key provisions in NCLB that have been widely unpopular. The larger context of NCLB remained linked to federal funding; freedom from certain components was conditioned upon acceptance of the Secretary of Education's new priorities. Therefore, although education is a state's right to govern, the federal government has purchased a sizeable share as a stakeholder and therefore has

considerable leverage because states and school districts have come to view Title I funding as an entitlement, or part of their regularly expected education budget. If a state or school district chooses to reject the federal requirements, the federal government has the right to withhold the funding.

Accountability and Support

With the onset of the No Child Left Behind Act of 2001 (NCLB), the U.S. Department of Education began to monitor states to ensure that they established robust accountability systems as well as systems of support for schools and districts that struggled to meet accountability targets. The authority to monitor and enforce the accountability and support systems was the result of the requirements of NCLB, which required that states set academic targets for each school and district, and subsequently hold them accountable by identifying any school or district that failed to meet those targets each year (No Child Left Behind Act of 2001, Section 1116). Since NCLB statute required the targets to rise to the expectation that 100 percent of students would be proficient in all core subject areas by 2014, states set trajectories toward that end. Some states set *incremental* trajectories that steadily raised from 2002 to 2014, others set *backloaded* trajectories that did not require as much progress in the first half of the timeline and then dramatically raised in the latter years, while still others blend the approaches by keeping targets low for the first few years, but then gradually raised from that point (Chudowsky & Chudowsky, 2008; Kinnaman, 2009).

States that set backloaded trajectories perhaps theorized that Congress would revise the NCLB targets prior to the 100 percent benchmark taking effect. For example,

the trajectory in Figure 1 sets the bar low until after 2007, when Congress scheduled the reauthorization for NCLB.

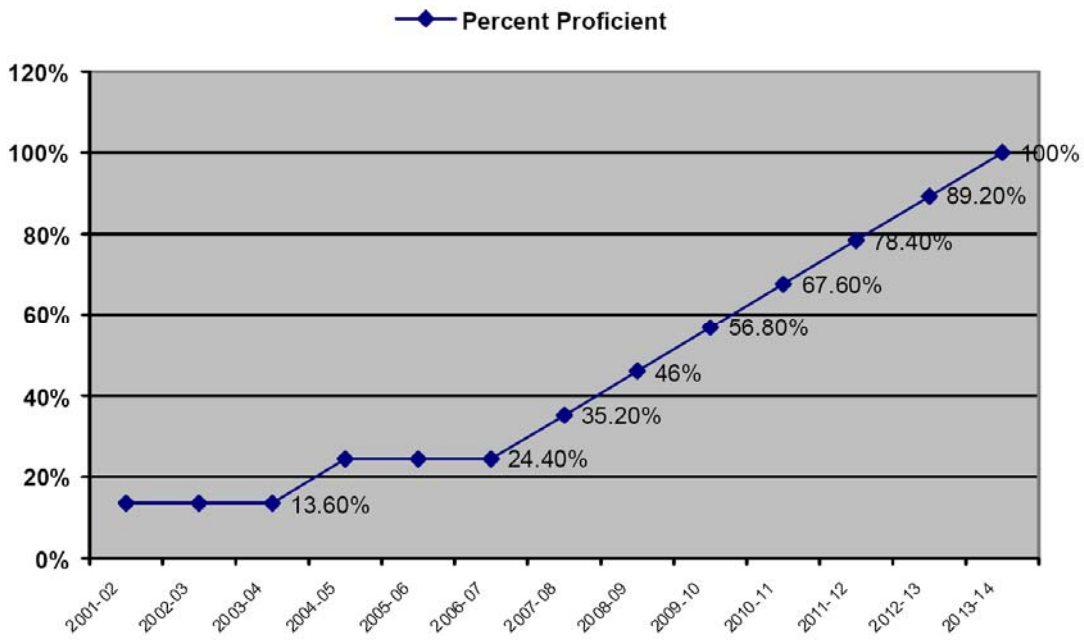


Figure 1. Example of Backloaded Trajectory (from Chudowsky & Chudowsky, 2008)

Meanwhile, states that set incremental trajectories gradually, as is displayed in Figure 2, raised the bar of expectations on schools in the state in order to allow time for schools to move from point A in 2002 to point B in 2014. Idaho falls into the category of setting incremental targets.

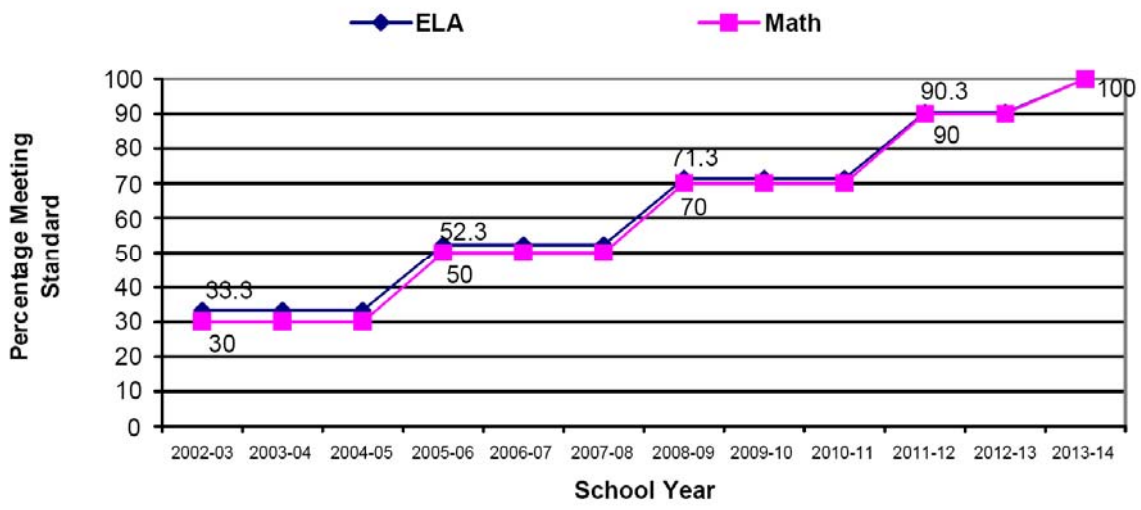


Figure 2. Example of Incremental Trajectory (from Chudowsky & Chudowsky, 2008)

Figure 3 demonstrates how an approximately even split existed among states in the target-setting approach taken. It is noteworthy that both approaches inevitably served as a dragnet that caught and pulled many schools and districts into school improvement status because the NCLB reauthorization deadline of 2007 passed and, as of the end of 2012, reauthorization had not occurred.

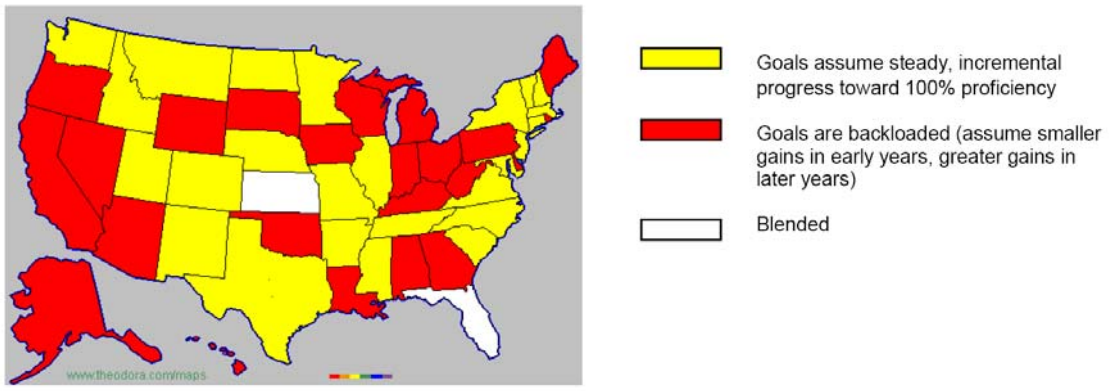


Figure 3. Distribution of AYP Trajectory Methods (from Chudowsky & Chudowsky, 2008)

Once states began to identify schools for improvement because of the failure to meet Adequately Yearly Progress (AYP) targets, the sanctions associated with school improvement status took effect, which reflected a timeline of progressively intensive requirements. The longer the schools remained in need of improvement, the stiffer the sanctions − from writing and implementing an improvement plan, to implementing a corrective action, and finally to restructuring the governance of the school. Idaho set steady and incremental targets, as seen in Figure 3, and the number of schools in improvement status increased steadily from 2002 to 2009, likely due to the steady rise in targets that Idaho had set, which made it increasingly more difficult to make AYP. However, the numbers of schools in improvement status in Idaho began to decline in 2009 (see Figure 4).

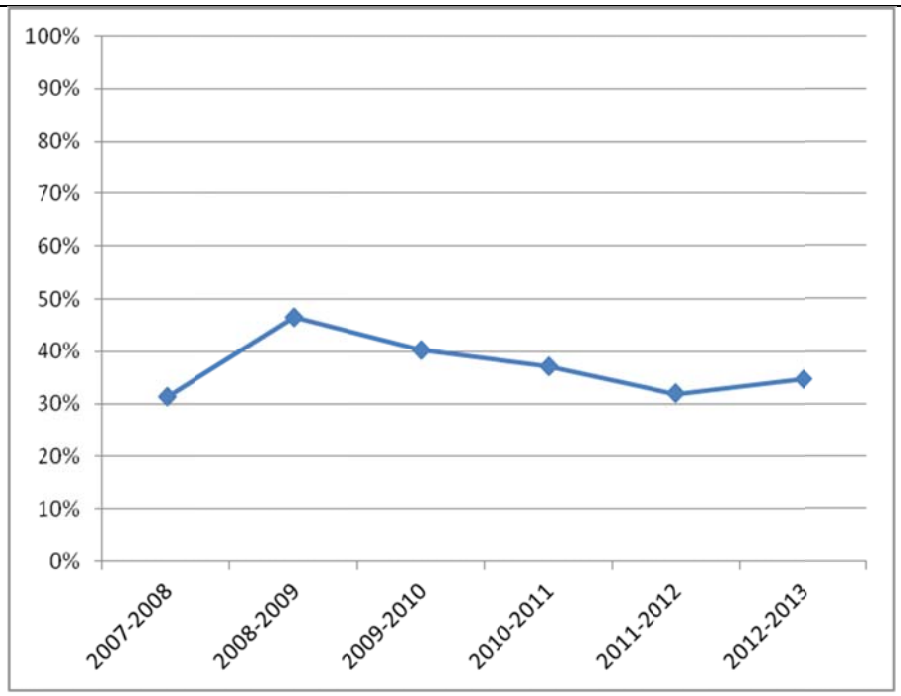


Figure 4. Percent of Idaho Schools Identified for Improvement

Note: Exact percentages prior to 2007 were not available for this graph. The number of total number of schools varies each year due to the opening and closing of schools. Therefore, the percentage is relative to each year individually.

In relation to each state's system of accountability, the law also required school districts to support their schools and states to support district school systems when identified as being in need of improvement. A provision in the law about school improvement specifically established the expectation that each state would:

> Establish a statewide system of intensive and sustained support and improvement for local education agencies and schools receiving funds under this part [Title I], in order to increase the opportunity for all students served by those agencies and schools to meet the State's academic content standards and student academic achievement standards. (No Child Left Behind Act of 2001, Section 1117(a)(1))

While this provision was in the law beginning in 2001, it did not receive significant attention in Idaho until 2005, and did not gain any real momentum until 2008 (U.S. Department of Education, 2005, 2008). Prior to that time, there was often a lack of clarity on the implications of school improvement status; based on anecdotal evidence from state Title I monitoring visits, many school and district leaders in Idaho did not even realize what the school improvement requirements were. When the U.S. Department of Education monitored the implementation of Title I in Idaho, this became a serious issue. Idaho was taking the money (the quid) but not fully living up to its end of the bargain with accountability (the quo) and therefore received some findings that resulted in conditions being placed on its federal funds (U.S. Department of Education, 2005). One of the pertinent findings was that Idaho had not developed a Statewide System of Support to provide technical assistance to schools and districts in meeting the academic improvement requirements of the law. Idaho began some initial efforts to correct this finding in 2005, but struggled to fund and fully develop what was required until late 2008. At the time of the second finding, the state had installed the pilot project for the Statewide System of Support in only 18 schools and in only one of three regions of the state.

Some might argue that the Statewide System of Support played a part in improving schools based on the decrease in the percentage of schools identified for improvement status (see Figure 4). However, the data are not comparable across each year because of changes in the overall numbers of schools from which the percentage is derived, and therefore it is difficult to use the metric of school improvement status as a determination of the progress of schools. Additionally, the Adequate Yearly Progress

(AYP) business rules changed in Spring 2008, and the U.S. Department of Education officially approved the new rules in 2009. This effectively gave schools credit more easily than before (e.g., schools could count some students who were not actually proficient as partially proficient in that Basic scores counted as 0.5% points), which may explain the downward identification trend among Idaho schools that is found in Figure 4. Interestingly, however, when looking at the schools that remained in School Improvement Status during the same time period, one can see a different picture. As illustrated in Figure 5, which depicts only those schools identified for improvement status in the given year, the ratio of schools that entered the more severe categories of Restructuring has increased nearly every year. Lastly, since Idaho was granted an ESEA Flexibility Waiver in September 2012, the school improvement designations were replaced with an entirely new performance framework and labeling system that does not equate with the system used from 2001 through 2011. Therefore, in order to determine the degree to which improvements have occurred over time in school performance throughout Idaho, one must look beyond the categorization of school improvement status as derived from AYP indicators.

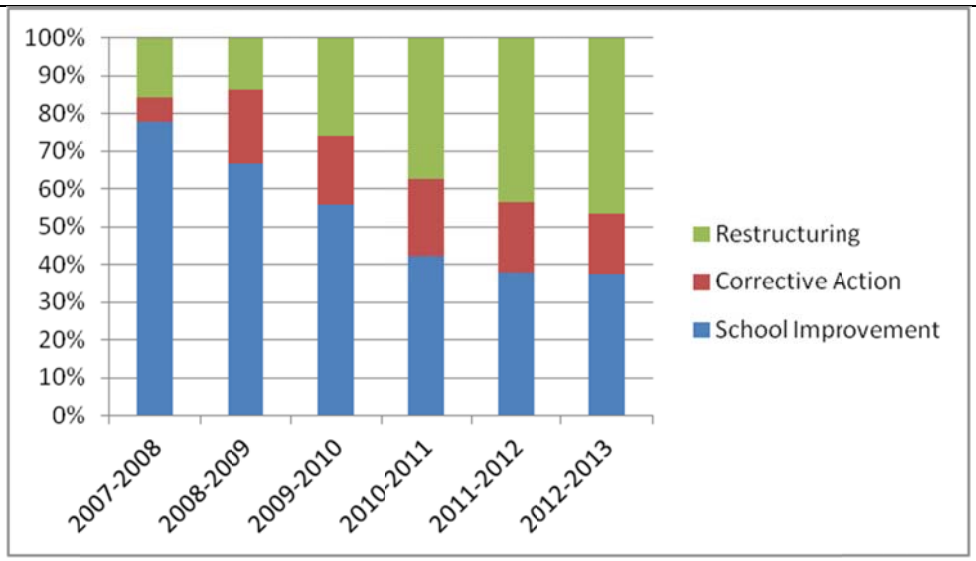


Figure 5. The Ratio of Schools Identified for Improvement by Category

Whole-System Reform

Idaho was not alone in needing to find a way to support the burgeoning number of schools that it had identified for improvement. During President George W. Bush's second term (2004-2008), the U.S. Department of Education began to realize that states needed help in developing and funding Statewide Systems of Support if the nation was to meet the policy goals set forth in NCLB. Thus, the U.S. Department of Education sought additional funding from Congress in 2007 to fund school improvement efforts in a way that would bolster states' abilities to serve districts and schools. This additional funding and a new round of monitoring that focused on Statewide Systems of Support served as a catalyst for Idaho. The Idaho Department of Education leveraged lessons learned from other initiatives and developed its first statewide approach to school improvement. In so doing, the state's school improvement staff researched the experiences of other states and reviewed the literature on school improvement and found a disconnect between the top-

down policy levers that were typical in NCLB policy and the drivers of change that the literature presented on what was necessary for whole-system reform. The state team hypothesized that, if reform efforts would truly have a statewide impact on schools, the team would have to ground such efforts in building the capacity of the existing human capital within the state's educational system. Therefore, the Idaho Statewide System of Support team developed a theory of action comprised of a few key programs and an improvement planning tool. The team intended for these to be used together in order to build the capacity of local school and district leaders to examine their own practices and find solutions to areas of weak performance. These programs included the Idaho Building Capacity Project, the Idaho Superintendents Network of Support, Instructional Core Focus Visits, and the Ways to Improve School Effectiveness (WISE) Tool for improvement planning. In the years since this theory of action was initiated, from Fall 2009 through Spring 2012, at least 190 Title I schools have fully engaged in the Statewide System of Support through participation in one or more of the technical assistance programs mentioned above and through at least two years of planning in the WISE Tool.

Statement of the Problem

State departments of education are separated from school-level activities and the instructional core where teachers and students interact as a result of many intermediary layers (Elmore, 2008). Despite the fact that there is substantial research literature that may serve to guide state decisions about school improvement and effectiveness, the distal relationship of the state makes it difficult to ascertain the impact of state actions on the academic performance of students, even though improved student achievement is the goal

of state efforts, and even though the state has built and implemented its theory of action based on well-grounded research. In contrast to the gold standard of research designs that utilize Randomized Control Trials (RCT), which may be able to tease out some degree of causality by isolating particular research variables in a control and experimental group design, states have the ongoing expectation of supporting all districts and schools. This makes the notion of withholding a potentially desirable treatment a politically unviable alternative in many cases. Therefore, the Idaho Statewide System of Support has provided technical assistance from Fall 2009 through Spring 2012 to 190 Title I schools that have been eligible for the support programs and which have chosen to participate. However, federal funding comes with very specific limitations and guidelines. It is often very difficult or impossible to develop a formal evaluation of school improvement programs that a state offers because of these restrictions on funding. For example, federal statute allows, but does not require, states to reserve 5% of the $2,000,000 in federal school improvement grant funds, a grant program which the State uses to partially fund the school-level activities in the Statewide System of Support. This reservation may include administrative personnel, travel, technical assistance, and program evaluation. However, the state administrative reservation in a small state such as Idaho amounts to approximately $100,000, which must cover required costs of personnel, travel, and monitoring expenses first. The salaries and benefits of just one full time person to oversee the grant exceed $80,000; half of the time and effort for administrative assistant support accounts for approximately $17,000. The remaining $3,000 might cover basic travel expenditures to grant sites for the purpose of monitoring. Idaho's experiences with other federal grants that required and funded evaluation (e.g.,

Reading First, which permitted a 20% state reservation) indicate that a rule of thumb for determining the costs of formal program evaluation is approximately 3% to 5% of the overall project. Therefore, a 5% administrative reservation is insufficient in a state the size of Idaho to pay for optional activities, such as evaluation, which could easily account for the entire 5% reservation in the school improvement fund. Thus, a formal evaluation of the Idaho Statewide System of Support has never been conducted in Idaho because state leaders have been unable to fund such efforts.

Given that federal education funding is a substantial lever in the state governance of education, and that school accountability and statewide improvement remains a central issue of importance both in the state and nationally, it is necessary to understand how well the state of Idaho is doing at improving educational outcomes in Title I schools that struggle to meet the needs of all learners. The Idaho Statewide System of Support represents Idaho's first attempt to systematically scale up support mechanisms for all Title I schools that were identified for school improvement status and were willing to participate. It is an effort to meet the educational needs of students, as defined by state standards, as well as to comply with federal laws that provide considerable amounts of funding to Idaho each year. In order to provide this support, the Idaho Statewide System of Support chose to invest substantial financial and human resources at a cost of approximately $3 million per year by means of a team of five individuals. As a result of this sizable investment, it is a fiscal and ethical responsibility for the state to understand what, if any, impact these efforts have made.

While an initial descriptive study was conducted on the Idaho Building Capacity Project by Lisa Kinnaman (2009), who co-created the project with Marybeth Flachbart,

no systematic analysis of student achievement outcomes has been completed to date. Considering the time and resources the system requires, it is an opportune time to explore a variety of aspects within the Statewide System of Support and their impact on schools.

Idaho Revised Theory of Action

The Idaho State Department of Education created and implemented a revised Statewide System of Support (SSOS) theory of action in Fall 2009. The revised approach built upon previous efforts to support schools, but emphasized the coordination between school improvement planning and capacity building programs. Beginning in 2009, school improvement planning phased in the adoption of Indistar (Center on Innovation & Improvement, 2011b), known as the WISE Tool in Idaho, which created an improvement planning cycle centered on indicators of effective school practices. In addition to the WISE Tool, the SSOS implemented, redesigned, and better coordinated various programs in Fall 2009 to build capacity of local leadership by working in tandem with the WISE Tool in order that efforts required in Title I schools, which were in school improvement status, would be tightly aligned to the improvement plans that were created each year. The theory of action is described in more detail in the Review of Literature, but the goal of the revised approach was to impact district leadership and school leadership, in order to promote systemic change within a district, so as to foster the characteristics of effective schools.

Research Questions and Hypotheses

As an evaluation of the creation and implementation of a new theory of action for Idaho's Statewide System of Support as it relates to the student achievement outcomes in

Title I schools that participated in both required and voluntary aspects of the system, the four questions of this study are:

- Question 1: Among all Idaho Title I schools that were engaged in the WISE Tool and at least one Statewide System of Support program between Fall 2009 and Spring 2012, did the creation and implementation of the revised Idaho theory of action increase the rate at which such schools attained proficiency in *reading* among students who were economically disadvantaged? If so, how did this rate differ from that of a comparison group comprised of similar students in Title I schools that were not engaged in the WISE Tool or any Statewide System of Support program during the same time period?
- Question 2: Among all Idaho Title I schools that were engaged in the WISE Tool and at least one Statewide System of Support program between Fall 2009 and Spring 2012, did the creation and implementation of the revised Idaho theory of action increase the rate at which such schools attained proficiency in *mathematics* among students who were economically disadvantaged? If so, how did this rate differ from that of a non-equivalent comparison group comprised of similar students in Title I schools that were not engaged in the WISE Tool or any Statewide System of Support program during the same time period?
- Question 3: Did the Idaho Building Capacity Project (IBC), which embodied the most intensive support process within the Idaho theory of action, increase the rate at which participating Idaho Title I schools attained proficiency in *reading* among students who were economically disadvantaged? If so, how

did this rate differ from that of a comparison group comprised of similar students in Title I schools that were eligible for the IBC project but which did not engage in a Statewide System of Support program during the same time period?

- Question 4: Did the Idaho Building Capacity Project (IBC), which embodied the most intensive support process within the Idaho theory of action, increase the rate at which participating Idaho Title I schools attained proficiency in *mathematics* among students who were economically disadvantaged? If so, how did this rate differ from that of a comparison group comprised of similar students in Title I schools that were eligible for the IBC project but which did not engage in a Statewide System of Support program during the same time period?

These research questions imply a directional relationship between the independent variables and the dependent variables. Being an evaluation that is looking at history in order to determine whether there has been an impact, this study includes hypotheses that are an outflow of the theory of action. As is evident in the literature on evaluation, a theory of action for a program is developed because its creators assume that it will have an impact, and therefore evaluation starts with a predefined goal rather than testing a hypothesis from a neutral perspective (Centers for Disease Control and Prevention, 2011; Scriven, 2004; Worthen, Sanders, & Fitzpatrick, 1997). As such, the assumed impact of the Idaho Statewide System of Support is that its component pieces would operate together in order to improve the trajectory of school and student performance over time. Hence, the research questions reflect this hypothesis by setting forth to examine the trend

of performance over time in participating schools in relation to their own performance prior to the introduction of the treatment provided by the Statewide System of Support.

Assumptions

This study comes from the perspective of program evaluation. As such, the study begins with the assumption that the designers of the Idaho Statewide System of Support created and implement the revised theory of action with the intent that it would be successful in improving student achievement outcomes in Idaho's public schools while at the same time meeting compliance requirements inherent to federal accountability mandates. The primary intent of the team was to help school and district leaders in their work with students, rather than to simply create a bureaucratic system of documentation that would comply with federal requirements. Additional assumptions made by this study include the following:

- The State of Idaho has administered its assessment system in a valid and reliable manner.
- The results of Idaho's assessment system produce data that can be aggregated and interpreted in a manner that allows for comparison across schools.
- Idaho's public schools are trying to serve students in the best manner they know how; no schools are actively trying to sabotage student learning outcomes.
- The best predictor of future school performance is past school performance.
- The sources of data accessed for utilization in this study accurately represent the performance of each school included for analysis.

- Schools and school districts are complex organizational systems in which improvement does not happen by chance, but rather by intentional effort.

Key Variables

This study examines two independent variables that are intentionally related as part of a policy and programmatic shift within the Idaho Statewide System of Support, but which occur at two differing levels of implementation. The first independent variable this study examines is the change in policy and programming that the State of Idaho enacted when it redefined its Statewide System of Support and created a new theory of action in 2009. School improvement planning was changed to include Indistar (Center on Innovation & Improvement, 2011b), known as the WISE Tool in Idaho, which creates an improvement planning cycle centered on indicators of effective school practices. In addition to the WISE Tool, the Statewide System of Support implemented or redesigned various programs to build capacity of local leadership by working in tandem with the WISE Tool in order that efforts required in Title I schools that were in school improvement status would be tightly linked to the improvement plans that were created each year. These programs include the Idaho Superintendents Network of Support, the Idaho Building Capacity Project, and Instructional Core Focus Visits. The second independent variable this study examines is a specific subset of this theory of action, which is comprised of participation in the Idaho Building Capacity (IBC) Project. IBC embodies the most intensive support process within the Idaho theory of action since it is more time and resource laden than other aspects of the system. The ultimate goal of IBC is to develop the local leaders' capacity and technical knowledge surrounding the continuous evaluation, adjustment, and implementation of school improvement efforts in

tandem with planning that is required of the schools in the WISE Tool. There are two levels of the project; the state assigns individual Capacity Builders to work with both the district office and the school over the course of a three-year partnership. A school may not participate in the project unless the district agrees to participate as well. Capacity Builders are distinguished educators that are retired superintendents, principals, or other educational leaders who have demonstrated competency in school reform and have the ability to coach others to improve.

This study utilizes student achievement on the state's standardized accountability assessment, the Idaho Standards Achievement Test (ISAT), in the two content areas of Reading and Mathematics as demonstrated in the performance of students who are economically disadvantaged. Because of the potential for both independent variables to have an impact on a broad set of outcomes and grade levels, the study confines the measurement of impact to a subset of possible key outcomes. Since Reading and Mathematics Achievement are the two primary areas for which the state holds all schools accountable under state and federal law, this study utilizes these two content areas as the dependent variables. Having these as common areas of concerns, schools and districts work within the confines of the Statewide System of Support policies and programs to ultimately improve these core content areas more than any other due to the political and academic importance placed upon them by the state's accountability system. Students' scores on the ISAT are broken into four possible levels of performance: below basic, basic, proficient, and advanced. This study examines the percentage of students that score proficient or advanced on the ISAT in the respective content areas in each school.

Design Overview

Initiatives in the arena of state governance and policy are often put forward with a grounding in a particular theory of action with the belief that the policy or program will have a positive effect on a particular area of interest. Since state education agencies are charged with governing and ensuring the success of all schools and districts, it is often politically and pragmatically unviable to utilize the gold standard research methodology of a large-scale randomized control trial (RCT) that includes an experimental treatment group and a control group in order to determine the effectiveness of an intervention. In addition to the challenge of using experimental research designs within a state governance system, the distal nature of a state's actions in relation to student outcomes can convolute determinations about the effectiveness of state programs. Therefore, in making decisions about the effectiveness of state support systems, it is fitting to study issues of effectiveness from the perspective of program evaluation rather than research in the strictest sense of the term.

Evaluation utilizes social science research methods, but for a different purpose, and begins with a different frame of reference than social science research in the sense that it works to determine the value of a set of predefined objectives and standards instead of starting with a null hypothesis that is value neutral (Scriven, 2004; U.S. Government Accountability Office, 2012). Primarily, this is because program evaluation tends to aim more at assisting decision-makers in understanding the value of a program in order to improve or change its designs (Worthen et al., 1997). Program evaluation tends to "answer specific questions about how well a program is working" to achieve intended outcomes (United States General Accounting Office, 2000). It is often less about

advancing "more wide-ranging knowledge and theory" as with a strict research design, and focuses more on "constructive information" for use among those who are implementing a program (Office of Educational Assessment, 2005). Evaluation designs therefore begin with the purpose of the program and work backward to identify an appropriate research method to answer the questions that are pertinent for decision-makers.

Since the primary purpose of this study is to inform stakeholders in the Idaho State Department of Education, a key interest of the researcher is to know how the program has impacted student achievement outcomes rather than some of the intermediary dependent variables that the theory of action should have also impacted. As a result of the desire to bridge the distal relationship between state actions and student outcomes, this study utilizes a quasi-experimental design known as a Pooled Interrupted Time Series (Bloom, 2003; Shadish & Cook, 2009) analysis in which causal relationships can be inferred by using the participants' prior performance trend during a baseline period of time as the experimental control in comparison with the performance trend after an intervention is introduced. This mitigates the limitations inherent to designing an RCT in the arena of state governance. In this study, the baseline period encompassed three years of performance before the interventions included in the Statewide System of Support (i.e., school years 2006-07, 2007-08, and 2008-09, respectively), and the treatment period consists of the three consecutive years afterward (i.e., school years 2009-10, 2010-11, and 2011-12, respectively). The Interrupted Time Series family of research designs has been useful for studying distal relationships in other policy and governance arena and is fitting for the scope of this study.

Disclosure of Researcher Role

As mentioned above, evaluation research is of interest to decision-makers. It is used to render judgments for the sake of accountability, for facilitating improvement of the program by identifying and addressing strengths and weaknesses, or for both (Centers for Disease Control and Prevention, 2011; Priest, 2001). It is important to disclose that as the researcher, I am a key stakeholder in this evaluation process. I have been a state employee responsible for various school improvement efforts since July 2007, or for five of the six years of interest in this study. I am currently employed as the Director of the Statewide System of Support at the Idaho State Department of Education and have been responsible with other colleagues either in part or in whole for each of the programs mentioned in this study since April 2010. My purpose in this study is to evaluate the work that my colleagues and I have implemented over the course of a number of years in order to facilitate improved decision making in the future as the state continues to support schools and districts. I have attempted to set personal bias aside in searching for possible research designs, and I have subsequently selected the Pooled Interrupted Time Series in order to answer the research questions of interest to myself and my colleagues with the least bias possible.

Significance of the Study

The significance of this study is twofold. First, and of greatest importance, this study will inform key stakeholders in the Idaho State Department of Education as to what, if any, impact has been made on schools as a result of the creation and implementation of the revised Idaho Statewide System of Support theory of action. All state support programs are funded by federal, and in some cases, state tax dollars.

Therefore, the state has a responsibility to evaluate the effectiveness of its initiatives in order to be responsible with taxpayer money. Furthermore, Fullan (2003) contends that school leaders must be driven by the moral imperative to meet the educational needs of all learners not because of external accountability, but because it is the right thing to do for children. The state is legally responsible for the system of schools and, like school leaders, has a moral imperative to provide the best support possible to Idaho's public schools because of the work they do for children. This is because education is a basic civil right for students in today's society, and the Idaho Constitution requires the state to provide "a general, uniform and thorough system of public, free common schools" for all children so that the quality of learning is not dependent on a child's zip code (Constitution of the State of Idaho, Article IX, Section 1). Elmore (2008) argues the moral responsibility of the state is to demonstrate the principle of reciprocity, which must occur at every level of the system with equal force: for the accountability the state expects of school and district leaders, it must be willing to build the capacity in those leaders to accomplish the tasks at hand. This study serves a significant role because it will provide stakeholders in Idaho with information necessary to make informed decisions about how to improve accountability and support processes for the future as it relates to program design, as well as in relation to the investment of human and financial resources.

A second contribution of the study will be to the field of educational leadership as it relates to state education agencies' school improvement efforts. Prominent authors in school reform, such as Richard Elmore (2008) and Michael Fullan (2011), have criticized the United States' method for approaching whole-system reform for a number of years. The educational system in the United States, both at the federal and state levels, has

relied heavily on carrot and stick levers for improvement, while other countries have found success by abandoning the rewards and punishment mentality in favor of capacity building partnerships at all levels of the educational system. The theory of action undertaken in Idaho has attempted to apply lessons learned from system reform literature while remaining within the current national policy context. While the specifics of this study are bound to the circumstances in Idaho, other state school improvement leaders may find the results of the study helpful for similar decisions they are facing regarding the improvement of their own theories of action.

CHAPTER 2: REVIEW OF LITERATURE

The Idaho State Department of Education created and implemented a revised Statewide System of Support (SSOS) theory of action in Fall 2009. A small team of individuals who had experience with previous school improvement efforts in the state created the revised approach. The theory of action emphasized the coordination between school improvement planning and capacity building programs. Beginning in 2009, the team started to phase in a new tool for school improvement planning, which created an improvement planning cycle centered on indicators of effective school practices. In addition to the new tool, the SSOS implemented new programs, redesigned others, and better coordinated various programs beginning in Fall 2009 that were designed to build the capacity of local school and district leadership in tandem with the improvement plans that were required of them each year based on annual accountability determinations.

The goal of the revised theory of action was to impact district leadership and school leadership in order to promote systemic change within a district and to foster the characteristics of effective schools. The programs sought to impact school and district administrators and leadership teams by building their capacity to be effective leaders, with the desired outcome being that those leaders would in turn build the capacity of their staff members at large, which would then affect change aligned to the characteristics of effective schools. Since the characteristics of effective schools correlate to student

outcomes, the state's programs ultimately intend to have these efforts result in improved student achievement.

This chapter is a review of the literature in two specific areas. Part I of this literature review examines the research on the characteristics of effective schools and discusses the problem of change inherent to large-scale educational reform. The rationale for including a review of literature in this area is that it circumscribes the theoretical foundation for what the state of Idaho is attempting to accomplish through the SSOS theory of action. The second area of the review of literature focuses on the contextual and historical development of the Idaho SSOS for the reason that this study utilizes a Pooled Interrupted Time Series (ITS) design. The Pooled ITS design examines changes over a series of years, both before and after the introduction of an intervention. Therefore, because history is a critical element of the study, the second section of this chapter reviews the development of the theoretical framework that undergirds the SSOS by examining the related literature as well as my own experience as a member of the SSOS team.

Part I: The Characteristics of Effective Schools

The theoretical framework, or theory of action, for Idaho's school improvement programs is based primarily upon the research from the *Nine Characteristics of High-Performing Schools* (Shannon & Bylsma, 2007) and the *Handbook on Restructuring and Substantial School Improvement* (Walberg, 2007). Idaho's theory of action aims to build school and district leadership teams' understanding of the Nine Characteristics (Shannon & Bylsma, 2007) as well as to develop the capacity of leaders to cultivate these characteristics across their systems. These goals are assisted through the use of

behavioral indicators of effective practice, which are articulated in the WISE Tool, Idaho's online improvement planning tool, which was developed by the national Center on Innovation and Improvement (CII) as the outflow of Walberg's (2007) meta-analysis.

However, neither of these two sources exist in isolation. School reform has been the subject of much consideration for many years. Edmonds (1979) summarized the then current knowledge on school effectiveness over three decades ago by saying:

> We can, whenever and wherever we choose, successfully teach all children whose schooling is of interest to us. We already know more than we need to do that. Whether or not we do it must finally depend on how we feel about the fact that we haven't so far.

There has indeed been a myriad of efforts related to school reform that can be traced to early research literature and other events such as the publishing of *A Nation at Risk* (National Commission on Excellence in Education, 1983). However, ongoing efforts in the policy, such as the *No Child Left Behind Act of 2001*, and the arena of actual implementation have proven that improvement at scale is elusive. This section of the literature review traces the development of perspectives on school improvement and the understanding in the research literature on school effectiveness.

Historical Development of Research on Effective Schools

The interest in creating effective schools has been a story in the making over several decades, a story that is truly woven within the larger fabric of American society. While there are many aspects of school reform, policy, and research trends that have ultimately impacted or shaped schools in the United States for more than a century, there are some key catalysts and specific responses to those catalytic events that have led to the

current understanding of effective schools. These are worth noting because they form the foundation for the related research literature.

Catalysts - A Converging Storm on American Public Education

The United States' public education system exists as a very decentralized, local control system in which most advances in policy talk and the implementation of new innovation have historically been driven largely at the state and local levels (Tyack & Cuban, 1995). As such, it is very difficult to leverage movement across the entire system. However, at various times, certain events or ideas have triggered general national concern and a degree of consensus around the need for change in public schools, especially in the midst of crises that are either domestic or international, and these have in turn created a space for larger reform agendas to be disseminated on a broader scale (Tyack & Cuban, 1995). When such catalytic ideas or events emerge and come to the forefront of American public life, it can prove to be the perfect storm for reform efforts to take root or, in some cases, create a foothold for more things to come.

One such crisis was the launch of an unmanned Russian satellite in 1957, also known as Sputnik (Redding & Walberg, 2008; Tyack & Cuban, 1995). Due to the climate of the Cold War and American's fear of military inferiority with the Russians, Sputnik deeply impacted the American psyche to the point that political leaders believed the nation's schools were not on par with the Soviets in preparing students for the fields of engineering and sciences, areas which were deemed necessary for national security endeavors (Redding & Walberg, 2008). This latent fear led to the first major federal role in the curriculum and instruction aspects of elementary and secondary schools (U.S. Department of Education, 2011). Progressive education theory had been gaining ground

in the previous few decades (Tyack & Cuban, 1995). Therefore, conservatives held it and the idea of low standards culpable for America's supposed decline, while liberals contended that there was insufficient educational funding being invested in the nation's schools (Redding & Walberg, 2008). As a solution, President Eisenhower brought forward a bill that met in the middle, the National Defense Education Act of 1958, which committed a billion dollars to schools over the course of four years with the expectations of raised standards in science, math, and language (Redding & Walberg, 2008; U.S. Department of Education, 2011). The convergence of national fear, the criticisms of progressive education, and concerns about school funding thus created a policy environment in which there was enough political will to change the status quo in relation to the federal role in education in the name of national security. This role could be described in some ways as a quid pro quo relationship: compliance with federal expectations in exchange for much needed funding.

During the same period, a parallel set of events and national sentiment were laying the groundwork for further expansion of the federal role in education. Just a few years before Sputnik was launched, in 1954, *Brown v. Topeka Board of Education* was decided in the U.S. Supreme Court. In that landmark case, the court decided that ethnically separate public schools were not providing equal educational opportunity and that school segregation was unconstitutional, a decision that created a loud and clear statement that basic education was a civil right for all students and no state or local law could stand in the way of this right (Barr & Parrett, 2007; Noll, 1999; Tyack & Cuban, 1995). In the years following *Brown v. Topeka Board of Education*, the executive and legislative branches "found the new door of equity open to them," which permitted for

legislation and regulation in many arenas (Redding & Walberg, 2008, p. 64). The *Brown* case, the Civil Rights Movement in general, and Lyndon B. Johnson's War on Poverty all served to set the stage in the 1960s and 1970s for what constitutes the nation's definition of equal access to education for underserved and disadvantaged populations through federal legislation, such as the Civil Rights Act of 1964, the Elementary and Secondary Education Act of 1965, and the Bilingual Education Act of 1968, Title IX of the Education Amendments of 1973, and Section 504 of the Rehabilitation Act of 1973 (Barr & Parrett, 2007; Redding & Walberg, 2008; U.S. Department of Education, 2011).

In many ways, it is this national belief in equal access and education as a basic civil right that forms the foundation for federal school improvement requirements, the search for the characteristics of effective schools, and the impetus to create schools that exemplify such characteristics. In fact, it is in these series of shifting federal policies that the research on effective schools began to emerge. Section 402 of the Civil Rights Act of 1964 specifically called for the U.S. Commissioner of Education to:

> conduct a survey and make report to the President and the Congress, within two years of the enactment of this title, concerning the lack of availability of equal educational opportunities for individuals by reason of race, color, religion, or national origin in public educational institutions at all levels in the United States, its territories and possessions, and the District of Columbia. (Coleman et al., 1966, p. iii)

The resulting *Equal Educational Opportunity Survey*, known as the *Coleman Report*, sparked a strong reaction in what was later to be called the Effective Schools Movement (Lezotte, 2009; Redding, 2006). Coleman et al. (1966) indicated that minority students' achievement seemed to be impacted "by the strength or weaknesses of his school's facilities, curriculums, and teachers" more than the average white student, and that "improving the school of a minority pupil may increase his achievement more than

would improving the school of a white child increase his" (p. 22). This and many other findings were included in the report, which exceeded 700 pages. For example, Coleman et al. (1966) found that more than ten years after the *Brown* case, African American students and teachers were still "unequally segregated" and that average minority students were more negatively impacted academically by the quality of their schools. These findings largely supported the moral cause for equal access that had been building over the previous decade. However, as is often the case with issues that are politically and socially charged, the thing that stood out most after the report was made final was a finding related to the impact of resources on student achievement. In essence, the report "found scarce evidence of a relationship between a school's resources and its students' learning" and emphasized the significant impact that family background had on student achievement (Redding, 2006, p. 16). Lezotte (2009) stated that "the most significant sound-bite that came from the press conference where the study results were announced was, 'When it comes to the education of minority and poor children in America, schools don't make a difference'" (p. 10). Coleman later revised his views on the impacts of schools in 1981 (Redding, 2006). Coleman (1987) also subsequently found that schools were able to instill social capital in students of poor and minority backgrounds, and that this enabled the schools to promote higher academic achievement and decrease dropout rates among underserved students. However, with the 1966 *Coleman Report*, the Pandora's Box was already open. A group of researchers, including Larry Lezotte, William Brookover, and Ron Edmonds, was determined to prove the implications of the *Coleman Report* incorrect and that schools could effectively overcome the challenges of students who were underserved and disadvantaged (Lezotte, 2009; Redding, 2006).

With the moral justification of the Civil Rights movement behind them and the recently expanded federal interest in the effectiveness of schools, the setting was prime for determining the challenges of whether or not the belief in equal access and higher outcomes for all students could become a reality. The momentum provided by the heightened sense of national insecurity created a nationwide interest in the quality of the nation's schools. The rising tide of social justice embodied in the Civil Rights Movement provided a spotlight for issues related to meeting the needs of all students, regardless of ethnicity, language ability, or economic status. These converging catalytic events thus made for the perfect storm, so to speak, to jumpstart the nation's understanding of school effectiveness and the ongoing emphasis on school improvement.

The Initial Phases of the Effective Schools Movement

The Effective Schools Movement began directly in response to the negative implications of the Coleman Report and the idea that schools were not able to make a difference in the lives of disadvantaged students or overcome the significant challenges they face (Lezotte, 2009; Marzano, 2000; Redding, 2006). Over time, researchers identified the basic characteristics of schools that were effective at meeting the academic needs of underserved and disadvantaged students. This research was completed in phases with varying methodologies.

Lezotte (2009) described the early stages of the Effective Schools Movement as progressing through phases. The first phase was that of identification from the 1960s through the mid-1970s. During this time, studies identified pairs of schools with similar population sizes, similarly high demographic proportions of minority and economically disadvantaged students, and which had comparable resources, but in which one of the

schools was demonstrating substantially higher achievement than the other. Such matched pairs were identified in Michigan, one of the first states with a statewide assessment system, through the collaborative work of individuals such as Ron Edmonds, Lawrence Lezotte, and Wilbur Brookover. This identification of exemplars led to the second, descriptive phase that lasted from the 1970s into the 1980s. During this period, the research community in both America and England sought to describe the ways in which the higher performing outliers were different than other schools. Lezotte (2009) described three more phases that depict efforts at implementation and school change efforts, which are pertinent to later sections of this review. However, it was during the descriptive phase that the characteristic of effective schools first began to emerge.

The characteristics identified during the descriptive phase of the Effective Schools Movement were first identified conceptually by Ron Edmonds and subsequently called the Correlates of Effective Schools (Edmonds, 1982; Lezotte, 2001, 2009; Shannon & Bylsma, 2007). In his conceptual writings, Edmonds (1982) originally asserted that effective schools have the following five characteristics:

> (1) the principal's leadership and attention to the quality of instruction; (2) a pervasive and broadly understood instructional focus; (3) an orderly, safe climate conducive to teaching and learning; (4) teacher behaviors that convey the expectation that all students are expected to obtain at least minimum mastery; and (5) the use of measures of pupil achievement as the basis for program evaluation. (p. 4)

Marzano (2000) noted that the Effective Schools Movement, while there was some variation, "produced fairly consistent findings regarding the characteristics of high-performing schools" despite being identified through the use of a "variety of methodologies" (p. 19). Over time, the Correlates of Effective Schools were refined and broken into seven categories (Lezotte, 2009; Shannon & Bylsma, 2007):

- Instructional Leadership
- Clear and Focused Mission
- Safe and Orderly Environment
- Climate of High Expectations
- Frequent Monitoring of Student Progress
- Positive Home-School Relations
- Opportunity to Learn and Student Time on Task

Instructional leadership entails the principal consistently communicating a clear and focused mission effectively to the staff, students, and families and manages the instructional programs with a strong understanding of what constitutes instructional effectiveness (Lezotte, 2009). Instructional leadership positively impacts student outcomes ($d = 0.55$) in general, but the specific dimensions that impact student outcomes the most are:

> promoting and participating in teacher learning and development ($d = 0.91$); planning, coordinating, and evaluating teaching and the curriculum (e.g., direct involvement in the support and evaluation of teaching through regular classroom visits and provision of formative and summative feedback to teachers, $d = 0.74$); strategic resourcing (aligning resource selection and allocation to priority teaching goals, $d = 0.60$); establishing goals and expectations ($d = 0.54$); and ensuring an orderly and supportive environment such as protecting time for teaching and learning by reducing external pressures and interruptions and establishing an orderly and supportive environment both inside and outside the classrooms ($d = 0.49$). (Hattie, 2009, pp. 83-84)

A *clear and focused mission* for the school is articulated clearly by the instructional leader and staff take responsibility for it and are committed to student learning as evidenced in the school's way of doing business (Lezotte, 2009). Hattie's (2009) findings on instructional leadership align well with this definition in that goals and expectations set for the school and all teaching staff impact outcomes for students ($d =$

0.54) since those expectations become the basis for the monitoring and feedback that the instructional leader conducts. The other impacts attributed to instructional leadership, which are mentioned above, are also part of the clear and focused mission because they are the means by which the leader ensures the mission is attained.

A *safe and orderly environment* impacts student outcomes when the school is purposeful, professional, orderly, and all individuals feel free from any risk of harm, making the environment conducive to teaching and learning (Lezotte, 2009). Hattie (2009) demonstrated that instructional leadership is the groundwork for a safe and orderly environment that impacts student outcomes in that the leader ensures such an environment occurs throughout the school ($d = 0.49$). Furthermore, the impact of a safe and orderly environment on student outcomes is also the result of two primary aspects of school climate: well managed classrooms in which teachers have the ability to respond to student needs and behaviors ($d = 0.52$) and group cohesion in which the school cultivates a sense that teachers and students are working together towards common goals ($d = 0.53$).

A *climate of high expectations* produces an effect on student outcomes when staff demonstrate a belief that all students can learn and gain mastery of the core curriculum, regardless of any background factors that may otherwise cause students to be at a disadvantage (Lezotte, 2009). In Hattie's (2009) analysis, teacher expectations generally have a medium effect size on student outcomes (d = 0.43). However, he cited Rosenthal and Rubin's (1978) examination of 345 experimental studies on "interpersonal expectancy effects," in which the mean effect size was quite large (d = 0.70), and he therefore concluded that "the implication for teachers is that teachers (as human beings)

are more likely to have their students reach their 'expected' outcomes, regardless of the veracity of the expectations" (Hattie, 2009, p. 122).

As part of *frequent monitoring of student progress*, an effective school has a system in place to frequently measure student performance against core curriculum learning objectives, and the data collected are used to make adjustments for both the individual student and the curriculum in general (Lezotte, 2009). Setting challenging learning objectives or goals that serve as a way to define what success will look like at the end of learning impacts student outcomes (d = 0.56) because it makes learning clear for both the student and the teacher (Hattie, 2009). Furthermore, formal and informal feedback from students to the teacher regarding how the students are progressing in what they understand, how well they are engaged, etc., impacts student outcomes (d = 0.73) because it allows both the student and the teacher to adjust their actions in response to what may still be needed in the learning progression (Hattie, 2009).

Lezotte (2009) defined positive home-school relations as being when the school clearly articulates its mission to families so that they understand it, and their support of the mission is cultivated, thereby giving families the opportunity to be meaningfully engaged in achieving the school's mission. While this may be more generally referred to as parental involvement, it is the nexus between the parent's involvement in their child's education and the mission of the school that is what impacts student outcomes. The most impactful type of parental involvement is comprised of the educational expectations that a parent holds for their student (d = 0.58), which has a greater effect than general parental involvement in school activities and functions (d = 0.21) (Hattie, 2009). As such, Hattie

(2009) demonstrated agreement with Lezotte's definition of positive home-school relations in the following conclusion that he derived:

> Parents should be educated in the language of schooling, so that home and school can share in the expectations, and the child does not have to live in two worlds - with little understanding between the home and school. Some parents know how to speak the language of schooling and thus provide an advantage for their children during the school years, while others do not know this language, which can be a major barrier to the home contributing to achievement. (p. 70-71)

Opportunity to learn and student time on task is characterized by teachers being clear about instructional objectives and allocating substantial classroom time to instruction in the core curriculum (Lezotte, 2009). During allocated learning time, instruction is maximized in order to not lose any opportunities by providing it in ways that actively engage students in learning through multiple means (e.g., whole class, groups, direct instruction, individual work, etc.) (Lezotte, 2009). As already mentioned, clarity about instructional objectives and goals has a high effect size (d = 0.56), and this correlate describes how goal setting is combined with a scenario in which teachers "structure situations so that students can reach these goals" (Hattie, 2009, p. 165). Classroom time is therefore deliberately allocated to high yield teaching approaches that support mastery learning and which are highly likely to result in improved student outcomes, such as reciprocal teaching (d = 0.74) and direct instruction (d = 0.59) (Hattie, 2009).

While each of these characteristics describes a different domain of practice within the school, all of them are essential and interdependent; an effective school demonstrates each of them (Lezotte, 2009; Shannon & Bylsma, 2007; U.S. Department of Education, 2010a). The interplay between the various traits is complex with continuous interaction

and refinement occurring among them (Shannon & Bylsma, 2007; U.S. Department of Education, 2010a).

The discovery of these characteristics and their complex interplay developed through a series of different writings and types of research. Early in the Effective Schools Movement, Ron Edmonds provided contributions that were "primarily provocative and conceptual in nature... [and] asserted that schools can and do make a difference" (Marzano, 2000, p. 13). As the descriptive phase of the Effective Schools Movement began to identify the specific traits, or correlates, a large percentage of the studies were outlier studies (Marzano, 2000). Marzano (2000) described the approach these studies utilized:

> The general methodology employed in these studies was to identify those schools that are "outliers" in terms of the expected achievement of their students based on background variables (e.g., SES). Specifically, when using an outlier approach, student achievement is regressed onto various background variables and a linear, multi-variable regression equation established. Predicted achievement scores are then computed for each student and aggregated for each school. If a school's average observed achievement is *greater than* its average predicted achievement, it is considered a "positive outlier." If a school's average observed achievement is *less than* its average predicted achievement, it is considered a "negative outlier." (p. 16)

One of the critiques leveled against the characteristics identified by the Effective Schools Movement was that the outlier studies produced results that varied in what some suggested were substantial ways (Marzano, 2000). For example, one study showed instructional leadership to be a characteristic of an effective school, while another demonstrated that "administrative activities (e.g., meetings) were more critical than administrative leadership" (Marzano, 2000, p. 17). Purkey and Smith (1983) and Scheerens and Bosker (1997) detailed how the discrepancies were due to the weaknesses

within the outlier methodology, such as small samples, regression toward the mean, and other issues (in Marzano, 2000). However, according to Marzano (2000):

> In spite of these criticisms, Scheerens and Bosker note that the following characteristics of effective schools can be inferred from the outlier research: (1) good discipline, (2) teachers' high expectations regarding student achievement, and (3) effective leadership by the school administrator.

In other words, despite some of the weaknesses entailed in the methodology, there was confidence that the research was beginning to converge on common findings.

Another group of studies that formed the basis of the Effective Schools Movement included case studies, in which a small group of schools were studied in depth (Marzano, 2000). These case studies, such as the Brookover and Lezotte (1979) study, typically classified schools into high-achieving and low-achieving groups, and used ethnographic or survey techniques to understand the characteristics that differentiated them. The ethnographic techniques distilled that the high-achieving schools were different from low-achieving schools in that they had: "(1) high expectations for student achievement, (2) school policies that focus on academic achievement, (3) clear academic goals, and (4) a strong focus on basic skills" (Marzano, 2000, p. 17). Marzano (2000) contends that the studies did not necessarily add any new characteristics or categories, but they did help to "solidify the importance of the five correlates" (p. 18)

The next group of studies that took place was implementation studies. During the 1980s and into the 1990s, the Effective Schools Movement entered its third phase, the prescriptive phase (Lezotte, 2009). During this time, Marzano (2000) illustrated how a number of implementation studies were utilized to determine whether there was truly a causal relationship between the characteristics that were identified in the descriptive

studies (i.e., the Correlates of Effective Schools) and increased student achievement. Reflecting back on this period, Lezotte (2009) described how there had been a dramatic increase in the numbers of practitioners who were interested in using the initial research findings to improve their schools. Lezotte (2009) lamented, however, "We had no idea how the schools became effective or how the correlates came into place" (p. 12). The schools that had been found as effective were discovered "in nature," so to speak, and the process of change for how they arrived at that place was not understood (Lezotte, 2009, p. 12). So, Lezotte and others designed studies that developed interventions to try and change school-level practices on one or more of the characteristics (Lezotte, 2009; Marzano, 2000). These studies' findings did demonstrate "that focusing on the five correlates or derivatives of them produces modest gains in achievement without an expenditure of exceptional resources" (Marzano, 2000, p. 19).

In sum, the Effective Schools Movement created a powerful understanding of how effective schools operate. Through a variety of methodologies conducted by a multitude of researchers, the body of evidence collected across all of the studies points to the real descriptive characteristics of schools that are able to overcome the disadvantages of students that are at risk of failure and who have traditionally been underserved. The value of the outlier and case studies was that it provided a fairly high-quality descriptive picture of an effective school, once it is effective. The implementation studies served to provide some insight into the degree to which the characteristics, when implemented, improve student performance. However, it is noteworthy that the gains are described as modest. This would imply that there remain unknown variables related to how schools change from mediocre or ineffective to highly effective and high-performing.

Current Frameworks for Understanding School Effectiveness

Considering that the original Correlates of Effective Schools were developed in an era prior to the major national shift brought by the No Child Left Behind Act of 2001 (NCLB), it is a logical next step to consider whether or not they still hold true under the context and expectations for today's schools. NCLB required all schools to attain 100% proficiency among all students in language arts and mathematics by the year 2014. After the law's initial passage, states were required to submit accountability plans with targets that increased to the 100% mark over time, and any school or district that has failed to meet its state's benchmarks for adequate yearly progress is required to implement various improvement plans and corrective actions in order to improve its performance ("No Child Left Behind Act," 2001). Understandably so, this policy shift has in some ways changed the general perspective on what it means to be effective by narrowing the definition of school improvement and has "stimulated an unprecedented demand for new knowledge of curriculum, pedagogy, and organizational improvement at the school and system levels" (Elmore, 2008, p. 3). At the same time, the requirements of states and their role in local school improvement have dramatically increased because of the law's requirement to both hold schools and districts accountable and to provide a statewide system of intensive support for them when they struggle (Kinnaman, 2009; "No Child Left Behind Act," 2001). With increased state responsibilities under the new performance accountability structure of the law, states themselves have had to redefine their role from simply compliance to that of setting standards, defining terms of accountability, and supporting effectiveness, a role that has become increasingly important (Datnow, Lasky, Stringfield, & Teddlie, 2005). States have struggled with this

change, yet Lane (2010) found that the "pace at which state education agencies shifted their focus from compliance monitoring to support quickened during the latter portion of the 2000s." During this shifting national policy landscape, many states have created or adopted frameworks for school improvement.

The Nine Characteristics of High-Performing Schools

The Washington State Office of the Superintendent of Public Instruction (OSPI) is an example of a state that created a framework for improvement. It first conducted a meta-analysis of the literature on effective school practices in 2002 in order to provide guidance to their schools and districts (Shannon & Bylsma, 2007). This resulted in a framework for use in school improvement known as the *Nine Characteristics of High-Performing Schools* (Shannon & Bylsma, 2007). Shannon and Bylsma (2007) reviewed 25 studies and research reports, seventeen national and eight in Washington State, to identify the original characteristics. The selection of these 25 studies was informed by an initial review of the seminal work completed by Edmonds, Lezotte, Brookover, and others in that they built upon the research foundation of the Correlates of Effective Schools (Shannon & Bylsma, 2007). Shannon and Blysma (2007) described the Nine Characteristics as:

- **Clear and Shared Focus.** Everybody knows where they are going and why. The focus is on achieving a shared vision, and all understand their role in achieving the vision. The focus and vision are developed from common beliefs and values, creating a consistent direction for all involved.
- **High Standards and Expectations for All Students.** Teachers and staff believe that all students can learn and meet high standards. While recognizing

that some students must overcome significant barriers, these obstacles are not seen as insurmountable. Students are offered an ambitious and rigorous course study.

- **Effective School Leadership.** Effective instructional and administrative leadership is required to implement change processes. Effective leaders proactively seek needed help. They nurture an instructional program and school culture conducive to learning and professional growth. Effective leaders have different styles and roles—teachers and other staff, including those in the district office, often have a leadership role.
- **High Levels of Collaboration and Communication.** There is strong teamwork among teachers across all grades and with other staff. Everybody is involved and connected to each other, including parents and members of the community, to identify problems and work on solutions.
- **Curriculum, Instruction, and Assessment Aligned with Standards.** The planned and actual curriculum are aligned with the essential academic learning requirements. Research-based teaching strategies and materials are used. Staff understand the role of classroom and state assessments, what the assessments measure, and how student work is evaluated.
- **Frequent Monitoring of Learning and Teaching.** A steady cycle of different assessments identify students who need help. More support and instructional time is provided, either during the school day or outside normal school hours. Teaching is adjusted based on frequent monitoring of student

progress and needs. Assessment results are used to focus and improve instructional programs.

- **Focused Professional Development.** A strong emphasis is placed on training staff in areas of most need. Feedback from learning and teaching focuses on extensive and ongoing professional development. The support is also aligned with the school or district vision and objectives.
- **Supportive Learning Environment.** The school has a safe, civil, healthy, and intellectually stimulating learning environment. Students feel respected and connected with the staff and are engaged in learning. Instruction is personalized and small learning environments increase student contact with teachers.
- **High Levels of Family and Community Involvement.** There is a sense that all have a responsibility to educate students, not just teachers and school staff. Families, businesses, social service agencies, and community colleges/universities all play a vital role in this effort. (p. 24)

In 2007, OSPI updated its meta-analysis with a second edition of the *Nine Characteristics of High-Performing Schools*. The revision included over 120 additional references, reconfirmed the original findings in the process, and added some information to help schools and districts go deeper in their understanding of the characteristics and how they work together (Shannon & Bylsma, 2007). In the second edition, Shannon and Bylsma (2007) also grouped the characteristics into three categories: goals, processes, and supports, within the larger context of governance. Just as the Correlates of Effective Schools are interdependent (Lezotte, 2009), the Nine Characteristics are interrelated as

well (Shannon & Bylsma, 2007); the relationships between the Nine Characteristics are illustrated with these three respective categories in Figure 6.

The *Nine Characteristics of High-Performing Schools* has since been utilized by other states as a resource. Washington and Idaho both use it as the foundation for their statewide school improvement frameworks (Idaho State Department of Education, 2011; Shannon & Bylsma, 2007). Alabama's office of Leadership and Evaluation provided training on it in 2011-2012 as a framework for continuous improvement (Alabama Department of Education, 2011). The Council of Chief State School Officers and the states of Maine, Oklahoma, and Wisconsin have each published it as a resource specifically for use in school improvement planning (CCSSO, n.d.; Maine Department of Education, n.d.; Oklahoma State Department of Education, n.d.; Wisconsin Department of Public Instruction, n.d.). As such, it is a widely known and valued framework for school improvement efforts in the current context of No Child Left Behind.

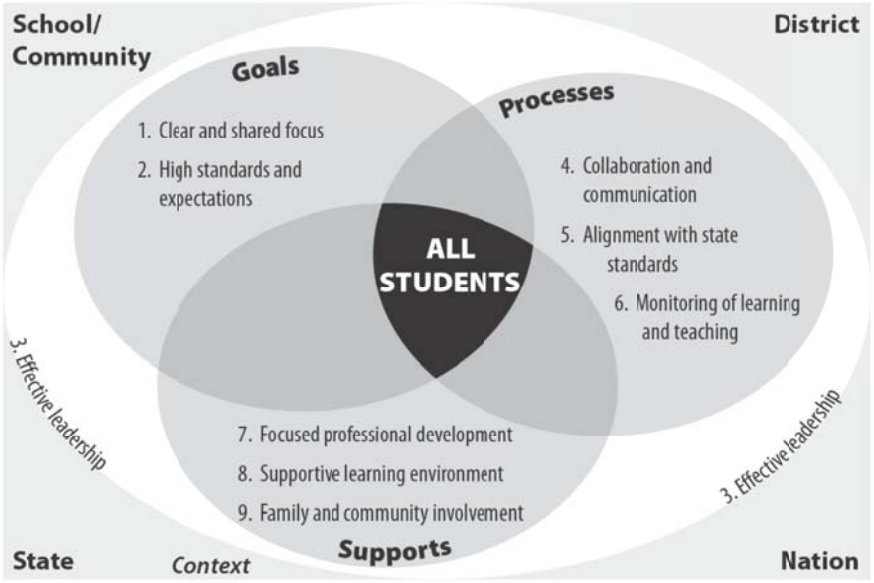


Figure 6. Interrelationships of the Nine Characteristics (Shannon & Bylsma, 2007, p. 4)

The Indistar System

A second example of a framework being adopted by states is the Indistar system, a web-based school and district improvement planning tool. Indistar is a product of the National Center on Innovation and Improvement (CII), a national content center funded by the U.S. Department of Education specifically to support school improvement priorities that are part of NCLB. CII first developed Indistar in 2007 at the request of the Virginia Department of Education, but it is now in use in more than 20 states, the Bureau of Indian Education, and the District of Columbia (Center on Innovation & Improvement, 2011a; Reed, 2011). Sam Redding (personal communication, September 1, 2010), the executive director of CII, described how the State Director of School Improvement in Virginia had recently read the *Handbook on Restructuring and Substantial School Improvement* (Walberg, 2007), a CII publication, when she ran into him at a conference. The handbook was written by Herb Walberg, a prominent figure since approximately 1980 in the school effectiveness research literature, and provides the following statement about its research basis:

> Ideally and in accord with the U.S. Department of Education Institute of Education Sciences, education policy and practice should be based on well-conceived, well-executed randomized field trials (RCTs) at the district, school, classroom, and individual levels; these are "the gold standard" evidence. Short of experiments, well-done quasi-experiments and large-scale longitudinal studies, preferably following the progress of individual students, are desirable. Much of educational research falls short of these standards, and the modules [in this book] are based to a large extent on "promising practices," which blend findings from rigorous research in other fields, research and field expertise, statistically controlled, correlational studies, and long and outstanding records of improved performance. (Walberg, 2007, p. 7)

Thus, because the indicators of effective practice and resources that Walberg (2007) articulated in the handbook represented a blend of the best research available, CII was asked to work with Virginia to create an online tool that schools could use to more

effectively undertake the school improvement planning requirements of NCLB. CII obliged the request and has since made the tool available at no cost to all states (Redding, personal communication, September 1, 2010). Idaho was the second state to adopt Indistar in 2008, and CII has continuously worked with Idaho and other states to customize the tool so schools and districts can use the planning process it provides and the specific indicators it contains, only seen through the lens of the state's own school improvement framework, such as the *Nine Characteristics of High-Performing Schools* (Reed, 2011).

Indistar is "built around the core functions performed by each level of the public education system, effective practices at each level, and indicators of effective practice" (Center on Innovation & Improvement, 2009a, p. 6). These are defined in the following ways. The *core function* is essentially a theory of action that defines the purpose and responsibilities of the school or district. An *effective practice* is the way in which the school or district does business, related back to its core functions, in the light of research and evidence which demonstrates that it contributes to learning. Lastly, an indicator is "an observable expression of a practice, something concrete that indicates that an effective practice is in place" (Center on Innovation & Improvement, 2009a, p. 6). The school-level version of Indistar defines four core functions, each broken into sub-categories of effective practices, with a total of 86 behavioral indicators clustered across all of the categories. The core functions are:

- **School Leadership and Decision-Making.** The school establishes a team structure with specific duties and time for instructional planning. The principal's role is focused on building leadership capacity, achieving learning

goals, and improving instruction. Classroom observations are aligned with evaluation criteria and professional development.

- **Curriculum, Assessment, and Instructional Planning.** Teachers are engaged in aligning instruction with standards and benchmarks, in assessing and monitoring student mastery, and in differentiating and aligning learning activities. Student learning is assessed frequently with standards-based assessments.
- **Classroom Instruction.** The school expects and monitors for sound instruction that is well prepared, is delivered well, occurs in a variety of modes in classrooms that use sound classroom management, and that utilizes homework practices that are aligned and well communicated to parents.
- **School Community.** The school defines the purpose, policies, and practices of the school community; maintains two-way school-home communication around learning; educates families on how to support their children and teachers on how to work with families; and connects members of the school community to one another to support learning. (Center on Innovation & Improvement, 2009a)

As with the overarching Nine Characteristics of High-Performing Schools, the core functions in Indistar share much similarity with the Correlates of Effective Schools. However, whereas the correlates and the Nine Characteristics begin with more categories (seven and nine, respectively) and do not necessarily go to the behavioral indicator level, Indistar uses only four categories and reserves varying degrees of specificity for its

subcategories and their indicators. An example of the Indistar structure for one core function is illustrated in Figure 7.

School Improvement		
Core School Functions	Effective Practices	Indicators (Examples)
Leadership and Decision Making	Team Structure	All teams operate with work plans for the year and specific work products to produce.
	Principal's Role	The principal spends at least 50% of his/her time working directly with teachers to improve instruction, including classroom observations.
	Professional Development	Professional development for the whole faculty includes assessment of strengths and areas in need of improvement from classroom observations of indicators of effective teaching.

Figure 7. Indistar Structure: Core Functions, Effective Practices, and Behavioral Indicators

The Characteristics of Effective Schools at a Smaller Grain Size

As can be seen from the lists for the Correlates of Effective Schools, the Nine Characteristics of High-Performing Schools, and the four core functions within Indistar, the descriptions are very large-grain traits that would include many smaller grain practices that are much, much more specific. On the one hand, whether a state, district, or school works from the original correlates, the Nine Characteristics, or the four core functions, the descriptive evidence for effectiveness is consistent, even in the current policy environment of No Child Left Behind. However, if simply handed these lists without understanding the specific behaviors that serve as evidence of them, a school might find itself asking the question, "Well, what does that look like, exactly?" It is therefore useful to understand the characteristics at a smaller grain size if they are to have

an effect on actual practice. For the sake of simplicity, this section is organized under the headings of the Nine Characteristics. However, the descriptions provided are cross-cutting, and are not limited to what is provided by Shannon and Bylsma (2007) in the *Nine Characteristics of High-Performing Schools*.

Clear and Shared Focus

Shannon and Bylsma (2007) described how a clear and shared focus is essential for operating effectively because it means that everyone is on the same page and going in the same direction, moving toward common goals. The reason why a clear, shared vision is so important is that it gets to the heart of school culture and collective expectations, therefore enabling continuous and substantial change to occur. Elmore (2008) articulated three aspects that impact the dynamics of school-site accountability, and which are pertinent to this characteristic of school behaviors: individual responsibility, collective expectations, and internal accountability. When there is not a strong alignment between what individuals do in their own roles, what all actors in a school expect of and from each other's performance, and the internal sense of accountability to colleagues within a school, efforts to improve outcomes for students atomize and results are mixed at best (Elmore, 2008). Therefore, schools that are effective develop a clear, commonly held focus on improvement by intentionally using social conditions to "establish a shared understanding of planned change, support formative evaluations of practice, foster collective expertise, and cultivate a cohesive social network to sustain change" (Adams & Jean-Marie, 2011, p. 371).

A clear and shared focus usually begins with actions taken by the principal who builds a vision for what is possible and maintains a strong focus on high-quality teaching,

student outcomes, and instructional improvement (Knapp, Copland, Honig, Plecki, & Portin, 2010b; Leithwood, Harris, & Hopkins, 2008; Walberg, 2007). Knapp et al. (2010b) found that effective school leaders "focused persistently and publicly on equitable and powerful teaching, learning, and instructional improvement" (p. 25). Beginning the development of a clear and shared focus particularly rests on the shoulders of the leader in a turnaround context in which the school has persistently struggled. A turnaround leader operates out of a greater sense of urgency, and therefore sets a focus on priorities that are clearly articulated, short-term, and put into action (Leithwood et al., 2008). By doing so, the focus on improvement becomes attainable to staff through visible quick wins, which therefore provides stability and hope to the school (Brinson, Kowal, Hassell, Morando Rhim, & Valsing, 2008; Herman et al., 2008; Leithwood et al., 2008).

While the cultivation of a clear and shared focus usually begins with the principal, for it to be truly "shared," ownership of the school's direction must ultimately be transferred to the staff themselves (Knapp, Copland, & Talbert, 2003; Leithwood et al., 2008). The shared aspect of the school's focus "usually results from a long process of research, discussion, debate, and perhaps conflict as participants vie for control of the learning improvement agenda" (Knapp et al., 2003, p. 15). Ultimately, by handing off the vision for the school and sharing this aspect of leadership across the staff, it stimulates continuous improvement and supports sustainability since the vision is widely shared and no longer dependent on one person, but on an entire social network (Adams & Jean-Marie, 2011).

It is important to also note that effective schools integrate the idea of a clear and shared focus into all of the other characteristics. As is evident above, it is clearly intertwined with *Effective School Leadership*. A second example is in its intersection with *High Standards and Expectations for All Students*. To set the focus for improvement, effective schools will use external points of reference. Walberg (2011) stated: "Without external standards of acceptable performance, and examples of excellence, a state, district, school, or classroom has no gauge to measure its current performance or higher vision on which to set its sights" (p. 96). In other words, the clear and shared focus is not designed in a vacuum, but rather it is built on references to research and evidence of effective practices attained elsewhere. Another example is how schools integrate the clear and shared focus into the *Frequent Monitoring of Learning and Teaching*. Specifically, performance observations of teaching are based on mutual goals that are widely shared instead of imposed externally making evaluations formative tools used for the common good (Datnow & Stringfield, 2000).

High Standards and Expectations for All Students

The essence of this characteristic is a profound belief that all students can learn and achieve to high standards regardless of the barriers or disadvantages they may face, and this belief is held in common across all the key actors in a school (Barr & Parrett, 2007; Shannon & Bylsma, 2007). Fullan (2011) defines this belief within the context of a "moral imperative," the desired result of which is "raising the bar (for all students) and closing the gap (for lower performing groups) relative to higher order skills and competencies required to be successful world citizens" (p. 3). It is this deeper moral

purpose that serves as part of the incentive for the staff in a school to change the way it does business through a continuous improvement process (Fullan, 2003, 2007).

Unfortunately, it is too often the case that schools demonstrate what former U.S. Secretary of Education Rod Paige referred to as the "soft bigotry of low expectations" by making unwarranted decisions about what children can and can't learn before they are ever given an opportunity to learn (Barr & Parrett, 2007; Langan & Aspey, 2003). Barr and Parrett (2007) contend that educational research has conclusively shown that "all children and youth will learn and achieve to acceptable standards of academic excellence and school success, even children who are poor, non-English speaking, and learning disabled" (p. 9). For schools to be effective, they must "address the pedagogy and mythology of the past to create schools that can indeed effectively educate the underachieving children of poverty" (Barr & Parrett, 2007, p. 33). Effective schools take this mythology of low expectations head on in their actions and institutionalized processes. In fact, the cultivation of this trait goes hand in hand with the notion of a *Clear and Shared Focus*. A clear and shared focus on improved educational outcomes is grounded in outcomes for all students, which, as mentioned above, usually begins with the principal pressing the thinking of the staff. However, once a clear focus becomes widely shared, the belief that all students can learn manifests itself in various practices.

In a synthesis of fifteen cases studies of high-performing, high-poverty schools, Chenoweth (2007) found that effective schools assumed that every student was able to meet high academic standards, and that it was the staff's job to help students attain mastery of those standards. Effective schools know that the life-long consequences of not having a good education are dire for their students, and they take the idea of teaching

objectives to mastery seriously rather than simply teaching to an accountability test (Chenoweth, 2007). This systematic approach of teaching to mastery is evidenced in teachers' practices such as maintaining records of student mastery for specific objectives, ensuring new lesson objectives strategically build on each student's prior mastery, and being transparent about both their own progress and the student's progress by reporting to parents regarding how well their children are doing on the same standards-based objectives (Walberg, 2007). In other words, all students are provided "an ambitious and rigorous course of study" that is differentiated in order to accelerate learning and overcome barriers the students face (Shannon & Bylsma, 2007, p. 33).

Standards and expectations are further institutionalized in the ways in which a staff holds itself accountable for collective expectations of group performance (Elmore, 2008). When a staff has the collective expectation that all students can and will learn to high standards, it shapes the work of teachers and how they design the school system (Elmore, 2008). For example, privatized practice is usually insufficient. Therefore, teachers find ways to work together to support their common goals through practices such as data-based collaboration procedures, which in turn provides them with opportunities to re-evaluate their assumptions about specific student's learning (Shannon & Bylsma, 2007). A similar manifestation of collective expectations that relates to high standards for student performance is when instructional teams work together to develop standards-based units of instruction with accompanying criteria for determining whether students have mastered the unit's objectives (Walberg, 2007). By working together in this fashion and holding each other to account, the team demonstrates its expectations for one another as well as what it believes its students are capable of learning. Effective

schools then tie those units of instruction to assessment and data utilization practices, such as pre-tests, post-tests, and progress monitoring, because it provides the information needed to respond to students' progress or lack thereof (Walberg, 2007, 2011).

Effective School Leadership

One thing that sets successful schools apart from others is that they use school leadership practices to drive system-wide improvement (Walberg, 2011) because leadership is found to be second only to the classroom teacher in the degree to which it impacts student learning, accounting for about 12-20% of the variance in student achievement across schools, after controlling for student characteristics (Leithwood et al., 2008). Put simply, educational leadership can be defined as the persons who exert influence and provide direction in order to attain a school's desired outcomes (Daly, 2009). With that said, educational leadership must be distinguished from a specific role or job title (Knapp, Copland, Honig, Plecki, & Portin, 2010a). Rather, leadership can be described as "the shared work and commitments that shape the direction of a school or district and their learning improvement agendas, and that engage effort and energy in pursuit of those agendas" (Knapp et al., 2010a, p. 4). In other words, effective educational leadership comes from many people in a school or district, not simply an administrator, and is anchored in a sense of purposefulness.

An individual principal, however, is the catalyst for effective school leadership, thus making the latter dependent on the way the former manages change (Knapp et al., 2010a). Daly, Der-Martirosian, Ong-Dean, Park, and Wishard-Guerra (2011) described two types of leaders: transactional and transformational. Transactional leaders tend to be ineffective because they rely on a top-down approach to influencing change, which in

turn divides them from their staff, while transformational leaders cultivate internal motivation among staff based in a greater moral purpose (Daly et al., 2011). Transformational leaders inspire their staff, infuse energy and commitment, and cultivate collaboration (Hattie, 2009). Daly et al. (2011) found that transformational leaders are able to leverage change because they enable their staffs to see a better way. However, Hattie (2009) described a third type of leader, an instructional leader who places his or her primary focus on "creating a learning climate free of disruption, a system of clear teaching objectives, and high teacher expectations for teachers and students" (p. 83). While the idea of a transformational leader is not disparaged, and itself does have a positive effect on teacher satisfaction ($r = 0.71$) and student achievement ($r = 0.48$); in his meta-analyses, Hattie (2009) found that studies with instructional leaders produced larger effect sizes on student achievement ($d = 0.55$) than those with transformational leaders ($d = 0.09$). This differential impact is likely due to an approach that is more driven and purposeful. Instructional leaders utilize some of the same skill sets as transformational leaders, but they also articulate what is non-negotiable. Elmore (2008) described this as a matter of "what's loose and what's tight" in that "strategic administrators seem to have different standards for how much discretion they grant to various units in their systems, based on judgments about how well those units can manage their resources in an improvement process" (p. 85). In this way, effective leaders know how to find balance between individual leadership functions and shared leadership processes.

School leaders "improve teaching and learning indirectly and most powerfully through their influence on staff motivation, commitment and working conditions" (Leithwood et al., 2008, p. 32). To influence these areas, there are some common

practices in which leaders engage. To begin with, successful leaders come at the work from specific points of view. Effective leaders operate out of a sense of conviction and moral purpose that motivates them to improve student outcomes (Fullan, Bertani, & Quinn, 2004; Knapp et al., 2010a). They exhibit a sensitivity to, or responsiveness to, the unique context of their school, meaning they know how to craft their practices in a way that is fitting (Leithwood et al., 2008). Effective leaders take on a learning stance, recognizing that they do not have all the answers and that they, just like their staff and students, need to continuously learn in order to improve (Knapp et al., 2010a). Furthermore, they take the perspective that improvement is a systemic task and recognize that, to improve a school, there must be coordination across many moving parts in a complex system (Knapp et al., 2010a; Redding, 2006).

Operating out of the perspectives described above, effective leaders all demonstrate the same basic practices. First, they build a clear and widely shared focus on high-quality teaching and learning, and they set the direction of the school's goals to promote high expectations and outcomes for all students (Knapp et al., 2010b; Leithwood et al., 2008; Shannon & Bylsma, 2007). Second, they work to understand and develop the capacity of their staff not only in the areas of knowledge and skills, but also their dispositions, by "providing individualized support and consideration, fostering intellectual stimulation, and modeling appropriate values and behaviors" (Leithwood et al., 2008, p. 30). Effective leaders redesign and reculture the organization by cultivating new norms and values that establish an environment in which decisions can be collaboratively shared (Knapp et al., 2003; Leithwood et al., 2008). Lastly, they ensure that the teaching and learning is of the highest quality by aligning curriculum and

instruction to standards, using data effectively to make decisions about students and the program design, and supporting teachers through collaboration (Knapp et al., 2010a).

While individual principals act as catalysts for effective school leadership, leadership is most impactful when it is widely shared in specific ways (Leithwood et al., 2008). The context for shared leadership is based in established values and norms for the environment in which the culture has been designed to allow for distributed decision making (Knapp et al., 2003). As such, all staff equally feel responsible for the progress of all students, and accept responsibility for school goals (Knapp et al., 2010a), which can be described as an alignment of individual responsibility, collective expectations, and internal accountability (Elmore, 2008).

However, the staff and principal alone are not the only aspect to shared leadership. Adams and Jean-Marie (2011) add a unique dimension to the concept by describing three elements of what they call cross-boundary leadership, or leadership diffusion. There are "leaders in the middle, leaders on the ground, and community leaders" who are interdependent (Adams & Jean-Marie, 2011, p. 355). Leaders on the ground consist of teachers and other staff who directly work with students, but also include parents (Adams & Jean-Marie, 2011). Community leaders are external partners, such as members of business or local government groups, who serve as "portals...to resources and opportunities through their social ties," which can benefit the school's improvement agenda (Adams & Jean-Marie, 2011, p. 356). Finally, principals are leaders in the middle because through their formal authority they rally and coordinate the other types of leadership around the clear and shared focus of the school. In order to mobilize diverse aspects of leadership, effective schools establish structures for

collaborative teams that outline responsibilities and decision making functions that coordinate each type of leader (Walberg, 2007).

High Levels of Collaboration and Communication

Effective schools maintain a teaming structure that matches each of the three areas of cross-boundary leadership (described above) with appropriate types of decision making. This structure includes, but is not limited to, the following types of teams: a leadership, or school improvement, team charged with the overall direction of the school and other teams; a set of grade level or content area instructional teams that plan for, monitor, and adjust the instructional core; and a community-school partnership team that provides input on how to improve school to home connections as well as guidance on beneficial school to community opportunities (Walberg, 2007). The first two collaborative structures will be discussed here, while the third will be discussed in the section below on family and community involvement.

Leadership teams serve as the creators and sustaining sponsors of the school's clear and shared focus and therefore put into place a comprehensive, school-wide improvement agenda (Knapp et al., 2010a). A leadership team usually is comprised of several teacher leaders and the administrator(s) with no more than seven or eight members (Knapp et al., 2010a; Walberg, 2007). Effective leadership teams generally:

- meet regularly (twice or more each month) to maintain coherent systems (Walberg, 2007);
- set yearly goals for learning based on student achievement data (Knapp, Copland, Plecki, & Portin, 2006; Walberg, 2007);

- serve as a central source of communication for the entire staff (Datnow & Stringfield, 2000; Walberg, 2007);
- monitor student performance data, evidence, and other forms of feedback for the school, grade levels, and classrooms (Knapp et al., 2006; Walberg, 2007);
- review summary reports in aggregate from the principal's classroom observations for use in decisions about professional development (Walberg, 2007); and
- identify problems of practice, work on their solutions, and make decisions to ensure a high-quality, school-wide instructional program (City, Elmore, Fiarman, & Teitel, 2009; Knapp et al., 2006).

Effective leadership teams therefore view their primary purpose as being to cultivate, shepherd, and ensure the implementation of the school characteristics and activities, which are a necessary part of a learning-centered, continuous improvement agenda.

While a leadership team directs the vision and system-wide decisions for a school, instructional teams act as the leadership on the ground that is most closely connected to the student-teacher interaction. Effective schools ensure that all teachers are "organized into grade-level, grade-level cluster, or subject-area Instructional Teams" that "meet for blocks of time sufficient to develop and refine units of instruction and review student learning data" (Walberg, 2007, p. 112). Instructional teams, due to their composition, take on the smaller grain work of planning and implementing instruction. The foremost mark of high-quality instructional teams is that they engage in continuous, collective inquiry to address areas of concern and learn from each other in order to come to

consensus regarding (a) what they expect students to know and be able to do as well as (b) how to respond collectively when students struggle (Datnow & Stringfield, 2000; DuFour, DuFour, Eaker, & Karhanek, 2004; Shannon & Bylsma, 2007). The team's collective expectations are then designed into units of instruction that are aligned with agreed upon standards, and the teams utilize common assessment practices based on those standards (Shannon & Bylsma, 2007; Walberg, 2007). Progress toward attainment of the agreed upon expectations is reviewed during the team's regular meeting blocks by analyzing student performance data that tracks individual and group progress toward mastery of standards-based objectives (Shannon & Bylsma, 2007; Walberg, 2007). Depending on the outcomes of student performance data and other related evidence, instructional teams identify students who are in need of additional support, intervention, or enrichment and make determinations about the relative strengths and weaknesses of the instructional program (DuFour et al., 2004; Walberg, 2007). These data and decisions cycle back to the concept of collective inquiry, and members of an instructional team help each other learn how to improve, using methods such as observation of each other's practice and collective study (Shannon & Bylsma, 2007). Instructional teams function as the arms and feet, so to speak, in relation to the school's vision, or clear and shared focus. They act in ways that refine instructional practices as needed down to the group and individual student level in order to meet the school's high standards and expectations for all students. When instructional teams function in this way, effective principals are able to maintain a well-balanced *what's tight* versus *what's loose* perspective and can entrust critical decisions to the team rather than being the "central problem solver" (DuFour et al., 2004, p. 142).

Three remaining aspects that support effective collaboration and communication are worth mentioning: devoted time, relational trust, and a sense of collective efficacy. These three deal with the environment needed for collaborative relationships. First, effective schools allocate resources to support improvement, one of the most important resources being time for collaboration (Leithwood, 2010; Newmann, Smith, Allensworth, & Bryk, 2001). As mentioned above, sufficient time is needed for teams to meet; therefore the concept of devoted time plays an essential role in collaboration (Redding, 2006). Second, effective schools create an environment of relational trust, in which it is acceptable to make mistakes as well as to question the status quo (Adams & Jean-Marie, 2011; Hattie, 2009; Shannon & Bylsma, 2007). Hattie (2009) described how:

> enhancing learning also needs school leaders and teachers who can create school, staffroom, and classroom environments where teachers can talk about their teaching, where errors or difficulties are seen as critical learning opportunities, where discarding incorrect knowledge and understandings is welcomed, and where teachers can feel safe to learn, re-learn, and explore their own teaching knowledge and understanding. (p. 37)

Trust, however, is not an easy thing to create. Fullan (2011) found that "effective systems have come to trust and respect teachers" (p. 16). Fullan (2011) further described this by stating that "if you want to break the cycle of distrust you have to respect others 'before they have earned the right to be respected' ... and then do the things that build competencies and trust over time" (p. 16). Hence, effective schools intentionally give trust in order to build trust. Third, effective schools exhibit a sense of collective efficacy, and believe they are able to accomplish the goals that they set (Adams & Jean-Marie, 2011; DuFour et al., 2004; Shannon & Bylsma, 2007). This serves as motivation to keep on working toward the finish line of high standards and outcomes for all students. Collective efficacy can be cultivated by focusing on quick wins, especially in a school

turnaround context, and quick wins can build momentum for improvement (DuFour et al., 2004; Walberg, 2011). Fullan (2011), in speaking about teacher ownership of the continuous improvement process, put it this way: "Increasing instructional improvement causes motivation to increase – what we call 'the moral imperative realised.' Success means greater efficacy and the latter breeds greater commitment" (p. 14). In sum, devoted time, relational trust, and collective efficacy are critical to the success of the types of collaboration and communication efforts that are necessary to effectively meet the needs of all students in a school. Each contributes to the affective environment that is a prerequisite for leadership teams and instructional teams to accomplish their work.

Curriculum, Instruction, and Assessment Aligned with Standards

There are multiple entry points for decisions about the planning of curriculum and instruction: district provided curricular products, district curriculum guides, state standards, state tests, and others (English & Steffy, 2001). Regardless of the entry point, effective schools demonstrate commonalities in their approach to designing and delivering instruction and ensuring that it has the impact intended. They ensure that the enacted curriculum is the same as the planned curriculum, and that both are aligned with specific content area standards and essential learning objectives as a floor for defining achievement (English & Steffy, 2001; Shannon & Bylsma, 2007; Walberg, 2011). Such schools make use of instructional practices and, when possible, materials that are well grounded in educational research findings (Shannon & Bylsma, 2007). Additionally, they understand the role of assessment in ensuring student learning, and they use multiple types of assessment practices that are closely aligned to the standards and actual

instruction to monitor student progress and adjust instruction to ensure student mastery of objectives (English & Steffy, 2001; Shannon & Bylsma, 2007; Walberg, 2011).

Effective schools make decisions about what is essential to be learned (the planned, written curriculum) and what actually gets taught (the enacted curriculum) in ways that will benefit the goals they have for their students (Shannon & Bylsma, 2007). English and Steffy (2001) articulate how this decision making process must be grounded in the "doctrine of 'no surprises' for children" so as to ensure students will never be tested on anything they are not taught (p. 55). In other words, effective schools start off with high expectations for student learning standards, and they must accommodate teaching and learning practices in ways that meet those expectations. In order to do so, they must align three aspects of the curriculum: what is taught, what is written, *and* what is tested (English & Steffy, 2001). Each of these must be relatively proportional in order to demonstrate what English and Steffy (2001) called *deep curriculum alignment*. The planned, written curriculum is generally more robust than anything that can be tested, and the taught curriculum is generally even more robust than what is planned because teachers take advantage of additional teachable moments. This proportional relationship is depicted graphically in the Figure 8.

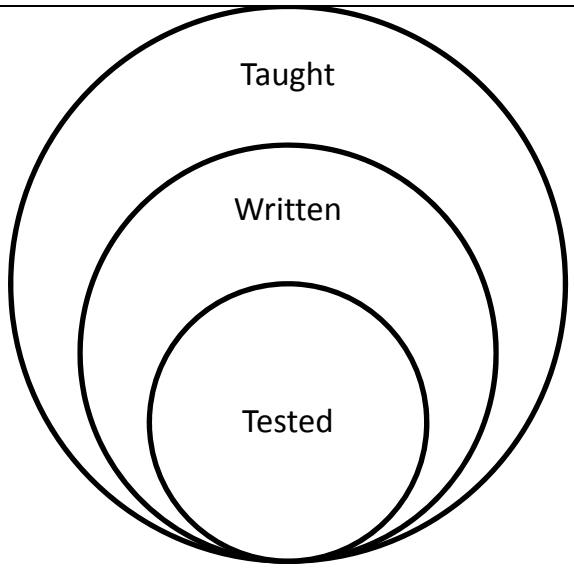


Figure 8. The Proportional Relationships of the Written, Taught, and Tested Curriculum (English & Steffy, 2001, p. 88)

Due to the fact all states now have standards in reading and mathematics along with accountability assessments in the same areas (Walberg, 2011), effective schools know to at minimum develop a written and tested curriculum that accounts for these tested standards. As described in the section on *High Levels of Collaboration and Communication*, the work of alignment planning is done primarily with instructional teams, in coordination with the leadership team, and is manifested as a written curriculum made up of units of instruction that are aligned with essential learning objectives and criteria for mastery for each subject and grade level (Walberg, 2007). Walberg (2007) further identified that teams and teachers refine those "units of instruction [to] include specific learning activities" that are supported by materials the team uses in a common manner (p. 126). To accomplish what Walberg described, teams must undertake what English and Steffy (2001) defined as both frontloading and backloading. Frontloading entails planning what should be taught and then creating tests that assess it. Backloading

is the process of understanding a specific test (e.g., a state assessment) and then creating a curriculum plan that is sure to include what is on it. It is by doing both frontloading and backloading that teams ensure the taught curriculum is as robust as it needs to be to meet the long-term goals they have for students while at the same time not overlooking any of the tested curriculum required by state standards.

Once the written curriculum and tested curriculum are planned, the work of the taught curriculum intersects with actual instructional delivery, in which methods and resources need to be tightly aligned with research. Hattie (2009) identified numerous teaching strategies that have a strong impact on student learning in his meta-analyses, stating that:

> the key ingredients of what it means to be strategic in teaching and learning relates to teachers finding ways to engage and motivate students, teaching appropriate strategies in the context of various curricula domains, and constantly seeking feedback about how effective their teaching is being with all the students. (p. 161)

The strategies included in the meta-analyses were classified by the degree to which they had reverse effects, developmental effects, teacher effects, or fell into the zone of desired effects by placing them onto a "barometer of influence," as illustrated in Figure 9 (Hattie, 2009, p. 18). The zone of desired effects ($d \geq 40$) for the contributions from teaching approaches that have the highest impact on student learning outcomes include:

- *Strategies that emphasize the intention of the learning:* goals ($d = 0.56$), behavioral organizers/advance organizers ($d = 0.41$), and concept mapping ($d = 0.57$);

- *Strategies that emphasize criteria for success:* mastery learning (*d* = 0.58), Keller's PIS (*d* = 0.53), and worked examples (*d* = 0.57);
- *Strategies that emphasize feedback:* feedback (*d* = 0.73), providing formative evaluation (*d* = 0.90), and questioning (*d* = 0.46);
- *Strategies that emphasize the perspective of the student in learning:* spaced versus massed practice (*d* = 0.71) and peer tutoring (*d* = 0.55); and
- *Strategies that emphasize metacognition and self-regulated learning:* meta-cognitive strategies (*d* = 0.69), study skills (*d* = 0.59), self-verbalization/self-questioning (*d* = 0.64), and matching style of learning (*d* = 0.41). (Hattie, 2009)

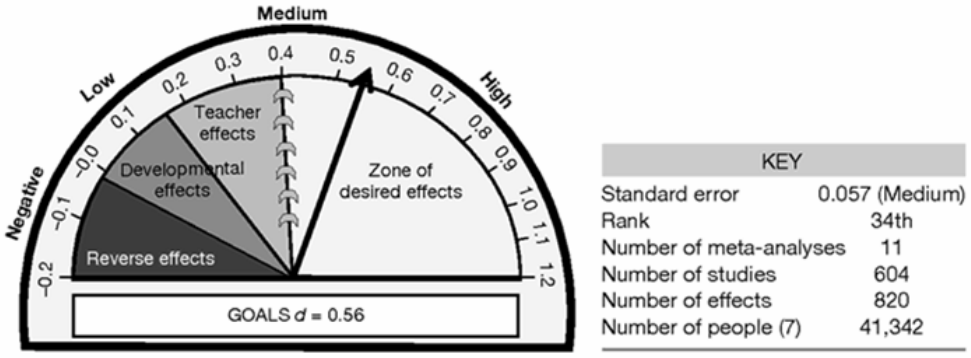


Figure 9. Example of Hattie's Barometer of Influence for the Effect of Goals as a Strategy

Effective schools intentionally work high-quality strategies, such as those identified by Hattie, into their instructional delivery methods by keeping the following principles in mind:

- **Constructing knowledge**—learners are active participants in the learning process using their prior knowledge and experiences.
- **Active engagement**—learners respond to having a choice, time to reflect, opportunities to participate in decisions about their work, express learning in a variety of ways, do something with what they learn, and have some open-ended experiences or "mystery" in their learning, rather than encountering only predetermined results.
- **Meaningful content**—students make connections with the content; content is personally relevant.
- **Collaboration and social interaction**—students work together, teach one another, converse about their learning.
- **Reflection / Self-Assessment / Metacognition**—students are aware of their thinking processes and how to regulate the processes by monitoring and directing the process and making adjustments when something isn't working.
- **Inclusivity**—students feel valued and welcomed in classrooms; they need teachers who believe in them and expect them to do well. (NWREL, School Improvement Program, as cited in Shannon & Bylsma, 2007, p. 74)

By designing and delivering instruction using these principles and specific, research-based strategies, effective schools increase the likelihood of success in reaching the high academic expectations they have set for their students.

To know whether they have met their goals, effective schools use assessment practices that are aligned to the curriculum standards to determine whether learning has occurred as well as to monitor learning while it is in progress. Rick Stiggins and his

associates at the Assessment Training Institute define this balance of assessment purposes as formative assessment *for* learning and summative assessment *of* learning (Chappuis & Chappuis, 2002; Shannon & Bylsma, 2007). The primary purpose of summative assessment is to gather evidence of the learning that has occurred up to a certain point in order to report it at a static point in time. Summative assessment formats can include various types of outcome measures, such as end of unit tests, oral reports, and state accountability exams. The primary purpose of formative assessment is to inform timely adjustments to the instructional core. Formative assessment can include benchmark assessments, screening measures, progress monitoring tools, and diagnostic assessments that each help inform next steps in a student's instructional profile (Flachbart, 2009). Formative assessment is truly what completes "the learning-instruction-assessment nexus that is at the heart of driving student achievement" through continuous "instructional improvements" (Fullan, 2011, p. 8).

Frequent Monitoring of Learning and Teaching

Effective monitoring of teaching and learning is based in a sense of collective inquiry and is designed to provide continuous feedback, rooted in evidence, in order to promote continuous improvement that is aligned with the goals and objectives of the school (Datnow & Stringfield, 2000; Knapp et al., 2010a, 2010b; Shannon & Bylsma, 2007). Effective schools create a culture in which data are neutral and not used punitively. Decisions are made on behalf of students' best interests and are based on a variety of assessment results. The schools also make decisions about the quality of school and classroom practices based on evidence from multiple sources.

In effective schools, monitoring of teaching and learning is a practice that is necessary for improvement purposes (Shannon & Bylsma, 2007). As such, it is designed to be non-threatening, rather than punitive, and efforts to ensure high-quality teaching and learning occur frequently so that the school can make timely adjustments to its practices. Shannon and Bylsma (2007) state that "errors are treated as learning opportunities" for both teachers and students, and that the data and evidence collected are not for the primary purpose of making "major decisions about a student's future or a teacher's career" (p. 86). This is an important distinction because of the implications it has for one of the other characteristics of effective schools: *High Levels of Collaboration and Communication*. As described previously, relational trust is critical to the concept of collaboration. Students need to know, and are motivated by the knowledge that, formative assessments are being used to help them improve (Chappuis & Chappuis, 2002), and teachers need to similarly know that the data that is being used to help them is intended to help their students. The primary use of data from teacher evaluation ratings, for example, should be used to provide formative feedback to teachers as well as to inform professional development for staff when trends of weakness are observed throughout the school. While it is appropriate to use evaluation to remove ineffective teachers, this negative use of data should not be predominant.

Decisions about student learning are informed by the use of a variety of assessment results and monitored by teachers and leaders (Knapp et al., 2010a; Shannon & Bylsma, 2007). For example, screening assessments may be used to determine whether certain students are at risk of academic failure, while benchmarking assessments may be used to monitor student progress toward mastery or goal attainment. Individual

teachers are the first line of defense in ensuring all students are progressing according to plan. As such, all teachers in effective schools use multiple formative assessment methods with their students and maintain records of the results for decision making (Walberg, 2007). These results help them to identify the needs of specific students and any misunderstandings or misconceptions they demonstrate (Walberg, 2011). Depending on the scale of the needs teachers observe in student performance data, they will differentiate instruction and re-teach as necessary (Walberg, 2007). However, each teacher also functions as part of a collaborative team which identifies specific students who need intervention and makes adjustments to the larger program design based on strengths and weaknesses seen across groups of students (Walberg, 2007). Regardless of whether a teacher or a team addresses the student need, the means of doing so are the same. More support is provided to the student through additional instructional time, and instructional strategies are adjusted to fit the need at hand (Shannon & Bylsma, 2007).

The monitoring of student learning described here serves as the basis for collaboration itself. As instructional teams come across evidence that demonstrates the program is not sufficiently meeting the needs of all learners, and students are not on track to meet the team's goals, it kicks the collective inquiry into gear. Teams institute processes to learn together in order to find solutions to their concerns about the data and then take action to implement their decisions (DuFour et al., 2004). In turn, these processes by the *leadership on the ground* can serve to mediate the majority of students' needs (when done well) by operating effectively within the *what's loose* arena that has been entrusted to them by the principal (Adams & Jean-Marie, 2011; Elmore, 2008). Furthermore, instructional teams cannot always do it alone. In order to ensure system-

wide success, leadership teams must keep a watchful eye on school performance data as well in order to make decisions about improvement efforts, alignment of programs and resources, and professional development (Walberg, 2007).

Monitoring of student learning extends beyond just the use of student data; it includes decisions about the quality of teaching. Decisions about the effectiveness of school and classroom instructional practices are informed by additional types of evidence that are monitored by teachers and leaders (Knapp et al., 2010a; Shannon & Bylsma, 2007). At the individual teacher level, effective schools empower teachers with the means by which to assess their own teaching in relation to known effective practices (Walberg, 2007). For example, a teacher may be led to reflect on effective teaching practices identified in research literature, such as the finding that providing formative evaluation to students has the largest effect on student achievement ($d = 0.90$) and that direct instruction ($d = 0.59$) and mastery learning practices ($d = 0.58$) have greater impacts than inquiry based teaching ($d = 0.31$) (Hattie, 2009). This may also include opportunities to reflect on things such as the teaching strategies described within common frameworks such as Indistar (Center on Innovation & Improvement, 2009a) or the differentiated levels of performance on the components within the four domains of Danielson's (1996) Framework for Teaching.

A second aspect to the monitoring of teaching occurs in effective schools through the use of job-embedded professional development, especially when teachers are provided the opportunity to observe other teachers. Walberg (2007) provides one example of this stating that effective schools include "observations by peers related to indicators of effective practice" (p. 122). Robinson, McNaughton, and Timperley (2011)

also noted in their review of the literature that "the high-performing countries of East Asia [have] a tradition of collective lesson planning and lesson study, led by master teachers" in which peers observe and learn from each other (p. 725). In essence, these methods support the function of a professional learning community by stopping "the isolated, private practice of independent subcontractors and [ensuring] collaborative teams in which members share their practices and their results--successes as well as setbacks" (DuFour et al., 2004, p. 185). When structured well, peer observation deprivatizes practice and can be used as a way to monitor teaching practices, while at the same time building collaboration and collective understanding.

A third way in which teaching is monitored is accomplished by the principal and leadership team. While all teachers are evaluated formally from time to time with some sort of summative appraisal for contractual purposes, effective schools use ongoing informal observations that are instigated by the principal for use in a formative fashion to improve both individual and group quality. As Fullan (2011) explains, "Teacher appraisal will not work unless it is embedded in a school culture of learning where teachers are motivated to learn from feedback"; effective systems realize that they must work on group quality and use an appraisal system as a reinforcer, not a driver, of change (p. 10). Therefore, principals work with leadership teams to make decisions about group quality by collecting evidence of instructional practices (Knapp et al., 2010a). Foremost, principals in effective schools actively monitor the curriculum, and evidence is collected regarding classroom instruction by means of regular classroom observations (Shannon & Bylsma, 2007). On an individual teacher level, the principal will challenge unsound instructional practices, provide support, and then inspect the progress of the teacher's

practice as he or she corrects the area of concern (Walberg, 2007). At a group or school level, principals in these settings maintain a record of their observations and aggregate the data into reports that the leadership team can use for decision making. The leadership team is then able to take the aggregated observation data into account for planning professional development (Walberg, 2007). Another way in which effective schools gather evidence of practice is through the use of protocols such as instructional rounds. Instructional rounds is a method by which a leadership team identifies a problem of practice, often starting with the performance data, and then uses a protocol to collectively observe teaching practices throughout the school (City et al., 2009). As evidence is collected, leadership teams are then able to synthesize it into themes in order to learn what might be causing the indentified problem. By using evidence-based methods for collecting information about the quality of teaching and the instructional system in general, effective schools are able to have a complete feedback loop in order to continuously identify, understand, and adjust their practices in order to address any stumbling blocks that prevent them from attaining their student achievement goals.

Focused Professional Development

Effective schools utilize professional development in order to strategically build capacity across the entire system in a way that results in changed instructional practice that subsequently improves student outcomes (Center for Public Education, 2009; Elmore, 2008; Walberg, 2011). In order to ensure that professional development practices attain the desired results, effective schools cultivate a context for professional learning. They are mindful of the content to be learned and the rationale for its

significance. They also utilize methods that match the type of learning needed to an appropriate delivery model.

In a synthesis of studies both in New Zealand and internationally, Timperley, Wilson, Barrar, & Fung (2007) found seven elements that were important and necessary conditions for the context of professional development. Schools demonstrated the following traits in their professional development practices to substantively and positively impact student learning:

- Sufficient time was provided to teachers for extended opportunities to learn, and the time was used effectively.
- While not sufficient in itself, external expertise was sought and taken into account.
- Teachers were engaged in the learning process, regardless of whether or not they volunteered to participate.
- Problematic beliefs, such as faulty assumptions about students or curriculum and instruction, were actively challenged and alternative views were sought.
- Opportunities were provided to interact collaboratively in a community of practice.
- Content was consistent with wider policy trends and research literature.
- School leaders actively led and participated in the learning opportunities. (Timperley et al., 2007)

These contextual factors are important because professional development at its core deals with the habits of mind, knowledge, and skills of the members of the school. It entails systematic changes to an individual's knowledge base, accounts for issues of

internal motivation, and impacts the "strategic processing and executive functioning" of the learner (Shannon & Bylsma, 2007, p. 97). Because learning is a process that relies on these internal workings of the mind, there is an inherent tension at play between the system and the individual (Elmore, 2008). The school's clear and shared focus applies system-wide and is usually catalyzed by the principal (Elmore, 2008; Knapp et al., 2010a). In fact, the principal must actively seek out, promote, and personally learn alongside the teaching staff; he or she cannot simply tacitly support various professional development offerings (Elmore, 2008). However, teachers themselves must also play a large part in identifying and driving the course of professional development since it is mostly about their individual learning (Shannon & Bylsma, 2007). The school cannot solely rely on volunteerism of individuals to achieve collective goals (Elmore, 2008; Timperley et al., 2007). Conversely, it cannot simply rely on top-down mandates, because "those who are being 'developed' must consent to learning what they are being asked to do and how to do it" (Elmore, 2008, p. 101). Thus, effective schools cultivate all of the contextual traits listed to find a happy medium between the role of administration and that of the staff.

The ways in which a school addresses the context of professional development is directly connected with its practices in the other characteristics of effective schools. A good example of this is in the area of *High Levels of Collaboration and Communication*; schools ensure that there is an environment in which it is acceptable for people to make mistakes. Mistakes are seen as learning opportunities (Shannon & Bylsma, 2007). This environment of trust is cultivated so that when it comes to professional development, where people are expected to change and do something better than before, the school can

capitalize on the reciprocal relationships it has developed (Elmore, 2008). In other words, teachers know that, for the accountability expected of them to improve their practice, the administration is there to support them in meeting collective expectations for students. By creating the right type of context for professional development, effective schools are able to use it in a way that keeps their focus on continuous improvement with the goal of ensuring all students reach high standards (Center for Public Education, 2009; Walberg, 2011).

Effective schools ensure that the content of professional development is aligned with their needs as evidenced in and connected to the other characteristics of effective schools (Shannon & Bylsma, 2007; Timperley et al., 2007). Professional development is organized around aligned curriculum, instruction, and assessment practices that define what students are to learn and is founded upon the school's standards and learning expectations for all students. This encourages the development of a common language for continuous improvement (Shannon & Bylsma, 2007). In general, professional development places an "emphasis on indicators of effective teaching" (Walberg, 2007, p. 122).

The content of professional development further focuses on problems of practice, or issues of curriculum and instruction, which are derived from the data collected during both principal observations and teacher self-assessment processes (Elmore, 2008; Timperley et al., 2007; Walberg, 2007). Teachers and leaders utilize these data and take into account problems of practice in order to monitor the effectiveness of their teaching and the students' learning. Depending on the evidence, any problems of practice that arise serve as a feedback loop for decisions about professional development. The

matching professional development processes are then designed to connect theory to practice by integrating curriculum knowledge (i.e., understanding the subject area) with high-quality pedagogical content knowledge (i.e., understanding how to teach) (Timperley et al., 2007). This emphasis on "the why as well as the how of teaching" (Shannon & Bylsma, 2007, p. 96) provides teachers with the tools necessary to make decisions at increasingly smaller grain sizes, especially when real-life applications do not perfectly match with theory. Understanding the theoretical foundation of an instructional method or content construct empowers teachers to adjust instruction without domesticating the practice to the point at which it no longer resembles its original intent.

Effective schools deliver professional development through various methods. There are commonalities across different methods, with the most significant being that they are almost always job-embedded (Leithwood, 2010; Robinson et al., 2011; Shannon & Bylsma, 2007). There is general consensus that attending a workshop in and of itself rarely results in substantial impact on student learning (Timperley et al., 2007). Effective schools understand this and provide regular opportunities in which teachers are provided learning that is ongoing and connected to real applications. A second commonality is that the professional development methods are competency based, rather than deficit based, and work to build capacity among teachers (Shannon & Bylsma, 2007, p. 96). A third commonality is that the methods focus on group quality, rather than just individual quality, as described above in the section *Frequent Monitoring of Learning and Teaching* (Fullan, 2011). Elmore (2008) encapsulates all three of these commonalities well in his description of the consensus view formulated across the research literature about professional development:

> Professional development, in the consensus view, should be designed to develop the capacity of teachers to work collectively on problems of practice within their own schools and with practitioners in other settings, as much as to support the knowledge and skill development of individual educators. This view derives from the assumption that learning is essentially a collaborative rather than an individual activity - that educators learn more powerfully in concert with others who are struggling with the same problems - and that the essential purpose of professional development should be the improvement of schools and school systems, not just the improvement of the individuals who work in them. (p. 97)

Particular methods for professional development depend on the purpose and include approaches that address the whole school, groups within the school, and individuals. While workshops alone are insufficient, effective schools will use them as introductory tools that provide initial understanding of a specific content area, a pedagogical approach, or both; but the school will then ensure that there is some type of follow up afterward that assists with implementation (Timperley et al., 2007). The reason for a workshop or lecture type setting is that it can convey initial awareness of a new initiative or innovation that fits with the school's vision.

A second method for professional development is implemented among groups of individuals within a school through the use of "structures for regular staff interaction" and "cycles of school-wide inquiry into learning and teaching performance" (Knapp et al., 2003, p. 16). These structures fall under the definition that Dufour et al. (2004) provide regarding a professional learning community which is made up of a collaborative team that continuously researches, experiments, and takes action to achieve improved results. A professional learning community includes the leadership and instructional teams described in the section above, *High Levels of Collaboration and Communication*, but also includes study groups, procedures for action research, and peer observation and lesson study models (Shannon & Bylsma, 2007).

A third method for the delivery of professional development is that of instructional coaching (Knight, 2009). Instructional coaching is a process that is used to help individual teachers refine their practices through high-quality feedback from an experienced peer. While other researchers have described different approaches to coaching, such as peer coaching (Beverly Showers) and cognitive coaching (Arthur Costa and Robert Garmston), Knight (2009) identified the following cross-cutting similarities:

- Coaches focus on improving the practice of teaching for individual teachers.
- Coaching experiences are directly applicable to teachers' instructional plans, such that new practices are implemented immediately.
- Coaching is intensive, differentiated for each teacher, and is ongoing over an extended period of time.
- Coaches are peers who are equal partners with teachers.
- Coaching is not about giving directives but rather enabling dialogue and reflective conversations about instructional practice.
- Coaching is non-evaluative and confidential; it does not get linked to teacher evaluation.
- Coaching is based on clear, respectful communication.

When implemented according to these core traits, coaching is viewed as a powerful tool that can help teachers translate theory into practice.

Supportive Learning Environment

Effective schools understand that improving the environment and climate of the school not only goes hand in hand with improved academic outcomes, it can facilitate improvement (U.S. Department of Education, 2010a). As such, changing the

environment is often a starting point for school turnaround efforts (U.S. Department of Education, 2010a). The environment and climate created in an effective school and each of its classrooms is explicitly related to its clear and shared focus and is driven by high expectations for student learning. In order to promote the right kind of intellectual development in students and reach those expectations, teachers cultivate positive relationships with each of them (Hattie, 2009; Shannon & Bylsma, 2007). Through these relationships, teachers intentionally work to impact students' beliefs about themselves (Shannon & Bylsma, 2007). Additionally, the classroom culture is designed with structures that will intentionally cultivate these positive relationships and beliefs in tandem with academic learning (Redding, 2006).

In summarizing the contributions of teacher effects on student learning, Hattie (2009) stated that the quality of teacher-student relationships have a large effect (d = 0.72) on student achievement and that "to have high expectations and to share a common conception of progress requires teachers to be concerned about the nature of their relationships with their students" (p. 128). Thus, effective schools establish positive relationships with students in order to create a "safe, civil, healthy and intellectually stimulating learning environment" (Shannon & Bylsma, 2007, p. 107). A hallmark of such positive relationships is that students feel respected, valued, and connected to the adults (Shannon & Bylsma, 2007). By contrast, Hattie (2009) described how in many ineffective systems, teachers are actually surprised to learn that their students feel as though their teacher does not like them. This is a result of the fact that the teachers "rarely saw the classroom through the eyes of the students" (Hattie, 2009, p. 128). Conversely, when teachers became more self-aware and changed their practices to focus

on a positive relationship with their students, learning was optimized. The reason for this, according to Hattie (2009), is that:

> The powers of developing a warmer socio-emotional climate in the classroom and fostering effort and thus engagement for *all* students are invoked... [which] requires teachers to believe that their role is that of a change agent - that all students *can* learn and progress, that achievement for all is changeable and not fixed, and that demonstrating to all students that they care about their learning is both powerful and effective. (p. 128)

The key to the power of this observation is that teachers have defined themselves as change agents who see the tools at their disposal (e.g., a strong relationship) as ways to affect change. Teachers in effective schools build positive relationships in many ways, including acknowledging student effort, removing anything that would cause students to feel threatened, engaging students on a personal level, working to find the positive side in all matters, and acting with integrity toward students (Shannon & Bylsma, 2007). All of these types of relational tools are used not just because the teachers genuinely care about and believe in the students, but because they want to do whatever it takes to help them achieve.

Once strong student-teacher relationships are in place in each classroom, teachers in effective schools are then able to use those interpersonal bonds to impact each student's sense of self. There is general consensus that student motivation impacts learning, and motivation is influenced by students' beliefs about their own abilities (i.e., self-efficacy), beliefs that may be optimistic or pessimistic (Walberg, 2011). The good news is that pessimistic beliefs about self can and are overcome in effective schools by "creating learning situations in which students experience success" (Walberg, 2011, p. 13). In other words, success breeds success, and as students' begin to trust that their teachers genuinely care about their learning, teachers can become "warm demanders"

who encourage children to take risks that result in deeper learning (Shannon & Bylsma, 2007, p. 110). As students take risks and see themselves achieving new things, they begin to view themselves as successful learners and thus attribute their success to their own effort, rather than luck or eternal causes. Saphier (2005) described the change in self-efficacy in this manner: students realize that "effective effort" is the "main determinant of achievement - not innate ability" and will "work harder and smarter because they come to believe it is worth their while to do so, and they have been taught explicitly how to do so" (in Shannon & Bylsma, 2007, p. 112). However, self-efficacy is part of the larger notion of building resilience. Ungar (2011) defined resilience as follows:

> In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well being, and their capacity individually and collectively to negotiate for these resources to be provided and experienced in culturally meaningful ways. (p. 10)

Students who are resilient are able to succeed despite the tremendous challenges they may face in their personal lives (Barr & Parrett, 2008). While some students come to school already demonstrating resilience, research has demonstrated that schools are able to cultivate resilience among those who do not (Barr & Parrett, 2008). This is particularly important because effective schools do not assume that all students come as resilient learners, nor do they assume that the disadvantages and difficulties that children face are insurmountable. Therefore, such schools work to establish the characteristics of resilience (i.e., social competency, problem-solving skills, autonomy, and a sense of purpose and future) in all children to mitigate what would otherwise be "debilitating factors and impediments to success in school" (Barr & Parrett, 2008, pp. 43-44). By

capitalizing on positive relationships to instill resilience, effective schools are able to move their students to the point that they are motivated to learn and succeed.

Once the issues of motivation and self-efficacy are addressed, an effective school is able to utilize its structural designs and the decisions made by its collaborative teams to support learning to a fuller extent. As mentioned in discussion above on the other characteristics of effective schools, processes of collaboration and data utilization are employed to differentiate instruction for students to ensure mastery of academic objectives. Whether it is through the use of schoolwide models, such as Response to Intervention (RTI) or Positive Behavior Intervention Supports (PBIS), or through home-grown structures and routines, effective schools create expectations for behavior and learning that are centered around supporting students so that each individual feels safe, valued, and engaged, thereby "personalizing students' academic support, 'catching' unsuccessful students before they fall too far behind" (Shannon & Bylsma, 2007, p. 109).

High Levels of Family and Community Involvement

Effective schools are driven by an intense focus on meeting the needs of each and every student they serve and understand that this takes many more people than just teachers and school staff (Redding, 2011). Families, the business and social service community, as well as other educational agencies all play a role, and effective schools seek out ways to round up the types of support needed (Shannon & Bylsma, 2007). As Rhim (2011) pointed out, "Historically, family and community engagement in schools has been limited to activities such as participating in parent-teacher conferences and associations, fundraising for specific programs, volunteering in classrooms, and attendance at school events" (p. 32). Effective schools take family and community

engagement to a much deeper level and create a school community that expands beyond the school's walls. The essential "building blocks" of an effective school community encompass leadership functions, goals and roles, approaches to communication, education and support of parents, personal connections, and continuous improvement (Redding, 2011, pp. 16-17).

A school community that effectively serves its students operates out of a framework of shared leadership that uses partnerships among teachers, leaders, and families to achieve its goals (Henderson & Redding, 2011; Redding, 2011; Sheldon, 2011). Such leadership is grounded in the school's clear and shared focus and the belief that "the education of students is the shared responsibility of teachers, school staff, families, and community, as well as the students themselves" (Shannon & Bylsma, 2007, p. 119). As previously mentioned, effective schools function with collaborative teams, which has implications for family and community engagement. Effective schools generally have a team, such as a School Community Council, that intentionally focuses on the relationship between the school and the community (Redding, 2011) and which makes decisions, creates plans, and implements activities "related to areas where the responsibility of the school and the home overlap" (Henderson & Redding, 2011, p. 105). It's through partnerships, such as the members of a School Community Council, that the school not only engages families, but leverages as many resources as possible from the community (Chenoweth, 2007). Whether it is organizing volunteers, finding student mentors, engaging social service agencies, getting donations from business groups, or accessing resources through local colleges, shared leadership with family and community members enriches what the school is able to offer to students. In addition to outside

partnerships, effective schools are intentional about the link between their School Community Council and other teams. For example, parents are included on the overarching school leadership team and their input is sought on plans for school improvement (Henderson & Redding, 2011). Regardless of the form of teaming, whenever family and community members are engaged in leadership, effective schools ensure that their formal role is substantive and purposeful rather than symbolic or simply a gesture (Rhim, 2011).

The goals and roles of the leadership team and/or School Community Council guide members in relation to where they fit with student learning as well as their connections to other members of the school community (Redding, 2011). While there may be many different goals in a school, the ultimate goal is to ensure academic success among students. Because of this, the role "for initiating partnerships" that will support the school's academic goals "lies primarily with the staffs of schools and districts" (Shannon & Bylsma, 2007, p. 120). An effective school cannot wait for parents or community members to volunteer their input or assume that just having parents show up to parent-teacher conferences constitutes engagement. Rather, the school staff must take the first step of engaging families and community and does so by targeting the "nexus" between what the home wants for the child and what the school wants for the child (Redding, 2011). Students' families' goals are larger than academics, including social and emotional development. Therefore, schools must partner with families to accomplish both groups' wishes. By working together on social and emotional as well as academic goals, "educators convey respect for students' inner lives and an understanding of students as complex and multifaceted," which in turn deepens trust between all parties

and reinforces the partnerships (Mart, Dusenbury, & Weissberg, 2011, p. 41). Through partnerships built on trust, the collective work on agreed upon goals moves more efficiently. Sheldon (2011) described how the goals that result from school-family partnerships benefit from being linked to specific family and community involvement activities in three areas: academic student performance (e.g., assessment results), non-academic student performance (e.g., attendance or discipline incidents), and "improving the partnership climate at the school" (p. 100). These goals are typically written at least annually, accompanied by action plans to ensure that appropriate steps are taken toward the goals, and are then evaluated to determine if the intended impact was attained.

Effective schools support the shared goals and the roles that define the relationships between home and school partnerships by ensuring that strong, two-way communication is in place regularly throughout the school year (Redding, 2011; Shannon & Bylsma, 2007). Redding (2006) identified five essential topics of effective school-family communication:

- What parents can expect from the school
- What the school can expect from parents
- How the parents' child is progressing
- How the school can help the parents
- How the parents can help the school (p. 159)

While many schools communicate outward regarding how students are progressing, communication is often limited to data that is after the fact and not-actionable from the perspective of parents. It is even less common for schools to have a robust communication strategy that details both sides of the two-way equation, which

should include all five of these topics. At the heart of communication are the school community's purpose and goals, namely the goal of helping not only individual students improve but helping the school to make decisions that will improve outcomes for all students (Redding, 2011). Communication that touches on all five topics includes typical things such as report cards, calls home for both positive events and concerns, newsletters, and more. However, an effective school additionally embeds other types of communication methods, such as phone or email lists in which parents can support other parents, soliciting feedback on various issues from parents via surveys or focus groups, or finding other ways to either give families a voice in the work of the school or support families in meeting shared goals (Redding, 2011).

One significant way in which effective schools communicate outward is by virtue of the fact that they have an educational mindset that extends beyond just student learning (Redding, 2011). Just as schools view themselves as learning communities for teachers and leaders, they also believe it is critical to educate and support families. Schools that overcome the odds make a special effort to reach out to the families of students who are at a disadvantage or underrepresented because these are the families who are most in need of support (Shannon & Bylsma, 2007). One particular area that the schools address is parents' self-efficacy. Hoover-Dempsey (2011) described how a lack of self-efficacy can negatively impact parents' choices in the degree to which they feel they are able to engage in and support their children and the school. Referencing Bandura's work, Hoover-Dempsey (2011) explained how people are more likely to engage in activities in which they believe that they will actually be able to make a contribution to something important. Therefore, "parents are most likely to be motivated for involvement when

they believe that they have some degree of control and influence over their children's learning" (Hoover-Dempsey, 2011, p. 62). In order to influence parents' self-efficacy, effective schools work to influence the *curriculum of the home*. The *curriculum of the home* is "the attitudes, habits, knowledge, and skills that children acquire through their relationships with their families that serves as the foundation for how they approach school and learning" (Redding, 2006; Rhim, 2011, p. 30). Even though there are certain variables in students' lives that cannot be changed (e.g., family structures, socio-economic status), there are many variables that are malleable. By impacting the variables in the *curriculum of the home* that can be changed, there is a greater likelihood that students will succeed (Redding, 2006). Figure 10 shows the relationships between the variables that are malleable and how the school can work to impact them.

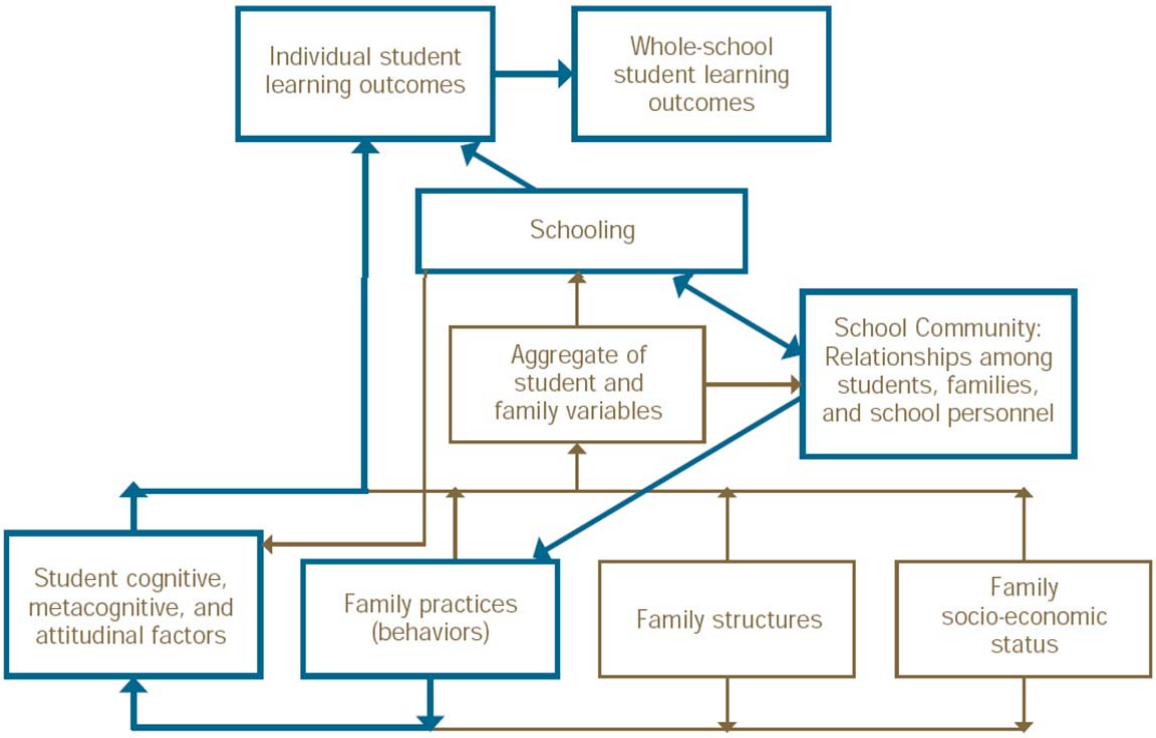


Figure 10. "Relationships Among Student, Family, and School Variables and Their Effects on Student Learning Outcomes" (Redding, 2006, p. 147).

NOTE: The bold blue lines show the variables that are malleable and the path by which the school can affect them.

Rhim (2011) articulated how one of the most powerful factors in relation to the curriculum of the home is that of parental expectations. Schools can help shape family behaviors and expectations through various types of educational outreach. One example would be when schools "initiate school-based parenting classes that will teach parents how to: (a) raise expectations of their children, and (b) speak and act in a way that is supportive of their children and their accomplishments" (Jeynes, 2011). Another example would be providing a course or support group for parents who have children with disabilities in which they have an opportunity to talk with others and learn more

about how to support their child's learning (Redding, 2006). These education opportunities to impact the curriculum of the home may be provided by school staff, or they may be one of the many resources that the School Community Council leverages from community organizations and agencies. Regardless of their source, they are coordinated by the school in order to impact the malleable variables of the home in order to support student learning.

Woven throughout this discussion on family and community engagement is the underlying principle of personal connection. Effective schools do not just simply communicate and work to educate, they meet a larger societal need. In his later research on the impact of schooling on children of poverty, Coleman (1987) found that schools that made a significant academic difference did so because they instilled social capital in the lives of children who otherwise were not getting it at home. Then as now, society is rather fragmented. Therefore, people need community, they "need to know each other" because "students benefit when their parents are familiar with the parents of their schoolmates, [when] teachers understand their students better when they know their families, and parents become more fully engaged in their children's learning when they know their teachers" (Redding, 2011, pp. 18-19). Schools cultivate these personal connections as a way to undergird the greater goal of engaging families. They make connections through multiple face-to-face interactions in which "the purpose is to share experiences and ideas relative to students' academic, personal, social, and emotional learning" and through which social capital is built for the family and the student (Redding, 2011, p. 19). Examples of these face-to-face venues include home gatherings with several parents gathered to get to know each other, home visits that reach out to

families in order to get to know them better, and school based events, such as open houses, family nights, and conferences. Schools that effectively engage families make use of these opportunities to build personal connections, rather than simply talk at the families, because these relationships are the social grease that build trust and enable the greater work to be accomplished.

The final building block of family and community engagement is that, just like the other aspects of high-performing schools, it is rooted in the idea of continuous improvement for both the individual student and the school itself (Weiss & Lopez, 2011). Families care about their children and want to be able to help them. Therefore, they benefit from having access to data that are relevant and timely, such as attendance, behavior, and progress on academic objectives that is understandable and actionable (Weiss & Lopez, 2011). In other words, the data provided to families should inform actions that they can take on behalf of their children. Similarly, effective schools collect data related to what their families and students think in order to improve decision making about the school community (Redding, 2011). Data collected through surveys, focus groups, and other means inform the school about whether or not their activities are meeting the needs of their families and students. Just as academic performance data inform continuous improvements to the instructional program, the School Community Council and/or leadership team can utilize these types of data sources to improve the relationships between family and school and school and community.

Synopsis of the Characteristics of Effective Schools

Schools are complex − they have so many working parts and so many decisions that get made each day by numerous individuals. It is easy to understand how schools

can become fragmented or only have pockets of success, even with the increased focus on results with policies such as NCLB. However, effective schools that overcome the odds for all of their students essentially do the same types of things in order to have system-wide success. They have an unrelenting focus on meeting the needs of all students, regardless of variables that traditionally put children at a disadvantage. This focus on learning is demonstrated in expectations for student learning that are aligned with long-term standards that will ensure each student is ready for life beyond school. The focus on learning, and the expectations that students will achieve are embedded across the school's culture and community in various ways. Effective leaders within the school serve as catalysts who jump start actions in areas that are difficult to change and facilitate decision making that keeps both the whole and the parts of the system in mind. The faculty and staff collaborate with each other and the community in order to create a system that functions around common goals. The quality of teaching and learning is constantly evaluated and supported by well thought out professional development in order to ensure that the system is constantly improving and working well on behalf of all students. These characteristics are common to all schools that effectively meet the needs of their students.

The characteristics of effective schools have consistently been demonstrated in the research literature and various frameworks that are used for helping low-performing schools better understand what effective schools do differently. Whether a school looks to the Correlates of Effective Schools (Edmonds, 1982; Lezotte, 2009), the Nine Characteristics of High-Performing Schools (Shannon & Bylsma, 2007), the Indistar System (Center on Innovation & Improvement, 2009a), or other frameworks for school

improvement, the descriptive evidence and message is essentially the same. There are large grain characteristics that define the general culture, practices, and structures of effective schools. These large grain characteristics are made up of many smaller grain practices, which have been pointed out above. Each of these smaller grain practices cut across multiple aspects of the school and its community and, while similar to other effective schools, must be uniquely adapted to each school context (e.g., number of teachers, the demographics of the student body, financial resources available to the school, etc.). Lastly, both the large grain characteristics and the smaller grain practices that they entail are intimately interrelated and have a causal relationship with increased academic achievement. They do not function in isolation, and effective schools view them as integrated parts of the whole that are essential to attaining the school's academic goals.

In sum, a quote from 1979 still resounds with those interested in meeting the needs of all learners. Ron Edmonds (1979) stated:

> It seems to me, therefore, that what is left of this discussion are three declarative statements: (a) We can, whenever and wherever we choose, successfully teach all children whose schooling is of interest to us; (b) We already know more than we need to do that; and (c) Whether or not we do it must finally depend on how we feel about the fact that we haven't so far. (p. 23)

The research has certainly refined the understanding of effective schools over the years, but the basics remain the same.

The Challenges of Change and School Reform

While Edmonds' quote is accurate by today's standards in stating that we know what effective schools do and that we know it is possible to educate all children, there is a certain aspect of the conclusion that he has drawn that oversimplifies the matter, even

when considering current understandings. Edmonds (1979) incorrectly stated that "whether or not we do" what it takes depends "on how we feel about the fact" that we have not accomplished large-scale improvement thus far (p. 23). When he wrote these words, the United States was battling significant societal prejudices; and, to a degree, society did not value the improvement of schools, especially those in impoverished neighborhoods. To a large extent, the lack of progress in 1979 was a reflection of how the nation as a whole *felt* about the fact that so many children were being underserved. However, there is more to the equation than this. Current authors contend that the woes in the United States' public schools are still a result of prejudice and indifference, and there is probably some truth to that. Yet even so, the national landscape has changed dramatically in the past few decades and the quality of the nation's schools has become an ongoing public concern, epitomized in the bipartisan passage of the No Child Left Behind (NCLB) Act of 2001.

With the tremendous changes that have occurred in national policy and societal expectations of schools in the past decade, it has become very clear that it is not sufficient to know what the characteristics of effective schools look like. If simply having enough research on the topic was sufficient to change schools, every school in the United States would arguably be doing a great deal better than they are to date. Rather, there is a persistent knowing-doing gap that remains, which is embodied in what can best be described as *the problem of change*. The following discussion describes the problem of change and possible solutions for how schools can best overcome it.

The Problem of Change

Across the nation there is commitment to reforming the entire educational system, not just for one school, but for all schools and all students (Harris, 2011). This commitment is borne out of varying interests, such as wishing to ensure international economic competiveness, promoting a well-educated citizenry, and a desire for social justice through educational equity. As a result, attempting to improve one school at a time is not a viable option; large-scale improvement (i.e., bringing all schools to a satisfactory level of functioning) is the currency of the day because of the implications it has for society (Harris, 2011). Research on effective schools has added tremendous understanding to the education sector's arsenal of resources for substantial school improvement. However, the problem of translating all that we know from research into actual practice at anything that could be considered large-scale persists as a significant challenge (Elmore, 2008).

Reform Models

As described earlier, when the Effective Schools Movement took root and grew during the 1980s, people across the nation became more and more interested in learning how to make mediocre and/or ineffective schools effective. Lezotte (2009) explained how researchers transitioned to a Prescriptive Phase during that time in which they began to work with schools to design and deliver school intervention models that would result in increased student achievement. These models were built on what was known from the Correlates of Effective Schools and prescribed how schools should function. The theory of action behind providing these types of improvement models was very much like a clinical research design: have a school implement X, Y, and Z practices with fidelity

because they are built on evidenced-based practices, and the school will experience improved outcomes. Lezotte (2009) articulated how the implementation of the model they designed did result in impressive gains when his team was able to work directly with the school and when it was implemented with fidelity. However, he also expressed uncertainty about two things. First, once they got past the capacity of their team, when they used a train-the-trainer approach, he was unconvinced that the model was implemented with sufficient rigor. Second, even where his team experienced success, when the principal changed, the schools often fell back to their previous state.

Reflecting on a theory of action that uses models to improve schools, it is easy to find examples of how the concept of prescriptive school improvement models dispersed quickly into many areas after the Prescriptive Phase of the Effective Schools Movement, particularly with national policy. The first notable attempt at the use of improvement models is found in the predecessor of Comprehensive School Reform (CSR). In 1991, the non-profit New American Schools Development Corporation was formed in tandem with President George H.W. Bush's America 2000 education initiative (Redding, 2006). The purpose of New American Schools was to develop and disseminate whole-school reform models based on sound research. This project led to legislation in Congress in 1997 that provided funding for schools that adopted and implemented the models, which became known as the Comprehensive School Reform Demonstration Program in 1998 (Redding, 2006). When NCLB was enacted a few years later, CSR was written in as its own program authorized under Title I (Sections 1601-1608). In order to be eligible for funds under CSR, schools had to choose a reform model that aligned with 11 elements specified in the law that look remarkably similar to the Correlates of Effective Schools

and the national Center for Comprehensive School Reform was formed devoted to vetting various school improvement models for use with the program. These same types of prescriptive elements reappear in different sections of NCLB, albeit with a slightly different twist for each, such as Schoolwide Program requirements (Section 1114), the School Improvement Plan requirements (Section 1116), and Reading First requirements (Section 1202). In other words, the theory of action that research-based models were an answer for ineffective schools is established firmly in national policy.

With each of the mentioned NCLB programs, at minimum there are/were significant efforts by the U.S. Department of Education, State Education Agencies, and Local Education Agencies to monitor school level compliance with the letter of the law. In the cases of CSR and Reading First, multiple ongoing program evaluations were conducted to evaluate the impact of the programs. What has become resoundingly clear is that the models and compliance to the prescribed requirements did not result in large-scale improvement. At best, the findings of the various program evaluations uncovered bright spots in which the program in question was found to be very beneficial by some, but had little to no impact on others. For example, of 1,037 elementary schools that implemented a CSR model and were initially low-performing in literacy and mathematics, only 47 "showed dramatic and sustained achievement gains in subsequent years" (U.S. Department of Education, 2010a, p. xvii). That is less than 5% of the schools examined, which is not promising. In the same vein, Hattie's (2009) meta-analyses summarized studies conducted of comprehensive teaching reforms (including the CSR programs, such as Roots and Wings, High Schools that Work, Success for All, Core Knowledge, etc.) and found the overall effect size to be low ($d = 0.22$), with a range

for each reform effort producing effect sizes between d = -0.02 (High/Scope) and d = 0.38 (Roots and Wings).

Because of these and other findings, researchers have come to the conclusion that models, even those proven effective in various contexts, are insufficient to achieve large-scale improvement (Redding, 2006). This is not to say that the characteristics of effective schools are not consistent and true. The problem is that a model that represents the end goal or the ideal school (i.e., the characteristics of effective schools) does not adequately address the change process for how to get nor sustain results. This is aptly described by Leo Tolstoy from his classic story Anna Karenina: "All happy families resemble one another, but each unhappy family is unhappy in its own way" (in Elmore, 2008, p. 228). In other words, the research indicates that all the "happy" schools essentially resemble each other, but those that are "unhappy" (i.e., mediocre and/or ineffective) are uniquely different, which means that their path to effectiveness must reflect and account for that uniqueness. A report by the U.S. Department of Education (2010a) echoes this reality by saying that it "joins others in concluding that there is no single recipe for success" (p. xxi). Rather, substantial improvement may be attained in schools using different patterns or combinations of the characteristics of effective schools, but "the complexity of the environments in which educators work can challenge even well-implemented reforms" (U.S. Department of Education, 2010a, p. xxi). The same report concludes:

> This study's findings draw attention to the fact that turning schools around is not just about adopting a set of effective or promising practices. It is about recognizing that "one best system" does not exist—that no single approach can guarantee improvement in a particular school. It is also about implementing practices well, while at the same time navigating and adapting to a constantly changing landscape. (U.S. Department of Education, 2010a, p. xxii)

Since the evidence has converged to suggest that school reform models do not provide an adequate answer, those interested in large-scale reform must take into account the reasons that prevent the right kinds of change from happening and plan for them.

Factors That Prevent Change

There are many reasons that prevent school reform models and school improvement in general from occurring. In order to attain large-scale educational reform, the system must account for these reasons.

One key issue preventing large-scale improvement may be explained in part by the very definition of implementing a model with fidelity. While there is certainly value to understanding the purpose of fidelity to what research has shown, it is important to be aware of some possible unintended consequences when it is used for whole school reform as opposed to the various individual characteristics. As Copland found, implementing an improvement model as designed does not ensure that culture will change (in Adams & Jean-Marie, 2011). This is important, for culture is a thread woven throughout the characteristics of effective schools, but it is not necessarily something that can be prescribed. By definition, when practitioners implement something with fidelity to the research design that validated the given approach, the "measures of fidelity capture adherence to prescribed practices and processes" (Adams & Jean-Marie, 2011, p. 359). Because the innovations are externally prescribed, what can be missed is whether or not the people in the system have the deep understanding of the rationale for the practice or the social capital and structures needed within the system to sustain the practice once it is begun.

A second factor that contributes to the failure of large-scale school reform is political context. There is nothing about the education system that is not in some way affected by politics of some form; it is inherently political (Kincheloe, 2005). With that in mind, the politics that can drive school improvement efforts can also derail the process, whether or not they are well intended, and whether they come from the national, state, or local levels. There are a few reasons for this. First, the timelines for change are often unreasonable (Harris, 2011). Timelines are often driven by election cycles or other short-term goals that are not sufficient for changing school practices, let along school culture. Second, political decisions may force a decision to be scaled up without evidence to support that it is a wise choice (Harris, 2011). For example, despite the problems with Comprehensive School Reform and other federally prescribed models of improvement, the U.S. Department of Education narrowed the School Improvement Grant Fund (No Child Left Behind Act of 2001, Section 1003g) in 2010 by prescribing a list of required activities that must occur in persistently low-achieving schools (U.S. Department of Education, 2010c). This policy change failed to learn from the lessons of the past, but regardless was scaled up nation-wide in a very short period of time.

A third contributing factor for why school reform efforts do not succeed is that they often neglect to address the realm of emotion and the difficulty of managing change. A seminal work in this area is described by Loucks and Hall (1979) as the Concerns Based Adoption Model (CBAM). CBAM includes different stages of concern that people go through when asked to implement a new innovation, or change: awareness, informational, personal, management, consequence, collaboration, and refocusing (Loucks & Hall, 1979). Those who are leading the reform effort must work in relation to

the levels of concern that exist among teachers, or implementers, in order for the innovation to take hold. More recently, Hiatt (2006) described the ADKAR model for managing change with similar stages: awareness, desire, knowledge, ability, and reinforcement. Unfortunately, the change process is often overlooked in school reform efforts. Whether through the lens of CBAM, ADKAR, or some other framework for viewing change management, when the emotional and personal side of reform is neglected, it can derail the innovation of new practices.

A fourth, and perhaps the most important, factor that prevents educational change, is an emphasis on the wrong drivers, or incorrect assumptions about what levers will accomplish large-scale improvement. A focus on the wrong drivers will have "little chance of achieving the desired result" (Fullan, 2011, p. 4). Fullan (2011) described the four "wrong drivers" that are currently being used in the United States as:

- Focusing on accountability (versus capacity building)
- Individual quality (versus group quality)
- Technology (versus instruction)
- Fragmented (versus systemic)

A focus on external accountability embodies the use of rewards and punishments that are determined by standards-based assessments. This driver is based on two faulty assumptions: (a) that educators will respond to the carrot and stick approach and improve their efforts accordingly and (b) that educators already have the capacity to either get better results and/or find ways to improve and simply aren't doing so for some reason. An emphasis on the individual quality of teachers and leaders is a driver that uses incentives, teacher evaluation, professional development, and punishment (e.g., removal)

for those who do not perform according to standard. This is based on the inadequate assumption that since teachers and leaders have the largest impact on student learning, results will improve by ensuring each individual is highly qualified. This driver ignores the complex interconnectedness of the characteristics of effective schools. With the increasingly powerful tools and connections that can be made through online resources and advances in computer hardware and software, technology is often used as a driver to solve the problem of poor-quality instruction. However, without being matched to good pedagogy, the assumption that simply putting good technology tools in students' hands will act as a learning solution falls short of what is needed. It neglects the reality that the pedagogy is what makes the connection to the right type of tool. Fragmented "drivers" are really no drivers at all, but rather are the unintentional result of not working systemically. When parts of the educational system get addressed individually, the lack of coherence does not result in whole-system reform. For example, when new standards get created and adopted by a state, but they are not systematically planned for and integrated into other aspects of the system (e.g., leadership, teacher evaluation, instructional supports, professional development, assessment and data tools, etc.), school reform becomes fragmented and ineffective. As Fullan (2011) states: "Systemic does not mean that the various elements can be described as linked. This is only systemic **in theory**. It is practice that counts." (p. 16). The wrong drivers are often appealing, at least politically, because they are easier to put in place and, on the surface, seem like they will get more immediate results. However, they undermine the culture of the school system by not addressing the right types of things.

Addressing the Problem of Change to Build Effective Schools

While reform models have failed to deliver large-scale improvement, and while there are many things that can prevent large-scale improvement from occurring, the "right drivers" do exist. Fullan (2011) advocated drivers that are the most likely to result in the desired outcome of improving all schools:

- A focus on capacity building,
- Ensuring high-quality group work and connectedness,
- Emphasizing high-quality pedagogy, and
- Approaching reform systemically.

Fullan (2011) explained that each of these four drivers meet an important set of criteria in that they:

> (1) foster intrinsic motivation of teachers and students; (2) engage educators and students in continuous improvement of instruction and learning; (3) inspire collective or team work; and (4) affect all teachers and students - 100 per cent [because] **intrinsic motivation**, **instructional improvement**, **teamwork**, and **'allness'** are the crucial elements of whole-system reform. (p. 3)

The reason why the four drivers are effective under these criteria is because "they work directly on changing the culture" of the educational system by addressing "the underlying attitude, philosophy, and theory of action ... [in a way that] generates individual and collective motivation and corresponding skills to transform the system" (Fullan, 2011, p. 4 & 5).

Capacity Building

Elmore (2008) found that "improvement at scale is largely a *property of organizations*, not of the preexisting traits of the individuals who work in them" (p. 73).

This is at the heart of the definition of capacity. Newmann, King, and Youngs (2000) characterized school level capacity as the *potential* of teacher's knowledge, skills, and dispositions; professional community; technical resources; program coherence; and principal leadership to impact student achievement. As such, at any given time, the potential of these things might be described as high or low, depending on what work remains to be done to attain the school's goals. However, Adams and Jean-Marie (2011) have offered a contrasting point of view stating that capacity should be defined "by the social conditions that maximize instructional performance [since] potential is quite different than actual performance, and this difference affects approaches to enhance capacity as well as indicators to measure it" (p. 357). I would contend that capacity is actually both the social conditions and the latent potential that exists within the organization.

Capacity building, therefore, entails building both the competencies, practices, and latent potential of everyone involved in the system as well as the collective social conditions of the organization in order to maximize their effectiveness. This aligns well with Fullan (2006), who described capacity building as:

> any policy, strategy, or other action undertaken that enhances the collective efficacy of a group to raise the bar and close the gap of student learning for all students. Usually it consists of the development of three components in concert: new knowledge and competencies, new and enhanced resources, and new and deeper motivation and commitment to improve things—again, all played out collectively. (p. 28)

Ideally, capacity building enables continuous improvement by helping both individuals and the group as a whole to understand how to not only address a specific problem at hand but how to address and find solutions to problems which they have not yet identified. Capacity building is understood by Fullan (2011) in contrast to a focus on

accountability as a driver because external accountability does nothing in and of itself to ensure that adequate internal capacity is present. It is not that external accountability of some form is not appropriate, but it can derail the internal responsibility and commitment that is needed if it is not balanced with support. Elmore (2008) described the relationship between accountability and support as needing to be based in the *principle of reciprocity* in order to be effective:

> For every increment of performance I demand from you, I have an equal responsibility to provide you with the capacity to meet that expectation. Likewise, for every investment you make in my skill and knowledge, I have a reciprocal responsibility to demonstrate some new increment in performance. This is the principle of 'reciprocity of accountability for capacity.' (p. 93)

If the reciprocal relationship is not put into place, the chain of logic for whole-system reform will fail to produce any results. For example, the state might require higher academic performance from schools. The schools may agree that the goal required is worthy. However, if the schools are already doing the best they know and do not know how to improve, nothing will change. To move the needle of performance, the principle of reciprocity must truly apply to all levels of the system, such as school to classroom, district to school, state to district, and federal to state (Elmore, 2008). The value in this is that the principle of reciprocity overcomes numerous aspects of the problem of change. For example, it addresses the unintended consequences of using fidelity to a school reform model because it directly addresses the culture, the social structures, and knowledge and understanding of those involved. Rather than relying on compliance to prescribed activities, capacity building engages both individuals and the collective whole to find and implement solutions for their unique context. Similarly, it addresses the personal/emotional side of change management. Capacity building is an

iterative process that helps people work together through the stages of change such as those identified in the CBAM or ADKAR models because it meets them where they are at and moves them to where they need to be. All in all, capacity building is a critical tool to overcome the problem of change and ensure that people within the system have the "collective knowledge and understandings required for ongoing instructional improvement that meets the needs of each child" (Fullan, 2007, p. 217).

Group Quality

As mentioned above, the right drivers directly impact the culture of an organization, which has to do with the relationships and norms of the people within it. As such, by focusing on group quality as a driver of educational change as opposed to individual quality, the culture itself becomes the subject of change. Capacity building is a means by which to influence group quality in order to prepare it to deal with the process of culture change so as to become a learning community (Harris, 2011). Therefore, capacity building must focus on the transformation of norms within the social structure in addition to changing instructional and leadership practices. Elmore described the way in which such a transformation occurs:

> The development of systematic knowledge about and related to, large scale instructional improvement requires a change in the prevailing culture of administration and teaching in schools. Cultures do not change by mandate: they change by the specific displacement of existing norms, structures and processes by others; the process of cultural change depends fundamentally on modelling [sic] new values and behaviour that you expect to displace the existing ones. (in Harris, 2011, p. 627)

In essence, Elmore has depicted a necessary shift in the quality of a school's social capital. Social capital is a resource that resides in the relationships between people, and it serves to either drive or inhibit the kinds of educational change needed in school systems.

Social capital entails an understanding of the obligations, expectations, and norms for behavior that are rooted in the trust and connections between people in the particular social environment (Aladjem et al., 2006; Coleman, 1988). In situations in which there is high social capital, people understand the norms and expectations for both themselves and the group, and those norms and expectations are linked to behaviors that will facilitate the group's interests.

When members of an organization have high social capital, it produces many benefits: (a) it enables collaborative work (i.e., people know what others in the system do and are able to learn from each other), (b) it fosters collective commitment, and (c) it nurtures "lateral accountability" (Fullan, 2011, p. 12). Elmore (2008) described a similar construct which he refers to as collective school-site accountability, or the alignment of individual responsibility, collective expectations, and internal accountability. He found that these three areas impact intrinsic motivation and "influence the actions of members of the school community" such that when closely aligned around the school's *clear and shared focus*, it serves to prompt the type of collaborative learning community that becomes the driver of the remaining characteristics of effective schools (Elmore, 2008, p. 175). In this way, strong social capital is "productive" in the sense that it makes "possible the achievement of certain ends that in its absence would not be possible" (Coleman, 1988, p. 98). In other words, strong social capital actually becomes the foundational resource for building the human capital (i.e., the knowledge, skills, and dispositions of the individuals in the organization), which in turn has a direct impact on the practices within the instructional core. Fullan (2011) went so far as to say that "high social capital and high human capital must be combined, and of the two the former is more powerful"

in ensuring improved outcomes because "by mobilising [sic] peers, leaders accelerate whole-system reform...and establish conditions for sustainability" (p. 11 & 12).

Addressing group quality by directly working to improve social capital has a strong influence on culture. Poor culture and social relations are part of why reform efforts fail. As mentioned, if the personal/emotional side of change is not managed well, people can become resistant to new innovations. By leveraging improved social capital, it puts the foundation of trust in place that is necessary for collaboration and communication, as well as to follow the leadership of peers or administration even when one does not yet understand the big picture. Similarly, if group quality is extended beyond the domain of just the school, it can impact whole-system reform at the district and state level as well, which would in turn mediate the political barriers to change. If, for example, a district worked to instill high social capital both between the central office and its schools as well as among the schools themselves, it would promote the same types of benefits as within a school: collaboration, collective commitment, and lateral accountability. These aspects of working together are able to provide the type of support to raise the entire local system. Furthermore, if a State Education Agency (SEA) were to not just understand the role of social capital, but create policies that balance pressure with support mechanisms and which actually help build social capital in addition to human capital at the local level, it would have the effect of creating the right types of relationships between the levels of the governance. This could then assist whole-system reform by breaking down the political barriers to change and thus inform political decisions about policies, timelines, and methods for improvement.

Emphasize High-Quality Pedagogy

Fullan (2011) juxtaposed the wrong driver of using technology as a panacea against the right driver of an emphasis on the quality of pedagogy regardless of the technological tools available. Since this driver is central to all of the characteristics of effective schools, I will reserve this discussion section to simply highlight some key ideas on the topic. Current trends tend to offer technology and access to the online body of knowledge as a way to make up for the achievement gaps within public schools. The logic is basically the following: (a) kids these days are more technologically adept than even teachers (more or less true), (b) there is a vast web of resources available online or through various access points that are stimulating and promote learning (also more or less true), and therefore (c) if we empower students and teachers by giving them the tools and access to these resources, then student achievement will improve. It is in the last part of the chain that the logic falls apart. The if/then aspect of the statement neglects the intersection of defined standards and the pedagogy it takes to attain them. It is not that technology cannot be a powerful partner, but its use must be driven by good pedagogy, not the other way around. Furthermore, good pedagogy is still defined by the same characteristics of effective schools that were described in a previous section. It is especially tempting for political leaders to view technology as a quick fix that will open up the world to students. However, it is important to maintain the focus of whole-system reform on the right driver − high-quality pedagogy founded upon what is known about curriculum, instruction, and assessment practices aligned to high standards and expectations. As Fullan (2011) concluded, the system should:

> go all out to power new pedagogical innovations with technology... What makes these advances crucial is that they combine so many elements needed for success:

> engagement; entertainment; ease of access to information and data; group work; humanity; social relevance; and so on. In a word they make education easier and more absorbing. Learning and life become more seamless. (p. 98)

Just in doing so, it is important to ensure that good pedagogy is driving the use of the technological tools at hand, and that technology is used as an "accelerator of momentum [for improvement], not a creator of it" (Collins, 2001, p. 152).

Approaching Reform Systemically

When people refer to a "school system," the term is commonly understood to mean a district that includes a particular set of schools, with each school being a part of the system (Redding, 2006). In other words, the term is frequently used in the context of an organizational structure, rather than the processes and relationships within an organization. However, Redding (2006) defined "a *system* [as] a group of linked parts that work together toward a common end" (p. 13) and further demonstrated how this causes a different view of the school system to emerge in which multiple systems and subsystems surface in what might best be described as a Mega System. This Mega System includes not only the school, but the district, the community, the state, and, to some degree, the federal government. Redding (2006) explained that the school is part of a district system, but additionally:

> Each school itself also operates as a system, with its own parts and subsystems, working toward its own ends. In the system of a single school, the state and the district serve as gatekeepers, regulating inputs to the system and monitoring its output—the learning its students acquire. (p.13)

Needless to say, schools by themselves are complex systems. As described previously in the review of characteristics of effective schools, there are numerous practices for which schools must account in their day to day operations. Each of these

characteristics is intricately interrelated to one another. However, substantial improvement of schools cannot solely be addressed by considering the system of an individual school, because as Redding notes, the district and the state act as gatekeepers as part of the larger system's education goals. While not mentioned specifically, the federal government serves as a gatekeeper in Redding's framework as well because of the implications of federal decisions on things such as school finance and program requirements. Thus, while it may be tempting, especially for policy makers, to focus on the improvement of individual schools and their subsystems of instruction, data utilization, etc., large-scale reform of education will only occur if the Mega System is understood and reform efforts are approached systemically, rather than focusing on fragmented parts or individual subsystems (Fullan, 2011; Redding, 2006).

Fullan (2011) contrasted systemic versus fragmented approaches for whole-system reform based on observations of how nations, such as the United States, attempt to drive large-scale improvement. A key element of his observation is that reform efforts are often rolled out as systemic in theory or appearance, but they fail to be systemic in practice, thereby producing mixed results. For example, states are presently expending significant time, effort, and money on the adoption of the state-developed Common Core State Standards. At the same time, the U.S. Department of Education has funded two assessment consortia which are developing tests aligned with those standards. In this, the states and the federal government are collaborating toward a common goal. On the surface, this is good, and it may seem like a systemic approach to large-scale change. However, in practice, it begs the question of the degree to which all of the pieces of the Mega System are truly connected. To what degree are these two efforts truly linked in a

way that will effectively impact student learning? Are state departments of education ensuring that their assessment, content area, and school improvement personnel are all working together to provide the right kinds of support to local districts? Are districts ensuring their teachers and leaders understand the new standards, the implications of the coming assessments for decision making, and the connections between both of these and existing curricular materials? In other words, does the left hand really know what the right hand is doing well enough to intentionally and strategically weave all the new pieces together with the other important parts of the Mega System? If school reform efforts are driven by fragmented initiatives that are divorced from an effective system, they will have little to no effect. By analogy, fixing parts of the system without fixing the whole-system is like installing a great new high performance engine in an old hot rod, but with the wrong kind of gasoline, no steering wheel, faulty wiring, and two flat tires, and subsequently expecting the car to effectively win a race. Good parts in one area, without good parts effectively tied and kept together in all areas, are insufficient to get the job done.

Redding (2006) articulated how large-scale improvement must not only include all of the parts of the Mega System, but that each part must be embedded in a process by which they are "continuously engineered to precision" (p. iv). This means that in addition to focusing on the *results* (i.e., improved student learning outcomes) and the *means* of school improvement (i.e., good pedagogy), the system must also focus on the *process* for continuously improving those outcomes (Redding, 2006). This process entails using methods that not only determine and improve the quality of schools, but which ultimately measure "the functioning of each part, each subsystem, and the system

as a whole" (Redding, 2006, p. 13). In other words, according to Fullan (2011), every level of the system (i.e., school, district, state, and preferably nation) would exhibit a "systemic synergy" in which everything is integrated as a coherent whole across the various levels of governance (p. 16-17). All of the key actors must be working together to ensure that "all elements of the system are unavoidably interconnected and involved, day after day" (Fullan, 2011, p. 16), and, as the functioning of each part of the system is evaluated, the system must have a mechanism for responding and improving. For example, if districts are receiving inadequate support, the state would have a mechanism for knowing how to improve its practices in this area.

To attain this systemic synergy, "everyone must be part of the solution" (Fullan, 2011, p. 16). A Mega System that functions with ongoing processes for improvement at all levels must be keenly aware of the roles and responsibilities for the key actors at each level because the synergy that is needed is a "supremely human enterprise, [and] the relationships among [the various] constituents are the connecting tissue of its system for improvement" (Redding, 2006, p. 12). The constituents come from different, but overlapping communities of people who all have varying degrees of interest in the educational outcomes of the entire system, and each community itself "is a system of people, linked by their association with one another, their communication with one another, their allegiance to common values and purposes, and their assumed responsibilities and obligations to one another" (Redding, 2006, p. 14). In this sense, the school community is focused immediately on the outcomes of the individual children in its bounds, because the parents, the teachers, and the students themselves are the closest to the instructional core and have the greatest vested interest in each individual child's

achievement. In addition, there is the local community external to the school, such as the district office, local businesses, homeowners, and others. Each of these groups has an interest in the quality of their neighborhood schools, which may spring from different reasons, but each is vested in the common outcome nonetheless. Similarly policy makers, personnel in state education agencies, voters, and others all have an interest in the quality of education as well. For some communities, the interest for having effective schools may be motivated by economic competiveness. For others, it may be to have a prepared workforce. For still others, it may be rooted in a deep desire to have educational equity for all children. Regardless of the community, each system of people has overlapping interests in the Mega System of education. Furthermore, not only does each layer of community have a vested interest, they also have a say in how the system works. For example, voters elect legislators and education officials who impact policy; and local communities impact taxation decisions, bonds, and levies, which impact school finance.

To press forward systemically with educational reform, the work of getting everyone to be part of the solution requires thinking that is different from current practices. Often, different communities are pitted against each other (e.g., state and federal government against local education agencies) due to accountability expectations that come with little support. In order to mobilize the Mega System, the overlapping communities must ultimately become one all-encompassing community centered on the values that all hold in common. However, they cannot simply be centered on common goals. As mentioned before, collective capacity building is needed as a *right* driver in the context of reciprocity (i.e., capacity built in exchange for accountability expected). As Elmore (2008) concluded, the "principle of reciprocity should work with equal force at

all levels of the system" (p. 244-245) because it systemically ensures that everyone becomes part of the solution, in the right way and for the right reason, in that it balances accountability and support at all levels.

A systemic approach to large-scale educational improvement aligns the parts of the Mega System, along with all the various subsystems. It also aligns the processes, or the human element, by involving everyone in continuous refinement of the system. As a result, a systemic approach addresses many components of the *problem of change* described earlier. First, it facilitates the success of the other three right drivers: increasing group quality, focusing on good pedagogy, and utilizing capacity building (Fullan, 2011). By thinking systemically, the other drivers have a fertile ground in which to grow. For example, good pedagogy would be developed alongside of newly adopted standards and assessments. Similarly, a focus on group quality would be applied not only to school level staff, but district and state level staff as well. Furthermore, capacity building would be a tool that could pull all of the parts and people together. Second, a systemic approach can overcome the weaknesses inherent to previous school reform efforts that were embodied in school intervention models. Rather than fidelity to a static model, a systems approach encourages the key actors to constantly examine and refine the practices across the system. If one element is amiss, the community searches for a solution. The solution may be found at the school level, but it may also be that a solution would be better placed at the district level, or even the state and federal levels. Third, it can mitigate the political barriers to whole-system reform. When state or other political bodies understand that the only way to attain the goals of their constituency is to develop programs, processes, and practices that are delivered via a coherent approach across a large, complex system, the

political decisions they make will be much more likely to promote the right kinds of solutions. For example, prescribing interventions is ineffective. When viewed as a Mega System, political agencies would understand that policy context must be conducive to differentiation, and that when there are non-negotiables in terms of accountability, capacity building must be placed as an initiative that is of utmost importance. Fourth, a systemic approach addresses the human side of managing change because it intentionally involves everyone in the right ways. Thinking in terms of a system spreads the efforts across all the key people. There is balance of top-down pressure with bottom-up influence. Systems thinking allows for a non-linear process in which continuous cycles of inquiry look at all aspects of the system and refinement takes place as needed. This accommodates the management of the change process because if people realize that the any one particular element of the system is missed (e.g., the knowledge or ability of people necessary to implement a change), the system itself will have the necessary mechanisms built in to loop back to take care of the issue.

A systemic approach to large-scale educational improvement accounts for all the parts and all of the people, and intentionally integrates them so that they move forward collectively and coherently. It ensures that efforts are not fragmented, for when they are fragmented, they do not produce adequate results. If a state or nation hopes to do better than simply improving schools one-by-one, thinking systemically about the improvement of the Mega System is a necessary pre-condition.

Summary

The importance of improving the nation's schools is well grounded in the mindset and actions of American society. National concerns, such as the Civil Rights movement

and the ability to be competitive in a global economy, have fueled an ongoing emphasis on school reform since the 1960s. While having different beliefs about how to improve schools, educational leaders, teachers, politicians, and many others have been attempting to re-envision what comprises a good school. Over time, school reform efforts have sought to take often competing visions for reform and improvement and inject them into school practices.

For decades, and often as a response to the nation's spotlight on reform, researchers have been studying the characteristics of schools that are effective at meeting the needs of all learners, especially those who have been underserved. Time and again, studies have identified and verified the same basic traits in terms of what effective schools do to meet the needs of all students. Such schools maintain a clear and shared focus centered in high expectations for all students. They demonstrate effective leadership practices that are not limited to just the administrator. They ensure the alignment of what is planned, taught, and tested, and they collaboratively monitor the impact of teaching on student learning in order to make timely adjustments. Effective schools make sure that professional development is aligned to the needs of students and staff and occurs in a way that will bring about the right kinds of change. Lastly, schools like these meaningfully engage the families of the school and the community at large in ways that support students, support families, and support the school system as a whole. These characteristics of effectiveness have remained stable over time, yet they remain elusive in terms of large-scale improvement.

In light of the fact that the characteristics of effective schools are well known, but large-scale school reform efforts have struggled to take root across the board, the

knowledge of what effective schools look like must be seen alongside of an understanding of the problem of change. Changing human practice is a complicated endeavor for many reasons. In order to truly affect improvement at scale, the right drivers for change must play a key role. A focus on building the capacity of existing school and district personnel is essential for improvement. Utilizing the strength of social groups to improve a system distributes the change process across many people; by improving the quality of the group, it improves the system more so than a focus on any individual person. Improved tools, such as educational technology, are helpful in improvement, but high-quality pedagogy is necessary regardless of available tools and resources. Lastly, understanding that schools are complex systems, located within a larger Mega System, means that reform efforts must be undertaken from a systems-thinking perspective. Coherence and alignment among the many pieces and parts is critical. Each of these drivers of change (i.e., approaching reform systemically, capacity building, focusing on group quality, and the quality of pedagogy) are essential to overcoming the problems of school reform because they address the human side of change. These drivers, along with a focus on effective schools as the outcome of school reform, are what are most likely to result in large-scale improvement in a district, state, or throughout the nation.

Part II: Changes Over Time in the Idaho Statewide System of Support

In recent years, the State of Idaho implemented a set of school improvement programs that are unique when compared to previous efforts within the state as well as programs available in other states throughout the nation. The programs are built on a theory of action that essentially argues that student achievement will improve by

impacting the characteristics of leadership. The chain of reasoning is the following. If (a) the programs impact school administrators and leadership teams by building their capacity to be effective leaders, then (b) the leaders will be able to build the capacity of the staff at large to affect the types of change that are grounded in the characteristics of effective schools, which in turn will (c) result in improved academic outcomes for students. Simply put, the Idaho school improvement theory of action is structured around a belief in collective capacity building.

The concept of school improvement resides within the larger policy framework defined by the No Child Left Behind Act (NCLB) of 2001, in which identification for being in need of improvement is based on annual progress toward attaining academic objectives. The measurement of adequate yearly progress (AYP) is part of the state's accountability plan for NCLB, and the state is required by law to:

> Establish a statewide system of intensive and sustained support and improvement for local education agencies and schools receiving funds under this part [Title I], in order to increase the opportunity for all students served by those agencies and schools to meet the State's academic content standards and student academic achievement standards. (Section 1117(a)(1))

Therefore, the school improvement programs implemented in Idaho are part of the NCLB policy framework as a way to support schools and their respective districts in finding the most appropriate ways to solve problems that hinder academic success. The assumption within the Statewide System of Support as designed in Idaho is that the existing personnel in school systems are, for the most part, already doing the best they know how. Therefore, in order for there to be an increase in the quality of performance, the state is responsible for developing capacity in response to the measures of accountability, what Elmore (2008) calls the principle of reciprocity. The support system has included three

specific statewide programs since 2009: the Idaho Building Capacity Project, the Superintendents Network of Support, and Instructional Core Focus Visits. These programs are designed to target system-wide change in the school district, rather than just a school by school approach.

This core theory of action, a focus on building capacity, was not invented in isolation. George Santayana (1905/2009) once said:

> Progress, far from consisting in change, depends on retentiveness. When change is absolute there remains no being to improve and no direction is set for possible improvement: and when experience is not retained, as among savages, infancy is perpetual. Those who cannot remember the past are condemned to repeat it. (p. 284)

In order to understand Idaho's current theory of action, it will be contextualized in important historical progressions of the past. Its development was the result of many previous experiences with school reform both in the state of Idaho and elsewhere in which knowledge was institutionalized and retained, and lessons were learned that drove decisions about program improvements. This section reviews the literature as well as the author's personal experience with the historical context that led to the creation of the Idaho Statewide System of Support, and then it identifies the core values that form the basis of and continue to drive its theory of action.

NCLB - An Important Picture Frame

The No Child Left Behind Act of 2001 (NCLB) is a comprehensive education bill that was passed by means of a bipartisan effort in Congress. NCLB built on decades of thought and work that spanned multiple presidential administrations of both parties, culminating in a policy that was coauthored by leading Democrats and Republicans in both the House and the Senate. With its emphasis on meeting the academic needs of all

children, NCLB required states to develop annual measurable objectives in reading and mathematics that would create a trajectory of proficiency for all students by 2014. However, unlike previous policy efforts that were perhaps too heavy on the feel-good aspects of creating goals for the future, NCLB placed stiff sanctions and consequences into the equation for schools and districts that failed to meet annual goals over time. States and districts received federal funds with strings attached for performance. Lack of performance and/or lack of compliance had a direct and negative impact on the amount of financial and programmatic freedom at the local and state levels. As part of this quid pro quo set of sanctions for lack of performance, every state had to create an accountability plan that outlined a timeline of increasingly severe consequences for how it would identify schools and districts for improvement and corrective action, as well as restructuring for schools that failed to turn around after a number of years. In this legislated theory of action, Congress had authorized a comprehensive plan for not only promoting school reform, but for doing something about it if their goals were not reached.

When NCLB was enacted, states varied widely in their reception of it. Some states had already built strong school accountability systems; NCLB was nothing new. Other states remained quite hands off, leaving education as a truly local control issue. Idaho was in the latter category for the most part. Idaho is a Western state. Rugged individualism runs deep. Therefore, many Idahoans did not take kindly to what they considered a federal intrusion into state and local rights. Early on, many Idahoans wanted to see the accountability aspects loosened (Boone, 2004), a sentiment that has returned recently as demonstrated in a memorial introduced during in the 2012 session of

the Idaho Legislature to request that Congress repeal NCLB (Idaho Education Association, 2012; Idaho House of Representatives, 2012). That is not to say that Idaho was disinterested in school reform. Indeed the opposite is true. But at the time, Idaho had its own path and did not necessarily rush to align itself with NCLB's requirements. For example, Idaho's first attempt at adopting standards and assessments did not meet the rigorous technical requirements of NCLB for the first four years, which ultimately led the U.S. Department of Education to withhold federal funds and place the state under a compliance agreement in 2006 (Johnson, 2006). Idaho eventually complied with the basic requirements, but other significant findings related to the state's accountability and support system followed.

Three Phases Toward Building a Theory of Action

In the more than ten years since the passage of NCLB, Idaho has undergone a transformation of its practices as they relate to accountability and school reform. In many ways, the State's own interests merged over time with the federal requirements for school improvement. During this timeframe, a theory of action emerged that currently guides state school improvement policy and program offerings for schools and districts that need assistance to improve academic performance outcomes. While the story of Idaho's transformation ultimately resulted in what is called a Statewide System of Support (a term coined from the NCLB statute), the historical context runs deeply and back to a number of events both in Idaho and at the federal level. These had a direct impact on a set of critical people in the Idaho State Department of Education (ISDE). As such, the development of ISDE's Statewide System of Support has grown over time through three increasingly refined phases, which each subsequently informed the growing

theory of action. The first phase entailed a focus on improving the individual quality of teachers and schools. The second phase marked a shifting landscape and movement toward thinking about how to support schools as systems through building the capacity of local leaders. The third, and current phase, has been built on the second and is set apart by approaching school reform as a multi-layered approach within a Mega System in which there is a focus on building capacity of each group and subsystem through a coherent set of state practices. These three phases were each critical catalysts in the development of the theory of action behind ISDE's Statewide System of Support.

Individual Quality (Late 1990s – 2005)

Idaho's path toward its current theory of action for educational reform was in some ways jump-started by the work of the Idaho Legislature prior to the enactment of NCLB. The Legislature enacted the Idaho Comprehensive Literacy Act in 1999, which paved the way for the State's Reading First program starting in 2003 and ending in 2010. Reading First served as an experimenting ground from which rose a significant portion of the thinking around the State's school improvement theory of action. From the late 1990s to about 2005, many aspects of Idaho's school improvement process focused on improving the quality of individuals in order to ultimately improve the quality of the schools.

Idaho Comprehensive Literacy Act

In the mid-1990s, Idaho legislators became more and more concerned about the degree to which the state's public schools were effective in ensuring that children were proficient readers (Barr, Flachbart, & Stewart, 2002). The Idaho Legislature was not

alone in this concern; national sentiment about the need to improve literacy had been building momentum since *A Nation at Risk* (National Commission on Excellence in Education, 1983) was published. However, Idaho's response was unique to itself. In 1997, two concurrent resolutions in the legislature directed the State Board of Education, in partnership with the State Department of Education, to form a Reading Study Committee in order to investigate the quality of reading education throughout the state (Barr et al., 2002). The committee came to six conclusions that were to dramatically reshape expectations for literacy outcomes and instructional design for the teaching of reading:

- Learning to read is the most important and challenging skill taught in elementary school.
- Forty percent of fourth graders in school in Idaho were reading below grade level.
- The numbers of poor and/or non-readers in the state and in the nation are too high.
- For all young children to reach their potential as readers, there must be a collaborative effort on the part of parents, educators and community members.
- The knowledge and technology is available to help every child achieve his or her birthright… to become a successful reader.
- A variety of initiatives need to be carried out to guarantee every Idaho child's right to read. (Barr et al., 2002, p. 2)

The committee work became the catalyst for the Idaho Comprehensive Literacy Act (ICLA) of 1999.

The ICLA focused on the individual quality of specific spheres within the educational system: schools, pre-service teacher training, and in-service teacher/administrator training (Barr et al., 2002). Practices in schools changed in that ICLA required a reading assessment to be given to all students in kindergarten and grades 1-3 no less than twice per year in order to determine reading skills and serve as a screener for academic risk. Schools were also expected to provide intervention to the lowest performing students to help improve their reading skills. A spotlight was placed on these practices because of transparent accountability. Reports on individual schools were made public on ISDE's website and were reported to the state board, the legislature, and the governor. For educators in the pipeline of pre-service training, ICLA increased the expectations for what must be known about literacy instruction. The state conducted a review of teacher training programs and required that the courses and graduation requirements align with the state's comprehensive literacy plan. Lastly, for educators already in the profession, ICLA required a shift in re-certification practices. In order to renew certification, all teachers and administrators in grades K-8, along with all Title I and special education teachers, regardless of assignment, had to take and pass a state-approved comprehensive literacy course.

The three spheres of the school system addressed by ICLA were important steps forward. However, a critique of the legislation is that it only dealt with fragments of the larger school system. For example, district leaders were not necessarily required to participate in the coursework for recertification. Teachers and their principals very likely took the courses at different points in time. While it was the "legislative intent" that curricular materials align with the literacy plan, there was nothing in the legislation that

ensured such alignment ("Idaho Comprehensive Literacy Act: Reading assessment," 1999). Additionally, essential aspects of effective school practice, such as changing school culture, developing collaboration structures, and leadership practices were not accounted for. The legislation made a significant mark on education in Idaho, and according to early implementation reports was viewed as positively impacting both student achievement and teacher practices (Barr & Flachbart, 2003; Barr et al., 2002). However, as time went on, the members of ISDE who were involved with school improvement initiatives, including Marybeth Flachbart who coordinated implementation of the requirements of ICLA and went on to become State Deputy Superintendent over the division of Student Achievement and School Improvement, realized that ICLA was not deep enough to create whole-system reform (M. Flachbart, personal communication, March 2012).

Reading First

One significant benefit of ICLA was that it primed the pump for ISDE's application for the federal Reading First program. Flachbart was the State Reading Coordinator in 2002 when Reading First was authorized as part of NCLB. Flachbart was responsible for the implementation of ICLA and had been a key person monitoring both successes and concerns with the legislation through legislative reports (Barr & Flachbart, 2003; Barr et al., 2002). When the federal application for Reading First became available in early 2002, Flachbart was the one tasked with writing it. The grant application began with a clear depiction of the status of the Idaho Reading Initiative (the common reference for ICLA) in which both the strengths of the initiative were outlined as well as gaps (Flachbart, 2002). Specifically, the strands of the initiative that focused on assessment of

all students and increased knowledge about the basics of literacy instruction for pre- and in-service educators had helped further Idaho's goal of improving literacy outcomes. However, Flachbart (2002) identified that the state still needed to:

- Improve reading achievement for ***all students*** (especially among subpopulations of at-risk students)
- Provide professional development for teachers of reading in ***research-based instruction***
- Provide professional development for teachers of reading in research-based practices related to ***assessing*** phonemic awareness, phonics, spelling, fluency, comprehension and vocabulary
- Provide ***curricula and materials*** to educators in grades kindergarten through three that explicitly teach the key components of reading (p. 6-7, emphasis added)

An analysis of these gaps shows how the focus on individual quality of teachers through the certification process was necessary but not sufficient to create deep and lasting change across the school system. Flachbart recognized that there needed to be even more focus on all students, as well as on assisting teachers in understanding the research base for literacy instruction and diagnostic assessment practice. Furthermore, Flachbart determined that knowledge alone was not enough; to move the needle of practice, curricular materials had to not simply be aligned in theory to the research but aligned in practice. Each of these identified gaps provided deeper understanding of what was needed to improve academic performance on a larger scale.

In order to build on the successes of the Idaho Reading Initiative, Flachbart designed the Reading First grant application to capitalize on the momentum created by ICLA while addressing its known gaps. The Idaho Reading First grant included a number of essential elements. For everyone in the state, not just those in participating schools, Reading First provided (a) a definition of and emphasis on Scientifically Based Reading Research that became the basis for comprehensive reading programs in participating schools, and (b) statewide professional development (Grade Level Reading Academies) for all teachers in the state in grades K-3 (Flachbart, 2002). For schools that participated in Reading First, it included funding for and required the following:

- Curricular materials that were research-based
- Reading coaches who provided instructional coaching to teachers
- Reading leadership academies for principals and reading coaches in participating Reading First schools
- Calibration visits in which leaders visited other schools to develop a common understanding of high-quality instruction and assist one another in finding solutions to problems of practice
- The expectation that schools develop a comprehensive assessment plan that included screening, diagnostic, progress monitoring, and outcome assessments in order to create a holistic understanding of each student's performance and needs (Flachbart, 2002)

These elements of Reading First ultimately formed the basis for the state's school improvement actions for the coming years.

The Reading Academies of Reading First were a direct outgrowth of the requirements of ICLA and were grounded in content knowledge from the research literature on literacy instruction. ICLA brought about a Kindergarten Reading Academy for teachers; Reading First provided the funding to widen the net to also train all teachers in grades 1-3 in the core elements of reading instruction (Flachbart, 2002). The academies targeted the same teaching population that ICLA did (i.e., general education teachers, Title I teachers, and special education teachers) with the addition of teachers of students with limited English proficiency (LEP) (Flachbart, 2002). The intent of the academies was to "share the latest reading research, show how this information can be used in the classroom and to clearly state [the State's] expectations of what children need to know and be able to do to meet the state standards for achievement" (Flachbart, 2002, p. 27). This focus on teacher quality was clearly built on a sentiment stated in the state's Reading First grant that, "according to the convergent findings of numerous studies from the 1990s – 2002, classroom instruction is the best antidote for reading difficulty" (Flachbart, 2002, p. 17). Indeed, this emphasis on individual quality was not unique for its time. Leading education reform advocates, such as Katie Haycock (1998) of the Education Trust, wrote about how individual effective teachers make a significant positive impact on student outcomes, especially for at-risk students. As a result, the related literature on teacher effectiveness in that time period became the basis for teacher quality requirements in NCLB. The conclusion that individual quality matters still holds true; the need for high teacher quality is still supported by current research, which shows significant long-term positive impacts from the value added by good teachers (Chetty, Friedman, & Rockof, 2011). With that said, teacher quality is a necessary condition for

large-scale improvement, which is why it became a critical emphasis in Idaho in both ICLA and Reading First.

The other elements of Reading First also focused on individual quality, beginning with the nexus of curriculum, instruction, and assessment. Foremost, the expectation was set that a comprehensive assessment plan would be linked to three tiers of differentiated instruction for all students: a core reading program, a secondary level of supports (e.g., workshop or universal access time), and an intensive tier of intervention for students that were the furthest behind (Flachbart, 2002; Nelsestuen, Burke, Greenberg-Motamedi, & Scott, 2009). The expectations for the core program were that schools would choose one of two research-based reading programs and then implement the program with strict fidelity. Additionally, to emphasize the importance of a core program for all students, heterogeneous groups were required in the first year of implementation in 2003-2004. In other words, the widespread practice of tracking students into ability groups was disallowed; all students, including those in special education and those with limited English proficiency, were expected to be taught in the core program, with additional help given as needed to bring them to grade-level standards. Movement between the tiers of instruction was dependent on instructional profiles of students through the use of the data in the school's comprehensive assessment plan. In this way, the Reading First model in Idaho tied curriculum, instruction, and assessment together.

In order to help teachers be effective, Reading First put a few foundational practices into place. First, the program required job-embedded professional development through the use of instructional coaches who helped teachers improve their practices (Flachbart, 2002; Nelsestuen et al., 2009). Coaches were trained to be master teachers

who were also literacy specialists. They were given support in how to be true coaches who could lead teachers to the right type of research-based practices rather than simply be an expert consultant with all the answers. Coaches provided modeling of good practices. They participated in collaboration meetings. They served as critical on the job, just-in-time support for teachers. To give the coaches the tools that they needed to be successful with teachers, the State provided Coaching Institutes and bi-monthly professional development workshops for coaches to come together with other coaches that continued for the duration of the program.

A second practice in Reading First was that instructional coaches were intentionally set in contrast to the principal's role (Flachbart, 2002; Nelsestuen et al., 2009). Coaches were peers who could assist with improvement; principals were the administrators charged with evaluation, quality, and stewarding the vision for the Reading First model. Principals were focused on individual quality of teachers as well, but in a different way. They were responsible for ensuring fidelity to the core program and keeping a watchful eye on the intervention structures across the school. Ultimately, if a teacher was not keeping pace with the expectations, the principal was responsible to (a) send the instructional coach to help the teacher, (b) have the crucial conversation with the teacher to bring a change in practice, or (c) use formal evaluation procedures to bring about change in practice or, if necessary, staffing. To support principals and coaches in their roles, Reading First provided Leadership Academies and bi-monthly meetings (on the opposite months of the workshops just for the coaches) that focused on the content of literacy to help the leaders be experts from the perspective of the research literature in

addition to a focus on the dynamics of the coaching versus administrator roles. These meetings endured for the seven-year duration of the program.

The use of collaboration was a third practice that was established as an expectation from the very beginning of the program (Flachbart, 2002; Nelsestuen et al., 2009). Grade level teams were required of each participating school, and the state provided training to principals and coaches on how to facilitate collaboration processes. Collaboration was explicitly tied to the comprehensive assessment plan and the tiers of instruction that the Reading First model utilized, and it was a key practice for assisting teachers in determining how to adjust interventions in particular for students that struggled. Because the Reading First model in Idaho began by doing away with the tracking procedures, early collaboration practices frequently focused on helping individual teachers improve their decision making for the students in their own classrooms.

A fourth practice that used by the Reading First program was known as a calibration visit (Flachbart, 2002; Nelsestuen et al., 2009). Calibration visits were performed twice a year in every participating school. Each school would host two and conduct two at another school. The calibration visit was intended to create a common language and understanding of high-quality literacy instruction for principals and coaches. As such, they were structured around an observation protocol in which the hosts and the visiting team, along with a representative from the State, would observe a large percentage of teachers in the school during literacy instruction in order to check for fidelity to the program and Reading First model. The emphasis of a calibration visit was not so much on the individual quality of the teachers. In fact, the visits never produced

feedback for specific teachers. However, it was intended to improve the practices of the principals and coaches in order to help them find stumbling blocks with implementation, or what might be referred to as problems of practice. Calibration visits focused on having leadership conversations around how to improve practices across the school.

It would be incorrect to state that the Reading First model *solely* focused on individual quality from 2003 until 2005. There were actually many aspects of the program that had the latent potential to develop group quality and that tended towards a systems approach. However, the design of the program in its initial years did not necessarily *guarantee* a systemic perspective with group capacity building at its core. Perhaps this is at least part of the reason for the variance in school outcomes (Stewart, 2006, 2007). Some schools experienced dramatic improvement over time, while others had only modest gains, while still others were somewhat stagnant. Regardless, the State Reading First staff took note of different strengths and weaknesses of the program that were demonstrated in the annual external evaluations and learned from them with each additional year. These new insights were mixed with other events that served as catalysts for further change to the theory of action for school improvement.

A Landscape Shifting Toward Systems Thinking (2005 – 2008)

While the Idaho Reading First grant that was written in 2002 never mentioned approaching school improvement through a systems-thinking perspective, it did create initial conditions that later led to such a view. Systems-thinking, as described in the previous section, involves seeing all of the aspects of the educational system as interlinked. A system creates a setting in which the whole is greater than the sum of its parts. In terms of schools, they are part of a Mega System with many smaller sub-

systems – moving pieces that all have to run in sync in order for the organization's goals to be met (Redding, 2006). In general, a focus on the individual quality of teachers, or even leaders, has historically been fragmented from the fact that these individuals are part of a much larger context. The larger context includes other communities of people and their ways of acting. In particular, schools are bound within a larger system that includes district leaders, policies, and practices; local political governance (i.e., school boards); state policies, regulations, and initiatives; and national regulations. If these arenas are not in sync with one another, it can serve to inhibit improvement at the school level.

As mentioned above, the Idaho Reading First program served in many ways as an experimental test case for ideas about school improvement. One of the promises in the original grant was that the State would align "all other reading related programs and activities" with Reading First in order to "build a permanent and deep statewide capacity that will have a lasting impact" (Flachbart, 2002, pp. 37-38). This was the beginning of a long-range shift in practice that began with alignment of reading activities but ended up crossing multiple program boundaries. This shift started with some of the observations made in the Reading First program and was expedited by other contemporary needs and events. First, a 2005 federal monitoring visit demonstrated that the State needed to provide support for schools that were not meeting school improvement goals. Second, a political shift occurred and created opportunity for further momentum when a new State Superintendent of Public Instruction was elected to office. Third, State Reading First staff observed the need to change various practices because of findings in external program evaluations. Fourth, a second federal monitoring visit in 2008 found that the State had made insufficient progress on findings that needed to be corrected in 2005,

leading to the creation of a new statewide program focused on general school improvement. Finally, the experiences gained during these years of transition and in the first year of implementation of the newly established Idaho Building Capacity Project resulted in key insights that shaped the state's theory of action to become what it is presently.

The Nudge of Federal Monitoring

The 2004-2005 school year marked the first time ever that schools in Idaho would have been identified for improvement under the requirements of NLCB. As of fall 2004, there were at least 36 schools that were in need of improvement in Idaho, based on an analysis of records found on ISDE's website (Idaho Department of Education, n.d.-a). That amounts to approximately 6% of all the schools in Idaho. Of those, only one was an elementary school; the remaining 35 were middle and junior high schools. In March 2005, the U.S. Department of Education conducted a Title I monitoring visit in Idaho checking for compliance to many federal requirements, one of which being the state's obligation to provide support to schools and districts in need of improvement. The federal monitoring visit found that the state had developed a basic plan for the Statewide System of Support required by the No Child Left Behind Act of 2001, Section 1117(a), but the plan had not been implemented, and therefore the state was out of compliance in this area (U.S. Department of Education, 2005).

By 2005, Flachbart had become the Bureau Chief (later known as a Deputy Superintendent) over the division that housed both Title I and Special Education, and she was responsible for correcting the findings. While the Reading First program was a school improvement program that had been serving about 30 of the state's highest poverty

Title I elementary schools since fall 2003, none of them were in improvement status at that time. Therefore, the support to Reading First schools could not count as part of the Statewide System of Support under NCLB requirements. Other efforts, such as the *High Schools that Work* and *Making Middle Grades* work programs offered through the Comprehensive School Reform Program did not begin in Idaho until spring 2006 (Idaho Department of Education, n.d.-b). To further complicate matters, since most of the schools in improvement were secondary schools, they were often not served by Title I funds, a baseline eligibility requirement for many federal grants. As such, the state experienced a dilemma regarding both the need to support these secondary schools in terms of program offerings and finding funding options.

Flachbart assembled a team of individuals that understood school improvement, leadership, and literacy, and which ultimately assisted with supporting the early years of the emerging Statewide System of Support. In spring 2005, Flachbart brought Rosie Santana on board as a Reading First school improvement coordinator. By fall 2006, Flachbart had further redesigned the Title I team to include Margo Healy as Title I director, Marcia Beckman as a Title I coordinator, and Deb Pfost as a Title I school improvement coordinator. Each of these individuals had background in one way or another that was related to the reading initiatives in the state. With this new group, a solution for supporting the needs of the middle schools rose to the top, finding inspiration in the state's Reading First model. Flachbart and her team recognized that an unintended positive outcome had come to benefit Reading First participants; the principals and coaches had come to form a social network of peers through their regular meetings and

calibration visit experiences. By de-privatizing their practice with a group of other leaders whom they had come to trust, instructional leadership was taken to a new level.

While Flachbart and her team understood that they could not replicate all of the Reading First requirements in the secondary schools that were in improvement, they could replicate a social networking experience based in instructional leadership. In the 2005-2006 school year, the Principals Academy of Leadership (PALs) was created by Flachbart and implemented by Healy specifically targeting middle school principals (Idaho Board of Education, 2006; Idaho Department of Education, 2010). PALs had three core elements: "statewide learning communities, Surveys of Enacted Curriculum, and Instructional Reviews" (Idaho Board of Education, 2006, TAB 14 p. 8). These three elements mimicked the meetings and calibration visits of Reading First, though with different tools and protocols, and added data collection on teachers' perceptions of their instructional practices. To solve the funding issue, Flachbart cultivated the support of the State Board of Education in order to use the Title II-A funding they oversaw that was intended for developing highly qualified teachers and leaders. Part of the PALs program also added something new to the state's theory of action. Participating principals were provided *distinguished educators* who served as critical friends and mentors to the participants (Idaho Board of Education, 2006), an element that was required of the Statewide System of Support (No Child Left Behind Act of 2001, Section 1117(a)(4)(iii)).

As a result of the federal monitoring and the requirement to support schools in improvement, a shift began to occur in the state's theory of action. Flachbart (2002) had already designed interconnected supports related to literacy activities, as promised in the

Reading First state application. However, with her shift into a position of greater leadership and the prompting to support all schools in need of improvement (regardless of content area or school level), the system of support began to integrate a few key elements, such as a focus on the power of social networking; the importance of external pressure through a mentor; and the need to break down the cottage industry mindset of education by getting educational leaders to go and see what others were doing, and then talk about it and support one another in problem solving. These key building blocks did not create a systems perspective, but they served as critical steps in that direction.

An Opportunity Found in a Political Shift

Just as the flywheel began to build momentum with the emerging Statewide System of Support, a major political shift occurred. In fall 2006, Tom Luna was elected to the office of Superintendent of Public Instruction. In January 2007, he was sworn in with the corner-stone promise of his administration being to create a customer-driven public education system (Lane, 2010). Luna had been a school board member in an Idaho district and had come to be passionate about improving education statewide from the perspective of a parent and community member. Superintendent Luna's election brought significant staffing changes to the Department of Education. Many former employees resigned; others were terminated. Flachbart, having not only been of the opposite political persuasion but a key campaign staff member for Luna's opponent, was among those who resigned, opting instead to finish her doctorate and work at Boise State University's Center for School Improvement and Policy Studies (CSIPS). During this time, under Luna's leadership, ISDE reached out to CSIPS to take more of a lead role in Reading First. Technical assistance work had been previously contracted to CSIPS, but

with Flachbart as a full-time employee at the center, and as the author of Idaho Reading First, Superintendent Luna's staff expanded the role of the center, which placed the university in a position of leadership for the program.

Despite the change in political leadership, within less than a year Superintendent Luna reached across party lines and invited Flachbart to return to ISDE as the Deputy Superintendent of Student Achievement and School Improvement. Lane (2010) presents a strong case for how Luna's vision of a customer-driven education system actually created "space for leaders to forge new relationships with districts and schools" that was based on pursuing effective practice rather than simply focusing on compliance (p. 12). In being willing to bring the right people to lead ISDE's school improvement efforts, Luna enabled the state to build on the momentum of its earlier successes. Had Luna been unwilling to invite someone from an opposing political viewpoint into his leadership circle, or had Flachbart lacked the courage to come back to ISDE under new leadership, Idaho's theory of action for school improvement would not likely have been able to progress to the extent it has (Lane, 2010). Instead, however, the emerging theory of action and Statewide System of Support have continued to grow more coherent in tandem with the vision for a customer-driven education system.

Changes in the Latter Years of Reading First

By the time Superintendent Luna was sworn into office in 2007, Idaho Reading First (IRF) had been serving the same schools for about three and a half years. The external evaluations of the program continuously brought up some of the same findings, mostly positive but with some concerns. The program was resulting in positive improvements in academic outcomes; instructional practices; and school governance

practices, such as the use of collaboration and data to drive decision making (Stewart, 2005, 2006, 2007). These were true in general when looking at the program as a whole. However, each year the evaluations pointed out that, despite the fact that most schools were teaching the core program with fidelity, there was significant variance in the degree of improvement in student reading outcomes both within schools and between schools, and there were undercurrents of resistance among some teaching staff (Stewart, 2006, 2007). Therefore, the evaluator made a series of recommendations to project staff. A few key recommendations instigated some important changes to the program, which later influenced the theory of action for the Statewide System of Support:

- Conduct an in-depth study of high-performing and low-performing IRF schools to better understand what is needed for schools to become successful and what might cause a school to under-perform. (Stewart, 2005, 2006)
- Explore more thoroughly the undercurrents of resistance to IRF to better explicate the barriers the initiative is encountering and what needs to be done to enhance program outcomes. (Stewart, 2006)
- Perhaps the very best IRF teachers should be given permission to experiment, while maintaining fidelity to the core program, to see how they can impact student achievement. Their experimentation might result in increased test scores. (Stewart, 2007)
- Teachers should be included in calibration visits. The high-performing teachers expressed a strong desire to observe other teachers and share best practices and insights. (Stewart, 2007)

Flachbart responded to each of these recommendations over time. As an avid reader, Flachbart had come across Mike Schmoker's (2006) book: *Results Now*. This book provided the foundation for understanding school improvement in general as an issue that needed to address systems improvement. She and her team began frequently using a quote by Seymour Sarason that Schmoker (2006) had applied to teaching: "Place a good person in a bad system, and the system will win every time" (p. 1). This became a pivotal concept for not only addressing the roots of resistance but realizing why variance in practice was so widespread. If you put a good teacher in a weak system, the teacher's best efforts will succumb to the ineffective school practices. Therefore, the IRF staff learned that while individual teacher quality was very important, large-scale improvement would not be gained without a more systemic solution. As such, two changes occurred in relation to the findings about teachers. First, the program intentionally shifted from focusing on *fidelity to the page* (i.e., following the script) to *fidelity to the program* (i.e., following the intent of the program) in its requirements for the instructional core. This change allowed professional responsibility to come more to the forefront, which assisted with reducing resistance since it better aligned with Elmore's (2008) concept of reforming a school from the inside-out through internal, collective accountability. Second, teachers were invited to participate in the calibration visits beginning in fall 2007, which helped teachers begin to understand school improvement as a collective, systemic endeavor rather than something that simply occurred one classroom at a time.

All of these changes in the Idaho Reading First (IRF) program occurred over time as the state's experience with general school improvement merged with lessons learned

from IRF and vice versa. Because this time period encompassed the political shift described above, it is important to also note how the members of Flachbart's team both changed and stayed the same. When Superintendent Luna came into office, Flachbart took a position with the Center for School Improvement and Policy Studies (CSIPS). CSIPS originally only had a portion of the technical assistance program offered by Reading First, embodied in Santana, the Reading First coordinator. Around the same time as Flachbart's move, the state Title I director, Margo Healy, took a position with the State Board of Education, thus leaving two leadership positions vacant. In spring 2007, Superintendent Luna moved Beckman, the former Title I coordinator, into the position of Title I director at ISDE, while Pfost transitioned from being the ISDE school improvement coordinator to a regional Reading First coordinator housed at CSIPS. In her new position, Beckman found herself understaffed and in need of support in continuing to resolve the Title I school improvement findings from 2005 and ensuring compliance before the next monitoring cycle. In the summer of 2007, with her former Deputy Superintendent now at CSIPS, Beckman arranged to sub-contract Pfost's vacant school improvement coordinator position to CSIPS along with a newly created Reading First school improvement coordinator position. For the most part, Flachbart was able to keep her go-to team members, and the shifting allowed her to stay involved with the Reading First program she had created. Since the two new positions were also at CSIPS, Flachbart was able to recruit two new team members that she knew would be valuable in maintaining the momentum she had established. I was hired in summer 2007 as the new Reading First school improvement coordinator, having been known by Flachbart and her team as a former Reading First teacher and instructional coach. A few days later, Lisa

Kinnaman, a colleague Flachbart had come to know in her doctoral program, was hired as the new Title I school improvement coordinator. The group housed at CSIPS was deeply influenced by Flachbart's leadership and became a tight-knit team working collaboratively to support schools and, as a group, were instrumental in shaping the direction of the Statewide System of Support in the following years.

The Influence of Repeated Federal Findings

By the time another round of federal monitoring came in 2008, there had been many developments at the national level that served as significant catalysts for more rapid change with Idaho's Statewide System of Support (SSOS). Specifically, the U.S. Department of Education was taking steps to support states in increasing their capacity to address the needs of schools and districts in improvement status. Furthermore, the fact that Idaho was significantly behind in implementing an SSOS led to conditions being placed on Idaho's federal funds, which created a great sense of urgency at ISDE to resolve the issue.

When Idaho received its first finding in 2005 regarding the lack of an SSOS, it was within a national context in which 39 states had already complied with this section of NCLB (Stullich, Eisner, & McCrary, 2007). Idaho was significantly behind the curve in that regard. The U.S. Department of Education (ED) was committed at that time to "working closely with States to define their responsibilities," especially in the area of NCLB accountability (U.S. Department of Education, 2005, p. 1). In its work with states, ED had found common threads that it needed to address at a national level. Specifically, an interim report for a study ED conducted on the implementation of Title I found that even though most states had implemented an SSOS by the 2003-2004 school year, forty-

two states reported that providing sufficient assistance to schools and districts in need of improvement was a substantial challenge (Stullich, Eisner, McCrary, & Roney, 2006). Furthermore, in 2004, Stullich et al. (2006) found that twenty-one states believed that "an important objective of their statewide systems of support was to build district capacity to provide support to identified schools" (p. xii).

In early 2006, as a result of ED's findings, a national policy dialogue ensued. ED created a budget request concerning the federal FY 2007 budget with key provisions requested of Congress. In particular, ED contended that states had insufficient funding to carry out the full intent of the requirement for an intensive Statewide System of Support (U.S. Department of Education, 2006). At the time, the only funding specifically devoted to the provision of state level technical assistance for improvement through an SSOS was from a 5% set-aside of school improvement funds from the No Child Left Behind Act of 2001, Section1003(a), an amount that totaled only $25 million annually for all states. In Idaho, that amounted to $100,000, which hardly provided adequate funds to staff ISDE, let alone provide assistance to schools; the remaining 95% of 1003(a) funding was sub-granted to districts for them to use at their own discretion. To provide a solution to this lack of resource issue, ED proposed that Congress allow more flexibility with the 1003(a) funds and also appropriate funding for the first time to the School Improvement Grant program authorized by the No Child Left Behind Act of 2001, Section 1003(g) (U.S. Department of Education, 2006). In the Congressional hearings leading up to the FY 2007 appropriations bills, Senate members seemed supportive of ED in the interactions regarding (a) the importance of shifting emphasis to support states in their SSOS technical assistance work, (b) the need to authorize additional funding through 1003(g),

and (c) the value of helping states integrate the 1003(a) and 1003(g) funding streams (U.S. Senate, 2006). Ultimately, ED's request was approved. Flexibility was afforded to states regarding the 1003(a) funds, and the School Improvement Grant program was appropriated funds for the first time with funding available July 1, 2007 – the same time that Kinnaman took over as school improvement coordinator.

In her new role, Kinnaman set herself immediately to creating a strong statewide system support for schools and districts in need of improvement. Working with Beckman at ISDE to implement the requirements for school improvement, and having access to Flachbart at CSIPS, Kinnaman was aware that the state still had to work on its 2005 findings and be prepared to demonstrate implementation of a Statewide System of Support by the next federal visit. As such, she was able to build on the institutional knowledge of the team's former work (Flachbart, 2009). In fall 2007, Kinnaman researched established statewide systems of support elsewhere in the nation in order to find some helpful options, but quickly realized funding would be an issue (Kinnaman, 2009). During the process, she learned that the 1003(g) funds had become available and worked with Flachbart to quickly produce a grant that could be submitted in November 2007 (Lane, 2010).

Meanwhile, the new 1003(g) funding source was an important tool in ED's action plan for states. The FY 2007 application that ED put out for states made the explicit connection between the use of the funds and expectations ED had established during the 2006 budget proposal period, in which ED wanted states to use the funds flexibly and in coordination with the 1003(a) funds in order to build better functioning statewide systems of support (U.S. Department of Education, 2007a). This is clearly the result of what

Secretary Spellings had described in the March 2006 Senate Hearing in which she stated that the proposed School Improvement Grants program would maintain the positive momentum of previous years by "building State capacity" in order to "help States to establish and expand the statewide systems of improvement and support that are essential to the long-term success of NCLB" (U.S. Senate, 2006, p. 7). In fact, when probed further by the Senate about ED's plans, Secretary Spellings' response was:

> The new $200 million request for School Improvement Grants recognizes the critical need for State leadership and support in LEA and school improvement. While States currently reserve 4 percent of Title I, Part A allocations for school improvement activities—an amount totaling more than $500 million annually, they must subgrant 95 percent of these funds to LEAs, leaving just $25 million available for State-level school improvement activities. The request would provide substantial new support for State-led LEA and school improvement efforts and would help build State capacity to carry out statutory improvement responsibilities. (U.S. Senate, 2006, p. 36)

Therefore, once the appropriation was approved, in writing the purpose statement at the beginning of the state application materials, ED began by articulating the following in its purpose statement:

> Improving schools is a joint responsibility for schools, local educational agencies (LEAs), and State educational agencies (SEAs). Section 1003(g) of Title I of the Elementary and Secondary Education Act (ESEA), also known as the School Improvement Fund, authorizes funds to help SEAs and LEAs address the needs of schools in improvement, corrective action, and restructuring in order to improve student achievement. (U.S. Department of Education, 2007a, p. 2)

The purpose statement made it very clear that ED expected states and districts to be jointly responsible – not to leave school improvement to chance one school at a time.

Furthermore, the application's frequently asked questions addressed the concerns ED had discovered about funding problems, the same concern that was on the minds of Beckman, Kinnaman, and Flachbart. ED outlined how a state may, with the permission

of its districts, use the funds to provide services directly to eligible schools and districts or arrange for their provision through other entities, rather than simply using the funding as competitive grants (U.S. Department of Education, 2007a, pp. 8-9). While the caveat about having permission from the districts to spend money they themselves might want to control may seem an unlikely proposal, the key point of leverage was that the funding was competitive. No districts were guaranteed funding. The state had the right to set competitive priorities. If a district did not meet the competitive priorities, it would not get the funding. Therefore, districts had nothing to lose by granting permission to the states to use the funds on their behalf.

This is exactly what Idaho's application did. Idaho was granted $431,188 on December 20, 2007 (U.S. Department of Education, 2007b). ISDE used the grant funds, by means of its contract with CSIPS, to arrange for the provision of school improvement services directly to two districts and all seventeen of their schools (Kinnaman, 2009).From the beginning of its implementation in January 2008, the program was intended to pilot the way to a larger Statewide System of Support and was predicated both on the programs that Kinnaman had studied in other states' statewide systems of support as well as on the key themes that Flachbart and her team had experienced over the previous years of work in other programs. In brief, the program, titled the Idaho Building Capacity Project (IBC), provided intensive external coaching, overseen by Kinnaman, to local school and district leaders in a design that was to last for three years at each site.

When ED returned in May 2008, it found that Idaho had made progress toward building a Statewide System of Support (SSOS) through the initial pilot months with

IBC, but it had still not fully met the requirements of the law (U.S. Department of Education, 2008). Since this was the second finding regarding the need for an SSOS, ED placed a condition on Idaho's Title I grant. As part of the condition, ED required ISDE to submit a plan and timeline for the expansion of IBC into 2009, along with quarterly reports that included:

> a) a list of activities conducted by the Center for School Improvement at Boise State University for that quarter;
>
> b) agendas for professional development activities conducted;
>
> c) lists of participants for all technical assistance and professional development activities and visits;
>
> d) a list of any problems encountered in implementing the plan that might hinder full completion of the statewide implementation by the spring 2009 deadline; and
>
> e) steps taken to address any problems encountered and the steps taken to resolve these problems. (U.S. Department of Education, 2008, p. 15)

This continued finding increased ISDE's focus on the need for an effective SSOS and created a greater sense of urgency for expanding its support to all districts throughout the state (Lane, 2010). Because these events coincided with ED's interest in improving state capacity, the federal monitoring visit truly served as a catalyst for the development of a more coherent approach to using both the 1003(a) and 1003(g) school improvement funding streams with an emphasis on building district capacity to support schools.

A Time of Transition – Key Insights and a New Project

The year 2008 marked the sun setting on Idaho's first statewide school improvement project, and the birth of its new flagship program for school improvement (Flachbart, 2009). Political change brought about an unexpected opportunity to learn from Reading First, which informed the future of the Statewide System of Support

strategy. Meanwhile, simultaneous efforts led to the research and development phase of the Idaho Building Capacity Project, which still operates as the core driver for large-scale improvement in Idaho.

In January 2007, the balance of power in the U.S. Congress changed from a Republican majority to a Democratic majority in both the House and the Senate. That spring, the Congressional appropriation bill reduced the 2008 fiscal year budget for Reading First, President George W. Bush's signature program in NCLB, by more than 60%. As the 2008 presidential campaign heated up in spring 2008, Congress zero-funded the Reading First program altogether. Flachbart knew that Idaho would only have another year and a half to support the program with existing funds and was determined to learn as much as possible from it in the time it had left (Flachbart, 2009). Seeing the writing on the wall, and knowing that the state was going to have to move in the direction of a larger Statewide System of Support, Flachbart designed a research study that was carried out in spring 2008 in which increased technical assistance (ITA) was provided to persistently lower performing Reading First schools. She wanted to determine why schools that had received the same amount of funding, technical assistance, training, and more for over four years had such variance in their track record.

Flachbart's (2009) ITA study was created as preliminary research into the long-term question of whether or not increased, intensive support would make a difference. She wanted to examine whether differentiated support at more intensive levels would make a difference in the lowest performing schools that had lacked progress over the years. The study was developed at the same time that she and Kinnaman were conceptualizing the Idaho Building Capacity Project (IBC) and was intended to be a

parallel inquiry that would support the development of a Statewide System of Support that went beyond the bounds of literacy in elementary schools (Flachbart, 2009). The Reading First staff already knew the leaders in the schools, had experience with their current systems, and understood their context (Flachbart, 2009), whereas the pilot project of IBC would be working with new schools in which technical assistance providers would have to take the time to build trust and learn the school culture before hoping to make any deep impact. Flachbart's (2009) study was therefore relatively able to isolate the variable of simply increasing and differentiating technical assistance. The study's abbreviated timeframe did not produce conclusive increases in student proficiency outcomes. However, ITA sites did demonstrate positive progress toward improved reading proficiency outcomes, while school leaders and staff reported significant changes in school characteristics that the research literature links to effective schools, such as stronger data utilization for decision making, more focused intervention procedures, and better use of professional collaboration structures (Flachbart, 2009; Nelsestuen, 2008). Flachbart (2009) also found that the level to which a district was ready to benefit from state assistance was a key factor that could help or hinder progress. In three of the four schools studied in the treatment group, "ITA providers noted in their summaries that district policies actually impeded progress" and hindered implementation of the changes that the school leadership and ITA providers determined were necessary (Flachbart, 2009, p. 141). Furthermore, the ITA study showed that the top-down, prescriptive nature of Reading First seemed to work in some school contexts, but was perhaps insufficient to improve schools when the district did not create a supportive context and school staff were resistant or lacked buy-in regarding the implementation requirements. Lastly, based

on her findings, Flachbart (2009) concluded in agreement with Richard Elmore about the existence of a capacity gap, a knowing and doing gap, that prevents improvement. A policy cannot dictate how a school is to improve; the context is too complex. Rather, as Elmore (2008) stated, "Low-performing schools, and the people who work in them, don't know what to do. If they did, they would be doing it already" (p. 207).

These insights provided direction for decisions that would be made about the emerging Statewide System of Support. First, a prescriptive approach to school improvement was found to be insufficient. Prescriptiveness did not produce large-scale results. Second, the quality of individual teaching and leading was a necessary, but not sufficient, condition for improvement. In moving forward, district leadership mattered and was critical for overcoming persistent low performance. Third, funding provided directly to schools and districts, while helpful, did not create a difference in and of itself. As Flachbart noted, the schools had the same amount of grant funding and professional development year after year. Therefore, the Statewide System of Support's theory of action could not depend on giving more money alongside a prescribed improvement model as a driver of change.

While the hypothesis that Flachbart and Kinnaman had developed in fall 2007 about providing increased technical assistance focused on building capacity of local leaders was tested in the ITA study, it was simultaneously built into a pilot project that launched in January 2008 called the Idaho Building Capacity Project (IBC). Kinnaman had spent much of the summer and fall of 2007 researching statewide systems of support. As mentioned, Idaho was behind the times, which gave Kinnaman (2009) many resources to pull from and created the positive benefit of being able to learn from other states'

successes and failures. She visited other state departments of education; attending conferences, interacted with regional comprehensive centers funded by ED, and came across one particular national content center that focused on helping states develop statewide systems of support. The latter, the Center on Innovation and Improvement (CII), proved to be of particular assistance through a partnership that endures to the present. In her research phase, Kinnaman (2009) made connections with two states in particular that influenced the course of Idaho's work: Washington and Virginia. Washington had a district and school improvement program that provided external coaches (improvement facilitators) to schools, and Virginia had a well-articulated method for supporting school improvement planning. IBC was built around these two structural components, but modified greatly to fit the unique experiences and context of Idaho.

The phrase "building the plane while flying it" rang true during the initial year of IBC. The state did not have a prescribed way of rolling out the program. In fact, the opposite was true. IBC started with getting the right people on the bus, so to speak, and seeing if an idea would work. The awarding of the School Improvement Grant funds in December 2007 came more quickly than Flachbart and Kinnaman had expected. In January 2008, with over $431,188 at their disposal, the pair set out to identify two districts near Boise that were willing to let the State experiment with them by providing some extra assistance. These two districts were quite far into the needs improvement timeline, and also had a relationship with the state by having a few schools participating in Reading First and the Principals Academy of Leadership, and agreed to sign on and have all of their schools participate (Kinnaman, 2009). At the same time, Kinnaman (2009) developed a framework for the project and brought together an advisory group

made up of state team members and retired, well-respected educators to inform the ongoing development of the project.

Two foundational pieces of IBC were the frequent, intensive coaching of a Capacity Builder and differentiated support centered on action planning (Kinnaman, 2009). Capacity Builders (CBs) were recruited from the ranks of well-regarded, recently retired school and district leaders who had demonstrated success to some degree in improving low-performing schools. The idea to provide CBs was based to a certain extent in the NCLB Statewide System of Support requirement to provide "distinguished teachers and principals" who could help schools improve (No Child Left Behind Act of 2001, Section 1117(a)(4)(A)(iii)); but it was built to an even larger extent on the model Kinnaman had discovered in the State of Washington, which provided school and district improvement facilitators (Lane, 2010). CBs were assigned to individual school and district sites over a period of three years, with the highest level of intensity in the first year and gradually decreasing to less support by the third year in the project (Kinnaman, 2009). This design was intended to decrease the site's dependence on the CBs over time in order to both create a sense of urgency at the site to take on ownership of the improvement process and promote sustainability of new practices. Kinnaman (2009) summarized the intent of the work in the following manner:

> The term capacity building was selected to describe the work of the IBC project as it by definition infers that the internal capacity of someone (the school or district leadership team) is being built to sustain the school improvement efforts being supported by the Capacity Builders, distinguished educators assigned to work with IBC schools and districts. (p. 117-118)

The CBs were then trained on systemic improvement processes, rather than specific methods or models for school reform. As had been learned already, there is not a single

solution to the challenges that exist in any one school. Kinnaman (2009) often stated that the project was not a "cookie cutter approach" to improving schools, but rather one that was different for each context (p. 118). Therefore, IBC additionally emphasized the importance of *continuous improvement*, the *process* of action planning that accompanies it, and the *implementation* of agreed upon plans that were unique to the context of each school and district (Kinnaman, 2009). In its first year, the CBs worked with school and district teams around the school improvement process using various tools. However, in the project's second year, Kinnaman discovered CII's online improvement planning tool, Indistar, which had been developed in partnership with Virginia (Lane, 2010). Kinnaman worked with CII to adapt the tool to Idaho's needs, where it is known as the WISE Tool, and began using that as a driver of school improvement planning in order to develop a common language and framework for use throughout the state (Lane, 2010).

In addition to focusing on the process of providing external coaching for improvement, IBC was also built on a few critical assumptions about leadership and the power of social learning. Due to the state's experience with other projects, such as the Principals Academy of Leadership and Reading First, it had become clear that school reform efforts could not be embodied in one leader; the principals often did not have nearly as long of tenure as the teaching staff (Kinnaman, 2009). For example, in 2008-2009, the average principal had been in a Reading First school for 5 years with a range of 1-11 years, but the average teacher had been in the same schools for 8 years with a range of 0-36 years (Nelsestuen et al., 2009). If lasting improvement was to be sustainable, it would have to cross boundaries and be through distributed leadership. Therefore, Capacity Builders (CBs) were expected to not just work with a principal or

superintendent as the leader, but rather CBs were to work with entire leadership teams (Kinnaman, 2009). If a school or district did not have a leadership team, it was one of the first priorities for the CBs to cultivate one. As such, the expectation for a leadership team was designed to reach through to the classroom by ensuring that teachers were included in the process of being responsible for whole-school improvement planning and implementation (Kinnaman, 2009). In this way, the leadership team expectation of IBC sites was intended to support whole-system change by building on the power of a social network within the school and district. Lastly, beyond focusing on leadership at just one level (i.e., school *or* district), IBC worked at *both* the school *and* the district levels simultaneously (Kinnaman, 2009). This coordination of district and school technical assistance lasted for the duration of participation in the project. Even if new schools were added after the district's first three years, the project continued to provide a Capacity Builder to the district leadership team. By doing this, the project aimed to distribute the work of leadership while at the same time bringing people together through the power of social connections and teaming. If a leader or team member left, the institutional knowledge and capacity carried by the remaining members would be able to better sustain the loss and support the work during the transition period.

Central to the IBC work of coaching leadership teams was the use of data to drive decisions (Kinnaman, 2009). Capacity Builders provided tools and methods, such as a data carousel approach, to assist leadership teams in using the right kinds of data to inform decisions about such things as the system in general, instructional programs, and curricular materials. CBs assisted leadership teams in utilizing multiple sources of academic data, beyond just the use of the yearly summative assessment scores included in

the accountability system. IBC leaders taught CBs to undertake a coaching process that led teams to consider comprehensive assessment plans by thinking about assessment purpose, type, and frequency (Flachbart, 2008). Furthermore, in addition to focusing on academic data sources, IBC added a data collection method for analyzing organizational health (Kinnaman, 2009). The framework for school improvement that Kinnaman had selected for the project was the *Nine Characteristics of High-Performing Schools* (Shannon & Bylsma, 2007). These nine characteristics had been developed in the State of Washington, where the Center for Educational Effectiveness (CEE, 2011) had created companion surveys that linked organizational health with educational practices, and which were used by the state's improvement facilitators. The surveys connected self-reported perceptions to effective educational practices and highlighted the perceptual gaps between what individuals thought about themselves versus what they thought about others in the organization (Kinnaman, 2009). When building off of the ideas Kinnaman had found in Washington, it was a natural fit to use the same survey instruments in Idaho's budding project to inform both local and state efforts. Therefore, participation in IBC required the use of the CEE surveys, which were subsequently administered each year to school teaching staff, school administrators, as well as classified staff. The perceptual data collected from all of these individuals became a key point of analysis in understanding and making decisions regarding how to improve school culture, climate, and pedagogical practices.

The transitions inherent to Idaho's school improvement efforts in 2008 led to changes in team structure. In addition to the programmatic changes that occurred, there were once again some critical changes in the state's team and its organization. In spring

2008, Superintendent Luna began recruiting Flachbart back to the State Department of Education (ISDE). After a few months of conversation regarding the possibility, Flachbart accepted the invitation and decided to return that summer, due in part to her belief that it would be the best way to maintain the momentum of her work, and she was deeply committed to serving the students of Idaho (M. Flachbart, personal communication, July 2008). Once back at ISDE, Flachbart again supervised Beckman, the Title I director who was still short staffed. Together, in October 2008, Flachbart and Beckman were able to post the Title I coordinator position that had been vacant since early 2007. Since Congress had recently passed an appropriation bill that defunded Reading First for the FY 2009 federal budget, I knew that my colleagues and I would need to ultimately transition to new jobs by the time the grant expired in fall 2010. I was the least senior member of the Reading First team; Santana and Pfost had been around longer. Therefore, I asked my colleague, Flachbart, to consider me for the Title I coordinator position at ISDE. Shortly thereafter, in November 2008, I was hired and transferred from the Center on School Improvement and Policy Studies (CSIPS) into a new role at ISDE in which I was able to use the school improvement skill set I had developed in the Reading First program. My Reading First colleague, Pfost, remained with the program through the end of 2008, but in January 2009 began splitting her time between Reading First and a new position as regional school improvement coordinator for the IBC project. Santana, the Reading First director, remained with the program until it closed out in 2010, and then also transitioned into a regional school improvement coordinator role with IBC. Meanwhile, after the roles of the team members changed, and with the expansion of IBC, in 2010 Kinnaman was elevated from a school improvement

coordinator to the role of director of statewide school improvement programs, a role which was still housed at CSIPS. Once again, Flachbart was able to maintain the core team that she had cultivated through a fairly substantial transition period, which fueled greater momentum for change.

The Mega System and Capacity Building (2009 – Present)

As of January 2009, the conceptual framework of an official Statewide System of Support (SSOS) had developed substantial momentum and was at a breakthrough point. Flachbart was once again in a position of influence within the political operations of the Idaho State Department of Education (ISDE). Kinnaman had developed a close working relationship with the Center on Innovation and Improvement (CII) that resulted in opportunities for reflection upon and growth within the system. Furthermore, the larger school improvement team had come to a point in which they were able to draw lessons from their many experiences over the years that impacted future SSOS design decisions. Beginning in 2009, the SSOS began to grow at a much faster rate in terms of program offerings, technical assistance designs, and coherence among initiatives despite various obstacles that have occurred along the way. As of 2012, the SSOS has developed a number of sustainable practices, while also being at a point of needing to rebuild some internal capacity due to recent setbacks.

The Growing Presence and Design of IBC

In January 2009, the IBC project entered its second year; the pilot group was officially renamed as Cohort I, while a second group of schools and districts from all over the state signed on as Cohort II (Kinnaman, 2009). A few critical changes occurred as

the project entered this second phase. For the first time ever, school improvement support under NCLB was available in every region of the state. This was a significant feat because of the rural and distant nature of Idaho's regions. Flachbart and Kinnaman had worked with the deans of the colleges of education at the University of Idaho and Idaho State University to expand the project to be able to provide regional service centers with school improvement coordinators housed at each, in addition to Kinnaman's position within CSIPS at Boise State University (Gates, Peixotto, & Chelemer, 2009). This structural change extended the state's capacity to reach all districts. Capacity Builders (CBs) were hired at each regional center and overseen by the regional school improvement coordinators using each university as home base in order to effectively branch out into each of the state's major three regions (north, southwest, and southeast). The three regional coordinators, with Kinnaman as the supervising team leader, coordinated the project together and set the standard for each region to meet with its CBs monthly in order to address different regional needs while further meeting together as an entire state contingent twice per year at Capacity Builder Institutes. These meetings provided training for CBs and the opportunity to work together to find solutions for any difficulties they were experiencing with the project as a whole or with participating sites. Finally, a critical additional expectation was added to the project. While the concept of a general performance agreement had been borrowed from the State of Washington's project from the very beginning of IBC, Kinnaman and other team members came to realize in the pilot year that a more specific performance agreement was needed in relation to the work with the district. The Cohort II application process included the following specific elements to which the district was asked to agree:

- Effectively utilize the Capacity Builders' services and engage in IBC activities.
- Provide a plan as to how the local school board will be engaged in the IBC project.
- Support principal(s) in creating change that will align with the district vision and result in increased student achievement.
- Provide executive sponsorship by establishing the IBC project as a high priority of the district.
- Appoint a district project contact that will oversee and coordinate the work of the IBC project for school and district leaders (strategic planning, communication, project details, progress monitoring, etc.).
- Support the administration of the required staff survey from CEE and the optional student and parent surveys from CEE. (Kinnaman, 2009, p. 270)

What is noticeable in these items is the emphasis that is placed on district leaders to not only *approve* of participation in the project, but to both *lead* and *sponsor* the improvement efforts in the school, rather than leaving efforts to site-based management practices. This emphasis on district leadership was a direct result of the experiences of IBC in the first year as well as the lessons learned in the Increased Technical Assistance study (Flachbart, 2009; Nelsestuen, 2008).

Self-Assessment and Increasing Coherence

With the regional expansion in full swing, Kinnaman and Flachbart worked with CII in spring 2009 to begin taking the SSOS to the next level. The two had learned that CII had a number of free products that specifically supported states in reflecting on and improving their support systems. One such resource was a tool called *Strengthening the Statewide System of Support* (Redding & Walberg, 2007), which was designed as a way for regional comprehensive centers funded under NCLB to work with state education agencies in assessing the design and practices of their systems of support. Under

Flachbart's leadership, this tool was utilized by ISDE to reflect on current practice and plan for improvement. Two individuals from the Northwest Regional Comprehensive Center (NWRCC) and one person from CII led a cross-agency team from ISDE through a series of guided questions that probed them about the background of the SSOS efforts; lessons learned from the past; beliefs about what are the most important contributors to the improvement of school outcomes; and other topics related to how the state provides incentives, opportunity, and capacity for improvement at the local level (Gates et al., 2009). The report served as a synthesis of many of the key experiences and understandings of the team to date. The three factors that the team identified as being the most important to school and district improvement were: leadership, a focus on the classroom, and reform of school district operations (Gates et al., 2009, p. 8). While these three elements were already part of the focus of IBC, they later became central to other important offerings provided by the SSOS.

A second resource that the Center on Innovation and Improvement (CII, 2009a) offered for free was an online improvement planning tool that later came to be known nationally as Indistar. In her work with CII, Kinnaman had become well aware of the Handbook on Restructuring and Substantial Improvement (Walberg, 2007), a research meta-analysis CII had published that distilled the behaviors of effective schools into a series of indicators. In 2007, CII had developed an online improvement planning tool based on these indicators, and by spring 2009 Kinnaman was eager to find a way to bring the tool to Idaho. Idaho had been using an outdated, hard to use online improvement plan that was viewed throughout the state as a NCLB compliance tool that was not useful (Lane, 2010). The planning tool that CII developed was much more comprehensive and

encapsulated the continuous improvement planning process that Kinnaman had been striving to embed in schools and districts through the support of the CBs. Indistar was the right fit to help move improvement planning from a compliance mindset among school leaders to a useful component of school decision making. As such, Kinnaman, Flachbart, and Beckman made the decision that spring to allow volunteers throughout IBC to pilot the use of Indistar (called the WISE Tool in Idaho) in lieu of the previous planning tool. Once word got out, the WISE Tool caught on like a wild fire with many districts outside of the IBC project requesting access in the 2009-2010 school year (Lane, 2010). The use of the WISE Tool built momentum within the IBC project and, with the State's transition period that allowed for choice between the old tool and the new, has led to a large-scale change in the practice of improvement planning at the local level.

As of 2012, the state SSOS team continues to use the WISE Tool as a required aspect of improvement planning within the accountability system requirements and views it as a way to build a common language for improvement practices. However, its use has moved beyond compliance requirements. For example, many districts in Idaho still use the tool voluntarily, with some even requiring their schools to use the tool as a way to develop system-wide processes for continuous improvement in order to meet district objectives. Additionally, the SSOS team has sought other ways to reduce the burden on schools and increase the use of the tool by integrating it with other planning processes. In fall 2009, with the help of Beckman and Carol Chelemar from CII, I created a process for schools to apply for and maintain their Title I Schoolwide Programs in the WISE Tool. Schoolwide is a voluntary opportunity under Title I that allows schools more flexibility in the design of Title I programs and the use of Title I funds. The previous

process had become an unwieldy burden for schools that took years to complete, and therefore fewer schools were applying for the flexibility. I was able to develop a process that was more rigorous than the School Improvement requirements (in order to meet the statutory program requirements) while at the same time making it possible for schools to work on any improvement requirements they had. This effectively killed two birds with one stone, so to speak, and resulted in more schools applying for the Schoolwide program, and hence more voluntary use of the tool since no one is required to implement a Title I Schoolwide model. In subsequent years, the SSOS team has built on the successful experience with the Schoolwide program by using the tool as common language for other state initiatives, while keeping the planning instrument the same. For example, the team integrated crosswalks into the WISE Tool to help users understand the Danielson Framework for Teaching (the state's teacher evaluation framework), the Response to Intervention (RTI) model, and the *Nine Characteristics of High-Performing Schools* (Shannon & Bylsma, 2007) in terms of the larger characteristics of effective schools provided by the indicators within the tool. This has broken down barriers in the sense that it enables multiple perspectives to converge in the use of one improvement planning tool so that the state can speak the same language as schools and vice versa.

Action Planning for Statewide Improvement

As a result of the momentum experienced with the Statewide System of Support (SSOS) and the partnership that had grown between ISDE and CII, the Idaho team was invited to join the Academy of Pacesetting States in summer 2009. Prior to participation in this academy for states, the various initiatives that had supported improvement to date, such as IBC, the Principals Academy of Leadership, the onset of the WISE Tool, and a

new project to support superintendents "had yet to be fully integrated" (Lane, 2010, p. 19). The urgency to more fully integrate increased with the first meeting of the Pacesetting Academy. The academy consisted of leadership teams from nine states that networked over the course of a year regarding topics related to school improvement. The initial mini-conference in July 2009 occurred in Princeton, New Jersey, during which the Idaho SSOS delegation developed a year-long action plan for improvement centered on how to increase the coherence and effectiveness of its system of support (Lane, 2010). The academy included virtual monthly follow up meetings in which state leaders provided updates on the progress of their action plans and shared ideas with each other for how to improve. Throughout the year, the academy served as a professional learning community for the SSOS team that provided external peer pressure and accountability for accomplishing team goals and therefore served as a way to catapult the team into new practices.

As part of the action plan developed at the Academy of Pacesetting States, the Idaho team developed a framework for the overarching context of the SSOS and then identified six action items that were deemed to be the most important focal points for the 2009-2010 school year (Idaho Department of Education, 2009a). As identified in the self-assessment work with NWRCC, the focus of the SSOS needed to be on what occurs in the classroom. However, ISDE is quite removed and must interact with many layers of the system in order to impact the instructional core. Redding's (2006) conceptual work on schools being part of a Mega System was therefore combined with Elmore's (2008) understanding of the instructional core (i.e., the relationship of students, teachers, and pedagogical content) in order to contextualize what it would take for ISDE to penetrate

all the way to classroom practice. Figure 11 represents the context of the SSOS within this construct. In order to impact the instructional core, the SSOS needs policies, practices, and programs that impact the right levers among stakeholders (e.g., school boards, superintendents and central office staff, building leadership, teaching teams, and the classroom itself). Once a contextual framework was created, action items were identified.

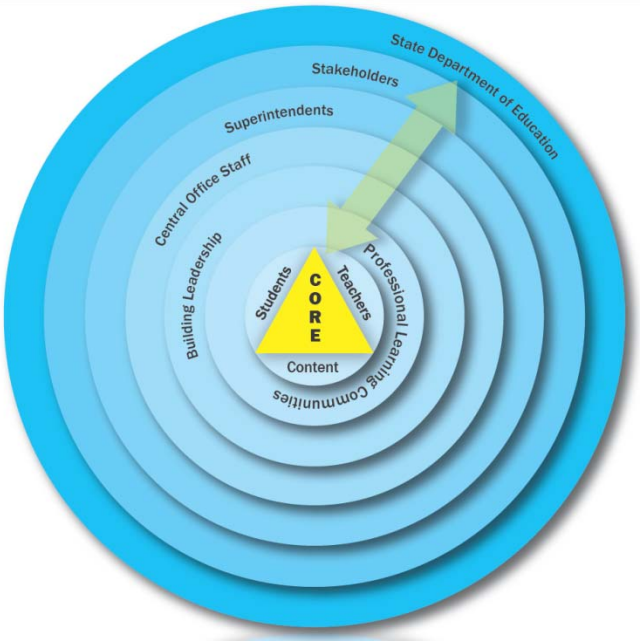


Figure 11. Idaho Statewide System of Support Instructional Core Graphic

Of the six action items originally included in the plan, three proved to have a long-term impact on the design of the SSOS. First, the team set out to develop a criteria for differentiating SSOS services based on the need of districts and schools rather than just on the level of improvement status (Idaho Department of Education, 2009a). Considering that more than half of Idaho's districts have less than 650 students (which is smaller than most urban schools throughout the U.S.), and having learned through

experience that districts play an absolutely critical role in the performance of schools and the possibility of larger scale improvement, the Idaho SSOS team began to evaluate data differently. A greater emphasis was placed on supporting districts and differentiating technical assistance accordingly. Using multiple variables, including graduation rates, student performance, demographic attributes that lead to higher numbers of at-risk students, and lack of progress over time, I created a calculation for ranking all the districts in the state in terms of how likely they were to need support. From this calculation, the lowest five districts were identified. This impacted conversations that had been occurring over time regarding how the team would differentiate supports based on need.

The first attempt at describing differentiated support came from the perspective of the intensity of the support a program provided. For example, IBC was intensive support, the Principals Academy of Leadership was of medium intensity, and other offerings were less intensive and available to everyone in the state. This point of view is shown in Figure 12, as depicted in Lane's (2010) case study. As can be inferred from the triangle shape, the Idaho SSOS team compared the scope of its services to the tiered framework of the Response to Intervention (RTI) model. RTI classifies students into at least three levels in order to differentiate between and then meet the needs of every learner. Learners with more intensive needs receive core instruction that is provided to all students, but are also given extra, intensive supports. The SSOS was working to utilize this same manner of thinking in differentiating among what districts and schools need to improve.

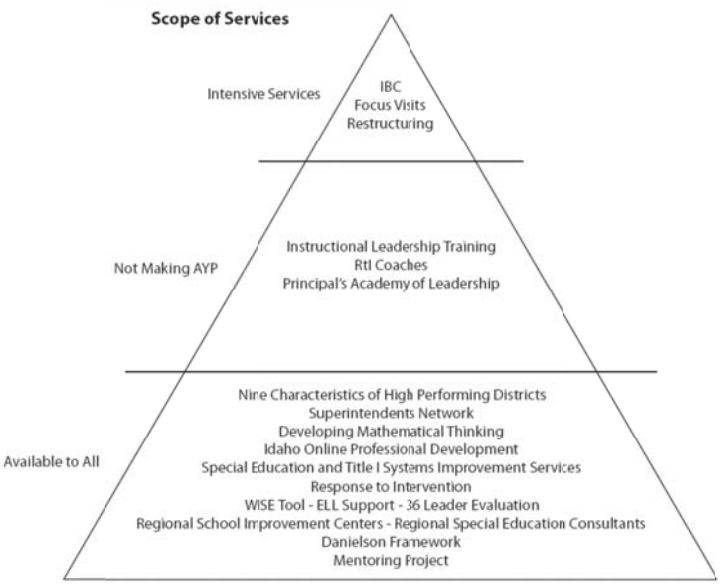


Figure 12. Idaho Conceptual Framework for Differentiated Program Offerings in 2010

A second action item identified during the work with the Academy of Pacesetting States, and which resulted in long-term impact, was the decision to reconstitute school support teams and visits, which were later known as Instructional Core Focus Visits (Idaho Department of Education, 2009a). This was part of the effort to better differentiate support. School support teams also are found in the NCLB requirements for an SSOS (No Child Left Behind Act of 2001, Section 1117(a)(4)(A)(i)). However, Idaho's version of this concept was unique to the team's frame of reference. With the understanding of the importance of district, system-wide improvement, Instructional Core Focus Visits were developed in place of the "support team" concept in order to provide a diagnostic look at five school districts in the state that were most in need of support. With the author's permission, an SSOS team member, Jodie Mills, revised the CII (2009b) guidebook called *Patterns of Practice* to build a process that reflected Idaho's

emphasis on districts (Idaho Department of Education, 2009b). The original *Patterns of Practice* guide was used to review and diagnose school-level needs by means of classroom observations, teacher interviews, focus group interviews with multiple groups, and principal interviews. The data collected during the process all triangulated back to the indicators within the WISE Tool so that recommendations could connect to improvement planning. Idaho's version of the process expanded from a school focus alone to include all schools in a district with the addition of interviews of the superintendent and central office staff, and it coordinated the data collected so that the resulting reports aligned to the *Nine Characteristics of High-Performing Schools*. The resulting recommendations of the Idaho Focus Visit process were placed in a superintendent's hands; no compliance requirements were put into place. The intent was to give district leaders the comprehensive diagnostic information they needed to spur system-wide improvement and create a partnership with the state that would lead to the right kinds of future technical assistance.

The third action item identified by the SSOS team in summer 2009 was to develop a plan for evaluating the effectiveness of the system of support (Idaho Department of Education, 2009a). This action item proved to be difficult for various reasons. State programs can only rarely be crafted with an experimental research design; states have an obligation to continue to serve schools and districts, even when research is lacking in knowing how to do it. Therefore, the state needed to approach this action item as a program evaluation, but it was bigger than any single program, which complicated how to evaluate it as a singular system. While the SSOS team had tools at its disposal to collective qualitative data and had gone through the process of a self-assessment using an

evaluation rubric provided by CII, creating a quantitative method for analyzing the impacts of the system of support was quite complicated due to the many variables involved. As the person responsible for this action item, I did some research to identify a good starting point and came across the theory of action concept within the CII publication *Evaluating the Statewide System of Support* (Hanes, Kerins, Perlman, Redding, & Ross, 2009). I looked further into theories of action and learned that they are useful tools for designing program evaluations since they articulate the presumed links between activities and anticipated outcomes. Flachbart and I were able to subsequently attain the help of NWRCC once again to facilitate a team dialogue around the design of the team's collective beliefs, or its implicit theory of action. A logic model that represents the theory of action we identified in September 2009 is provided as Figure 13. Although updated in June 2012, this theory of action reflects the central, unifying concepts in the SSOS leadership and decision making processes between 2009 and 2012.

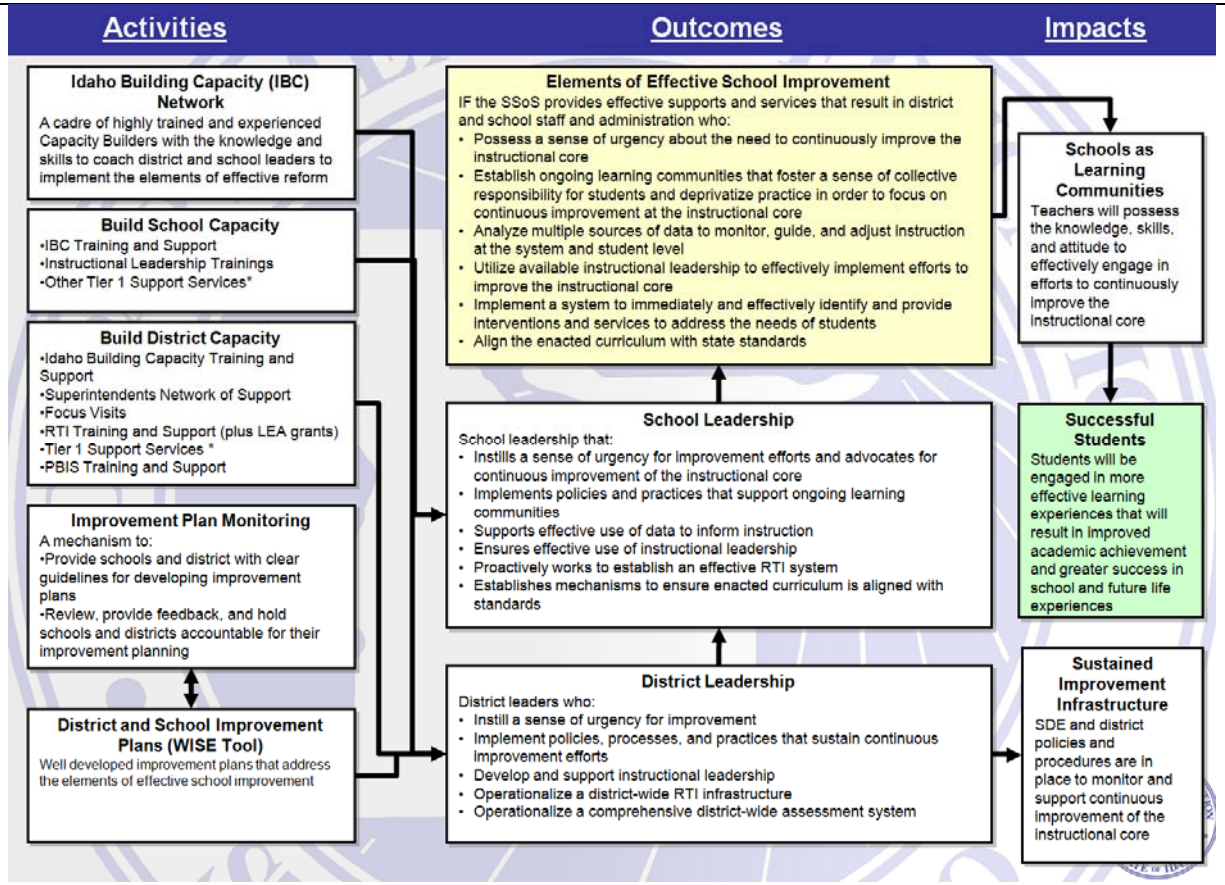


Figure 13. Logic Model Representation of the SSOS Theory of Action (Idaho Department of Education, 2009c)

Filling a Void

The focus on district, systemic improvement continued to expand with a new program, the Superintendents Network of Support. By mid-2009, the SSOS team had realized there was a support mechanism that was missing. There was a program to support individual principals, the Principals Academy of Leadership (PALs). There was a program to provide ongoing, intensive coaching to school and district leadership teams (IBC). However, there was not anything to support the isolated role of individual district leaders. Due to the learning that had converged over time with the pilot year of IBC, experiences with the power of social networking in Reading First and PALs, and individual conversations she had with district leaders, Flachbart realized that superintendents did not have a forum to come together and discuss instructional improvement (M. Flachbart, personal communication, September 2009). This led her to create the Superintendents Network of Support in partnership with the University of Washington's Center for Educational Leadership and CSIPS at Boise State University. The network provides a professional, collaborative community to support superintendents in their roles as instructional leaders (Idaho Department of Education, n.d.-c; Lane, 2010). The Superintendents Network was launched in August 2009 and continues to the present.

Another Time of Transition

Through the end of 2009, the Idaho SSOS team had been on a trajectory of its own continuous improvement being focused on goals identified through team experiences, learning over time, and the relatively recent self-assessment process. In

January of 2010, events occurred that began yet another time of transition for the team. In a turn of events, the School Improvement Grant (SIG) under ESEA section 1003(g) was redefined by the U.S. Department of Education (ED). No longer was the focus of ED on supporting school improvement by building district and state capacity. Rather, ED held off on releasing the 2009 fiscal year allocation of SIG until early 2010, and they then put priorities in place that in many ways circumvented the state by looking for ways to have 1003(g) funds go directly, prescriptively, and in large sums, to a small set of schools − the 5 percent that were lowest performing among Title I schools in improvement status (U.S. Department of Education, 2010b).

As a result of ED's shift in focus, the state application for federal funds changed substantially. Kinnaman and Flachbart had written the original SIG application in fall 2007 when they were both at CSIPS, and they had built the use of funds under ED's original guidance to use the funding stream to build and then expand a Statewide System of Support. It was the basis for the Idaho Building Capacity (IBC) Project. In 2010, Kinnaman was still at CSIPS, and Flachbart and I were at ISDE. Part of the new state SIG application required the state to create a new calculation method for identifying the persistently lowest-achieving schools, which was separate from the general accountability requirements. Originally, we believed this could be in line with the work we had done with identifying the districts that were most in need, which was the calculation I had created and the team had supported. A second part of the new SIG requirements was to make the identified low-performing schools implement one of four possible intervention models, each including prescriptive activities defined by ED. This prescriptive focus on the school broke from the team's understanding of what needed to be done to move the

state forward. Therefore, Flachbart and I advocated in January and February 2010 that ED permit us to use a district approach with the calculation we had already designed. Idaho's first state application put forth this proposal, but it was subsequently denied by ED. Moving forward, we had to succumb to ED's requirements in order to receive funding. It was not an option to decline the opportunity; ED had tied the new SIG requirements to a large financial influx from the American Recover and Reinvestment Act of 2009 (ARRA). ARRA funds quadrupled the SIG funding available to the state, and Flachbart and I could not in good conscience let the opportunity pass simply due to a disagreement with ED's new regulations. Since the new SIG expectations were such a significant shift from the team's current practice and theory of action, the design of the new school calculation process as well as the grants that were to become available to the low-achieving schools fell into my area of responsibility. Throughout spring 2010, Flachbart and I worked time and again with ED to craft an application that would meet with approval. It was during this process that Flachbart decided to restructure the organizational design of the SSOS team.

Kinnaman had been taking the lead on expanding the Statewide System of Support (SSOS) through IBC. However, with the dramatic changes to the funding source for IBC, Flachbart determined that there needed to be a more specific, coherent design for the SSOS that included IBC but also went beyond it to other program areas, while additionally including the new SIG requirements. With the background that I had in Reading First, my support role in the start-up of IBC, and the central role I played in understanding and meeting the new SIG requirements, Flachbart placed me into a newly created position at ISDE: the Director of the Statewide System of Support. With this

position, she placed a few other ISDE coordinators and their programs under my oversight: the new School Improvement Grant Program, Response to Intervention, Systems Improvement, Program Coherence, and Family and Community Engagement. These were all internally operated by ISDE, whereas we were still contracting with Kinnaman to oversee IBC through the regional university centers. Throughout the remainder of 2010, Kinnaman and I served as peers, under Flachbart's direction, who collaborated in the successful continued implementation of IBC and the integration of IBC with the new programs under my oversight. Kinnaman took primary responsibility for IBC and general school improvement requirements, while I took the lead on the other programs and their connections to school improvement. Together, we navigated the difficulties of maintaining the purpose of IBC and the team's theory of action, while ensuring that we remained compliant with the new priorities and requirements of the SIG funding source and its more narrow focus.

The time of transition continued into late 2010 and early 2011. In November 2010, Deb Long, a former Capacity Builder with IBC, took on the role of Northern Regional School Improvement Coordinator, serving as the regional counterpart to Santana and Pfost. Shortly thereafter, Kinnaman stepped down from her leadership role with the school improvement team to pursue a new career opportunity. In her work with the Center on Innovation and Improvement (CII), Kinnaman had become well known nationally for her work with Indistar and the Idaho Building Capacity Project. By December 2010, CII had recruited her to join them in providing support to states in areas such as building and improving statewide systems of support and school and district improvement planning. This resulted in more organizational shifting in the SSOS team.

Whereas Kinnaman had overseen IBC and the regional coordinators independently, and worked in collaboration with me during the previous year, I officially took the role of director of all SSOS programs after her transition. To fill the void of Kinnaman's loss, Flachbart and I placed Shasta Bruce in the role of School Improvement Program Specialist to support some of the logistical assignments Kinnaman had previously orchestrated. Kinnaman's remaining leadership responsibilities were split between myself and Santana. With the substantial institutional knowledge and skill set she had from being the state director of Reading First, we named Santana as the Associate Director for the Statewide System of Support, and she subsequently served as the IBC team leader among the regional school improvement coordinators.

The loss of Kinnaman and the changes in the SSOS team, while in some ways acting as a temporary setback to team momentum, resulted in an organizational structure that helped overcome unexpected obstacles that transpired in 2011. The changes centralized leadership for the SSOS team back within the department of education (ISDE). Flachbart had been the guiding force and team leader who provided direction to Kinnaman's external group, my internal group, and the whole team through Kinnaman and my collaborative efforts. Flachbart had remarked that one of the reasons she returned to ISDE in 2008 was because, when she left in 2006, she had not left with a succession plan to sustain her years of work, and she wanted to return so that momentum could be regained (M. Flachbart, personal communication, August 2008). By mid-2011, as a result of these team changes, she had me in a role at ISDE in which I could act as a sustaining sponsor of the work at both the universities and internally in the department. When presented with the opportunity to return to her passion for literacy and become the

CEO of the Neuhaus Education Center in Houston, Texas, she took it. In August 2011, she left ISDE.

With the vision that Flachbart had established for the Statewide System of Support (SSOS), and the organizational structure she left in place, the SSOS not only continued intact but senior leadership at ISDE reorganized the department in September 2011, and again in June 2012, to place three more programs under the umbrella of the SSOS: the GEAR UP program, 21st Century Community Learning Centers (21st CCLC), and oversight over educator effectiveness (i.e., teacher and administrator evaluation). GEAR UP supports middle schools and high schools in preparing students for college, and the 21st CCLC program offers community-based academic enrichment opportunities for students outside of school hours. Educator effectiveness supports schools and districts in the implementation of high-quality evaluation practices for the sake of school improvement. All three of these areas fit the vision for the SSOS in that they aim to change the way local schools and districts think about how to improve outcomes for at-risk students. Therefore, just as Flachbart had been able to maintain the momentum of her work through previous obstacles by maintaining a core team, the new organizational structure that Flachbart established in 2010 created a sustainable infrastructure for the continued work of the SSOS, even after her departure. Figure 14 illustrates the structure in terms of the design of the Statewide System of Support as a collaborative team as of 2013.

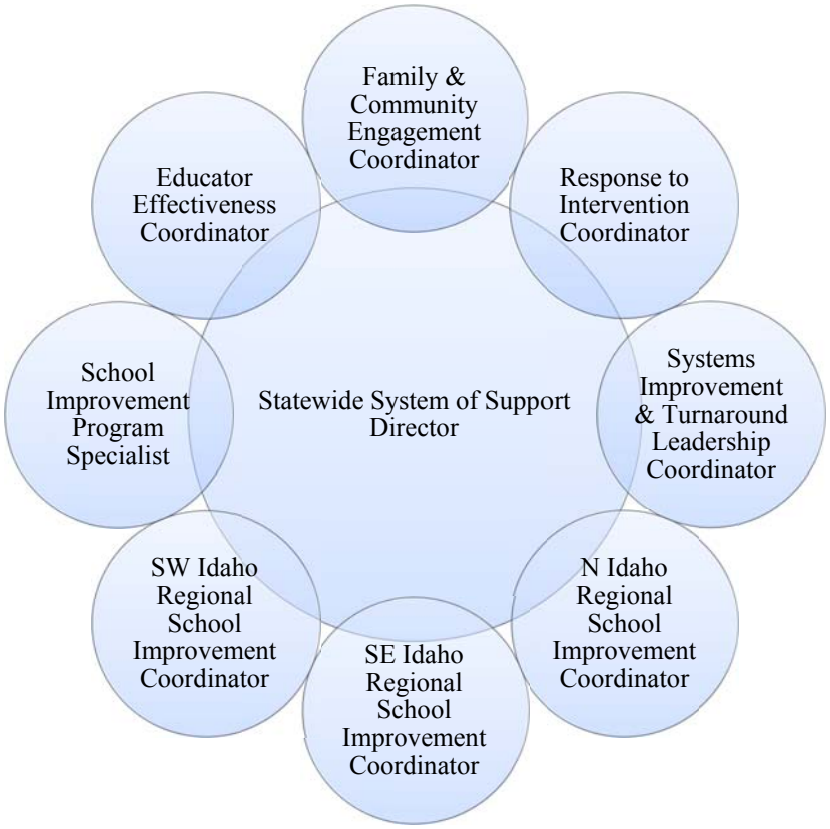


Figure 14. The Idaho Statewide System of Support Team Structure (as of January 2013)

Summary of the Idaho Theory of Action

As is illustrated in the historical background provided above, the development of the Idaho Statewide System of Support (SSOS) has been a work in progress for many years. The team responsible for creating and stewarding the vision for how to support Idaho schools and districts has changed with time, but institutional knowledge has remained relatively consistent in order for the vision to improve based on lessons learned. The team, created and cultivated over time by Flachbart, has transitioned to include new members under new leadership. Yet, one thing continues to lie at the core of the team's functionality: it has acted as a learning organization all along. Honig, Copland, Rainey,

Lorton, and Newton (2010) described school district leaders who were effective at rapidly improving and reculturing themselves as being "like innovating private firms, [who] do well to create systems for regularly capturing their own experience with the work and considering how to use those lessons to inform their ongoing improvement efforts" (p. x). My observations of the Idaho SSOS team indicate that this type of experience is what has propelled the group's work over time. The team has captured its experience and has attempted to learn lessons from the past. What remains is an organizational unit that is devoted to a core theory of action that is primarily about building the capacity of others so that they in turn can do the work that has been entrusted to them.

Core Values within the Current Theory of Action

The current SSOS theory of action centers on the belief that school and district teachers and leaders are, for the most part, doing the very best they know how. It is the responsibility of the State Department of Education to build capacity for improvement in the areas in which it is lacking. This theory of action is also grounded upon the belief that school and district leaders must understand and implement what the research literature has demonstrated as the characteristics of effective schools. In order to build capacity around these effective characteristics, the team's theory of action has been based on the following propositions as core values. First, in order to improve student outcomes, everything must ultimately be directed to improving the instructional core − the interaction of teachers, students, and content (Elmore, 2008). Second, building local teachers' and leaders' capacity for improving the instructional core is predicated on strong relationships through programs that utilize differentiated approaches (Lane, 2010). Some

schools may need coaching, others might need training, and others might need financial assistance. However, relationships are the driver of change because they create the social conditions for positive change to flourish. Third, the system (or, the processes, practices, and programs) that the state puts into place to differentiate support to schools and districts must be aligned to the overarching vision of capacity building and the characteristics of effective schools. From the perspective of a Mega System, there are so many parts and pieces to the governance of schools that, without alignment, efforts to improve may fragment. Therefore, the way the system of support is designed must demonstrate coherence across multiple, reinforcing elements (Lane, 2010). Lastly, support must be differentiated based on the need of the local school and district; a one-size-fits-all model does not work (Lane, 2010).

The theory of action also holds that the instructional core, or the interaction of teachers, students and content, must be at the center of efforts to improve student outcomes. As Elmore (2009) stated, "You don't change performance without changing the instructional core, the relationship between the teacher and the student in the presence of content. If you can't see it in the classroom, it's not there." Therefore, while the SSOS touches on multiple components of the system, such as leadership, management, collaborative teaming, culture, and others, all of these components are part of a Mega System, and the SSOS theory of action attempts to align all of the team's work with these individual pieces in a way that they coherently work on the three malleable aspects of the instructional core: teachers, students, and content. At each pressure point, so to speak, the theory of action represents a belief that it is the role of the SSOS to build the capacity of local education systems so that they are oriented toward (a) supporting the knowledge

and skills of teachers in order to do their jobs effectively, (b) affecting content and decisions about content in ways that will result in the attainment of local education goals, and (c) altering the relationship of the student to both the teacher and content in order to develop active, engaged learners. For example, the Superintendents Network of Support does not engage students or teachers, however it supports superintendents as instructional leaders in order to help them build district systems that do, with the goal that the focus on the instructional core will ultimately impact student outcomes.

In order to build capacity of local teachers and leaders, the SSOS theory of action depends on an approach that is driven by relationships. State agencies have a long history of centering their work on compliance, but have been finding it necessary to shift away from this and toward an approach of providing support (Lane, 2010). The Idaho SSOS team has found this to be true and has learned that compliance does not produce improved results. Beckman often says that compliance must be the slave, and effectiveness the master, not the other way around. Therefore, the SSOS programs and theory of action in general do not rely on compliance. There are legal requirements that must be maintained both federally and for state legislation. However, the theory of action intentionally subjugates these to the pursuit of effective practice. In the SSOS programs and processes, decisions are made in order to assist districts and schools in understanding the research on effective schools, such as through Indistar (i.e., the WISE Tool) or the *Nine Characteristics of High-Performing Schools* (Shannon & Bylsma, 2007). Then compliance requirements are molded to fit the big picture rather than the other way around. For example, rather than creating school improvement tools or Title I Schoolwide Program plans around statutory or regulatory requirements, the Idaho SSOS

team decided to use the WISE Tool as a model for effective practice, and then demonstrated how it met the intention of the legal requirements that were needed. By relegating compliance to the backseat, the SSOS team attempted to open up space for building the relationships necessary to affect change. District and school leaders have often remarked that they recognize the SSOS team is there to help, which allows for a culture of candor and collaboration between state team members and local leaders. Such collaboration then leads to mutual problem solving in which the team can differentiate the type of assistance given based on the relationship it has with each local district. In some cases, the SSOS might recommend coaching through a program like the Idaho Building Capacity Project (IBC), while in other cases it might suggest training in a specific area. Regardless, the theory of action dictates that relationships are important because they are the social foundation upon which change conversations can be held.

In addition to focusing on the instructional core and utilizing relationships for building capacity, the SSOS theory of action places a strong emphasis on the alignment of all processes, practices, and programs with the overarching vision for building the capacity. This is grounded in the perspective that state developed programs and practices are insufficient when operated in isolation and that the state can overburden local schools and districts with duplicative or conflicting messages and requirements due to programs that operate as silos. Therefore, as a core value, the SSOS theory of action relies on continuous improvement within the state team itself. For example, Response to Intervention has many overlapping elements with School Improvement planning. Therefore, the team seeks to find ways to coordinate the two areas in order to make them coherent, such as through the use of the *Making Meaningful Connections in the WISE*

Tool document the team created (Idaho State Department of Education, 2011). With the changes that have occurred by means of the addition of new programs and personnel, this effort is ongoing. In this regard, a partnership with the Regional Educational Laboratory at Education Northwest was established in spring 2012 and focuses on evaluating the Statewide System of Support in all of its facets over the next five years (Education Northwest, 2012). The partnership, the SSOS REL Alliance, will result in collaboration, data analysis, and stakeholder input opportunities that will inform long-term decisions about how to improve the design and coherence of the SSOS.

A final core value in the SSOS theory of action is that the support offered must be differentiated based on local needs; it cannot be a one-size-fits-all approach. As described earlier in Figure 12, the SSOS theory of action has contextualized this concept of differentiation within the multi-tiered framework of Response to Intervention (RTI). However, in the June 2012 revision to the theory of action, the SSOS team shifted its understanding of how the RTI framework applies to the work. RTI places students into tiers of instruction based on the *intensity of their need*; students with more intensive needs receive more intensive instruction and intervention. The first SSOS theory of action described services in terms of the RTI framework and defined the support structure in terms of the *availability* and *intensity of the program*. In the years since Figure 12 was created, the team has started to rethink its support system in terms of the *intensity of districts' needs*, rather the intensity of the programs we have to offer. For example, the IBC project is a very intensive program, but it may or may not be enough to meet the intensive needs of a significantly underperforming district. As we move forward, this

subtle, but critical shift will need to be at the center of re-envisioning the SSOS theory of action since it will drive decisions about the effectiveness of the support offerings.

The Future of the Statewide System of Support

The lessons learned over the past decade and the imminent need to rethink the Statewide System of Support (SSOS) theory of action based on a more accurate understanding of the RTI framework are at the core of the most immediate issue the SSOS team faces. In February 2012, the Idaho State Department of Education (ISDE) submitted a waiver request for flexibility in relation to the NCLB (i.e., ESEA) accountability and school improvement requirements (Idaho Department of Education, 2012). This waiver, while containing multiple elements, focused largely on the state's differentiated accountability, recognition, and support system. While the offer from the U.S. Department of Education (ED) to provide ESEA flexibility was very prescriptive in some areas, ISDE's plan has incorporated many of the key elements of the SSOS theory of action.

In a first step toward using data to differentiate between districts and schools, ISDE's plan includes a performance framework that places schools and districts on a spectrum of performance using a five-star rating scale (Idaho Department of Education, 2012). Whereas a large majority of other states submitted waiver requests that used grading scales (i.e., A, B, C, D, or F) or phrases such as distinguished, proficient, and basic, I advocated that the state's new accountability plan use a scale that was more neutral and which did not connote strong judgments about performance. My rationale for advocating the application of the star-rating scale, which is used in other service industries such as for restaurants, hotels, music, and entertainment, was that it provides

enough specificity to describe performance on a spectrum of accountability metrics, but yet it allows enough ambiguity to not confine users' judgments to a specific category or belief about a school or district. For example, I might go to a three-star restaurant or visit a three-star hotel and find it to be wonderful based on my own preferences, or on the other hand, I may find it to be inferior. Either way, my judgment call is dependent on the nuances that I discover for myself, not the predefined metrics that led to initial overall designation of three stars. Thus, by using a star rating, the value judgment is reserved for the consumer who can collect further information, rather than being having a judgment predefined within the label itself, such as with grades or other categorical definitions. Thus, by creating the star rating scale as the basis for the performance framework, we have attempted to accomplish two things that are in line with the SSOS theory of action. First, we have a solid criterion by which to differentiate state level services based on the *intensity of need* with the district or school (see Figure 15).

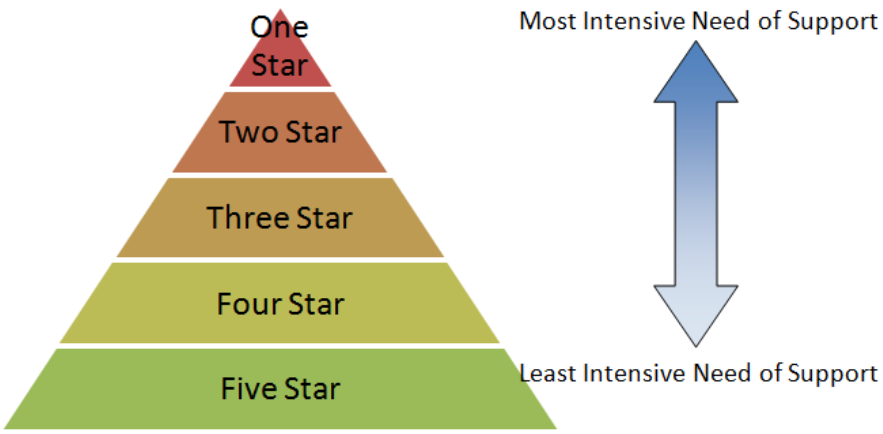


Figure 15. The Star Rating Scale Spectrum of Need

This is a significant improvement over the pass/fail categories of the previous accountability system. Second, we have not used data as a hammer to *judge* performance, but as an instrument to *identify* levels of performance. By removing judgments, the SSOS can continue to work at building rapport and relationships with the districts and schools by collaborating to understand the strengths and weaknesses of any particular system. The performance framework created by Carissa Miller further supports this because it is compensatory (i.e., superior performance in one area of the framework can compensate for lower performance in other areas) (Idaho Department of Education, 2012). Therefore, regardless of a school or district's placement in the star rating system, the SSOS team can assume it has areas of strength rather than simply viewing it through the deficit model of being "in need of improvement."

ISDE's new accountability plan further supports a flexible and differentiated approach that is grounded in relationships and capacity building. For example, in the schools and districts that demonstrate persistent low performance, the state will create collaborative partnerships with the district to find the best path forward. As mentioned above, the performance framework is based on star ratings that describe a spectrum of outcomes. The framework does not *diagnose* problems of practice. Therefore, existing SSOS practices are integrated into the accountability plan in order to dig deeper and collaborate with local leaders in finding ways to improve practice. In the lowest performing schools that have persistently remained in the One Star category, the SSOS team will conduct an Instructional Core Focus Visit (described earlier) in order to help local leaders have a comprehensive picture of the educational practices within the system. This will form the basis for making recommendations to the district as well as matching

the needs of the school and district with the appropriate types of state assistance, such as the Idaho Building Capacity Project (IBC), technical assistance with Response to Intervention, or other programs. Similarly, the processes that ISDE has put into place, such as improvement planning requirements in the WISE Tool, are structured to support teaming and collaboration in order to cultivate the social dynamics necessary to create and sustain change. All in all, the interaction of these components of the new accountability plan (an example is diagrammed in Figure 16) focuses on the values of the SSOS theory of action in that the elements of the plan are intended to promote relationships, build capacity, align all efforts within the system to the degree possible, and be flexible enough to meet the differential needs of each local context.

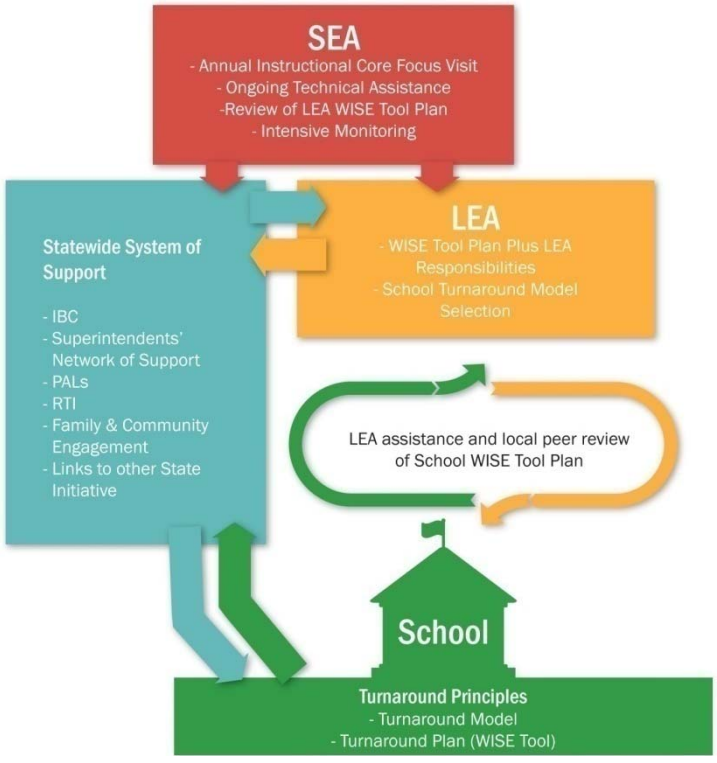


Figure 16. Relationship of Accountability and Support for One Star Schools

Summary

This section has detailed the historical development of the events, circumstances, and people that have shaped the Idaho theory of action for the Statewide System of Support (SSOS). The theory of action was influenced by national and state contextual factors. The Idaho Comprehensive Literacy Act of 1999 and the federal No Child Left Behind Act of 2001 created a converging focus on the quality of schools. These legislative actions placed academic achievement outcomes at the center of state efforts and provided initial funding for support programs. Over time, key personnel in the Idaho State Department of Education learned from experiences with school improvement initiatives, which led to a shift in focus that accounted for a systems approach to improving the quality of schools and districts. As this shift occurred, key members of what was to become the Statewide System of Support team created programs and processes that increasingly centered on building the capacity of existing human talent while emphasizing that each local school is different and requires its own unique set of solutions for improving academic outcomes. From these perspectives, the SSOS ultimately created a theory of action in 2009 that focuses on capacity building and which depends on a set of core values for operating, values that continue to be the foundation of the work to this day.

The Idaho SSOS has undergone many changes in design and personnel over the past decade. Programs have come and gone. Key individuals have made their mark and moved on to new opportunities. Regardless, the SSOS continues to be a learning organization, as evidenced by current efforts to evaluate its practices and improve. This team mindset differentiates it from stereotypes about state agencies that can often become

mired in bureaucracy and regulation. As such, the SSOS is an ever-evolving entity; much has been learned, but continuous improvement will always be needed. It is for this reason that this study seeks to evaluate the degree to which the creation and implementation of the revised SSOS theory of action has impacted student outcomes over time. Part II of the literature provided the historical development of the SSOS and pertinent changes in the programs, people, and the thinking behind the theory of action. With the stability of the theory of action between 2009 and 2012, this provides an opportunity to evaluate its effectiveness at impacting student achievement outcomes. This evaluation study will provide insight to decision makers at ISDE regarding improvements that can be considered for the design of the SSOS, especially in light of the transitions that are underway in the state's accountability system as part of the ESEA Flexibility Request which the state has begun to implement in the 2012-2013 school year.

CHAPTER 3: METHODOLOGY

Introduction

The study includes four research questions that evaluate the impact of the Idaho Statewide System of Support theory of action on student academic outcomes Idaho Title I schools. The first two questions examine the implementation of the theory of action in general, while the second two questions examine the most intensive program within the larger theory of action. The study design, a Pooled Interrupted Time Series, is a form of regression analysis. As a form of regression, each of the four research questions has a set of hypotheses that focus primarily on the directionality of the trends before and during the study interventions. The chapter provides a description of the sampled schools included in the study as well as the variables that will be used. The chapter also outlines delimitations and limitations that are applicable to the situation of this study.

Research Questions

This study is an evaluation of the change in Idaho's Statewide System of Support Theory of Action as it relates to the student achievement outcomes in Title I schools, which participated in both required and voluntary aspects of the system. The four questions of the study are:

- Question 1: Among all Idaho Title I schools that were engaged in the WISE Tool and at least one Statewide System of Support program between Fall 2009 and Spring 2012, did the creation and implementation of the revised Idaho

theory of action increase the rate at which such schools attained proficiency in *reading* among students who were economically disadvantaged? If so, how did this rate differ from that of a comparison group comprised of similar students in Title I schools that were not engaged in the WISE Tool or any Statewide System of Support program during the same time period?

- Question 2: Among all Idaho Title I schools that were engaged in the WISE Tool and at least one Statewide System of Support program between Fall 2009 and Spring 2012, did the creation and implementation of the revised Idaho theory of action increase the rate at which such schools attained proficiency in *mathematics* among students who were economically disadvantaged? If so, how did this rate differ from that of a non-equivalent comparison group comprised of similar students in Title I schools that were not engaged in the WISE Tool or any Statewide System of Support program during the same time period?
- Question 3: Did the Idaho Building Capacity Project (IBC), which embodied the most intensive support process within the Idaho theory of action, increase the rate at which participating Idaho Title I schools attained proficiency in *reading* among students who were economically disadvantaged? If so, how did this rate differ from that of a comparison group comprised of similar students in Title I schools that were eligible for the IBC project but which did not engage in a Statewide System of Support program during the same time period?

- Question 4: Did the Idaho Building Capacity Project (IBC), which embodied the most intensive support process within the Idaho theory of action, increase the rate at which participating Idaho Title I schools attained proficiency in *mathematics* among students who were economically disadvantaged? If so, how did this rate differ from that of a comparison group comprised of similar students in Title I schools that were eligible for the IBC project but which did not engage in a Statewide System of Support program during the same time period?

Hypotheses

The purpose of this research is to determine if the creation and implementation of a new theory of action for Idaho's Statewide System of Support resulted in improved student achievement outcomes in affected Title I schools. Therefore, the study has four pairs of null and alternate hypotheses:

- Question 1: Title I Schools - Performance in Reading
    - H_0: In a comparison of the performance of Title I schools against their own prior performance, those having engaged in the WISE Tool and a Statewide System of Support (SSOS) program will exhibit no difference in the rate at which their students who are economically disadvantaged are scoring proficient or advanced in *reading*.
    - H_1: In a comparison of the performance of Title I schools against their own prior performance, those having engaged in the WISE Tool and a Statewide System of Support (SSOS) program will be more likely to have increased the rate at which their students who are economically

disadvantaged are scoring proficient or advanced in *reading* than will those having not engaged in the WISE Tool or SSOS programs.

- Question 2: Title I Schools - Performance in Mathematics
  - H_0: In a comparison of the performance of Title I schools against their own prior performance, those having engaged in the WISE Tool and a Statewide System of Support (SSOS) program will exhibit no difference in the rate at which their students who are economically disadvantaged are scoring proficient or advanced in *mathematics*.
  - H_1: In a comparison of the performance of Title I schools against their own prior performance, those having engaged in the WISE Tool and a Statewide System of Support (SSOS) program will be more likely to have increased the rate at which their students who are economically disadvantaged are scoring proficient or advanced in *mathematics* than will those having not engaged in the WISE Tool or SSOS programs.
- Question 3: Title I Schools in the Idaho Building Capacity Project - Reading
  - H_0: In a comparison of the performance of Title I schools against their own prior performance, those having engaged in the Idaho Building Capacity (IBC) project will exhibit no difference in the rate at which their students who are economically disadvantaged are scoring proficient or advanced in *reading*.
  - H_1: In a comparison of the performance of Title I schools against their own prior performance, those having engaged in the Idaho Building Capacity (IBC) project will be more likely to have increased the rate at

which their students who are economically disadvantaged are scoring proficient or advanced in *reading* than will those having not engaged in the WISE Tool or SSOS programs.

- Question 4: Title I Schools in the Idaho Building Capacity Project - Reading
  - H_0: In a comparison of the performance of Title I schools against their own prior performance, those having engaged in the Idaho Building Capacity (IBC) project will exhibit no difference in the rate at which their students who are economically disadvantaged are scoring proficient or advanced in *mathematics*.
  - H_1: In a comparison of the performance of Title I schools against their own prior performance, those having engaged in the Idaho Building Capacity (IBC) project will be more likely to have increased the rate at which their students who are economically disadvantaged are scoring proficient or advanced in *mathematics* than will those having not engaged in the WISE Tool or SSOS programs.

Population, Participants, and Situation

This study utilized a Pooled Interrupted Time Series (ITS) design with the unit of analysis being schools. It drew upon a sample of schools from the larger population of Idaho schools. Sampled schools had to meet certain criteria for inclusion in each time series, such as participation criteria, being a recipient of Title I funds, and having complete data for all six years used in the time series. This study only focused on Title I schools since funding for the Statewide System of Support (SSOS) has historically come from and targets schools that are recipients of federal Title I dollars available under the

Elementary and Secondary Education Act (ESEA) as reauthorized in 2001 (i.e., the No Child Left Behind Act of 2001). The study had access to school level achievement data for all schools in the state from 2007 through 2012 and subsequently removed the following categories of schools prior to analysis: non-Title I schools, schools that have been closed, alternative schools, schools under the juvenile corrections system, the Canyon-Owyhee School Service Agency, and the Idaho School for the Deaf and the Blind. From the remaining set of Title I funded schools, the study removed schools that did not have at least five of six years worth of assessment data in both reading and mathematics for the Economically Disadvantaged subgroup between school years 2006-2007 and 2011-2012. This limits the population of schools to 416 Title I schools that existed for the duration of this study as evidenced by the number of years of achievement data that were available.

According to federal regulations, Title I schools are designated based on the degree to which the student body in the school comes from families that are economically disadvantaged. Title I funds are allocated by state formula to school districts based on poverty statistics derived from federal census data because economically disadvantaged students are considered to be at risk for poor educational attainment. To be funded as a Title I school, at least 35% of the school's population must be economically disadvantaged, or the school's percentage of students in this category must be greater than the district's percentage in the event that the district has a lower poverty rate. From the population of 416 Title I schools, the study defined treatment group time series based on inclusion criteria and comparison group time series based on the absence of these criteria; the study excluded schools that do not meet the criteria for either. The time series for

research questions 1 and 2 included the same schools, with 22 schools in the treatment group and 22 schools in the comparison group. The time series for questions 3 and 4 utilized a different set of schools, also with 22 schools in each group. Therefore, the following is a description of the participants for each set of research questions.

Minimum Number of Participants

According to the Central Limit Theorem, a sample will demonstrate a normal distribution if $n \geq 30$ (Grinstead & Snell, 1997). As a result, a study can confidently apply parametric statistical analyses to any sample of 30 or more cases. In the case of a Pooled ITS, the cases each act as their own treatment and control, and the repeated measurements in the time series have a multiplying effect that increases the power of the design to detect effects. For example, a Pooled ITS design that has 22 cases, each measured 6 times, actually has 132 observations, which far exceeds the Central Limit Theorem rule of thumb. In this regard, Shadish and Cook (2009) have demonstrated how a Pooled ITS with 20-40 cases that are each measured four to eight times is sufficient to estimate treatment effects "when many short-time series assessing the same intervention on the same outcome are available" (p. 618). Each case, or school, serves as its own short-time series with assessment data in the same content areas and groups of students. The minimum number of cases used in the Pooled ITS analyses in this study is 22. The study derived 22 as a sufficient number due to the guidelines of Shadish and Cook (2009) and the fact that the similar Repeated Measures ANOVA statistical design would only require 22 cases per group for as few as 3 years of repeated data (Faul, Erdfelder, Lang, & Buchner, 2007). Since the Pooled ITS in this study used six years of data, but with an interruption occurring mid-way, there is no aspect of the study that had fewer than three

years analyzed (i.e., three years pre-intervention and three years of intervention). Therefore, a sample of 22 for each group has sufficient power. As such, this study measured all cases included in the sampled groups over the course of six school years and in each subject area.

Research Questions 1 and 2 – The Relationship of the SSOS to Reading and Mathematics

The first two research questions examined the outcomes of Title I schools based upon engagement in the SSOS. In addition to being Title I funded and having sufficient data, the criteria for inclusion in the treatment group (n=22) included (a) actively planning in the state's school improvement tool (i.e., the WISE Tool) in an ongoing fashion (i.e., for at least two years) as well as (b) participating for multiple years in one of the state's support programs (i.e., the Idaho Building Capacity Project, the Idaho Superintendents Network of Support, and Instructional Core Focus Visits). Because the support programs connected to the WISE Tool via the state's theory of action, both criteria had to be in place for inclusion in the treatment group of those schools that are engaged in the SSOS. Regarding the use of the WISE Tool, the tool reinforced the support programs and vice versa. Participants in the treatment group all demonstrated planning in the tool for at least two years out of the three possible during the intervention period (2009-10, 2010-11, or 2011-12). Participation in the WISE Tool was at times a mandatory requirement of the state. When schools were in school improvement status, they were required to submit a school improvement plan. Schools used the WISE Tool to meet this requirement. However, between 2009 and 2011, schools had an option between two planning tools (the WISE Tool and the state's prior planning instrument, the CIP). Therefore, use of the tool at first was optional, with it becoming fully required in 2011-

12. Additionally, the WISE Tool was available for free to those who were not required to use it and wished to do so voluntarily, such as when a school sought approval to operate a Title I Schoolwide program or when a school district opted to have its schools use the tool for its own strategic planning. Thus, the study selected participants for the treatment group from the larger set of schools that both voluntarily used the tool as well as those who were required to do so. The reason for use was immaterial to the study design. Regarding participation in SSOS support programs, participation was voluntary for all three support programs examined in this study: the Idaho Building Capacity Project, the Idaho Superintendents Network of Support, and Instructional Core Focus Visits.

Questions 1 and 2 also included a comparison time series. The comparison series was comprised of Title I schools that were not engaged in the SSOS (n=22). The comparison series included a sample of schools that were neither utilizing the WISE Tool nor participating in a support program. Participants in the comparison series were all Title I funded schools. However, they were either not required to develop plans in the WISE Tool and/or had not done so for more than one year (either voluntarily or by requirement as a result of planning in the CIP instead of the WISE Tool).

Title I schools (n=150) were excluded from the sampling frame for the treatment and comparison series if they did not meet the criteria for either grouping. The reason for exclusion is due to partial engagement in the SSOS Theory of Action. Since the theory of action focused on coherence between multiple leverage points, if a school engaged in the WISE Tool for two or more years, but without reinforcement from a support program, it was not fully engaged. Furthermore, if a school participated in a support program, but without using the WISE Tool, it was also not fully engaged in the SSOS. Since the state

designed the SSOS Theory of Action to mutually reinforce its various components by means of coherence between planning and support programs, full engagement in both is what was of interest for these research questions. However, because of the fact that partial engagement could result in contamination of study results, the study excluded schools that were only partially engaged from both the treatment group time series and the comparison group time series.

Of 416 Title I schools in the population of schools, 190 cases were engaged in the SSOS (used for the treatment sampling frame), 76 cases were not engaged at all (used for the comparison sampling frame), and 150 cases were only partially engaged (excluded). The study made use of a purposeful stratified sampling frame, which utilized random selection to the degree possible in order to derive a representative sample of Idaho's Title I schools. The sampling frame included two elements: the percentage of poverty and the geographic location of the school. Poverty was one component of the matrix because it has been frequently and negatively correlated with poor student achievement (Battistich, Solomon, Kim, Watson, & Schaps, 1995), therefore an equitable representation of the degree to which schools served students who were economically disadvantaged was appropriate. The sampling frame used geographic location and demography (as measured by NCES locale codes) as a secondary element in the matrix because differences in achievement correlate to the rural, town, suburban, and city placement of schools (Provasnik et al., 2007). While school size would have been an ideal additional element in the sampling frame, the relatively small population of Title I schools made it unfeasible to add a third element, and there was no evidence that school size was more predictive of school performance than poverty or locale.

Sampling Frame - Research Questions 1 and 2

The study created the sampling frame for the treatment group and comparison group based on the following. The first element was the creation of a matrix that combined classifications of poverty and school locale. The classification of poverty utilized deciles to group the school-level percentages of students who are economically disadvantaged. School locale categories utilized the four major types of NCES school locale codes: city, suburban, town, and rural. The second step was the placement of the population of Idaho Title I schools into a frequency distribution matrix that used the previous two classifications of poverty and locale (Table 1). The third step was the transformation of the frequency distribution matrix based on numbers of schools into a frequency based on the percentage of Title I schools in each cell of the matrix (Table 2). The fourth step applied the frequency distribution percentages to determine the ratio and number of schools required in each cell of the matrix in order to form groups of 22 schools (Table 3). The final sampling frame in Table 3 contained two modifications as a result of a lack of available schools that met the criteria for inclusion in the treatment and comparison groups. The frame originally indicated the need for one school in each group from the cell designated by the poverty decile of 40-49% and NCES locale 1. The sampling for this school remained in the poverty decile of 40-49%, but occurred in NCES locale 4 instead. The frame also originally indicated the need for one school in each group from the cell designated by the poverty decile of 50-59% and NCES locale 2. The sampling for this school remained in the poverty decile of 50-59%, but occurred in NCES locale 4 instead. Thus, the final sampling frame oversampled NCES locale 4, rural, by two schools, but the oversampling occurred equally in both the treatment and comparison

groups. Table 4 indicates how many of the 22 schools in the SSOS treatment and comparison groups resided in each cell of the sampling frame, as well as which cells contained non-randomized selections.

Table 1. Frequency Distribution Matrix of 416 Idaho Title I Schools by Poverty and Locale (Numeric)

Poverty Decile	Locale 1: City	Locale 2: Suburb	Locale 3: Town	Locale 4: Rural	# in Decile	% in Decile
0-9%	2	1	0	1	*4*	*1.0%*
10-19%	0	0	0	0	*0*	*0.0%*
20-29%	0	0	1	1	*2*	*0.5%*
30-39%	11	5	15	17	*48*	*11.5%*
40-49%	24	7	23	50	*104*	*25.0%*
50-59%	20	10	29	55	*114*	*27.4%*
60-69%	18	4	19	42	*83*	*20.0%*
70-79%	11	4	11	22	*48*	*11.5%*
80-89%	2	3	0	4	*9*	*2.2%*
90-100%	0	0	0	4	*4*	*1.0%*
# in Locale	*88*	*34*	*98*	*196*		
% in Locale	*21%*	*8%*	*24%*	*47%*		

Table 2. Frequency Distribution Matrix of Idaho Title I Schools by Poverty and Locale (Percentage)

Poverty Decile	Locale 1: City	Locale 2: Suburb	Locale 3: Town	Locale 4: Rural
0-9%	0%	0%	0%	0%
10-19%	0%	0%	0%	0%
20-29%	0%	0%	0%	0%
30-39%	3%	1%	4%	4%
40-49%	6%	2%	6%	12%
50-59%	5%	2%	7%	13%
60-69%	4%	1%	5%	10%
70-79%	3%	1%	3%	5%
80-89%	0%	1%	0%	1%
90-100%	0%	0%	0%	1%

Table 3. Sampling Frame Matrix for Research Questions 1 and 2

Poverty Decile	Locale 1: City	Locale 2: Suburb	Locale 3: Town	Locale 4: Rural
0-9%	0	0	0	0
10-19%	0	0	0	0
20-29%	0	0	0	0
30-39%	1	0	1	1
40-49%	0	1	1	3
50-59%	1	0	2	4
60-69%	1	0	1	2
70-79%	1	0	1	1
80-89%	0	0	0	0
90-100%	0	0	0	0

Table 4. Results of Sampling by SSOS Groups

Poverty Decile	*SSOS Treatment Group*				*SSOS Comparison Group*			
	Locale 1: City	Locale 2: Suburb	Locale 3: Town	Locale 4: Rural	Locale 1: City	Locale 2: Suburb	Locale 3: Town	Locale 4: Rural
0-9%	0	0	0	0	0	0	0	0
10-19%	0	0	0	0	0	0	0	0
20-29%	0	0	0	0	0	0	0	0
30-39%	1*	0	1	1	1	0	1	1*
40-49%	0	1	1	3	0	1*	1*	3
50-59%	1	0	2	4	1*	0	2*	4
60-69%	1	0	1	2	1	0	1	2
70-79%	1	0	1	1	1*	0	1*	1
80-89%	0	0	0	0	0	0	0	0
90-100%	0	0	0	0	0	0	0	0

*Indicates a random selection was unavailable for this cell.

Research Questions 3 and 4 – The Relationship of IBC to Reading and Mathematics

The latter two research questions examined the outcomes of Title I schools based upon participation in the Idaho Building Capacity Project (IBC). Eligibility for IBC included being a Title I funded school that was in school improvement status. Therefore,

in addition to being Title I funded and having sufficient data, the criteria for inclusion in the treatment group (n=22) for these research questions included (a) being in school improvement status at some point between 2009 and 2012 and (b) participating in IBC from January 2010 through December 2012.

Questions 3 and 4 also included a comparison group time series (n=22). The comparison series was comprised of Title I schools that did not engage in an SSOS program during the same time period in order to rule out any contamination effects of other SSOS programs. Thus, the comparison series included a sample of Title I schools that (a) did not participate in IBC, (b) did not utilize the WISE Tool in an ongoing fashion, and (c) were not influenced by school or district participation in either the Instructional Core Focus Visit or the Idaho Superintendents Network of Support.

Title I schools were excluded from the sampling frame for the IBC treatment and comparison series if they did not meet the criteria for either group. There are three reasons for exclusion. First, 15 Title I schools joined IBC in January 2012. Since they were only in the project for less than one year, they have only one data point in the time series, and that data point occurred only four months after joining the project, meaning that there was insufficient time for interventions to take effect. Since this analysis examined the difference in the trajectory of performance over 6 years, the use of participants with only one data point does not fit the Pooled ITS design. Second, the research questions examined the contribution of IBC, but apart from the larger SSOS structure. Any Title I schools that may have been impacted by partial engagement in the SSOS were eliminated in order to reduce the risk of cross contamination in the comparison group. Third, Title I schools that participated in IBC earlier than January

2010, such as in the pilot project, were excluded because the years of participation did not align with the ITS design employed.

Of the Title I schools that participated in IBC, only 22 schools met the criteria for inclusion in the study in that they participated in the project from January 2010 through December 2012. Remaining schools had participated in the pilot of the IBC project or an earlier cohort that began in Spring 2009, but this made the application of the ITS design problematic in terms of the smaller number of pre-intervention years since data were only available from 2007 onward. The study therefore made use of a purposeful stratified sampling frame that utilized the available 22 IBC schools for the treatment group. The sampling procedure used a stratified selection process and random selection where possible in order to derive a representative comparison group. Because of this limitation, the 22 IBC treatment schools did not reflect the larger distribution of Title I schools, and therefore the sampling frame purposefully mirrored the characteristics of the IBC treatment group instead of the larger population. Just as with the sampling frame described for the SSOS treatment and comparison groups, the IBC sampling frame included the same two elements: the percentage of poverty and the geographic location of the school. The rationale for this sampling frame is the same as that described previously. The comparison group (n=22) was sampled from the larger set of 76 Title I schools that had not engaged in the Statewide System of Support at all, as defined earlier.

Sampling Frame - Research Questions 3 and 4

The sampling frame mirrored the available IBC treatment schools and led to the selection of the comparison group in the following manner. The first step taken was the classification of the 22 IBC treatment schools into the same frequency distribution matrix

of poverty and school locale as described earlier. Table 5 demonstrates the IBC schools' frequency distribution. This formed the basis for the sampling frame of the comparison schools in order to attain an equal number of schools relative to the cells of the matrix. However, the available schools from which comparisons were to be drawn did not fit the sampling frame perfectly. Therefore, to the extent possible, this study selected schools from the exact cell in the matrix, while at other times it selected schools in nearby cells. Priority was given to keeping school selections in the same poverty decile since the percentage of poverty is the primary driver for the ranking process in which schools receive Title I funds.

The final sampling frame for the comparison schools (Table 6) contained the following modifications as a result of a lack of available schools to match each cell of the matrix. In each poverty decile, the overarching number of schools remained the same except in the decile ranges of 60-69% and 70-79%, which differed by one school each. In this case, the sampling frame clustered the deciles together in poverty quintiles. When grouped by quintiles, the overall breakdown remains equal between groups (compare Table 5 and Table 6). NCES locale designations were more difficult to maintain. When a comparison school was not available with the needed locale coded, the sample drew its selection from the same decile range in the next most similar locale code. For example, the decile range of 40-49% should have one school in locale 1, city, but the sample was drawn from locale 2 instead. The rationale for this is that each cell marks a progression from larger and urban to smaller and rural as the cells of the matrix move from the left to the right. Therefore, in order to select as similar of locales as possible, when a sufficient number of schools was unavailable by locale, the sample selected from the next nearest

cell to the right. In the end, these modifications resulted in rough equitability of sampling in terms of the stratification of poverty. Table 6 illustrates the impacts of these modifications on each cell of the matrix. In sum, the comparison schools were slightly under-sampled in the higher ranges of poverty (decile range of 70-79%). The comparison schools were oversampled in NCES locale 4 (rural), and slightly under-sampled in the remaining three locales. This limitation in the sampling procedure may serve as a slight benefit to the achievement outcomes of comparison schools since lower poverty rates and rural locales tend to correlate with more positive achievement outcomes (Battistich et al., 1995; Provasnik et al., 2007).

Table 5. Frequency Distribution Matrix of 22 IBC Treatment Schools by Poverty and Locale (Numeric)

Poverty Decile	Locale 1: City	Locale 2: Suburb	Locale 3: Town	Locale 4: Rural	*# in Decile*	*# in Quintile*
0-9%	0	0	0	0	*0*	*0*
10-19%	0	0	0	0	*0*	
20-29%	0	0	0	0	*0*	*0*
30-39%	0	0	0	0	*0*	
40-49%	1	0	0	0	*1*	*11*
50-59%	1	1	6	2	*10*	
60-69%	1	0	1	3	*5*	*10*
70-79%	1	0	1	3	*5*	
80-89%	1	0	0	0	*1*	*1*
90-100%	0	0	0	0	*0*	
# in Locale	*5*	*1*	*8*	*8*		
% in Locale	*23%*	*5%*	*36%*	*36%*		

NOTE: Random selection was not available for any of the schools in this sampling frame.

Table 6. Frequency Distribution Matrix of 22 IBC Comparison Schools by Poverty and Locale (Numeric)

Poverty Decile	Locale 1: City	Locale 2: Suburb	Locale 3: Town	Locale 4: Rural	*# in Decile*	*# in Quintile*
0-9%	0	0	0	0	*0*	*0*
10-19%	0	0	0	0	*0*	
20-29%	0	0	0	0	*0*	*0*
30-39%	0	0	0	0	*0*	
40-49%	0†	1*†	0	0	*1*	*11*
50-59%	1*	0†	2*†	7†	*10*	
60-69%	1	0	3*†	2†	*6*	*10*
70-79%	1*	0	1*	2*†	*4*	
80-89%	1*	0	0	0	*1*	*1*
90-100%	0	0	0	0	*0*	
# in Locale	*4*	*1*	*6*	*11*		
% in Locale	*18%*	*5%*	*27%*	*50%*		

*Indicates a random selection was unavailable for this cell.
†Indicates the study made a modification to the requirement for this cell.

Variables

Independent Variables

This study examined two related independent variables that existed as part of a policy and programmatic shift within the Idaho Statewide System of Support, but which occurred at two differing levels. The first variable was the policy and programming changes that the State of Idaho enacted when it redefined its Statewide System of Support (SSOS) by creating and implementing a new theory of action in 2009. The second variable was a subset of this theory of action comprised of participation in the Idaho Building Capacity (IBC) Project.

Independent Variable 1

The first variable examined in this study was the policy change in the SSOS that occurred in 2009, which emphasized school improvement planning and capacity building. School improvement planning was changed in 2009 to include Indistar (Center on Innovation & Improvement, 2011b), known as the WISE Tool in Idaho, which created an improvement planning cycle centered on indicators of effective school practices. In addition to the WISE Tool, the SSOS implemented or redesigned various programs to build capacity of local leadership by working in tandem with the WISE Tool in order that efforts required in Title I schools that were in school improvement status would be tightly aligned to the improvement plans that were created each year. As is evidenced in Figure 17, the theory of action that the state developed in 2009 emphasized capacity building in general with a few programs in particular, all of which were linked to both capacity building and improvement planning. The goal of this focus was to impact district leadership and school leadership, in order to promote systemic change within a district, so as to foster the characteristics of effective schools. These elements of effective school improvement were hypothesized to impact the school learning community and, in turn, student achievement. Therefore, to examine the overall policy change, the first independent is comprised of schools that were active participants in the two major prongs of the Idaho SSOS theory of action: capacity building and improvement planning. Participation is the combination of (a) regular engagement in the WISE Tool since 2009 combined with (b) the enrollment of the school in one of the SSOS support programs that went statewide in 2009 and remained through Spring 2012.

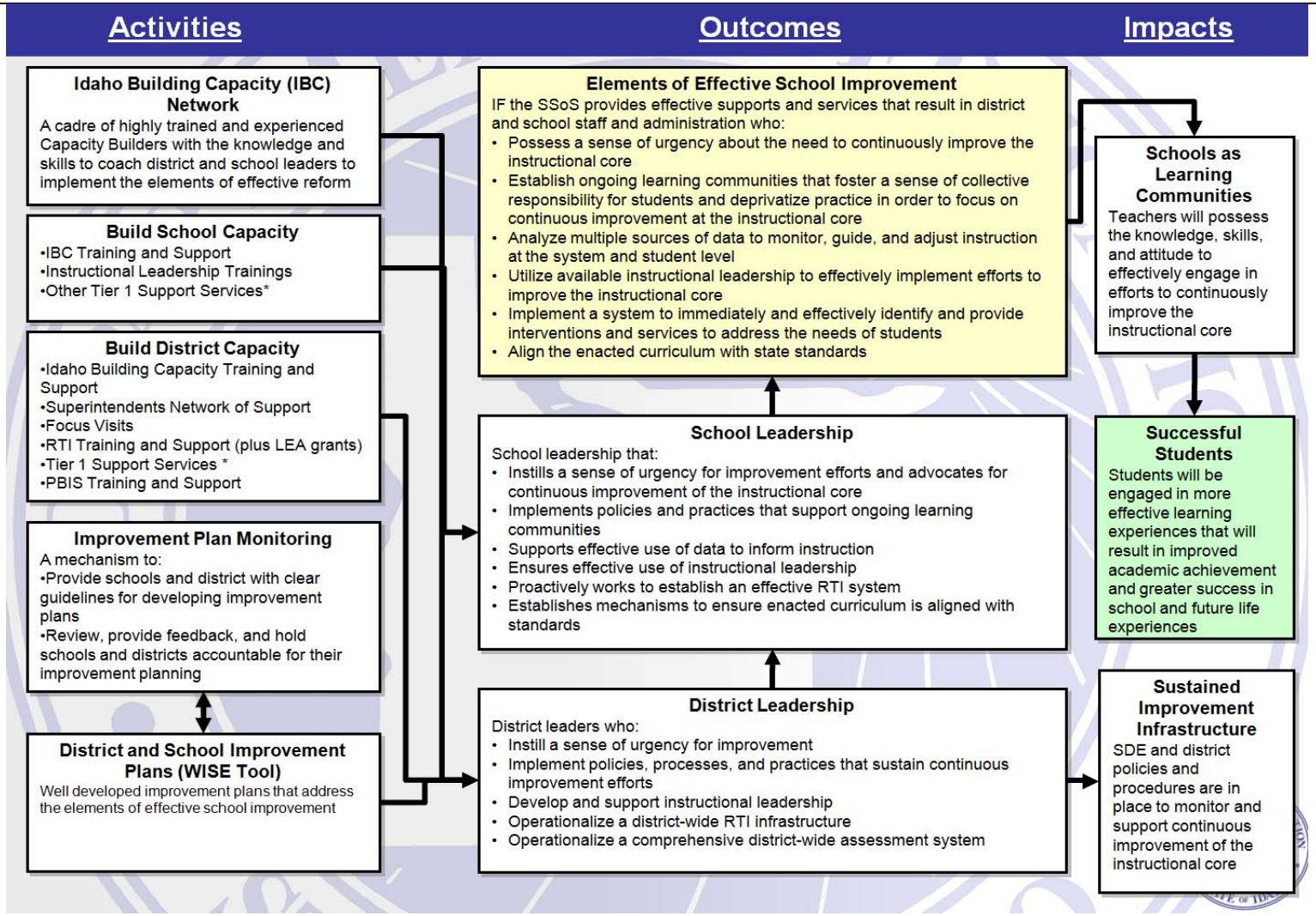


Figure 17. Logic Model Representation of the SSOS Theory of Action (Idaho Department of Education, 2009c)

The WISE Tool. This study defines regular engagement in the WISE Tool as evidence that a school team completed assessment, planning, or monitoring of WISE Tool indicators in at least two of the following three school years: 2009-2010, 2010-2011, and 2011-2012. The rationale for emphasizing two years is that the SSOS promoted the WISE Tool as a continuous improvement planning process. Therefore, this study discriminates between those schools that only used the tool once and those that continuously used it more than once over multiple years. When the state adopted the WISE Tool in 2009, it created a transition period from 2009 to 2011, during which schools were able to use either the prior improvement planning tool (the CIP Tool) or the WISE Tool. The policy change did not influence schools that used the CIP Tool during this time frame. The SSOS team maintained usage statistics data regarding which schools used the CIP Tool and which used the WISE Tool; the study used these data to classify schools accordingly.

The WISE Tool is a national online planning tool created by the Academic Development Institute under its federal contract as the National Center on Innovation and Improvement. The WISE Tool encompassed both the content of improvement planning and the process necessary for it to be successful. The content of the tool contained research-based indicators of effective practice. To use the tool, school leadership teams first assessed the indicators by (a) describing the degree to which they believed an indicator is a priority for their particular context, (b) scoring how difficult the indicator will be to accomplish, and (c) describing what current practice in the school looked like relative to the indicator and a small research brief that accompanied it. After the initial assessment of the indicators, a school leadership team would choose the indicators that

are most important for them according to their own goals and creates a plan. The plan included the statement of an objective that described specifically how they would like their practices to look once they have fully implemented the intent of the indicator. The team then would break the objective into tasks that are time-bound and measurable that they believed would help them to attain the objective. The tool took the timelines established by the team and then prompted them to monitor their progress toward attainment of the objective. If teams indicated they had met the objective, the tool required them to document evidence that they have done so.

The WISE Tool was used for multiple reasons but with always with the same basic process. Because of the varying reasons, there was not a "fidelity check" for all schools that engaged in the tool. The rationale for the selection of the tool was not necessarily to ensure schools have a perfect plan, but rather that the tool would be a catalyst for thought in the schools. By engaging the comprehensive elements of the tool's assess, plan, and monitor features two or more times in multiple years, the state assumed that such activity prompted new thoughts and conversation. Additionally, some schools used the tool voluntarily or as part of a district initiative, since the state did not require its use by all schools. Other schools used the tool to apply for Title I Schoolwide Program status (which aligned with the SSOS Theory of Action, but was not required). In this case, district leaders reviewed school plans first, and then the state reviewed them as well to ensure the quality of the plans met expectations. Lastly, some schools were required to utilize the tool for school improvement purposes. District leadership reviewed the plans first, and then the state sampled them during a review process in order to align expectations of quality between the state and districts. The SSOS Theory of Action

included the planning within the tool as well as the various review processes described herein with the ultimate purpose being that the tool would influence the types of decisions that local leaders made. The overarching policy context for how and why the state expected schools and districts to use the tool is what is of interest to this study. Therefore, fidelity of implementation was not a factor in the independent variable, and the study did not measure implementation indicators; rather, usage statistics are the only aspect included in this study.

SSOS Support Programs. Of each of the programs listed in the theory of action (Figure 17), participation in SSOS support programs for this study is limited to the Idaho Building Capacity (IBC) Project, the Idaho Superintendents Network of Support (ISN), and Instructional Core Focus Visits (Focus Visits). These three programs began in 2009, and the state has sustained them in the years since. The other programs listed in the theory of action, such as Response to Intervention (RTI), the Principals Academy of Leadership (PAL), and Positive Behavior Intervention Supports (PBIS) training and support opportunities lacked consistency, were only temporary, or otherwise lacked alignment with the theory of action. Participation in IBC is included in independent variable 1. However, since this chapter details IBC participation at length in the description for independent variable 2 below, this section will only describe the ISN and Focus Visits.

The state designed ISN to support school district superintendents in the continuous improvement of their schools by providing a professional network of support. The network was comprised of committed superintendents who worked together to develop a cohesive and dedicated leadership community focused on teaching and

learning. They supported each other as they brought about change and collectively brainstormed obstacles solutions for obstacles that could prevent improvement in the quality of instruction in their districts. The SSOS team acted as a resource and provided the necessary research, experts, and planning through past and current partnerships, such as Neuhaus Education Center, the Center for Educational Leadership at the University of Washington, and the Center for School Improvement and Policy Studies at Boise State University. The network of participating superintendents met for a full day for a minimum of four times per year to discuss self-identified issues. Topics included how to build effective school and district leadership, developing partnerships with stakeholders, cultivating creative ways to work within state and federal policy, analyzing data, and solving problems of practice. The purpose of the network was not to be directive in how districts built a culture of continuous improvement, but rather to provide a context in which leaders could improve themselves by participating collectively as a group in processes that challenged and grew their perspectives about effective educational leadership. To this end, the network included other opportunities for superintendents to build collegiality, such as evening receptions the night before each meeting, as well as opportunities to improve practice, such as field trips to other districts to observe and dialogue about professional practice. Flachbart created the ISN in Fall 2009, and she continued to facilitate it as of 2012. Since the ISN served superintendents who were district leaders, the program indirectly impacted all schools in participating districts. Therefore, this study classified any school as a participant in the ISN if their superintendent had been a participant for two or more years.

Focus Visits provided an intensive audit of instructional and leadership practices in schools and districts. Constructed on the understanding of the importance of district, system-wide improvement, Focus Visits provided a diagnostic evaluation of actual practice, not just a review of improvement plans or performance data. Focus Visits were based on the Center on Innovation and Improvement (CII, 2009b) guidebook, *Patterns of Practice*. CII designed the original *Patterns of Practice* guide for use in reviewing and diagnosing school-level needs by means of classroom observations, teacher interviews, focus group interviews with multiple groups, and principal interviews. The data collected during the process all triangulated back to the indicators within Indistar (i.e., the WISE Tool) so that recommendations could connect to improvement planning. Idaho's version of the process included all schools in a district, when possible, with the addition of interviews of the superintendent and central office staff. It coordinated the data collected so that the resulting reports aligned to the *Nine Characteristics of High-Performing Schools* (Shannon & Bylsma, 2007). The state placed the resulting recommendations of the Focus Visit process in the hands of the superintendent and district leadership with no compliance requirements expected as follow up. The purpose was both to build the capacity of leadership by providing district leaders with the comprehensive diagnostic information they need to spur system-wide improvement and to create a partnership with the state that would lead to the right kinds of future technical assistance. For schools that participated in Focus Visits, the visit occurred once per year for three years. The visit lasted between 1-2 days per school, depending on the school size and schedule. The SSOS team selected the visiting team of observers and interviewers who were external to the district and who had expertise in curriculum and instruction, educational leadership,

and school system reform. The process resulted in the observation of every teacher in the school for 20 minutes using a protocol that rated instructional practice in relation to the indicators within the WISE Tool. The team interviewed approximately 60% of the teaching staff; interviewed all administrators; and conducted focus group interviews of paraprofessionals, students, and parents. A protocol specific to each group and which contained questions taken directly from WISE Tool indicators was employed for all interviews. This study classified all schools that received visits in at least two of three school years between 2009 and 2012 as participants in the Focus Visit support process.

Independent Variable 2

The second independent variable in this study was specific to how participation in the Idaho Building Capacity Project (IBC) embodied the most intensive support process within the Idaho Statewide System of Support (SSOS). The ultimate goal of IBC was to develop local leaders' capacity and technical knowledge surrounding the continuous evaluation, adjustment, and implementation of school improvement efforts in tandem with the planning that is required of the schools in the WISE Tool. This study defined participation in the IBC Project as the treatment received through the activities of the program. Specifically, there were two levels of treatment in the project; the state assigned individual Capacity Builders to work with both the district office and the school over the course of a three-year scaffolded partnership. Capacity Builders were distinguished educators that were retired superintendents, principals, or other educational leaders who had demonstrated competency in school reform and had the ability to coach others to improve. Participating districts received Title I-A funds while participating schools received Title I-A funds and were in school improvement status year 1 or beyond

in the initial year of the project (though the school may have exited from improvement status and still remained in the project through the third year). A school could not have participated in the project unless the district agreed to participate as well, which means that there was system-wide support for the partnership.

The IBC program partnership began with treatment group schools in January 2010 in order to capitalize on a time of the school year that is typically less busy for educational leaders. Therefore, each year in the project was an ordinary calendar year from January through December. In the first year, the Capacity Builder met with administrative and teaching staff for an average of 8 hours per week per school. It was the responsibility of the Capacity Builder to develop working relationships with all of the leaders within the school, not just the principal, in order to ensure capacity building was distributed. As Kinnaman (2009) stated, the project was intentionally not prescriptive in the progression of activities; it was not a "cookie-cutter" approach to reform. The Capacity Builder began the work by developing a comprehensive understanding of the school's current strengths and areas for improvement. This was accomplished in various ways. Three of the most significant methods entailed developing a relationship and rapport with the principal, gathering perceptual data on educational effectiveness, and analyzing various forms of achievement data. Capacity Builders used Educational Effectiveness Surveys (EES, The Center for Educational Effectiveness, 2011) that contain self-reported data on the perceptions of staff, administrators, students, parents, and non-instructional employees regarding the degree to which they believed the school demonstrated effective educational practices. The EES is correlated to the *Nine Characteristics of High-Performing Schools* (Shannon & Bylsma, 2007; The Center for

Educational Effectiveness, 2011). While not exactly the same as the "Elements of Effective School Improvement" in Figure 17, the nine characteristics are what the SSOS team had in mind when creating its theory of action. Specifically, schools with those nine characteristics have:

- A clear and shared focus
- High standards and expectations for all students
- Effective school leadership
- High levels of collaboration and communication
- Curriculum, instruction, and assessments aligned with state standards
- Frequent monitoring of learning and teaching
- Focused professional development
- Supportive learning environment
- A high level of family and community involvement (Shannon & Bylsma, 2007)

As a result of the alignment between the EES and the nine characteristics, Capacity Builders utilized the data from each school's perceptions of their own effectiveness to spur conversation, planning, and actions that were in line with the intended outcomes of the SSOS Theory of Action. This laid the foundation for building program coherence around continuous school improvement plans in the WISE Tool, which the school and district then updated throughout the duration of the project.

These types of activities continued into the second year; however, the state removed some of the scaffolded support. The Capacity Builder provided an average of 15 hours per month with the site in order to promote a handoff of responsibility to the

local leadership for the sake of sustainability. Similarly, in the third year, the partnership continued, but decreased to an average of 8 hours per month per site with an even greater emphasis on planning for sustainability after the grant expired.

The same time commitments and patterns occurred with the Capacity Builder that the state assigned to each participating district's superintendent and district leadership team. Though a Capacity Builder was not necessarily provided to every school in a district, the project aimed to build capacity for instructional leadership at the school that was in need of improvement and to build similar capacity for instructional leadership at the district level such that district efforts could more coherently address the needs of all schools and all learners. In other words, the work of the district capacity builder should have theoretically impact the entire system. Similar to the school level, the district Capacity Builder utilized multiple methods to determine strengths and areas for improvement, including EES and achievement data.

Throughout the three years of the project, Capacity Builders maintained and submitted logs that documented their work. Three Regional School Improvement Coordinators, one in each of the state's three largest public universities and who were contracted to oversee the implementation efforts, compiled the logs and records of the Capacity Builders. The regional coordinators met monthly to discuss implementation and make adjustments as necessary. The regional coordinators also provided monthly collaboration sessions and biannual training institutes for the Capacity Builders in order to develop a robust toolbox of resources for use within the differentiated work each was doing in schools and districts.

Dependent Variable

This study utilized student achievement on the state's standardized accountability assessment, the Idaho Standards Achievement Test (ISAT), in the two content areas of Reading and Mathematics as demonstrated in the performance of students who are economically disadvantaged. As a result of the potential for both independent variables to have an impact on a broad set of outcomes and grade levels, it was necessary to confine the measurement of impact to a subset of possible key outcomes. Since Reading and Mathematics Achievement are the two primary areas in which the state holds schools accountable under state and federal law, these two content areas were the most logical to place under scrutiny. It would make sense that schools and districts have been working within the confines of the SSOS policies and programs to ultimately improve these core content areas more than any other due to the political and academic importance placed upon them by the accountability system.

Measurers

The data that are available from ISAT measures are single interval data that exist upon a vertical scale. The state established benchmarks for the scores, which divide the scale into four performance level categories: below basic, basic, proficient, and advanced. This study examined the percentage of students scoring in the proficient and advanced categories combined. The ISAT assesses each content area separately. Both content area assessments are valid and reliable instruments for measuring aggregate school performance, are developed to meet rigorous technical adequacy standards, reviewed by a national peer review process, and guided by a technical advisory committee comprised of national experts in psychometrics (Data Recognition Corporation, 2011). The ISAT is a

multiple choice assessment broken into domains and assessment items that align with the state's content standards. The current iteration of the ISAT began in 2007 and has remained the same since. No changes have occurred to the standards measured, the performance benchmarks. Therefore, data from 2007 are comparable with data in each year since.

The ISAT testing data are collected electronically by the state each spring in April and May through a secure online administration and scoring procedure through a contract with Data Recognition Corporation (DRC). DRC electronically transfers the resulting data to the Idaho Department of Education at the individual student level. Each district provides the demographic characteristics for each student via an electronic upload from their student enrollment file, which the state then merges with the assessment outcomes so that individual scores are associated with a student's demographic information (e.g., economic status, ethnicity, participation in special education, etc.). As described earlier, this study focused on students who are economically disadvantaged since Title I funding targets this subpopulation. While the measures are valid and reliable, it is worthwhile to note at this point that the economically disadvantaged classification of students derives from a self-selection process in which students and families sign up for free and reduced price lunches under a government child nutrition program.

Once assessment results are finalized, the state aggregates and disaggregates subgroups in order to protect individual privacy while at the same time reporting school results by student grouping. The data that this study used for analysis are those data that the Idaho Department of Education had verified after districts had the opportunity to appeal results. The data were in their final form for each administration year included in

the study. Only data connected to students from families that are economically disadvantaged will be included in the study since this demographic characteristic is a defining characteristic common across all Title I schools.

While results at the student level are available on a single interval, vertical scale, the scale does not permit for cross-grade comparisons. Each grade level and content area has benchmarks set by the state to classify student performance on the scale into four categories: below basic, basic, proficient, and advanced. The unit of analysis in this study is the school. Therefore, the data that this study used for each unit of analysis is the percent of students who had scored high enough on the scale in their respective grade levels to be categorized as proficient or advanced. The state publicly reports these outcomes for each school in aggregate across grade levels. In other words, the percent of students that are proficient and advanced is comprised of all students in all tested grade levels as though they were one unit. For example, in a school that serves grades K-5 where only grades 3-5 are tested in reading, if 75 of 100 third graders, 80 of 100 fourth graders, and 85 of 100 fifth graders score proficiently, the percent of students in the school that are proficient is equal to 240 out of 300, or 80% of the school's population is proficient in reading.

Data for this study are from two sources. I submitted a request for data to the state's information technology (IT) department for all the years included in the study timeframe (i.e., school years 2006-2007 through 2011-2012). However, inconsistent record keeping practices made it difficult to obtain all the data in one file. The IT department was able to provide the requested assessment data for school years 2009-2010, 2010-2011, and 2011-2012. Idaho did not have a longitudinal data system until

2010. Prior to that, assessment data were stored in separate files by the IT department. To supplement the needed data, I turned to a website that collated data from multiple states. At the request of the Council of Chief State School Officers (CCSSO) in partnership with the Center on Innovation and Improvement (CII), the state of Idaho transmitted individual student level data to CII, who converted it into a searchable database (http://database.adi.org/ed.py/menu_query). The data in the CII database cover 2006-2007 through 2010-2011, may be queried down to the school level, and may be disaggregated by common subgroups, such as Economically Disadvantaged. Since the CII data are directly from the records at the Idaho Department of Education, this study utilized them for school years 2006-2007, 2007-2008, and 2008-2009. This study also queried data for 2009-2010 and 2010-2011 from the CII database for reference. The business rules applied to the two sources are similar enough for consistency across years, but they are not exactly the same. The data provided by the IT department have had accountability business rules applied to them and are therefore slightly more narrow in terms of the students that are included (Idaho Office of the State Board of Education, 2009). When comparing over 500 overlapping records, data provided by IT was generally more favorable for schools in the following ways:

- 2009-2010: Mathematics for students that are economically disadvantaged was on average 2.3 percentage points higher in IT records than CII records.
- 2009-2010: Reading for students that are economically disadvantaged was on average 1.4 percentage points higher in IT records than CII records.
- 2010-2011: Mathematics for students that are economically disadvantaged was on average 1.9 percentage points higher in IT records than CII records.

- 2010-2011: Reading for students that are economically disadvantaged was on average 1.5 percentage points higher in IT records than CII records.

These differences in data sources are not ideal, but they will impact all schools equally and should not produce differential results between the treatment and comparison schools. Since the Pooled ITS design employed in this study examined the change in data trends starting in 2009-2010, this study used the data provided by CII for the first three years (2006-2007 through 2008-2009) and the data provided by IT for the three final years (2009-2010 through 2011-2012) because it ensured that there were no inconsistencies during the pre-intervention period and the intervention period that would impact the respective regression slopes.

Dummy Variables

The Interrupted Time Series (ITS) design required the use of a set of dummy variables, which accompanied the data set for each school and year included in the study. There were five dummy variables. The first dummy variable described two levels of engagement in the Statewide System of Support (SSOS) for research questions 1 and 2 in order to provide a coding structure for independent variable 1. This dummy variable separated out which Title I schools were engaged in the (SSOS) Theory of Action according to the criteria established for this study. The comparison time series was designated with a zero (0) and the treatment group time series was designated with a one (1). The following definitions summarize this categorical variable:

- 0 - Title I school not engaged in the WISE Tool or SSOS (comparison series)
- 1 - Title I school engaged in the SSOS (treatment series)

A second dummy variable described two levels of schools in relation to participation in the Idaho Building Capacity (IBC) Project in order to provide a coding structure for independent variable 2. This dummy variable represented the coding for research questions 3 and 4, specifically about participation in IBC. The comparison series was marked with a zero (0), meaning the case is a Title I school that did not participate in IBC. The treatment series was designated with a one (1), meaning the case is a Title I school participating in IBC. The following definitions summarize this categorical variable:

- 0 - Title I, but not participating in IBC or the SSOS (comparison series)
- 1 - Title I, IBC participant (treatment series)

A third dummy variable categorized the years in the time series sequentially from 2007 through 2012. There were a total of six school years in the time series. In the Findings chapter, the SPSS output references this variable as *Time*. The study coded it as follows:

- 1 - 2006-2007
- 2 - 2007-2008
- 3 - 2008-2009
- 4 - 2009-2010
- 5 - 2010-2011
- 6 - 2011-2012

The fourth dummy variable was dichotomous and categorized the setting before the introduction of the SSOS Theory of Action (pre-intervention) as well as the period of time during which the theory of action was created and implemented (intervention). School years 2006-2007, 2007-2008, and 2008-2009 were the pre-intervention period and

were designated with a zero (0). School years 2009-2010, 2010-2011, and 2011-2012 were the intervention period and were designated with a one (1). This dummy variable enabled the study to identify any possible change in the intercept of the trend in the data; in the Findings chapter, the SPSS output labels this as *Level*. The fifth dummy variable identified each year of data in relation to the sequence of time and trend during the intervention period (in the Findings chapter, the SPSS output labels it as *Change in Slope*). In order to establish the post-intervention change in slope, the dummy variable classified pre-intervention years with a zero (0) and sequentially numbered the intervention years starting with the first school year of the intervention (2009-2010) as follows:

- 0 - 2006-2007
- 0 - 2007-2008
- 0 - 2008-2009
- 1 - 2009-2010
- 2 - 2010-2011
- 3 - 2011-2012

Data Analysis

Initiatives in the arena of state governance and policy are often based on a belief that the policy or program will have a positive effect on a particular area of interest. Since state education agencies are charged with governing and ensuring the success of all schools and districts, it is often politically unviable to utilize the gold standard research methodology of a large-scale randomized control trial (RCT) that includes an experimental treatment group and a control group in order to determine the effectiveness

of an intervention. As a result of this dilemma, this study utilized a quasi-experimental design known as a Pooled Interrupted Time Series (ITS) analysis in order to infer causal relationships by using the participants' prior performance trend during a baseline, pre-intervention period as the experimental control in comparison with the performance trend after the introduction of the intervention. This mitigated the limitations inherent to designing an RCT in the arena of state governance. In this study, the baseline period encompassed three years of performance before the interventions included in the Statewide System of Support (i.e., school years 2006-07, 2007-08, and 2008-09, respectively), and the treatment, or intervention, period consisted of the three consecutive years afterward (i.e., school years 2009-10, 2010-11, and 2011-12, respectively).

Interrupted Time Series

The Pooled Interrupted Time Series (ITS) design is a modification of the Interrupted Time Series (ITS). ITS was first developed as a quasi-experimental design with the purpose of evaluating the impact of a specific intervention on a social process (McDowall, McCleary, Meidinger, & Hay, 1980). It has been used in many contexts to determine the impact of public policy initiatives, such as mining safety; to assess the effects of particular laws, such as those prohibiting drunken driving; and to examine the outcomes of large-scale political change, including revolutionary upheaval (Berry & Lewis-Beck, 1986).

These areas of study mirror the distal relationships involved in this study of the Idaho Statewide System of Support in that the dependent variables do not immediately link to the independent variable. For example, in a study of legislation on mining safety, Lewis-Beck and Alford (1980) found that federal policy reduced the number of fatalities

in coal mining as a result of two specific legislative actions in 1941 and 1969. There are multiple layers of social behaviors that exist between the federal legislation and the human behaviors that would contribute to unsafe work conditions, including the communication of the legislative requirements, the opinions surrounding mine leadership regarding the value of the legislation, the willingness at a local level to comply with the various statutory requirements, the frequency with which compliance is monitored, etc. Nonetheless, the ITS design was capable of detecting a causal relationship between the policy change and the intended outcome of fewer fatalities.

In the same way, the Idaho Statewide System of Support's theory of action in general and the Idaho Building Capacity Program in particular utilized policies and practices that were rather distal from the intended outcome of student performance. There are many organizational layers and human behaviors between the dependent variables embodied in student achievement and the independent variables associated with state policy and programs. The ITS design is appropriate for this study because of its ability to detect differences in trends within the same population over time.

ITS designs generally rely on 50 to 100 observations of one case over time, during which the social process is interrupted by an intervention or event (Shadish & Cook, 2009). Put simply, the ITS design can be diagrammed as follows:

$$\ldots O_{46}\, O_{47}\, O_{48}\, O_{49}\, O_{50} \quad X \quad O_{51}\, O_{52}\, O_{53}\, O_{54}\, O_{55}\ldots$$

In this diagram, O denotes only one observation of one case, such as a school, at specific points in time (e.g., time periods 46-55) in the larger context of a series of observations, and X denotes the insertion of a specific intervention.

In an ITS design, estimates of the impact of the intervention are determined by examining the trend of the observations and subsequent changes in intercept, slope, or both intercept and slope (Berry & Lewis-Beck, 1986). In this regard, an ITS design essentially compares the trend in performance within one case after an intervention to the trend in performance in that same case before the intervention. According to Bloom (2003), ITS is about projecting counterfactuals based on two premises: "(a) that past experience is the best predictor of future experience in the absence of systemic change and (b) that multiple observations of past experience predict future experience better than a single observation" (p. 5). In other words, past performance trends predict future performance trends quite well in the absence of an intervention. Thus, an ITS design projects what would be counterfactual in terms of the trend that would have otherwise been a reality had the intervention not occurred. If the actual performance trend differs from the projected counterfactual trend in terms of its *intercept* (i.e., level of performance compared with the previous trend) or its *slope* (i.e., rate of change over time compared with the previous trend) in a statistically significant manner, the estimate of the impact of the intervention can be determined. A change in the intercept reflects an immediate impact on the dependent variable. A change in slope represents a new tendency in the dependent variable in terms of increasing or decreasing the level of the outcome that is being evaluated. Depending on the theoretical foundation of the intervention, one may expect to find a change in level or slope, or both.

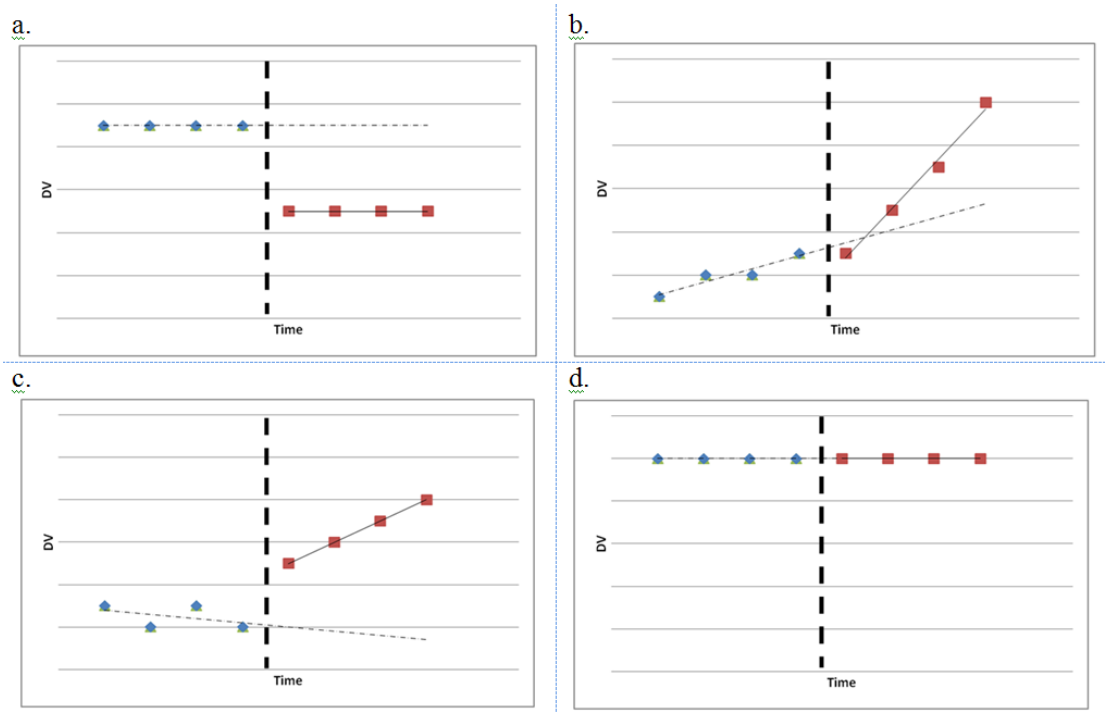


Figure 18 a-d. Sample Interrupted Time Series Trends

NOTE: ***V*** is dependent variable; ***Time*** is the points in time in which observations were collected; the thick dashed line represents the point of intervention; the thin dashed line represents the projected trend in the absence of an intervention.

Figure 18 demonstrates three possible examples of ways in which the data trends in performance for an ITS might interact in intercept and slope. Figure 18a demonstrates an ITS in which the intercept, or level of the observation, changed after the intervention, but the slope remains the same. Figure 18b illustrates a change in slope after the intervention, but not an initial change in intercept. Figure 18c depicts a change in both

intercept and slope, while Figure 18d shows no impact as a result of no change in intercept or slope.

Pooled Interrupted Time Series

This study utilized a Pooled Interrupted Time Series (ITS) that significantly decreased the need for a larger number of observations in the series for each school by pooling data from multiple shorter time series. While the ITS design generally relies on many observations on one case over time (i.e., one observation per time period), the Pooled ITS design pools the data from multiple cases that are each measured repeatedly (i.e., multiple observations per time period) and which are impacted by the same independent variable. Pooled ITS permits the number of time periods to be greatly reduced by compensating with a larger number of observations at each individual point in time. For example, a Pooled ITS analysis can be conducted on as few as 20-40 schools that are each measured 4-8 times (Shadish & Cook, 2009). The design can be diagrammed in the following manner:

$$O_{1(a,b,c...)}\ O_{2(a,b,c...)}\ O_{3(a,b,c...)}\quad X\quad O_{4(a,b,c...)}\ O_{5(a,b,c...)}\ O_{6(a,b,c...)}$$

In this diagram, O denotes all observations at a specific point in time (e.g., time periods 1-6) with cases a, b, c, etc. pooled into each time period. Figure 19 illustrates how the multiple cases are pooled at each time period in order to develop a trend across multiple cases within a short time span.

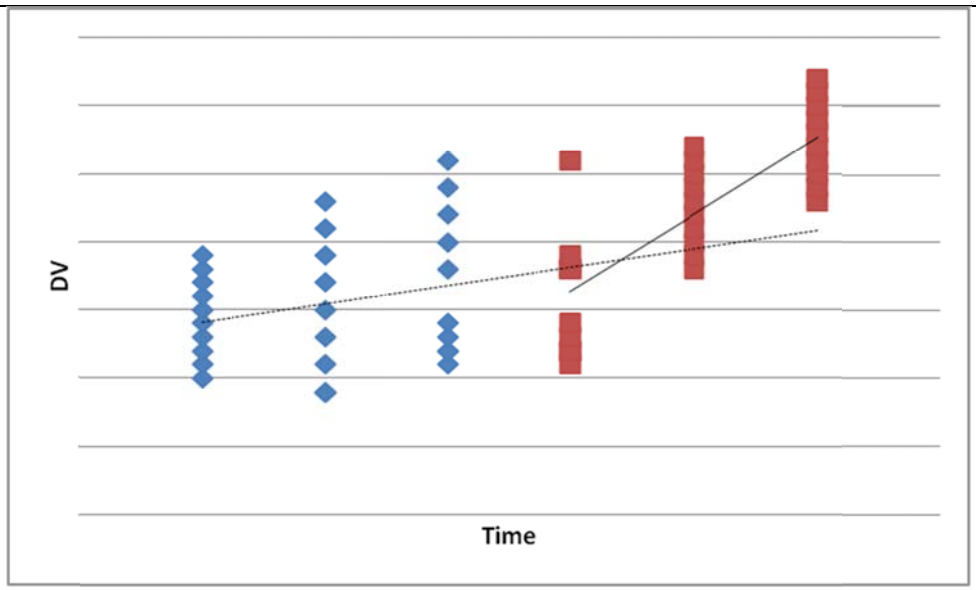


Figure 19. Sample Pooled Interrupted Time Series

Bloom (2003) has demonstrated that it is possible to use as few as 3 years of baseline data in a Pooled ITS to project counterfactuals, which is the number of baseline years utilized in this study.

Comparison Time Series

The Pooled ITS design compares the trend in the dependent variable after an intervention with the trend in the same group during a baseline period. Therefore, the effect of the intervention is found in studying this pre-/post-comparison in trends. Thus, a control group is not necessary for the design. However, it is helpful to add comparison time series (i.e., a control series) in order to allay concerns about alternative explanations and strengthen causal inferences. It should be noted that a control series is different from a control group. When a study utilizes a control group, the comparison is made between the performance of the treatment group with the dependent variable and that of the control group on the same dependent variable. With a Pooled ITS, the control series

serves as a counter-balance to the findings in the analysis of the treatment time series. The comparison is not of the dependent variable, but rather the slope coefficients of each series.

This study utilized a control series to determine if statistically significant changes in the rate of performance in treatment schools differed from the population of schools. The control series provided a means by which to determine if similar schools also experienced a shift in the trend of their performance during the same time period. If, for example, the rate at which treatment schools were performing had increased in a statistically significant manner in comparison with their previous performance before the intervention, then one might infer a causal relationship between the independent and dependent variables. The addition of a control series provided evidence to substantiate or reject the claim. The control series was comprised of schools that hypothetically should not be impacted by either the Idaho Statewide System of Support theory of action or by the Idaho Building Capacity Project. If the schools in the control series demonstrated a statistically significant shift in the rate at which they are performing, there would be reason to believe that something larger than the intervention in this study caused the improvement in the treatment schools. If, however, the schools in the comparison series demonstrated no statistically significant increase, or demonstrated a statistically significant decline, after the introduction of the intervention, then there is evidence that the intervention did indeed cause the increase in the treatment schools.

In order to determine if the comparison series was different from the time series data for the treatment schools, this study utilized a regression analysis that compared the pre-intervention slopes for each group and the intervention slopes for each group. This

tests the difference between the slope coefficients in order to determine if they are significantly different from each other. If the slope coefficient for the intervention group is significantly different than that of the comparison, there is evidence for inferring causality of the intervention. If the slope coefficients for both groups are not significantly different from each other in the respective time periods, there is not sufficient evidence to infer causality.

Limitations and Delimitations

This study contains certain delimitations and limitations. The delimitations that limit the design and confine the population to which the study can be generalized are the following. First, this study only assessed outcomes in Title I schools. Title I schools by definition have a higher proportion of students from families that are economically disadvantaged. This may limit the degree to which findings can be generalized to more affluent schools. Second, due to Idaho's geographic context, the schools included in this study are mostly small in size and located in small towns and rural areas. This may limit the ability to generalize study results to large, urban school systems. Third, the study is situated in a state that is large geographically, but with a small population (~1.6 million). Study results may not generalize to larger, more densely populated states. Finally, the theory of action studied is contextualized within a particular organizational structure in the Idaho State Department of Education in which the school improvement team and Title I team are located in the same division and supervised by the same deputy superintendent. Other states have school improvement teams that are organized into different divisions and supervisory structures from Title I teams. This may limit the ability to generalize to such states.

The limitations in this study are the following. First, the lack of a single source of data may interfere with the ability of the study to detect a change in intercept between the pre and post years. Second, the data that are available led to the selected design (Pooled ITS). As described earlier, Randomized Control Trials (RCT), while preferable for inferring causality, are not feasible for this study. Third, the study utilized dependent variables that are quite distal from the actions of the Idaho Statewide System of Support. These distal impacts raise questions of alternative explanations, for which the Pooled ITS design should be able to account relatively well with the inclusion of the comparison series for each question. Lastly, the years included in this study took place during the financial recession of 2008-2012, one of the largest in the history of the United States. During this time period, states across the nation cut their budgets dramatically for education and other services. Idaho was no exception to this. It is unknown what impact the recession has had on academic outcomes included in this study. However, the inclusion of the comparison time series should provide insight into any large-scale impacts on Idaho schools beyond the scope of this study and account for such affects.

CHAPTER 4: FINDINGS

Introduction

This chapter presents the results for the research questions in this study. It is organized in two primary parts: the examination of the research questions and the presentation of the findings. The examination of the research questions begins with important definitions of terms related to Interrupted Time Series (ITS) analyses. It also presents the within-subjects results from the ITS for each treatment group and comparison group organized under headings for each research question. Each set of results also has a follow up analysis comparing the respective slopes of the treatment and comparison groups. The examination of research questions concludes with the analysis of an additional question that arose from the data analysis and study findings. The chapter concludes with a presentation of the primary study findings.

Examination of Research Questions

The following examines the research questions in this study to determine if there is a relationship between school engagement in the Idaho Statewide System of Support (SSOS) and student achievement. Outcomes in Reading and Mathematics among students who are economically disadvantaged are analyzed at two levels each: engagement in the SSOS in general and participation in the Idaho Building Capacity project in particular. Important terms are defined first. Then, analyses of the four research questions follow. The analyses use the Interrupted Time Series (ITS) regression

design to compare within-subjects data, and each is subsequently cross-checked with regressions that compare the slope coefficients between-subjects for the treatment and comparison groups. Finally, the examination of additional questions that arose from the data analyses are presented after each research question has been reviewed.

Important Terms

In the Interrupted Time Series (ITS) analyses that follow, the following terms are important. First, the analyses will utilize the term *pre-intervention period* to describe the years 2007 to 2009, and *intervention period* to describe the years 2010 to 2012, which are the subject of interest in this study. Second, three dummy variables for various aspects of the time series are used as predictors: Time, Level, and Change in Slope. In order to understand the results that are presented in this chapter, each predictor is defined below.

As illustrated in Table 7, the predictors are coded to match each year of data that was collected for ISAT Reading and Mathematics assessments. The analyses were conducted in SPSS, which uses the dummy variables to determine directionality as well as to determine when to exclude certain cases from interactions in the regression. The SPSS output, referenced throughout, uses the terms Time, Level, and Change in Slope in the same fashion for each analysis.

Table 7. ITS Dummy Variable Coding for Predictors

	Time	Level	Change in Slope
2007	1	0	0
2008	2	0	0
2009	3	0	0
2010	4	1	1
2011	5	1	2
2012	6	1	3

Time represents the slope coefficients of group being analyzed during the pre-intervention years of 2007 to 2009. In analyzing the interactions between dummy variables, the zeros for Level and Change in Slope tell SPSS to exclude those years from Level analysis and Change in Slope analysis; they are omitted. The Time output, therefore, is comprised solely of the slope of the data that are omitted from the other categories. That is, the output for Time coefficients represents the pre-intervention slope alone, and it theoretically forecasts what the predicted Y value would be during the intervention period of 2010 to 2012 in the absence of an intervention.

Level coefficients depict the difference between the expected mean in the pre-intervention period of time and the mean of the intervention period of time. For each increase in X during the intervention period (coded 1 for each time period), the coefficient for Level is multiplied by one and serves as a one-time adjustment in the level of proficiency percentages as identified by the value of its coefficient. It is added to overall regression equation to predict the expected value and is static, much like the intercept. During the pre-intervention period, Level is coded as and multiplied by 0, therefore removing it from the regression equation for that time period.

Change in Slope predicts the value for Y in the intervention period in terms of how much the overall slope deviates from what was the predicted slope during the pre-intervention period. Change in Slope is coded as an increment of time during the intervention period, increasing by one for each consecutive year. During the pre-intervention period, it is coded as 0, and therefore is removed from the equation for that time period. Therefore, in the overall regression equation, the coefficient for Change in

Slope is multiplied by 0, 1, 2, or 3, depending on the period of time with which it coincides.

Last, the three predictors combine with the intercept (referred to as the Constant coefficient in the SPSS output) to form the overall regression equation for the ITS analysis. The overall ITS regression equation for predicting the expected value of Y is presented in **Equation 1**.

Equation 1. ITS Regression Equation

$$Y = \text{Constant} + (B_{Time}*\text{Time}) + (B_{Level}*\text{Level}) + (B_{ChangeInSlope}*\text{ChangeInSlope})$$

Research Question 1: Relationship of the Statewide System of Support to Reading

This section has two subsections that analyze the relationship of the Statewide System of Support (SSOS) to Reading Achievement among students who are economically disadvantaged. The first subsection provides the results from the Interrupted Time Series (ITS) for the treatment group (SSOS Engaged) and the comparison group (SSOS Not Engaged). The ITS analysis is a within-subjects analysis that compares performance during the pre-intervention period of 2007 to 2009 to the intervention period of 2010 to 2012, but which does not provide a comparison between groups. The second subsection is a between-subjects analysis that compares the slopes of the treatment and comparison groups.

ITS Analysis: SSOS and Reading

This subsection presents the within-subjects results of the Interrupted Time Series (ITS) analysis as it relates to ISAT Reading Achievement for students who are

economically disadvantaged (Reading_ECON-DIS). First, results for the treatment group (SSOS Engaged) are presented. Second, results are presented for the comparison group (SSOS Not Engaged). Each group's ITS level of achievement and slope of improvement during the pre-intervention period are compared to their own level and slope during the intervention period. This subsection does not make comparisons between subjects.

SSOS Engaged: Reading. Select elements of the SPSS output for the SSOS Engaged group (n = 22) ITS analysis for Reading_ECON-DIS are presented in Table 8, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted R^2 = .246, indicating that 25% of the variation in Reading_ECON-DIS was predicted by the set of dummy variables: Change in Slope, Level, and Time. The ANOVA summary table indicates that a significant proportion of the total variation in Reading_ECON-DIS was predicted by Change in Slope, Level, and Time together (F = 15.048, df = 3,126, p = .000). The unstandardized partial slopes are significantly different from zero for Time (b = 3.782, t = 31.888, df = 126, p = .000) and for Change in Slope (b = 3.889, t = -2.691, df = 126, p = .008), but the slope coefficient for Level is not significant (b = 3.018, t = 1.173, df = 126, p = .243). Because of the nature of time series analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem. The results suggest that schools in the SSOS Engaged group were improving at a statistically significant rate of 3.782 percentage points per year prior to the intervention, but experienced a statistically significant negative deviation from the original trend (-3.889 percentage points per year) during the intervention period, which resulted in a new negatively trending slope of

-0.017. Figure 20 graphs the Reading Achievement and slope lines associated with the SSOS Engaged group's coefficient for Time during the pre-intervention time period (RdgEcon-PRE) and forecasts it three years. The figure also illustrates the negative deviation from the forecast, which is represented by the Change in Slope coefficient during the intervention period (RdgEcon-POST).

SSOS Not Engaged: Reading. Select elements of the SPSS output for the SSOS Not Engaged group (n = 22) ITS analysis for Reading_ECON-DIS are presented in Table 9, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted R^2 = .208, indicating that 21% of the variation in Reading_ECON-DIS was predicted by the set of dummy variables: Change in Slope, Level, and Time. The ANOVA summary table indicates that a significant proportion of the total variation in Reading_ECON-DIS was predicted by Change in Slope, Level, and Time together (F = 11.491, df = 3,117, p = .000). The unstandardized partial slopes are significantly different from zero for Time (b = 3.954, t = 2.710, df = 117, p = .000) and for Change in Slope (b = -4.522, t = -2.320, df = 117, p = .022), but the slope coefficient for Level is not significant (b = 4.949, t = 1.449, df = 117, p = .150). Because of the nature of time series analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem. The results suggest that the schools in the SSOS Not Engaged group were improving at a statistically significant rate of 3.954 percentage points per year prior to the intervention, but experienced a statistically significant negative deviation from the original trend (-4.522 percentage points per year) during the intervention period, which resulted in a new negatively

trending slope of -0.568. Figure 21 graphs the Reading Achievement and slope lines associated with the SSOS Not Engaged group's coefficient for Time during the pre-intervention time period (RdgEcon-PRE) and forecasts it three years. The figure also illustrates the negative deviation from the forecast, which is represented by the Change in Slope coefficient during the intervention period (RdgEcon-POST).

Pre- and Post-Slope Comparisons: SSOS and Reading

This subsection compares slopes between subjects by examining the differences between the treatment (SSOS Engaged; n = 22) and the comparison (SSOS Not Engaged; n = 22) groups' rates of improvement in Reading Achievement for students who are economically disadvantaged (Reading_ECON-DIS) during the pre-intervention period and again during the intervention period using time and group membership as predictors. The pre-intervention unstandardized slope coefficients match those described earlier. Select aspects of the SPSS output for the slope comparisons are presented in Table 10, which summarizes the coefficients related to the comparison of the SSOS Engaged and SSOS Not Engaged groups in Reading_ECON-DIS. Figure 22 visually depicts the relationship of these slopes during the pre-intervention and intervention periods.

During the pre-intervention period, both groups were improving on Reading_ECON-DIS at a rate statistically greater than zero. The comparison group was improving at a slightly faster rate ($b = 3.954$, $t = 2.449$, $df = 1,53$, $p = .018$) than the treatment group ($b = 3.782$, $t = 3.067$, $df = 1,62$, $p = .003$). The difference between slopes was .172 more percentage points gained per year by the comparison group and was not statistically significant ($b = .172$, $t = .086$, $df = 3,115$, $p = .932$).

As indicated in the ITS analysis, both groups experienced a negative deviation from the slopes forecast by the pre-intervention time periods. During the intervention period, the trends reversed. The treatment group's slope (b = -.107, t = -.139, df = 1,62, p = .890) was greater than that of the comparison (b = -.568, t = -.487, df = 1,53, p = .628). However, both slopes were trending in a negative direction, and neither slope was significantly different from zero. The difference between slopes in the intervention period was .461 fewer percentage points lost per year on Reading_ECON-DIS by the treatment group, which was not statistically significant (b = -.461, t = -.330, df = 3,115, p = .742). Although not statistically significant in the respective time periods, the difference between slopes increased during the intervention period (.461) over the pre-intervention period (.172) in favor of the treatment group. This is important because it demonstrates a divergence in the trends from what had occurred in the pre-intervention period. As Wong et al. (2009) noted, an intervention is effective if there was a change in slope, a change in level, or a reversal in which group the slopes favored in the sense that while one group may have had a more favorable slope before the intervention, the trends reversed such that the opposing group had a more favorable slope during the intervention. In this case, the increasing difference between the slopes shows that the trend reversed to favor the SSOS Engaged group during the intervention period.

Table 8. ITS Regression Summary - SSOS Engaged Reading

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.514[a]	.264	.246	6.73983

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2050.660	3	683.553	15.048	.000[a]
	Residual	5723.583	126	45.425		
	Total	7774.243	129			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	70.379	2.207		31.888	.000
	Time	3.782	1.028	.839	3.679	.000
	Level	3.018	2.572	.195	1.173	.243
	Change in Slope	-3.889	1.445	-.582	-2.691	.008

a. Dependent Variable: Reading_ECON-DIS

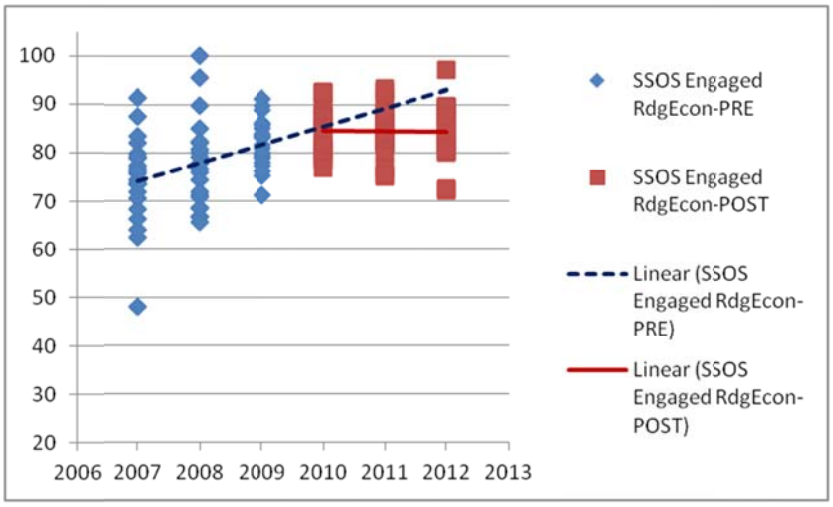


Figure 20. ITS Graph - SSOS Engaged Reading Proficiency Rates (trends in percentages)

Table 9. ITS Regression Summary - SSOS Not Engaged Reading

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.477[a]	.228	.208	8.57575

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2535.241	3	845.080	11.491	.000[a]
	Residual	8604.579	117	73.543		
	Total	11139.821	120			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	67.462	3.016		22.368	.000
	Time	3.954	1.459	.716	2.710	.008
	Level	4.949	3.416	.257	1.449	.150
	Change in Slope	-4.522	1.949	-.549	-2.320	.022

a. Dependent Variable: Reading_ECON-DIS

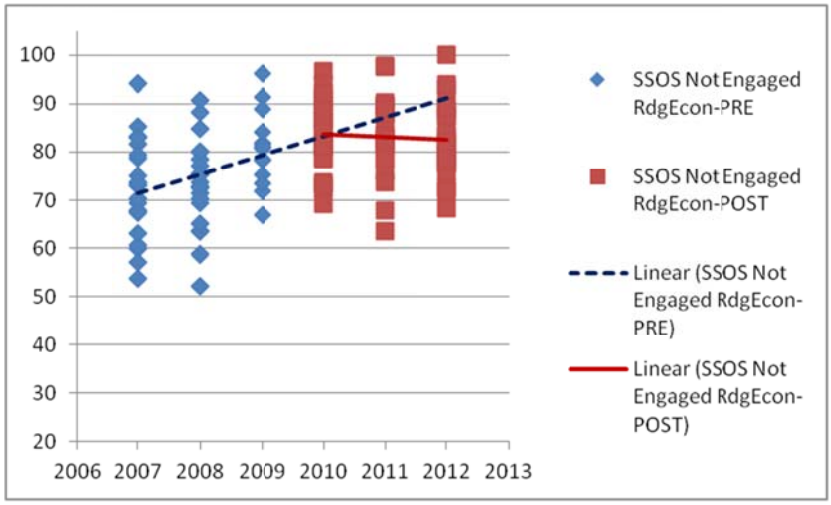


Figure 21. ITS Graph - SSOS Not Engaged Reading Proficiency Rates (trends in percentages)

Table 10. Summary of Slope Comparisons - SSOS and Reading

Coefficients[a]

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Pre-Intervention Period					
SSOS Engaged Rdg-Econ PRE[b]	3.782	1.233	.363	3.067	.003
SSOS Not Engaged Rdg-Econ PRE[b]	3.954	1.614	.319	2.449	.018
Difference in Slopes[c]	.172	2.002	.020	.086	.932
Intervention Period					
SSOS Engaged Rdg-Econ POST[b]	-.107	.770	-.017	-.139	.890
SSOS Not Engaged Rdg-Econ POST[b]	-.568	1.167	-.061	-.487	.628
Difference in Slopes[c]	-.461	1.398	-.182	-.330	.742

a. Dependent Variable: Reading_ECON-DIS
b. Predictors: (Constant), Time
c. Predictors: (Constant), Time, NotSSOS, NotSSOS*Time

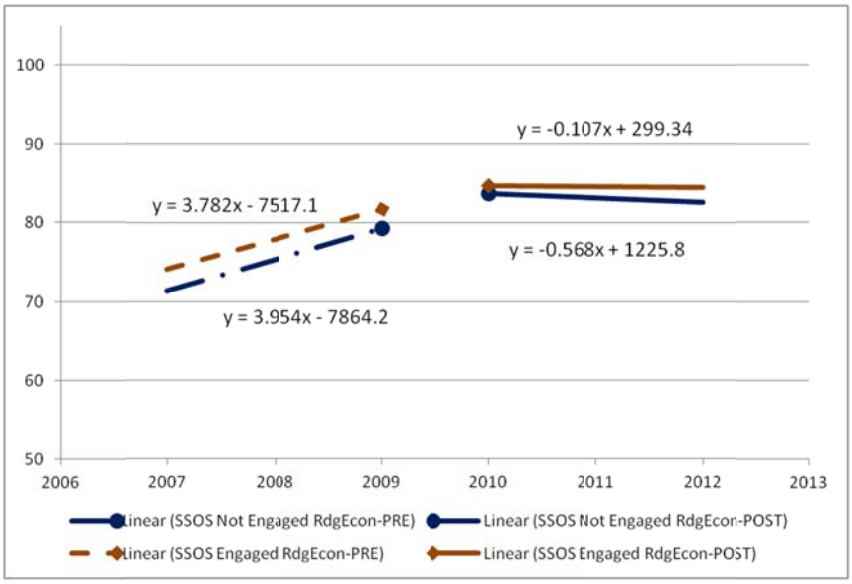


Figure 22. Graph of Slope Comparisons - SSOS and Reading

Research Question 2: Relationship of the Statewide System of Support to Mathematics

This section has two subsections that analyze the relationship of the Statewide System of Support (SSOS) to Mathematics Achievement among students who are economically disadvantaged. The first subsection provides the results from the Interrupted Time Series (ITS) for the treatment group (SSOS Engaged) and the comparison group (SSOS Not Engaged). The ITS analysis is a within-subjects analysis that compares performance during the pre-intervention period of 2007 to 2009 to the intervention period of 2010 to 2012, but which does not provide a comparison between groups. The second subsection is a between-subjects analysis that compares the slopes of the treatment and comparison groups.

ITS Analysis SSOS and Mathematics

This subsection presents the within-subjects results of the Interrupted Time Series (ITS) analysis as it relates to ISAT Mathematics Achievement for students who are economically disadvantaged (Math_ECON-DIS). First, results for the treatment group (SSOS Engaged) are presented. Second, results are presented for the comparison group (SSOS Not Engaged). Each group's ITS level of achievement and slope of improvement during the pre-intervention period are compared to their own level and slope during the intervention period. This subsection does not make comparisons between subjects.

SSOS Engaged: Mathematics. Select elements of the SPSS output for the SSOS Engaged group (n = 22) ITS analysis for Math_ECON-DIS are presented in Table 11, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted $R^2 = .073$, indicating that 7% of the variation in Math_ECON-DIS was predicted by the set of dummy variables: Change

in Slope, Level, and Time. The ANOVA summary table indicates that a significant proportion of the total variation in Math_ECON-DIS was predicted by Change in Slope, Level, and Time together ($F = 4.404$, $df = 3,126$, $p = .006$). The unstandardized partial slopes are not significantly different from zero for Time ($b = 2.866$, $t = 1.669$, $df = 126$, $p = .098$), for Change in Slope ($b = -2.891$, $t = -1.197$, $df = 126$, $p = .233$), or for Level ($b = 3.516$, $t = .818$, $df = 126$, $p = .415$). Because of the nature of time series analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem. The slope coefficients for Time and Change in Slope are positive in the pre-intervention period, and suggest a negative deviation from that trend in the intervention period. However, because the coefficients are not statistically significant, and because there is so much unexplained variance in the model, the results are inconclusive for the schools in the SSOS Engaged group. Figure 23 graphs the Mathematics Achievement and slope lines associated with the SSOS Engaged group's coefficient for Time during the pre-intervention time period (MathEcon-PRE) and forecasts it three years. The figure also illustrates the negative deviation from the forecast, which is represented by the Change in Slope coefficient during the intervention period (MathEcon-POST).

SSOS Not Engaged: Mathematics. Select elements of the SPSS output for the SSOS Not Engaged group (n = 22) ITS analysis for Math_ECON-DIS are presented in Table 12, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted $R^2 = .001$, indicating that less than 1% of the variation in Math_ECON-DIS was predicted by the set of dummy variables: Change in Slope, Level, and Time. The ANOVA summary table indicates that

the proportion of the total variation in Math_ECON-DIS predicted by Change in Slope, Level, and Time together was not significant (F = 1.055, df = 3,117, p = .371). The unstandardized partial slopes are not significantly different from zero for Time (b = 1.816, t = .978, df = 117, p = .330), for Change in Slope (b = -3.775, t = -1.521, df = 117, p = .131), or for Level (b = 3.711, t = .853, df = 117, p = .395). Because of the nature of time series analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem. The slope coefficients for Time and Change in Slope are positive in the pre-intervention period, and suggest a negative deviation from that trend in the intervention period. However, because the coefficients are not statistically significant, and because there is so much unexplained variance in the model, the results are inconclusive for the schools in the SSOS Not Engaged group. Figure 24 graphs the Mathematics Achievement and slope lines associated with the SSOS Engaged group's coefficient for Time during the pre-intervention time period (MathEcon-PRE) and forecasts it three years. The figure also illustrates the negative deviation from the forecast, which is represented by the Change in Slope coefficient during the intervention period (MathEcon-POST).

Pre- and Post-Slope Comparisons: SSOS and Mathematics

This subsection compares slopes between subjects examining the differences between the treatment (SSOS Engaged; n = 22) and the comparison (SSOS Not Engaged; n = 22) groups' rates of improvement in Mathematics Achievement for students who are economically disadvantaged (Math_ECON-DIS) during the pre-intervention period and again during the intervention period using time and group membership as predictors. The

pre-intervention unstandardized slope coefficients match those described earlier. Select aspects of the SPSS output for the slope comparisons are presented in Table 13, which summarizes the coefficients related to the comparison of the SSOS Engaged and SSOS Not Engaged groups in Math_ECON-DIS. Figure 25 visually depicts the relationship of these slopes during the pre-intervention and intervention periods.

During the pre-intervention period, both groups were improving on Math_ECON-DIS at rates that were not statistically different than zero. The treatment group was improving at a slightly faster rate (b = 2.866, t = 1.364, df = 1,62, p = .178) than the comparison group (b = 1.815, t = .909, df = 1,53, p = 368). The difference between slopes was 1.051 more percentage points gained per year by the treatment group and was not statistically significant (b = -1.051, t = -.357, df = 3,115, p = .722).

As indicated in the ITS analysis, while it did not reach a level of statistical significance, both groups experienced a negative deviation from the slopes forecasted by the pre-intervention time periods. During the intervention period, the treatment group's slope (b = -.025, t = -.020, df = 1,62, p = .984) remained greater than that of the comparison (b = -1.959, t = -1.277, df = 1,53, p = .206). However, both slopes were negative, and neither slope was significantly different from zero. The difference between slopes in the intervention period was 1.934 fewer percentage points lost per year by the treatment group on Math_ECON-DIS, which was not statistically significant (b = -1.934, t = -.986, df = 3,115, p = .326). Although not statistically significant, the difference between slopes increased during the intervention period (1.934) over the pre-intervention period (1.501) in favor of the treatment group.

Table 11. ITS Regression Summary - SSOS Engaged Mathematics

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.308[a]	.095	.073	11.25825

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1674.470	3	558.157	4.404	.006[a]
	Residual	15970.261	126	126.748		
	Total	17644.731	129			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	67.461	3.687		18.299	.000
	Time	2.866	1.717	.422	1.669	.098
	Level	3.516	4.297	.151	.818	.415
	Change in Slope	-2.891	2.414	-.287	-1.197	.233

a. Dependent Variable: Math_ECON-DIS

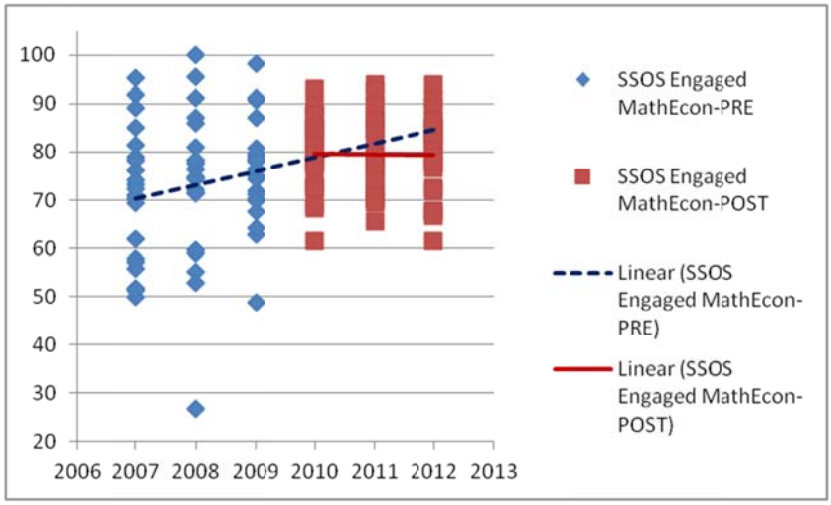


Figure 23. ITS Graph - SSOS Engaged Mathematics Proficiency Rates (trends in percentages)

Table 12. ITS Regression Summary - SSOS Not Engaged Mathematics

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.162[a]	.026	.001	10.91513

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	377.085	3	125.695	1.055	.371[a]
	Residual	13939.393	117	119.140		
	Total	14316.478	120			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	69.746	3.839		18.169	.000
	Time	1.816	1.857	.290	.978	.330
	Level	3.711	4.348	.170	.853	.395
	Change in Slope	-3.775	2.481	-.404	-1.521	.131

a. Dependent Variable: Math_ECON-DIS

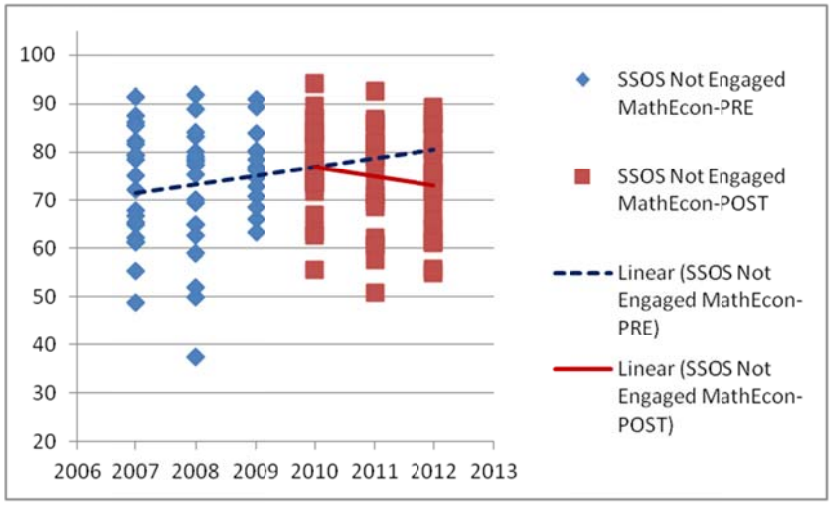


Figure 24. ITS Graph - SSOS Not Engaged Mathematics Proficiency Rates (trends in percentages)

Table 13. Summary of Slope Comparisons - SSOS and Mathematics

Coefficients[a]

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Pre-Intervention Period					
SSOS Engaged Math-Econ PRE[b]	2.866	2.101	.171	1.364	.178
SSOS Not Engaged Math-Econ PRE[b]	1.815	1.998	.124	.909	.368
Difference in Slopes[c]	-1.051	2.943	-.090	-.357	.722
Intervention Period					
SSOS Engaged Math-Econ POST[b]	-.025	1.222	-.003	-.020	.984
SSOS Not Engaged Math-Econ POST[b]	-1.959	1.535	-.158	-1.277	.206
Difference in Slopes[c]	-1.934	1.961	-.527	-.986	.326

a. Dependent Variable: Math_ECON-DIS
b. Predictors: (Constant), Time
c. Predictors: (Constant), Time, NotSSOS, NotSSOS*Time

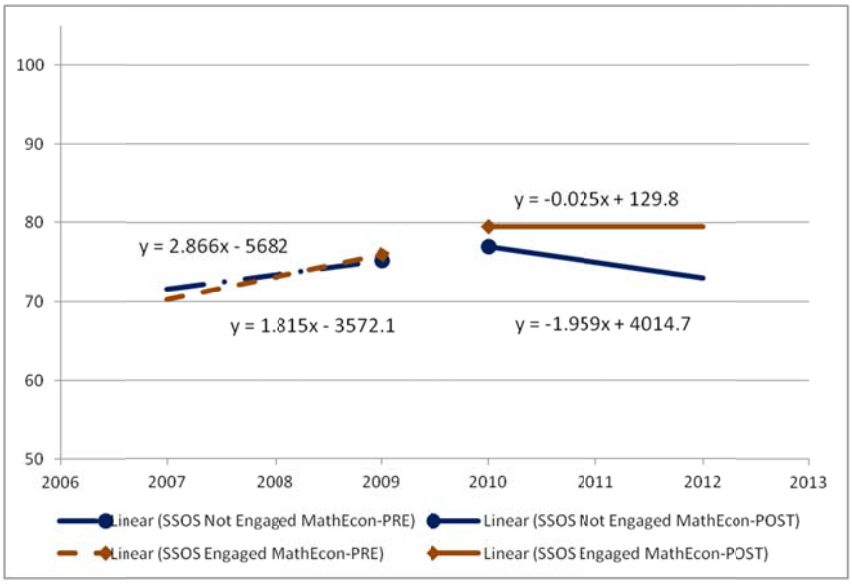


Figure 25. Graph of Slope Comparisons - SSOS and Mathematics

Research Question 3: Relationship of Idaho Building Capacity to Reading

This section has two subsections that analyze the relationship of the Idaho Building Capacity Project (IBC) to ISAT Reading Achievement among students who are economically disadvantaged. The first subsection provides the results from the Interrupted Time Series (ITS) for the treatment group (IBC) and the comparison group (Not IBC). The ITS analysis is a within-subjects analysis that compares performance during the pre-intervention period of 2007 to 2009 to the intervention period of 2010 to 2012, but which does not provide a comparison between groups. The second subsection is a between-subjects analysis that compares the slopes of the treatment and comparison groups.

ITS Analysis: IBC and Reading

This subsection presents the within-subjects results of the Interrupted Time Series (ITS) analysis as it relates to ISAT Reading Achievement for students who are economically disadvantaged (Reading_ECON-DIS). First, results for the treatment group (IBC) are presented. Second, results are presented for the comparison group (Not IBC). Each group's ITS level of achievement and slope of improvement during the pre-intervention period are compared to their own level and slope during the intervention period. This subsection does not make comparisons between subjects.

IBC: Reading. Select elements of the SPSS output for the IBC group (n = 22) ITS analysis for Reading_ECON-DIS are presented in Table 14, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted $R^2 = .200$, indicating that 20% of the variation in Reading_ECON-DIS was predicted by the set of dummy variables: Change in Slope,

Level, and Time. The ANOVA summary table indicates that a significant proportion of the total variation in Reading_ECON-DIS was predicted by Change in Slope, Level, and Time together (F = 11.551, df = 3,124, p = .000). The unstandardized partial slope is significantly different from zero for Time (b = 4.243, t = 3.023, df = 124, p = .003), but the slope coefficients are not significant for Change in Slope (b = -2.614, t = -1.341, df = 124, p = .182) or for Level (b = .077, t = .022, df = 124, p = .982). Because of the nature of time series analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem. The results suggest that the IBC group was improving at a statistically significant rate of 4.243 percentage points per year prior to the intervention. The IBC group did not experience a statistically significant Change in Slope from their pre-intervention rate of improvement. While the Change in Slope was not statistically significant (b = -2.614, p = .182), it was a negative deviation from the original slope and resulted in a slower rate of improvement during the intervention period with a new positively trending slope of 1.629. Figure 26 graphs the Reading Achievement and slope lines associated with the IBC group's coefficient for Time during the pre-intervention time period (RdgEcon-PRE) and forecasts it three years. The figure also illustrates the negative deviation from the forecast, which is represented by the Change in Slope coefficient during the intervention period (RdgEcon-POST).

Not IBC: Reading. Select elements of the SPSS output for the Not IBC group (n = 22) ITS analysis for Reading_ECON-DIS are presented in Table 15, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted R^2 = .334, indicating that 33% of the variation in

Reading_ECON-DIS was predicted by the set of dummy variables: Change in Slope, Level, and Time. The ANOVA summary table indicates that a significant proportion of the total variation in Reading_ECON-DIS was predicted by Change in Slope, Level, and Time together ($F = 21.193$, $df = 3,118$, $p = .000$). The unstandardized partial slopes are significantly different from zero for Time ($b = 5.050$, $t = 3.861$, $df = 118$, $p = .000$) and for Change in Slope ($b = -4.470$, $t = -2.519$, $df = 118$, $p = .013$), but the coefficient for Level is not significant ($b = 3.760$, $t = 1.213$, $df = 118$, $p = .228$). Because of the nature of time series analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem. The results suggest that the schools in the Not IBC group were improving at a rate of 5.050 percentage points per year prior to the intervention, but experienced a statistically significant negative Change in Slope from the original trend (-4.470 percentage points per year) during the intervention period, resulting in a new positively trending slope of 0.58. Figure 27 graphs the Reading Achievement and slope lines associated with the Not IBC group's coefficient for Time during the pre-intervention time period (RdgEcon-PRE) and forecasts it three years. The figure also illustrates the negative deviation from the forecast, which is represented by the Change in Slope coefficient during the intervention period (RdgEcon-POST).

Pre- and Post-Slope Comparisons: IBC and Reading

This subsection compares slopes between subjects examining the differences between the treatment (IBC; n = 22) and the comparison (Not IBC; n = 22) groups' rates of improvement in Reading Achievement for students who are economically disadvantaged (Reading_ECON-DIS) during the pre-intervention period and again during

the intervention period using time and group membership as predictors. The pre-intervention unstandardized slope coefficients match those described earlier. Select aspects of the SPSS output for the slope comparisons are presented in Table 16, which summarizes the coefficients related to the comparison of the IBC and Not IBC groups in Reading_ECON-DIS. Figure 28 visually depicts the relationship of these slopes during the pre-intervention and intervention periods.

During the pre-intervention period, both groups were improving on Reading_ECON-DIS at a rate statistically greater than zero. The comparison group was improving at a slightly faster rate (b = 5.050, t = 3.858, df = 1,60, p = .000) than the treatment group (b = 4.243, t = 3.201, df = 1,54, p = .002). The difference between slopes was .807 more percentage points gained per year by the comparison group and was not statistically significant (b = .807, t = .432, df = 3,114, p = .667).

As indicated in the ITS analysis, both groups experienced a negative deviation from the slopes forecast by the pre-intervention time periods. During the intervention period, the trends reversed. The treatment group's slope (b = 1.630, t = 1.148, df = 1,60, p = .255) was greater than that of the comparison (b = .580, t = .484, df = 1,54, p = .630), but neither slope was significantly different from zero. The difference between slopes in the intervention period was 1.050 more percentage points gained per year on Reading_ECON-DIS by the treatment group, which was not statistically significant (b = -1.050, t = -.565, df = 3,114, p = .573). Although not statistically significant in the respective time periods, the difference between slopes increased during the intervention period (1.050) over the pre-intervention period (.807) in favor of the treatment group.

Table 14. ITS Regression Summary - IBC Reading

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.467[a]	.218	.200	8.97223

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2789.630	3	929.877	11.551	.000[a]
	Residual	9982.117	124	80.501		
	Total	12771.747	127			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	65.892	2.967		22.208	.000
	Time	4.243	1.404	.734	3.023	.003
	Level	.077	3.464	.004	.022	.982
	Change in Slope	-2.614	1.949	-.303	-1.341	.182

a. Dependent Variable: Reading_ECON-DIS

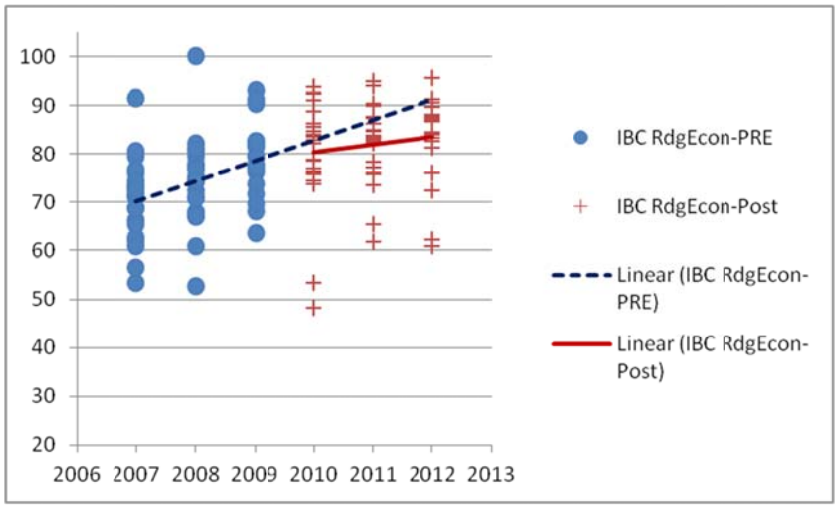


Figure 26. ITS Graph - IBC Reading Proficiency Rates (trends in percentages)

Table 15. ITS Regression Summary - Not IBC Reading

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.592[a]	.350	.334	7.95473

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4023.219	3	1341.073	21.193	.000[a]
	Residual	7466.775	118	63.278		
	Total	11489.994	121			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	65.328	2.802		23.313	.000
	Time	5.050	1.308	.890	3.861	.000
	Level	3.760	3.101	.193	1.213	.228
	Change in Slope	-4.470	1.775	-.536	-2.519	.013

a. Dependent Variable: Reading_ECON-DIS

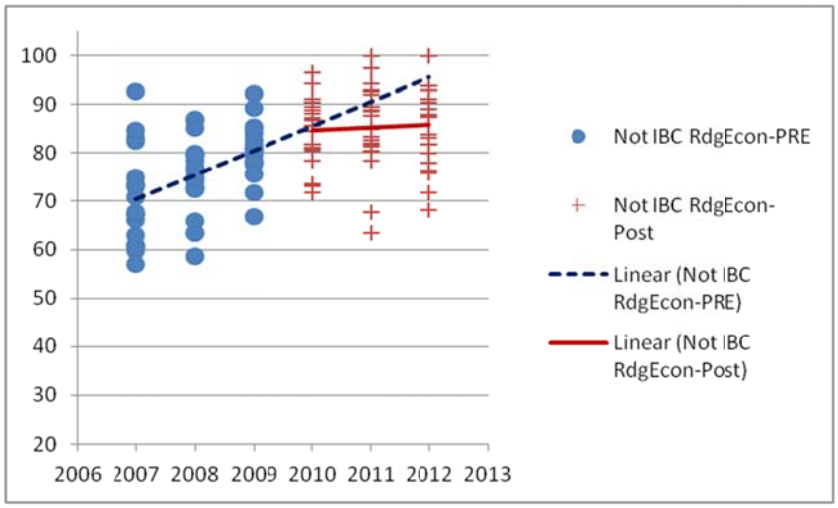


Figure 27. ITS Graph - Not IBC Reading Proficiency Rates (trends in percentages)

Table 16. Summary of Slope Comparisons - IBC and Reading

Coefficients[a]

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Pre-Intervention Period					
IBC Rdg-Econ PRE[b]	4.243	1.326	.382	3.201	.002
Not IBC Rdg-Econ PRE[b]	5.050	1.309	.465	3.858	.000
Difference in Slopes[c]	.807	1.869	.103	.432	.667
Intervention Period					
IBC Rdg-Econ POST[b]	1.630	1.420	.142	1.148	.255
Not IBC Rdg-Econ POST[b]	.580	1.198	.060	.484	.630
Difference in Slopes[c]	-1.050	1.858	-.306	-.565	.573

a. Dependent Variable: Reading_ECON-DIS
b. Predictors: (Constant), Time
c. Predictors: (Constant), Time, NotIBC, NotIBC*Time

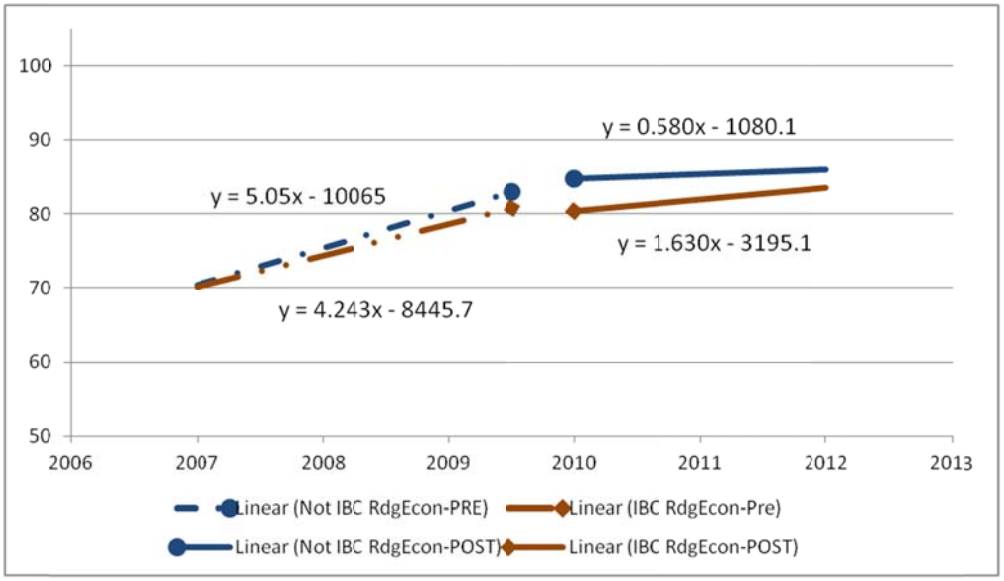


Figure 28. Graph of Slope Comparisons - IBC and Reading

Research Question 4: Relationship of Idaho Building Capacity to Mathematics

This section has two subsections that analyze the relationship of the Idaho Building Capacity Project (IBC) to ISAT Mathematics Achievement among students who

are economically disadvantaged. The first subsection provides the results from the Interrupted Time Series (ITS) for the treatment group (IBC) and the comparison group (Not IBC). The ITS analysis is a within-subjects analysis that compares performance during the pre-intervention period of 2007 to 2009 to the intervention period of 2010 to 2012, but which does not provide a comparison between groups. The second subsection is a between-subjects analysis that compares the slopes of the treatment and comparison groups.

ITS Analysis: IBC and Mathematics

This subsection presents the within-subjects results of the Interrupted Time Series (ITS) analysis as it relates to ISAT Mathematics Achievement for students who are economically disadvantaged (Math_ECON-DIS). First, results for the treatment group (IBC) are presented. Second, results are presented for the comparison groups (Not IBC). Each group's ITS level of achievement and slope of improvement during the pre-intervention period are compared to their own level and slope during the intervention period. This subsection does not make comparisons between subjects.

IBC: Mathematics. Select elements of the SPSS output for the IBC group (n = 22) ITS analysis for Math_ECON-DIS are presented in Table 17, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted $R^2 = .040$, indicating that 4% of the variation in Math_ECON-DIS was predicted by the set of dummy variables: Change in Slope, Level, and Time. The ANOVA summary table indicates that the proportion of the total variation in Math_ECON-DIS predicted by Change in Slope, Level, and Time together is statistically significant ($F = 2.750$, $df = 3,124$, $p = .046$). The unstandardized partial

slopes are not significantly different from zero for Time (b = 1.969, t = 1.192, df = 124, p = .235), for Change in Slope (b = -.288, t = -.125, df = 124, p = .900), or for Level (b = -.966, t = -.237, df = 124, p = .813). Because of the nature of time series analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem. The slope coefficients for Time and Change in Slope are positive in the pre-intervention period, and suggest a negative deviation from that trend in the intervention period. However, because the coefficients are not statistically significant, and because there is so much unexplained variance in the model, the results are inconclusive for the schools in the IBC group. Figure 29 graphs the Mathematics Achievement and slope lines associated with the IBC group's coefficient for Time during the pre-intervention time period (MathEcon-PRE) and forecasts it three years. The figure also illustrates the negative deviation from the forecast, which is represented by the Change in Slope coefficient during the intervention period (MathEcon-POST).

Not IBC: Mathematics. Select elements of the SPSS output for the IBC group (n = 22) ITS analysis for Math_ECON-DIS are presented in Table 18, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted R^2 = .023, indicating that 2% of the variation in Math_ECON-DIS was predicted by the set of dummy variables: Change in Slope, Level, and Time. The ANOVA summary table indicates that the proportion of the total variation in Math_ECON-DIS predicted by Change in Slope, Level, and Time together was not significant (F = 1.961, df = 3,118, p = .124). The unstandardized partial slopes are not significantly different from zero for Time (b = 3.122, t = 1.616, df = 118, p =

.109), for Change in Slope (b = -4.458, t = -1.701, df = 118, p = .092), or for Level (b = 3.003, t = .656, df = 118, p = .513). Because of the nature of time series analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem. The slope coefficients for Time and Change in Slope are positive in the pre-intervention period, and suggest a negative deviation from that trend in the intervention period. However, because the coefficients are not statistically significant, and because there is so much unexplained variance in the model, the results are inconclusive for the schools in the Not IBC group. Figure 30 graphs the Mathematics Achievement and slope lines associated with the Not IBC group's coefficient for Time during the pre-intervention time period (MathEcon-PRE) and forecasts it three years. The figure also illustrates the negative deviation from the forecast, which is represented by the Change in Slope coefficient during the intervention period (MathEcon-POST).

Pre- and Post-Slope Comparisons: IBC and Mathematics

This subsection compares slopes between subjects by examining the differences between the treatment (IBC; n = 22) and the comparison (Not IBC; n = 22) groups' rates of improvement in Mathematics Achievement for students who are economically disadvantaged (Math_ECON-DIS) during the pre-intervention period and again during the intervention period using time and group membership as predictors. The pre-intervention unstandardized slope coefficients match those described earlier. Select aspects of the SPSS output for the slope comparisons are presented in Table 19, which summarizes the coefficients related to the comparison of the IBC and Not IBC groups in

Math_ECON-DIS. Figure 31 visually depicts the relationship of these slopes during the pre-intervention and intervention periods.

During the pre-intervention period, both groups were improving on Math_ECON-DIS, but the rates were not statistically greater than zero. The comparison group was improving at a slightly faster rate (b = 3.122, t = 1.661, df = 1,54, p = .102) than the treatment group (b = 1.969, t = 1.195, df = 1,60, p = .237). The difference between slopes was 1.152 more percentage points gained per year by the comparison group and was not statistically significant (b = 1.152, t = .463, df = 3,114, p = .644).

As indicated in the ITS analysis, both groups experienced a negative deviation from the slopes forecasted by the pre-intervention time periods, although it did not reach a level of statistical significance. During the intervention period, the treatment group's slope (b = 1.682, t = 1.054, df = 1,60, p = .296) was greater than that of the comparison (b = -1.336, t = -.738, df = 1,54, p = .463), with the slope of the treatment group trending in a positive direction and the comparison group trending in a negative direction. However, neither slope was significantly different from zero. The net difference between slopes in the intervention period was 3.018 more percentage points per year added to the regression equation for the treatment group on Math_ECON-DIS, which was not statistically significant (b = -3.018, t = -1.251, df = 3,114, p = .213). Although not statistically significant in the respective time periods, the difference between slopes increased during the intervention period (3.018) over the pre-intervention period (1.152) in favor of the treatment group.

Table 17. ITS Regression Summary - IBC Mathematics

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.250[a]	.062	.040	10.55759

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	919.404	3	306.468	2.750	.046[a]
	Residual	13821.369	124	111.463		
	Total	14740.773	127			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	64.032	3.491		18.341	.000
	Time	1.969	1.652	.317	1.192	.235
	Level	-.966	4.077	-.045	-.237	.813
	Change in Slope	-.288	2.294	-.031	-.125	.900

a. Dependent Variable: Math_ECON-DIS

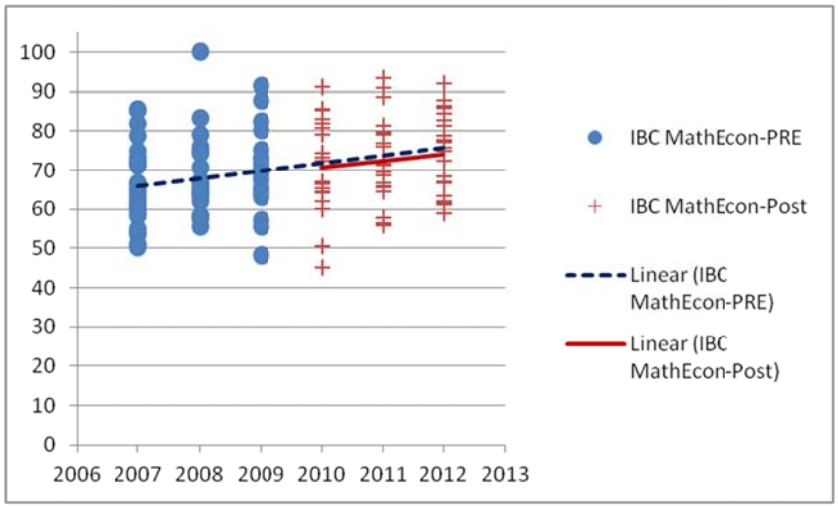


Figure 29. ITS Graph - IBC Mathematics Proficiency Rates (trends in percentages)

Table 18. ITS Regression Summary - Not IBC Mathematics

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.218[a]	.047	.023	11.74556

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	811.812	3	270.604	1.961	.124[a]
	Residual	16279.077	118	137.958		
	Total	17090.889	121			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	67.050	4.138		16.205	.000
	Time	3.122	1.931	.451	1.616	.109
	Level	3.003	4.578	.126	.656	.513
	Change in Slope	-4.458	2.620	-.438	-1.701	.092

a. Dependent Variable: Math_ECON-DIS

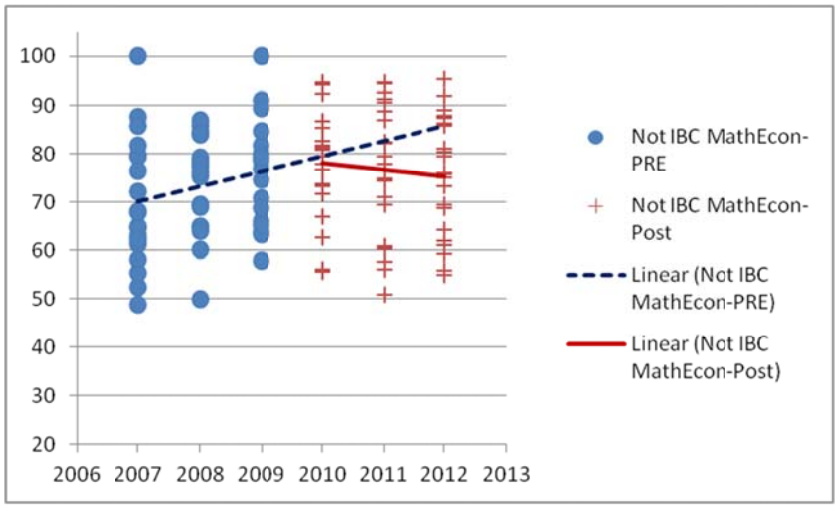


Figure 30. ITS Graph - Not IBC Mathematics Proficiency Rates (trends in percentages)

Table 19. Summary of Slope Comparisons - IBC and Mathematics

Coefficients[a]

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Pre-Intervention Period					
IBC Math-Econ PRE[b]	1.969	1.648	.153	1.195	.237
Not IBC Math-Econ PRE[b]	3.122	1.879	.220	1.661	.102
Difference in Slopes[c]	1.152	2.489	.116	.463	.644
Intervention Period					
IBC Math-Econ POST[b]	1.682	1.595	.131	1.054	.296
Not IBC Math-Econ POST[b]	-1.336	1.810	-.092	-.738	.463
Difference in Slopes[c]	-3.018	2.413	-.678	-1.251	.213

a. Dependent Variable: Math_ECON-DIS
b. Predictors: (Constant), Time
c. Predictors: (Constant), Time, NotIBC, NotIBC*Time

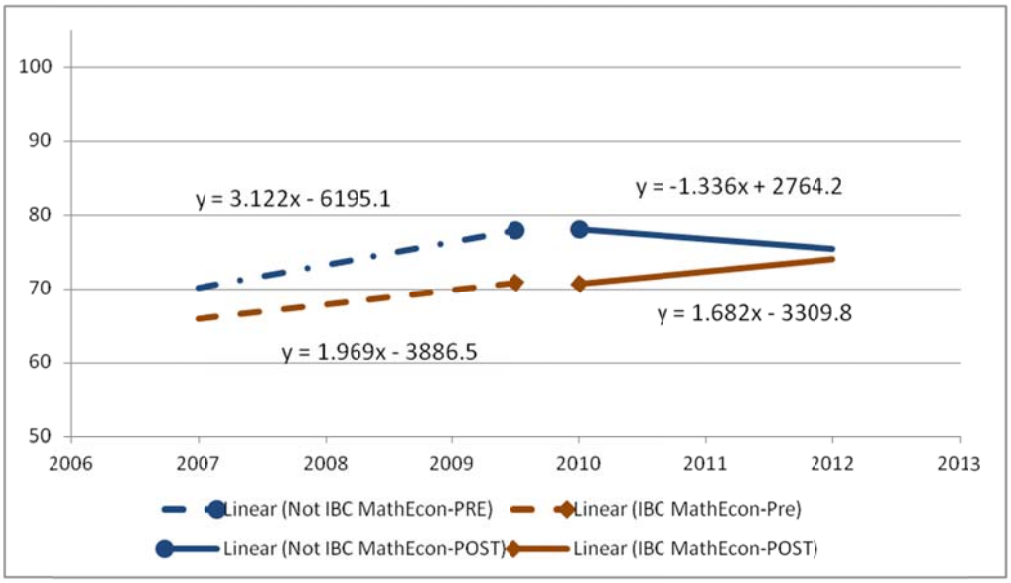


Figure 31. Graph of Slope Comparisons - IBC and Mathematics

Examination of Implications Generated by Analyses

Interrupted Time Series analyses conducted to examine the hypotheses for each of the four research questions in this study have resulted in a common, unexpected pattern

in the data. The original alternate hypotheses posited that, if the interventions were effective, there would be a statistically significant Change in Slope during the intervention period that was positive in direction. The underlying assumption in the null hypotheses was that the schools, especially those in the comparison groups, would continue trending in the same direction as the pre-intervention period, absent some type of system change or intervention. What the data demonstrated, however, was a negative Change in Slope from the expected trend during the intervention period. Table 20 summarizes the Change in Slope coefficients for all four research questions. Without exception, each of the unstandardized slope coefficients for both treatment and comparison groups negatively deviates from the expected trend from the pre-intervention time period.

Table 20. Summary of ITS Change in Slope Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
Change in Slope	B	Std. Error	Beta	t	Sig.
Question 1: SSOS and Reading					
SSOS Engaged	-3.889	1.445	-.582	-2.691	.008
SSOS Not Engaged	-4.522	1.949	-.549	-2.320	.022
Question 2: SSOS and Mathematics					
SSOS Engaged	-2.891	2.414	-.287	-1.197	.233
SSOS Not Engaged	-3.775	2.481	-.404	-1.521	.131
Question 3: IBC and Reading					
IBC	-2.614	1.949	-.303	-1.341	.182
Not IBC	-4.470	1.775	-.536	-2.519	.013
Question 4: IBC and Mathematics					
IBC	-.288	2.294	-.031	-.125	.900
Not IBC	-4.458	2.620	-.438	-1.701	.092

Table 21. Summary of New Slopes During Intervention Period

Intervention Period Slopes	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
Question 1: SSOS and Reading					
SSOS Engaged	-.107	.770	-.017	-.139	.890
SSOS Not Engaged	-.568	1.167	-.061	-.487	.628
Question 2: SSOS and Mathematics					
SSOS Engaged	-.025	1.222	-.003	-.020	.984
SSOS Not Engaged	-1.959	1.535	-.158	-1.277	.206
Question 3: IBC and Reading					
IBC	1.630	1.420	.142	1.148	.255
Not IBC	.580	1.198	.060	.484	.630
Question 4: IBC and Mathematics					
IBC	1.682	1.595	.131	1.054	.296
Not IBC	-1.336	1.810	-.092	-.738	.463

In Table 21, a summary of the data during the intervention period of 2010-2012 further demonstrates the new slopes are not simply leveling out, they are trending in a negative direction in five of eight instances, while all eight were trending in a positive direction prior to the intervention period. The implications of such a pattern generated the examination of the following: Did the entire population of 416 Title I schools in Idaho experience a negative Change in Slope for Reading and Mathematics Achievement among students who are economically disadvantaged at the same time as the intervention period being studied in the four research questions? If so, it is important to understand the statewide performance context in order to accurately interpret the results presented in the data from the sampled groups.

This section analyzes the entire population of Idaho Title I schools in order to understand the state context for Reading and Mathematics Achievement among students who are economically disadvantaged. First, results from an Interrupted Time Series (ITS) are presented on the proficiency percentages for Reading (Reading_ECON-DIS). Second, ITS results are presented for Mathematics (Math_ECON-DIS).

ITS Analysis: All Title I Schools and Reading

Select elements of the SPSS output for the ITS analysis of all Title I schools in Idaho (N = 416) for Reading_ECON-DIS are presented in Table 22, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted $R^2 = .245$, indicating that 25% of the variation in Reading_ECON-DIS was predicted by the set of dummy variables: Change in Slope, Level, and Time. The ANOVA summary table indicates that a significant proportion of the total variation in Reading_ECON-DIS was predicted by Change in Slope, Level, and Time together ($F = 254.909$, $df = 3,2343$, $p = .000$). The unstandardized partial slopes are significantly different from zero for Time ($b = 4.219$, $t = 13.569$, $df = 2343$, $p = .000$), for Change in Slope ($b = -3.255$, $t = -7.677$, $df = 2343$, $p = .000$), and for Level ($b = 1.761$, $t = 2.359$, $df = 2343$, $p = .018$). Because of the nature of time series analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem.

The results suggest that the population of Idaho Title I schools was improving in Reading at a statistically significant rate of 4.219 percentage points per year from 2007 to 2009, but it then experienced a statistically significant negative deviation from the

original trend (-3.255 percentage points per year) that was concurrent to the intervention period in this study, which resulted in a new, and significantly lesser, positively trending slope of .964 percentage points gained per year from 2010 to 2012. The results also suggest that the population of Idaho Title I schools performed slightly higher on average during the Change in Slope period, with an additional 1.761 percentage points added to the regression equation level (intercept). Figure 32 graphs the Reading Achievement and slope lines associated with the population's coefficient for Time during the pre-intervention time period of 2007 to 2009 (RdgEcon-PRE). The figure also illustrates the negative deviation from the baseline period, which occurred from 2010 to 2012 and is represented by the Change in Slope coefficient during the period of time concurrent to the interventions in this study (RdgEcon-POST).

ITS Analysis: All Title I Schools and Mathematics

Select elements of the SPSS output for the ITS analysis of all Title I schools in Idaho (N = 416) for Math_ECON-DIS are presented in Table 23, which provides the Model Summary, the ANOVA summary table for the regression equation, and the coefficients for the model. Adjusted R^2 = .053, indicating that 5% of the variation in Math_ECON-DIS was predicted by the set of dummy variables: Change in Slope, Level, and Time. The ANOVA summary table indicates that a significant proportion of the total variation in Math_ECON-DIS was predicted by Change in Slope, Level, and Time together (F = 44.500, df = 3,2343, p = .000). The unstandardized partial slopes are significantly different from zero for Time (b = 2.491, t = 5.915, df = 2343, p = .000) and for Change in Slope (b = -2.196, t = -3.822, df = 2343, p = .000), but are not significant for Level (b = 1.350, t = 1.335, df = 2343, p = .182). Because of the nature of time series

analysis, each independent variable is a dummy variable representing time, and they are intentionally correlated in the model. Therefore, collinearity and multicollinearity are not a problem.

The results suggest that the population of Idaho Title I schools was improving in Mathematics at a statistically significant rate of 2.491 percentage points per year from 2007 to 2009, but they then experienced a statistically significant negative deviation from the original trend (-2.196 percentage points per year) from 2010 to 2012, concurrent to the intervention period in this study, which resulted in a new, and significantly lesser, positively trending slope of .295 percentage points gained per year from 2010 to 2012. Figure 33 graphs the Mathematics Achievement and slope lines associated with the population's coefficient for Time during the pre-intervention time period of 2007 to 2009 (MathEcon-PRE). The figure also illustrates the negative deviation from the baseline period, which occurred from 2010 to 2012 and is represented by the Change in Slope coefficient during the period of time concurrent to the interventions in this study (MathEcon-POST).

Table 22. ITS Regression Summary - Title I Schools Reading

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.496[a]	.246	.245	8.27165

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52322.897	3	17440.966	254.909	.000[a]
	Residual	160308.654	2343	68.420		
	Total	212631.551	2346			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Reading_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	68.128	.652		104.504	.000
	Time	4.219	.311	.765	13.569	.000
	Level	1.761	.746	.092	2.359	.018
	Change in Slope	-3.255	.424	-.396	-7.677	.000

a. Dependent Variable: Reading_ECON-DIS

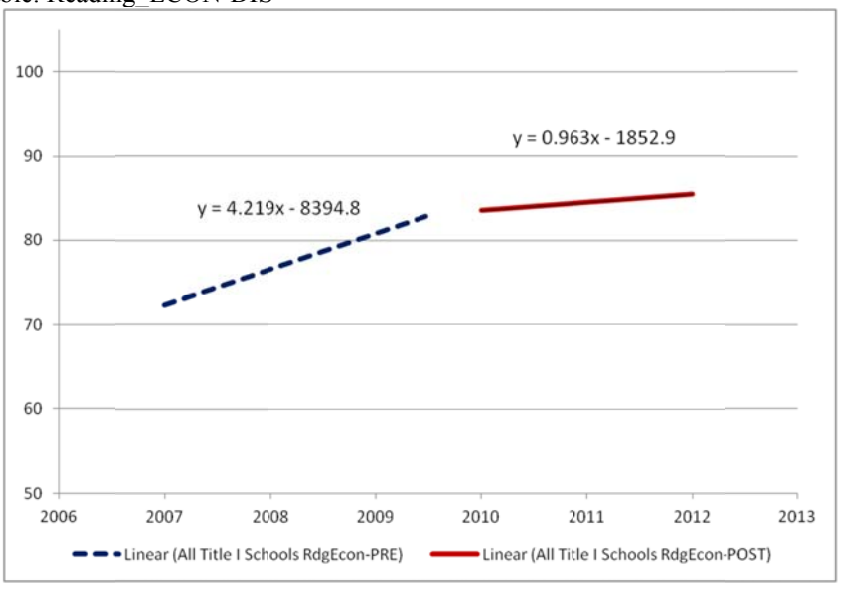


Figure 32. ITS Graph - Title I Schools Reading Proficiency Rates (trends in percentages)

Table 23. ITS Regression Summary - Title I Schools Mathematics

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.232[a]	.054	.053	11.20539

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16762.381	3	5587.460	44.500	.000[a]
	Residual	294188.731	2343	125.561		
	Total	310951.112	2346			

a. Predictors: (Constant), Change in Slope, Level, Time
b. Dependent Variable: Math_ECON-DIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	67.393	.883		76.310	.000
	Time	2.491	.421	.374	5.915	.000
	Level	1.350	1.011	.059	1.335	.182
	Change in Slope	-2.196	.574	-.221	-3.822	.000

a. Dependent Variable: Math_ECON-DIS

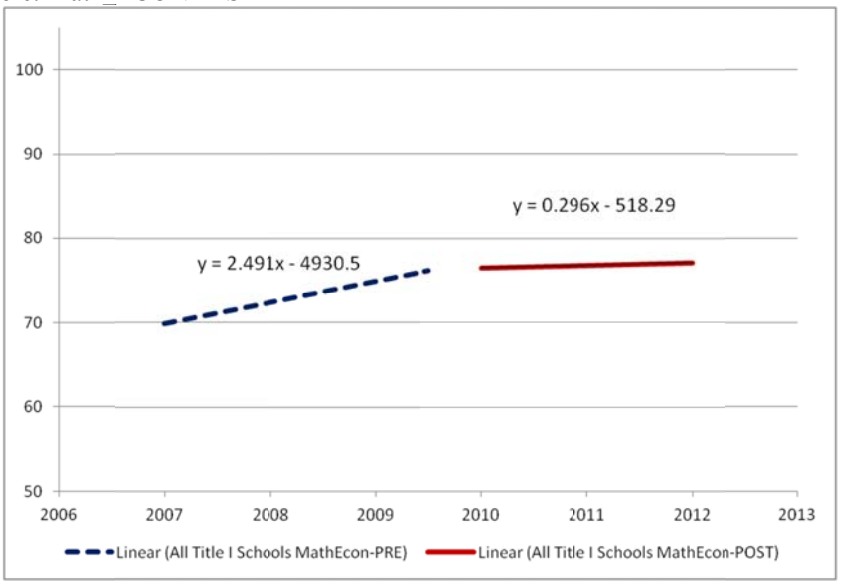


Figure 33. ITS Graph - Title I Schools Mathematics Proficiency Rates (trends in percentages)

Summary of Statewide ITS Results

The additional ITS analyses conducted of the population of Idaho Title I schools suggest that the negative changes in slope found in the analyses for the original research questions are an artifact of an unknown event occurring in the larger population of Idaho's Title I schools. Regression to the mean is unlikely to be the cause of this statistically significant shift in slope. Regression to the mean is a phenomenon of a non-random sample within a population in which the sample members regress to the mean of the population (Trochim, 2006). While this may have been the case with the sampled comparison groups, it is unlikely that it would be the cause of movement in the entire population of Title I schools. It is also unlikely that the significant Change in Slope is a function of the use of percentages as a metric. While there can be a clustering at the top of the percentage scale that could potentially serve to cap the slope, the pattern occurs in both Reading and Mathematics. With the intercept (b = 67.393) and slope (b = 2.491) for Math_ECON-DIS being less than that for Reading_ECON-DIS (intercept of b = 4.219; slope of b = 68.128), Math_ECON-DIS could theoretically continue on at the same rate as that of the pre-intervention period until 2012 and still only have the mean Math_ECON-DIS achievement be less than the actual mean Reading_ECON-DIS achievement in 2010, which was 83%. **Equation 2** displays an extrapolation of the pre-intervention Mathematics regression equation and demonstrates this possible outcome.

As the theory that undergirds the Interrupted Time Series (ITS) design indicates, past performance will predict future performance very well in the absence of some type of systemic change (Bloom, 2003). Therefore, the statistically significant negative Change in Slope for the population of Idaho's Title I schools in Reading and Mathematics

suggests that there is greater than a 99% chance that some sort of systemic change changed the trajectory of performance in Idaho for the worse, causing it to slow down and level out the performance of Idaho's public schools. This systemic influence was of larger-scale and outside the scope of this study since it impacted all Title I schools equally, including those that had no way of being influenced by the interventions of the Statewide System of Support (SSOS) and Idaho Building Capacity (IBC) project. As a result of these additional findings in the population of Idaho's Title I schools, the findings of the main questions in this study must be interpreted with caution because it is impossible to discern which results were helped or hindered by the unknown, negative influence found in these data.

Equation 2. Extrapolated Regression Equation for Idaho Mathematics (Pre-Intervention)

$$y = 2.491x + 67.393$$

If x = 3 years (for 2009), y = 74.9%.

If x = 6 years (for 2012), y = 82.3%.

Summary of Findings

The following findings represent the results of the data presented in this chapter.

Finding 1: Negative Changes in Slope for Population Idaho Title I Schools

In a comparison of the performance of the population of all Title I schools in Idaho against their own prior performance, this study found a statistically significant difference in the rates at which students who are economically disadvantaged scored

proficient or advanced in Reading and Mathematics. The population of Title I schools was improving in both Reading and Mathematics at a statistically significant rate from 2007 to 2009, prior to the intervention period of this study (Reading, $b = 4.219$, $p < .001$; Mathematics, $b = 2.492$, $p < .001$), but both subject areas experienced an unhypothesized and statistically significant negative change in slope during the period of time concurrent to the interventions in this study (Reading, $p < .001$; Mathematics, $p < .001$). The new slopes were significantly less, but remained positive overall in the intervention period for Reading ($b = 0.963$) and Mathematics ($b = 0.296$). The data for Reading and Mathematics both indicate that there was greater than a 99% chance that some systemic statewide change caused these negative deviations in slope.

Finding 2: Relationship of the Statewide System of Support to Reading

In a comparison of the performance of Title I schools against their own prior performance, this study found no statistically significant difference in the rate at which students who are economically disadvantaged scored proficient or advanced in Reading Achievement between schools that engaged in the WISE Tool and a Statewide System of Support program (SSOS Engaged) and those that did not engage in the WISE Tool or SSOS programs (SSOS Not Engaged). Both SSOS Engaged and SSOS Not Engaged schools were improving in Reading Achievement at a statistically significant rate prior to the intervention period (SSOS Engaged, $b = 3.782$, $p < .001$; SSOS Not Engaged, $b = 3.954$, $p < .01$), but both experienced an unhypothesized and statistically significant negative change in slope in Reading Achievement during the intervention period (SSOS Engaged, $p < .01$; SSOS Not Engaged, $p < .05$). This resulted in a negatively trending new slope overall for both groups during the intervention period (SSOS Engaged, $b =$ -

.107; SSOS Not Engaged, *b* = -.568). Although not significantly different within the respective time periods, in comparing the SSOS Engaged and SSOS Not Engaged groups' slopes for Reading Achievement, the difference during the intervention period (*b* = -.461; *p* = .742) was greater than the difference in the pre-intervention period (*b* = .172; *p* = .932), and the slopes reversed to favor the SSOS Engaged treatment group since its level of decline during the intervention period was less than that of the SSOS Not Engaged group.

Finding 3: Relationship of the Statewide System of Support to Mathematics

In a comparison of the performance of Title I schools against their own prior performance, this study found no statistically significant difference in the rate at which students who are economically disadvantaged scored proficient or advanced in Mathematics Achievement between schools that engaged in the WISE Tool and a Statewide System of Support program (SSOS Engaged) and those that did not engage in the WISE Tool or SSOS programs (SSOS Not Engaged). Both SSOS Engaged and SSOS Not Engaged schools had slopes trending in a positive direction for Mathematics Achievement prior to the intervention period, but the slopes were not statistically different from zero (SSOS Engaged, *b* = 2.866, *p* = .098; SSOS Not Engaged, *b* = 1.815, *p* = .330). While the change did not reach the level of significance, both SSOS Engaged and SSOS Not Engaged schools experienced an unhypothesized negative change in slope in Mathematics Achievement during the intervention period (SSOS Engaged, *p* = .233; SSOS Not Engaged, *p* = .131). This resulted in a negatively trending new slope overall for both groups during the intervention period (SSOS Engaged, *b* = -.025; SSOS Not Engaged, *b* = -1.959). Although not significantly different within the respective time

periods, in comparing the SSOS Engaged and SSOS Not Engaged groups' slopes for Mathematics Achievement, the difference during the intervention period (b = -1.934; p = .326) was greater than the difference in the pre-intervention period (b = -1.051; p = .722) and favored the SSOS Engaged treatment group since its level of decline during the intervention period was less than that of the SSOS Not Engaged group.

Finding 4: Relationship of the Idaho Building Capacity Project to Reading

In a comparison of the performance of Title I schools against their own prior performance, this study found no statistically significant difference in the rate at which students who are economically disadvantaged scored proficient or advanced in Reading Achievement between schools that engaged in the Idaho Building Capacity Project (IBC) and those that did not engage in IBC (Not IBC). Both IBC and Not IBC schools were improving in Reading Achievement at a statistically significant rate prior to the intervention period (IBC, b = 4.246, p < .01; Not IBC, b = 5.050, p < .001), but Not IBC schools experienced an unhypothesized and statistically significant negative change in slope in Reading Achievement during the intervention period ($p < .05$). IBC schools experienced a slight negative deviation in slope, but the change in slope from the pre-intervention period was not statistically significant (p = .182). This resulted in a positively trending new slope overall for both groups during the intervention period (IBC, b = 1.630; Not IBC, b = .580). Although not significantly different within the respective time periods, in comparing the IBC and Not IBC groups' slopes for Reading Achievement, the difference during the intervention period (b = -1.050; p = .573) was greater than the difference in the pre-intervention period (b = .807; p = .667) and the

slopes reversed to favor the IBC treatment group since its level of improvement during the intervention period was greater than that of the Not IBC group.

Finding 5: Relationship of the Idaho Building Capacity Project to Mathematics

In a comparison of the performance of Title I schools against their own prior performance, this study found no statistically significant difference in the rate at which students who are economically disadvantaged scored proficient or advanced in Mathematics Achievement between schools that engaged in the Idaho Building Capacity Project (IBC) and those that did not engage in IBC. Both IBC and Not IBC schools had slopes trending in a positive direction for Mathematics Achievement prior to the intervention period, but the slopes were not statistically different from zero (IBC, b = 1.969, p = .235; Not IBC, b = 3.122, p = .109). While it did not reach the level of significance, both IBC and Not IBC schools experienced an unhypothesized negative change in slope in Mathematics Achievement during the intervention period (IBC, p = .900; Not IBC, p = .092). This resulted in a negatively trending new slope during the intervention period for Not IBC schools (b = -1.336), and a lesser, but positive trend for IBC schools (b = 1.682). Although not significantly different within the respective time periods, in comparing the IBC and Not IBC groups' slopes for Mathematics Achievement, the difference during the intervention period (b = -3.018; p = .213) was greater than the difference in the pre-intervention period (b = 1.152; p = .644) and the slopes reversed to favor the IBC treatment group since its level of improvement during the intervention period was greater than the level of decline in the Not IBC group.

The five findings of this study differ from the expected hypotheses posited in the Methodology chapter. The hypothesized outcomes expected a positive change in slope for treatment schools during the intervention period. The null hypothesis articulated no significant changes for either the treatment or comparison groups. The findings show consistent negative changes in slope, which in some cases reach statistical significance. These unexpected findings will be discussed in detail in the following chapter.

CHAPTER 5: DISCUSSION

Introduction

The original alternative hypotheses of this study suggested that there would be a positive change in the directionality of the study's findings. Using a Pooled Interrupted Time Series design in order to examine the questions, a key assumption was that the best predictor of future school performance is past school performance, absent some intervening influence. Therefore, since the independent variables of the Statewide System of Support (SSOS) in general and the Idaho Building Capacity (IBC) project in particular were designed by the state to help improve student achievement outcomes, the interventions would hypothetically have a positive influence on the slope and or level of performance in participating schools over time. Hence, the research questions framed the evaluation of these two independent variables in terms of whether or not they would increase the rate of improvement more than what would occur in comparison schools that did not participate in the programs. While the stated hypotheses were positive in direction as it relates to the slope of the outcomes, or rates of improvement over time, it is also possible for schools to decline in their performance outcomes. Considering the current policy environment of school accountability in which it seems, at least anecdotally, that schools have attempted to improve as much as possible because of No Child Left Behind accountability requirements, one would hypothesize a context in which groups of schools either continue on the same slope of improvement, or begin to improve at a greater rate when given assistance. However, one might argue that it defies logic to

think that there would be a systematic negative deviation in improvement trends. Nonetheless, a negative change in slope occurred in the school performance data of Idaho's public Title I schools.

The findings of this study demonstrate the following consistent patterns. First, the rate of improvement slope for the academic performance of students who are economically disadvantaged was consistently greater during the pre-intervention period of Spring 2007 through Spring 2009 than it was during the intervention period of Spring 2010 through Spring 2012. This was true for the treatment and the comparison groups in the cases of both the SSOS and IBC as well as in both academic areas of Reading and Mathematics. In many cases, this negative deviation in the rate of improvement was statistically significant. Second, the rates of improvement during the pre-intervention period favored the comparison groups in three of four cases, which had improved more quickly. Yet in every case during the intervention period the SSOS and IBC treatment groups improved at a faster rate (i.e., they had a more positive slope) than the comparison groups, and the difference between the rates of improvement were consistently greater during the intervention period than during the pre-intervention period, which meant that one of the following was true: (a) gaps between treatment and comparison groups were closing, (b) the treatment groups surpassed the outcomes of the comparison groups over time, or (c) the comparison groups had slopes that turned negative, in which case they lost performance relative to treatment groups that remained more steady in performance. The greater slopes and the increased differences in slopes during the intervention may have been the result of the SSOS and IBC interventions, but the statistics are inconclusive. The rates of improvement between treatment and comparison groups

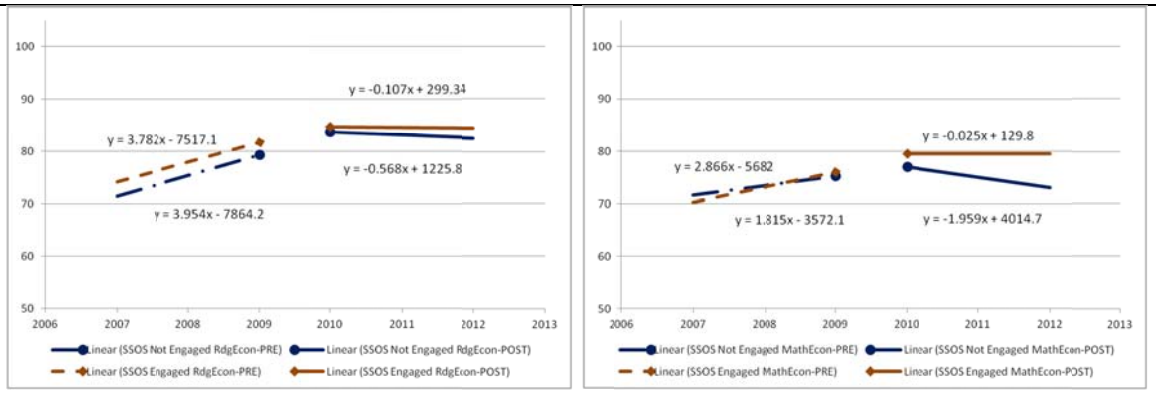
during the pre-intervention period were not statistically different from each other, nor were the rates in the intervention period statistically different between groups. However, the pattern of reversal in which schools' rates were favored and the fact that the treatment groups improved at a faster rate than the comparisons during the intervention period is noteworthy. Last, the statistically significant negative deviation in the rate of improvement in Reading and Mathematics for students who are economically disadvantaged occurred among all Idaho Title I schools, not just the treatment and comparison schools studied for the original research questions. This pattern of decline from Spring 2010 through Spring 2012 was entirely unanticipated in terms of the directionality hypothesized in this study's questions. The discussion in this chapter will focus on understanding the possible reasons for these results.

Examination of Statewide System of Support (SSOS) Findings

This study examined two research questions about the Idaho Statewide System of Support (SSOS) theory of action, a policy change that occurred in late 2009. The SSOS theory of action emphasized improvement planning and programs that were intended to build the leadership capacity of district and school leaders to better implement the characteristics of effective schools. The research questions specifically examined the relationship between the SSOS and its ability to positively impact the Reading and Mathematics outcomes of students who are economically disadvantaged. The results for Reading and Mathematics showed similar patterns and will thus be examined together.

The original alternative hypotheses surrounding the SSOS postulated that the intervention would cause participating schools to improve Reading and Mathematics Achievement during the intervention period at a faster rate than had occurred prior. In

order to control for alternative explanations, a comparison interrupted time series was added, and the alternative hypotheses posited that the intervention period rates of improvement would not only be greater than baseline for the SSOS group, but that the rates of improvement for the comparison series would either not improve, or that the SSOS group's improvement would be significantly greater. The null hypothesis stated that schools would experience no statistically significant difference in the rate of improvement when compared to prior performance. An additional alternative hypothesis emerged in which both the treatment and comparison groups decreased in their rates of improvement. This negative deviation is depicted in Figure 34, which shows how the intervention period slopes are less than the slopes for the pre-intervention period.



Reading *Mathematics*

Figure 34. SSOS Treatment and Comparison Rates of Improvement (percent proficient/advanced)

The first plausible reason that there was not a statistically significant increase in the student achievement rates as a result of the intervention of the SSOS is that the program may simply not work as intended or is dependent on other uncontrolled variables. The research literature suggests that job-embedded professional development (Knight, 2009), focusing on group quality (Fullan, 2011), and other design elements that

are part of the SSOS are effective at improving the practices necessary to meet the academic needs of students. While components of the intervention are built on the findings of previous research in Idaho, which demonstrated that technical assistance approaches needed to be more intensive and needed to align capacity building at the district and school levels (Flachbart, 2009; Kinnaman, 2009), it is possible that the SSOS did not have the means by which to scale up improvement in Title I schools. The combination of these design elements may not be tailored well enough to the schools' needs, or the program may be too far from the relationship between the teacher and student learning to have the intended impact on student achievement which the state sought. While this is a plausible explanation of this study's findings, it seems unlikely because of the patterns that occur in the data. Despite the negative deviation in the trends during the intervention period compared to the pre-intervention period, the fact that the rates of improvement in Reading and Mathematics both favored the SSOS treatment group during the intervention period, as well as the fact that the differences in the slope grew to be greater during the intervention period, gives credence to idea that the program influenced the schools by assisting them in obtaining the more positive directionality of outcomes originally posited in this study's alternative hypotheses. The SSOS treatment group did indeed have a greater rate of improvement than the comparison group during the intervention period than it did before in both subject areas. While the differences do not reach statistical significance, the patterns suggest that there is more to the findings than concluding that the intervention did not work because of two reasons. First, Wong et al. (2009) contended that a reversal in trends for which group the slope favors before and during the intervention is evidence of effectiveness. Such a reversal occurred in

Reading. Second, while a reversal did not occur in Math, the significance values for the differences between the slopes decreased by half from p=.722 (pre-intervention) to p=.326 (intervention), meaning that they were much closer to being statistically different in the intervention period.

A second plausible explanation of the results found in the SSOS data is that the pre-intervention period of Spring 2007 through Spring 2009 may have been skewed because of the introduction of a new state test in 2007, thereby producing a falsely high rate of improvement for baseline comparison. In others words, the repeated test effects of schools as they grew to be more accustomed with the new state test may have caused improvement to occur in all schools at an unrealistically high rate from 2007 to 2009. In this scenario, it could be argued that the negative deviation in slope after 2010 may be the result of a leveling off in this false improvement trajectory (i.e., the test effect wore out). This explanation is interesting and could possibly explain some of the variance in the results. However, it fails to explain the overall pattern in the results. Reading Achievement improved at a rate statistically different from zero prior to the intervention, while Mathematics did not improve at a rate high enough to be significantly different from zero. Furthermore, the slopes during the intervention period changed from positive in all four cases to negative in all four cases. If the findings were the result of the onset and wearing off of test effects throughout the state, it is difficult to interpret the patterns accordingly. Specifically, one would expect to see a statistically significant rate of improvement in Mathematics during the pre-intervention period that was roughly equivalent to that which was experienced in Reading since the new test was adopted at the same time for both subject areas. Since there was not, there is no reason to conclude

that the pre-intervention rate of improvement in Reading was artificially high as the result of test effects, but the slower rate of improvement in Mathematics was not. In the same way, two more questions arise from this explanation of the results. First, why would the effects wear out exactly at the same time as the intervention period? Second, why would the trends begin to be negative rather than simply level out for both groups and both subject areas? To attribute these patterns to test effects and the wearing off of such effects over time seems to be far too coincidental to align this closely with the breaking point (the interruption) in the time series being studied. Therefore, while it is plausible that schools became more accustomed to the new state test over time, this scenario does not sufficiently explain the findings of this study.

A third plausible explanation of the findings may be that results leveled of as a result of schools throughout the state having become more efficient at tiered service delivery models in which 80-85% of students needs are met through the basic instructional program. The Response to Intervention (RTI) model, which is built on a public health intervention model, utilizes tiers of instructional delivery in which, when done well, the first tier of instruction will meet about 80-85% of the population's needs (Mellard & Johnson, 2008). Even with the best instruction in the first tier, 10-15% of the population may still need more specialized support and intervention. Therefore, since the results of the data show a leveling off in Reading in the mid to low 80% range, and a leveling off in Mathematics in the high 70% range, perhaps this means that the statistical findings mirror the fruition of RTI implementation with a strong primary tier of core instruction. This is possible to an extent. The implementation of RTI has been a work in progress throughout the State of Idaho for the past 10 years. However, problems arise

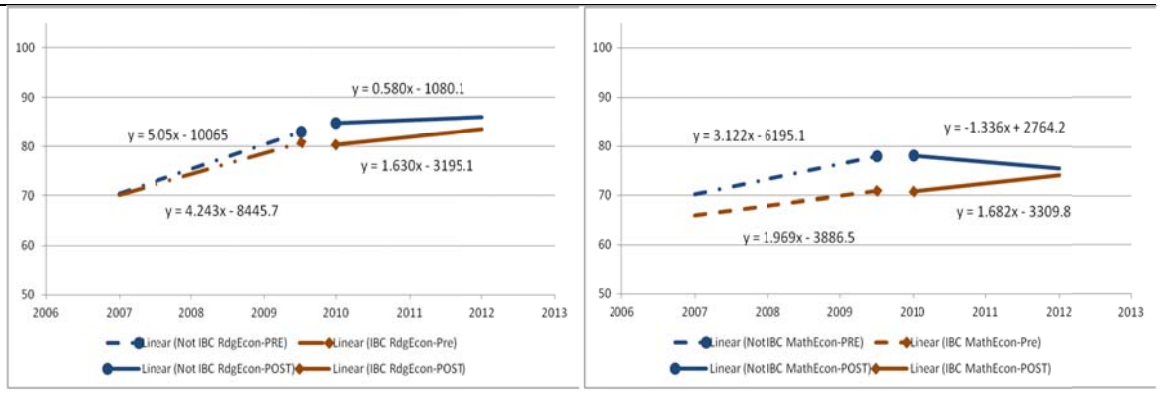
with this explanation. First, RTI implementation is inconsistent throughout the state. There is no evidence that RTI is being well implemented uniformly statewide. In data collected from Instructional Focus Visits and other state projects, core instruction (the primary tier of intervention) is not intensive enough to believe that the RTI model is truly being implemented with sufficient fidelity to achieve average results of 80-85% proficient. This leads to a second problem with RTI implementation as an explanation of the data trends: variance. The variance in school performance over time has remained wide. In other words, there was no evidence that the variance in school performance outcomes was clustering around a smaller standard deviation. The cluster of outcomes moved up, and then down in some cases, with about the same distribution of high and low scores. If schools were perfecting their implementation of RTI in successive iterations, one might expect to see the distribution of schools cluster more tightly around the 80-85% range over time. Last, the improvement of RTI implementation as an explanatory cause fails to explain the negative slope that occurred in the intervention period, especially since the slope was so dramatic in the SSOS comparison group for Mathematics in which outcomes declined to be roughly equivalent to the starting point in 2007. If the explanation that the negative change in slope during the intervention period when compared to the pre-intervention period was due to schools becoming better at RTI, such a conclusion does not fit the fact that the schools did not simply level out, but rather began to decline each year afterward. Therefore, while increased implementation of RTI might explain some of the variance in the overall ITS findings, it fails to explain the timing of the change in slope and the new, negative trends during the intervention period.

A fourth plausible explanation of the findings for the results in the SSOS data is tied to the findings that emerged in the additional exploration of state data in which all Title I schools experienced both a statistically significant rate of improvement from 2007 through 2009 in Reading and Mathematics and subsequently all experienced a statistically significant negative change in slope from 2010 through 2012. As described in the Results chapter, the findings of this additional exploratory analysis suggest that something larger than the context of this study resulted in a cooling trend, so to speak, in the ability of Idaho's Title I schools to improve student outcomes. This will be explored in more detail below, but it is possible that this cooling trend was caused by the financial recession, which was outlined earlier as a limitation of this study. If this is the case, the lack of findings in support of the original alternative hypotheses and the patterns in the data may suggest that the financial recession suppressed the environmental context of public schools to the degree that differences in groups were not distinguishable. If this is true, the reversal in trends and widening differences in slope may mean that the SSOS helped participating schools to not suffer quite as badly from the recession as those that did not participate. This is evidenced in the fact that, while the trends for both the treatment and comparison schools were all negative in slope from 2010 through 2012 for Reading and Mathematics, the schools participating in the SSOS did not decline at nearly as fast of a rate as those in the comparison group. The findings in this study are insufficient to determine if this was in fact the case since the study was unable to control for the co-occurrence of the systemic change in statewide assessment outcomes, but the data point to that as a possible scenario.

Examination of Idaho Building Capacity (IBC) Findings

This study examined two research questions about the Idaho Building Capacity (IBC) project and its impact on schools that participated from 2010 through 2012. IBC provides three years of intensive technical assistance to schools and districts and aims to differentiate support based upon the current practices in the system and thereby work with the leadership team to coach them in how to improve. The research questions specifically examined the relationship between IBC and its ability to positively impact the Reading and Mathematics outcomes of students who are economically disadvantaged. The results for Reading and Mathematics showed similar patterns and will thus be examined together.

Similar to the discussion above on the SSOS, the original alternative hypotheses surrounding IBC postulated that the program would cause participating schools to improve in Reading and Mathematics Achievement during the intervention period at a faster rate than had occurred prior to the interventions provided by IBC. A comparison interrupted time series was added to ensure that any increases in the rate of improvement were not a function of the larger population of schools. The null hypothesis stated that schools would experience no statistically significant difference in the rate of improvement. However, just as with the analyses of the SSOS, an additional alternative hypothesis emerged, in which both the treatment and comparison groups slowed in their rates of improvement. This negative deviation is depicted in Figure 35, which shows how the intervention period slopes are less than the slopes for the pre-intervention period.



Reading *Mathematics*

Figure 35. IBC Treatment and Comparison Rates of Improvement (percent proficient/advanced)

Since very similar patterns occurred in the data analysis of IBC outcomes as those that occurred in the findings for the SSOS, the same plausible explanations are possible for why there was not a statistically significant increase in student achievement rates as a result of the intervention of IBC. The first is that the program may simply not work as intended or is dependent on other uncontrolled variables. The second is that test effects may have caused artificially high rates of improvement during the pre-intervention period. The third is that schools may have been refining their implementation of tiered instructional delivery models through the use of RTI. An additional fourth possibility that differs from the explanations provided for the SSOS is that staffing changes may have prevented the state from implementing IBC strongly and consistently during the years studied. A final possibility is that events at the state level may have suppressed the ability of all schools to improve upon their baseline trajectories.

Based on the overall results, it might be premature to say that the IBC project does not work. An initial qualitative study of the project demonstrated that it produced changes in leadership characteristics, perspectives, and behaviors that have been linked

by previous studies to increased student achievement (Kinnaman, 2009). Furthermore, the state has received many anecdotal reports from participants stating that IBC has helped create conditions that have resulted in improved student outcomes. Additionally, just as with the data in the SSOS analysis, IBC treatment and comparison schools improved in Reading during the pre-intervention period at a rate statistically different from zero, while both groups improved in a positive direction in Mathematics, albeit not at a statistically significant level. Where IBC analyses differed from the SSOS results, however, is that the IBC treatment group did not have a statistically significant negative change in slope during the intervention period in Reading whereas the comparison group did. While under normal circumstances this would not be evidence of an effect, it stands out as different from the other results in the study. For example, the SSOS treatment and comparison results for Reading both demonstrated a statistically significant change in slope, even though the SSOS treatment group experienced a much smaller change than the comparison. However, the IBC treatment schools maintained the pre-intervention trajectory while the comparison schools demonstrated a noticeable negative shift in slope. Also, the improvement trajectories favored the comparison groups for both Reading and Mathematics during the pre-intervention period. Yet in both cases, this reversed in the intervention period to favor the IBC treatment group with a larger difference in the slopes than had existed before. This means that the achievement gap for the two groups was widening before the intervention, but the achievement gap closed during the intervention and was on course for the IBC schools to begin outperforming the comparison schools. If it is true that a larger influence was suppressing school achievement during the

intervention period, this pattern in the data is promising and worthy of further study under different conditions.

The second plausible explanation for the lack of statistically significant differences in the results of the IBC treatment and comparison groups could be attributed to artificially high rates of improvement during the pre-intervention period as a result of the adoption of new state assessments in 2007. While this may contribute to some of the unexplained variance in the results, it is unlikely for the same reasons described above in the discussion of SSOS results. There is no reason to assume that the adoption of a new test would lead to artificially higher rates in Reading than in Mathematics, and there is no rationale for why the declining change in slope would occur at the same time as the interruption provided in the time series with the introduction of the IBC intervention.

The third reason offered as a possible explanation for a lack of results is that the outcomes leveled out due to increasingly refined implementation of Response to Intervention (RTI) and tiered instructional delivery models. It is possible that schools are implementing RTI in a more robust manner. Yet for the same reasons mentioned above in the discussion of the SSOS results, the improved implementation of RTI is unable to fully explain the patterns in the data. For example, it does not explain why the IBC treatment and comparison schools were improving at an equivalent rate in Reading, and yet the IBC treatment group did not demonstrate a statistically significant change in slope while the comparison group did. This occurred after both the IBC treatment group and the comparison group began to score above the 80% mark. Furthermore, RTI implementation does not explain why the IBC comparison group suddenly declined (a negative slope) during the intervention period from performance at around 80%

proficient on average to roughly 75%. If the improvement trends in the pre-intervention period marked a coming of age with RTI implementation, one would not expect to see such patterns in the data during the intervention period.

A fourth reason why the IBC project may not have demonstrated the hypothesized outcomes is that it experienced staff changes among project leadership. While the SSOS in general also underwent some staff change, IBC had a disproportionate amount of change in staff during the intervention period of this study. In 2010, Lisa Kinnaman served as the primary director of IBC, with myself as a co-director, and the project was implemented by three IBC coordinators. The IBC coordinator in the northern region of the state left the project in Fall 2010, and Kinnaman selected an individual who had been a capacity builder in that region as a replacement. Kinnaman left the project in February 2011, and direction of project transitioned to myself, and the IBC coordinator in the southwest region took on the additional role of associate director for the project. The associate director subsequently left the project in Spring 2012, and a new coordinator was hired who had not been directly part of the project previously. The role taken by the associate director then transferred to the final remaining original IBC coordinator in the southeast region in 2012, since the coordinators in the north and southwest were relatively new. These changes in staff dynamics could certainly have had an adverse affect on the consistency and quality of the project, its oversight, and the training of capacity builders, especially considering this study did not evaluate measures of program implementation (i.e., fidelity checks).

Lastly, it seems highly plausible that a lack of statistically significant differences between IBC treatment and comparison schools may be the result of the fact that the

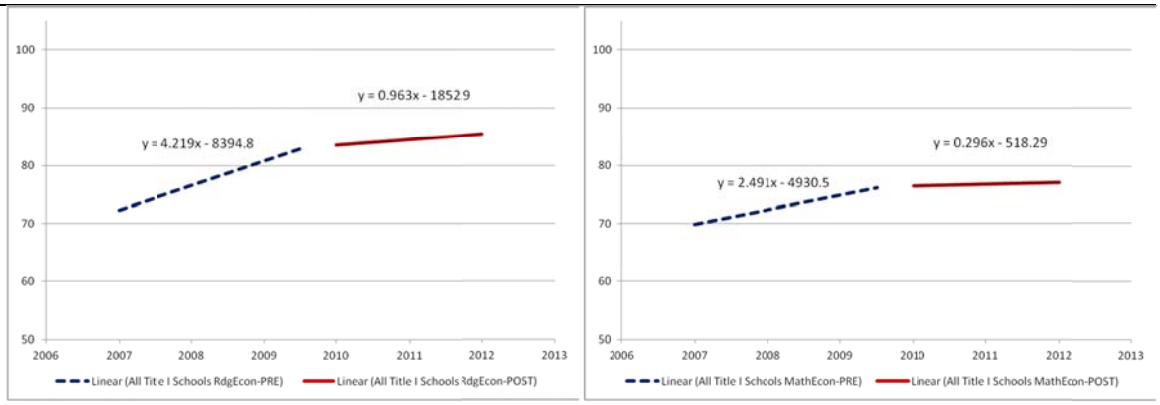
population of Idaho Title I schools experienced a statistically significant negative change in slope from 2010 through 2012 in both Reading and Mathematics. As already mentioned, and which will be explored further below, it is possible that these results were caused by the global financial recession and its negative impact on the state education budget (i.e., large cuts to the financing formula for public schools). If this study coincided with larger influences upon schools such as these, the patterns and findings in the data suggest that IBC may have helped participating schools maintain a basic course of improvement while other schools began to suffer from the recession. This is evidenced in the fact that the IBC treatment group's rate of improvement in the intervention period was greater than the comparison group in Reading; that it was not only greater in Mathematics, but it remained positive, while the comparison group's slope in Mathematics was negative; and that the trends in both Reading and Mathematics reversed from favoring the comparison group prior to the intervention to favoring the IBC treatment group during the intervention period. If the state's Title I schools declined in achievement because of the recession, these patterns would suggest that IBC may have assisted the schools in resisting some of the negative economic pressures. The findings in this study are insufficient to determine if this was in fact the case, but the data point to such a scenario as very plausible. Although the treatments did not change because of the recession, the conditions in which the treatments were implemented changed dramatically. The school improvement literature demonstrates that schools can take existing resources and use them differently in order to improve; there is no evidence that improvement at scale can happen in an environment of decreasing resources. The statewide negative changes in slope and the co-occurring education budget cuts cause one

to consider what happens when the resources do not remain stable, but aggressively decline. IBC infused thought partners into schools, not financial resources. The thought partners (i.e., Capacity Builders) may have been limited in the scope of possible impact by virtue of the fact that the material and human resources were declining around them. The context, then, was not one of rethinking the use of existing resources to improve outcomes, but supporting the improvement of student outcomes with fewer and fewer resources each year.

Examination of Findings from the Population of Idaho Title I Schools

The patterns found in the data in this study generated unexpected alternative hypotheses for the research questions: that the negative changes in the slope of the performance trends in the treatment and comparison groups were an artifact of some larger influence in the state's outcomes. The additional exploratory analyses of the implications of such unexpected findings evaluated the Reading and Mathematics outcomes for the entire population of Idaho's Title I schools. The analyses did not include a comparison series. Results indicated that the population of Title I schools improved from 2007 through 2009 at a rate that was statistically greater than zero in both Reading and Mathematics, but subsequently experienced a negative change in slope that was statistically significant in both subject areas. This confirmed that the patterns in the data for the SSOS and IBC treatment and comparison groups, which did not reach statistical significance, mirrored activity throughout the state in which a significant change occurred. Figure 36 illustrates the rates of improvement for all Idaho Title I schools during the pre-intervention period and the intervention period and visually

depicts how the slope during the period of 2010 through 2012 was significantly less than the trend set during the previous three years.



Reading *Mathematics*

Figure 36. All Title I Schools Rates of Improvement (percent proficient/advanced)

A few plausible explanations for the effects shown in the statewide Title I data includes the adoption of new state assessments in 2007 and regression to the mean. Since a new set of assessments was implemented in Spring 2007, it is possible that a lack of familiarity with the assessments and accompanying standards resulted in low performance initially and a rapid rate of improvement for the following two years. As mentioned in the discussion above, this is possibly a contributing factor. The Interrupted Time Series (ITS) did not account for 100 percent of the variance in the model. It is certainly possible that some of the unexplained variance was the result of new tests. However, the ITS model did account for a statistically significant amount of the variance in the time series when examining the interruption that occurred between 2009 and 2010. This means that there was a significant and negative change in slope that coincided to the intervention period studied. An explanation related to the new test offered earlier was the

concept of test effects. However, this is unlikely because there is no reason to say that such test effects would wear out at exactly the same time in Reading and Mathematics despite different rates of improvement in both subject areas. Furthermore, the Results chapter demonstrated how the idea of regression to the mean might be considered, but it is also unlikely. Regression to the mean is a phenomenon of a non-random sample. This data set is for the entire population rather than a sample, so the data is not regressing to the mean of the population; it *is* the overall mean of the population.

Neither the notion of testing effects nor the idea of regression to the mean fully explains the significant findings in the statewide Title I school data. The systemic change would have had to impact all Title I schools regardless of participation or lack thereof in the Statewide System of Support or the Idaho Building Capacity project. In seeking to understand the phenomenon that occurred in statewide Title I school data, I recalled that there were two statewide policies that occurred during the study that may have contributed. First, the State of Idaho began to cut its education budgets at some point in the six years of this study as a result of the Great Recession. Second, the Idaho legislature passed a set of educational reform laws in Spring 2011 that sparked considerable controversy and were subsequently repealed as a result of a statewide referendum in Fall 2012. The following two sections explore these system changes as possible contributions to the findings of this study.

The Great Recession and Idaho Education Funding

The global economy entered a recession in 2009, the magnitude of which had not been experienced since the Second World War (Gore, 2010). Many have referred to this as the Great Recession. Many jobs were lost. Industrial production went into a

downturn. Even established companies that the United States' economy relied upon, such as Lehman Brothers, were not held harmless from bankruptcy. The national and global outlook was so dim that Congress enacted the American Reinvestment and Recovery Act of 2009 (ARRA) in order to slow the impact of this recession, save jobs, and attempt to avert the unthinkable repeat of an event like the Great Depression.

The State of Idaho, just like other states in the nation, declined economically at a fast rate. Idaho is a conservative state, and rather than incurring public debt, it is required to maintain a balanced budget for each budget cycle unless it receives the specific approval of 2/3 of the electorate in advance of debt based spending (Idaho Constitution, Article VIII Public Indebtedness and Subsidies). Therefore, when the state budget revenues began to shrink, the legislature was required by law to only budget that which it could afford, which meant cuts to public programs including education.

In thinking about the results of the state's Title I schools from 2010 through 2012, it occurred to me that this might have coincided with the budget cuts to public education. Therefore, I asked the State Department of Education's Deputy Superintendent of Public School Finance to help me understand the financial data that drives public school operations. As a result, I found that the budget cuts mirror the unexpected trends in achievement data that demonstrated a negative change in slope after 2010. During the period leading up to 2009, the education budget slowly increased. However, there was a dramatic decrease in the slope of education funding beginning in 2010 and continuing to the present. The easiest way to understand state education funding dynamics is by examining the Support Unit value, which is the basic building block for public school finance.

Figure 37 graphically illustrates the history of how Idaho has funded its education budget from 2004 through 2013. The educational Support Unit is the foundation of the state funding formula. It is comprised of three components: salary apportionment, benefit apportionment, and a distribution factor. Simplistically speaking, one could view the Support Unit as approximately the amount it costs to fund an average classroom. The Support Unit is not exactly the amount of a classroom; there are multiple pieces to the actual formula, and the Support Unit is multiplied and divided by other stable elements in order to derive how much a school district will get for each school's permissible units that support the instructional delivery process. However, as the basic unit from which all the calculations are derived, it makes sense in terms of understanding how classrooms are funded by using an equitable unit. Salary apportionment funds teacher and administrator salaries, benefit apportionment funds their fringe benefits, and distribution factors essentially account for the costs of student transportation (e.g., busing).

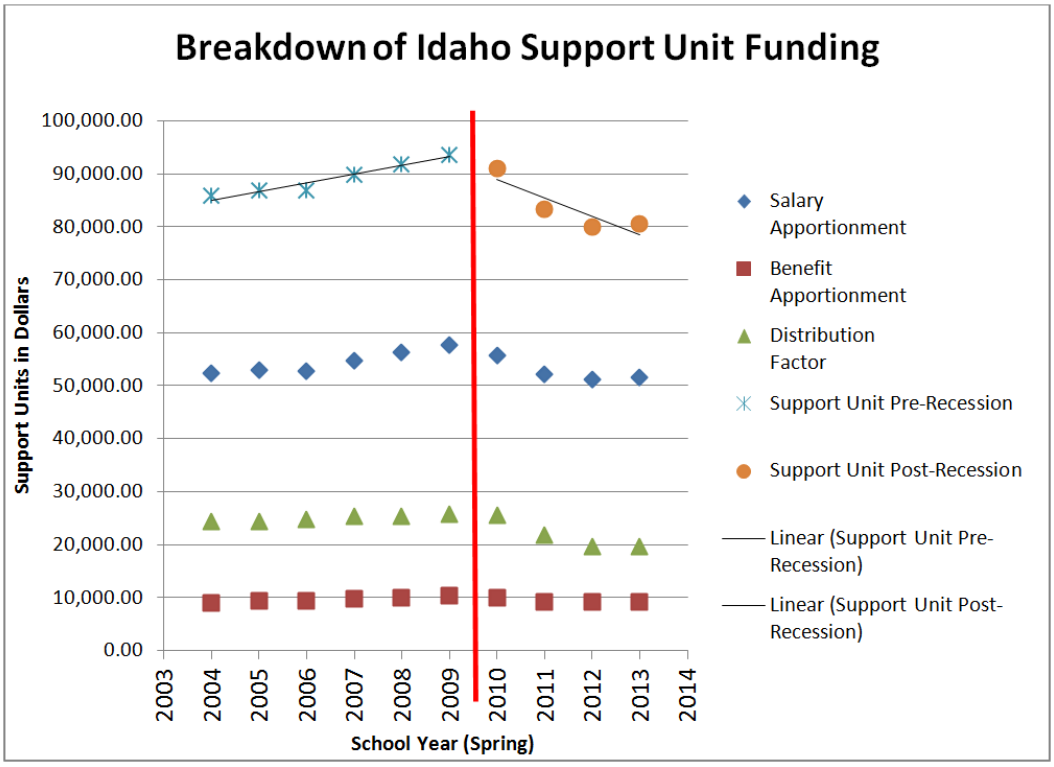


Figure 37. Historical Graph of Idaho Support Units

As seen in Figure 37, Idaho began to cut its funding of the Support Unit in the 2009-2010 school year (the same year that the interventions of this study began). The red line in the figure marks the point in time the interventions of interest (i.e., the SSOS and the IBC project) were introduced to the sampled schools. It is easy to see from this graph of school funding that these interventions co-occurred with the state budget cuts. If the negative changes in slope seen in the Interrupted Time Series (ITS) analyses for the SSOS and IBC were an artifact of some larger event as indicated by the negative change in slope for the population of Title I schools, these financial data are a very likely explanation. The statistically significant negative change in slope for the population of Title I schools would have to be influenced by something that affected all Title I schools

without discrimination since it affected schools that participated in the interventions of interest in this study as well as those that did not participate. The change to the public education budget and its timing is a likely cause for the finding. It is a statewide policy change that affected all schools equally and at the same time as the interventions studied in this paper.

The Support Unit steadily increased from 2004 through 2009. This did not represent major new investments in education; it followed basic cost of living increases related to educational attainment and work experience in the teacher salary formula. This is evident in Figure 37; salary apportionment shows the largest increases prior to 2009, while the distribution factor and the benefit apportionment have a relatively flat slope. What is also evident in Figure 37 is that when the entire Support Unit hit the $80,000 mark in 2012, it effectively dropped to levels that were probably last in effect in the late 1990s. This drop should be understood in the context of the state economy. The cost of living did not drop; there were no fewer children in Idaho's schools; the miles of busing routes did not lessen. School districts had substantially less money to theoretically do the same job. As a result, school districts laid off teachers and paraprofessionals, shortened bus routes, decreased the amount of paper that teachers could use to make copies and student handouts, and did whatever they could do within their means to continue to meet the basic educational needs of their students. Meanwhile, the federal ARRA funds sent to Idaho were to be used to support four key principles:

- Spend quickly to create and save jobs in education
- Improve student achievement through school improvement and reform
- Ensure transparency and accountability

- Invest in one-time funding to minimize a “funding cliff,” meaning to avoid recurring costs that cannot be assumed when the funding ends (Nelsestuen & Roccograndi, 2010)

However, the ARRA funds were not enough to overcome the state budget cuts. Based on a study of how the ARRA funds were used in Idaho school districts, 79 percent of the ARRA funding that came through Title I and IDEA was spent on simply saving existing jobs temporarily, rather than creating new jobs or attaining the other four principles (Nelsestuen & Roccograndi, 2010). Furthermore, the same study showed that 46 percent of Idaho respondents did not believe that even the ARRA infusion would help their district to avoid a "funding cliff," and that district leaders were understandably concerned about the negative impact this financial environment would have on student achievement.

The fears that the ARRA funds would still not suffice to fill the gap are verified by looking at the state's financial appropriations in a different light. Figure 38 illustrates the overall state allocation for public schools, which adds up all of the funding allocated to the Support Unit formula, additional initiatives, and funding for the department of education. In 2010, the state allocation dropped from the previous year by approximately $200 million in just one budget period. According to Idaho's ARRA application, it committed to adding $179 million in federal State Fiscal Stabilization Funds back into the public education budget (Office of the Idaho Governor, 2009/2011). However, even a one-time investment of this magnitude was not able to offset the long-term impact of the recession in terms of the reduction of Idaho's education finance.

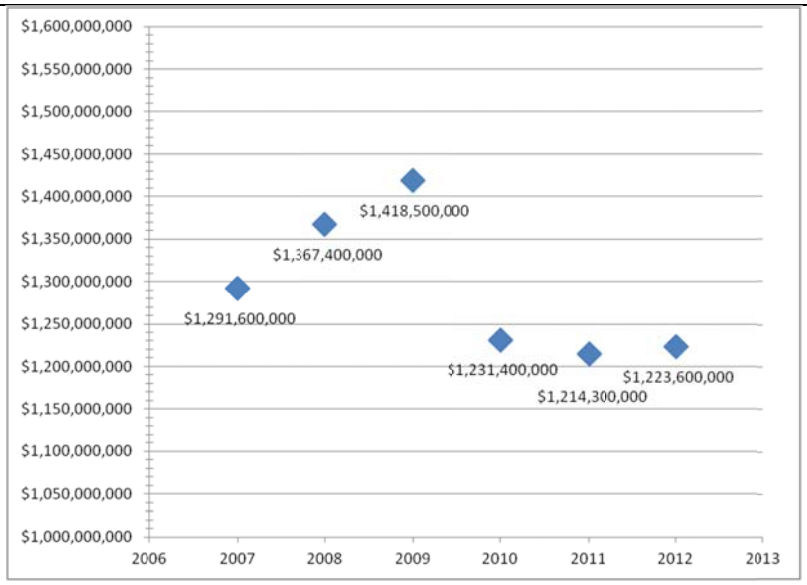


Figure 38. Idaho Public Schools General Fund Appropriation (Spring 2007-2012)

As a result of the deep financial cuts that all Idaho public schools experienced, including Title I schools, it is highly plausible that the findings of this study have been adversely affected by the impacts of the recession and Idaho's requirement to balance the budget no matter the cost. The improvement trajectory that the population of Idaho Title I schools demonstrated in Reading and Mathematics was not sustained due to a statistically significant and unexpected event beginning in the 2009-2010 school year. While it is beyond the scope of this study to ascertain whether or not the financial crisis was truly the cause of the negative change in slope from 2010 through 2012 for Title I schools, it makes a great deal of sense.

Changes in Statewide Political Context during Intervention Period

An additional statewide policy change also occurred during the timeframe of this study and applied to all schools, including Title I schools, and may have been a systemic

change that contributed to the negative change of slope in Idaho's Title I schools. Some people in Idaho might point to unpopular education reform laws, known as Students Come First (SCF), as a statewide event that created a negative and combative atmosphere, at least by some accounts. Many might contend that the ways in which these laws were passed caused a bitter political context, weakened morale of educators, and possibly impacted the achievement of Idaho students (as evidenced in the negative changes in slope for the population of Title I schools). One problem with this theory is that it does not fully explain the interruption found in the statewide data for Title I schools. The reason for this is that, while SCF was a statewide policy change that systematically impacted all schools, it was not passed until Spring 2011, a year after the interruption and change in slope began. Furthermore, most of the SCF policies did not take effect until the 2011-2012 school year at the earliest, the final year of the intervention period. Meanwhile, other policy elements never took effect.

The Students Come First laws of 2011 certainly were not the cause of the initial interruption between 2009 and 2010. However, one could make a case that the negative rhetoric, the reportedly weakened morale in Idaho public schools that was associated with the laws, and the subsequent statewide referendum processes associated with the efforts of the teachers' association to overturn the laws may have further catalyzed the decline that had already begun due to some other reason. At minimum, anecdotal evidence points to the notion that controversy surrounding the laws proved to be a significant distraction for schools and districts. For example, in the WISE Tool improvement plans that schools and districts submitted in 2011 and 2012, plans were often filled with hostile remarks about the laws, even when the planning element had nothing to do with the

content of the laws. Additionally, participants in the Superintendents Network of Support frequently digressed during meetings onto topics about the laws and difficulties they were having with staff as a result. Similarly, Capacity Builders in the Idaho Building Capacity project reported angst and frustration in their sites and at times had to coach leaders to try and refocus on the work of school improvement. One might argue that the educational zeitgeist of the period was one of anger and uncertainty, which could have contributed to weak performance throughout the state system. Therefore, while this study is insufficient to determine a link between the study outcomes and the political environment surrounding the SCF laws, one could certainly argue that the passage of the laws may have contributed to the unexpected findings of this study by compounding other causal factors.

Considerations of Findings in Light of Existing Literature

The findings of this study should be considered in relation to a few important concepts found in the existing research literature. First, if the interventions were simply ineffective, the findings about the Statewide System of Support (SSOS) and the Idaho Building Capacity (IBC) project join a larger body of literature that demonstrates the difficulty of scaling up school reform efforts. On the other hand, if the patterns evident in the analyses of the SSOS and IBC reveal promising trends in performance that were suppressed by the economic recession or compounded by the political environment surrounding the passage of the Students Come First laws, this study's findings add to an important discussion about the relationships between school funding, relational trust in the education system at large, and student achievement. These will be explored briefly below.

As illustrated at length in the Review of Literature chapter, educational reformers have implemented numerous efforts aimed at improving the outcomes of students who are at an educational disadvantage. Those efforts have been successful in some regards, but they have faced many difficulties in terms of scaling up the reform efforts to actually impact a large cross-section of schools (Elmore, 2008; Fullan, 2011). Flachbart (2009) documented similar difficulties in Idaho in which intensive grant programs and technical assistance efforts brought promising, but inconsistent improvements in student outcomes. The theory of action that undergirds both the SSOS and IBC was built upon the lessons learned from national and state successes and failures. The findings of this study did not demonstrate a statistically significant difference between schools that participated in the SSOS or in IBC and the schools in their respective comparison groups. It is possible that this is because the interventions were simply not efficacious. However, the patterns in the data for both the SSOS and IBC participants demonstrated promising trends in that the pre-intervention slope outcomes often favored the comparison groups in the rates at which student achievement improved, but the trends reversed and the achievement gaps between treatment and comparison groups closed during the intervention periods. Therefore, in light of the findings that the entire population of Title I schools experienced a statistically significant negative change in slope that coincided with the intervention period, the findings of this study's primary research questions should be interpreted with due caution. At minimum, the additional findings within the greater population of schools lead to additional questions worthy of exploration in relation to the cause of the change in slope and the potential interaction effect it had upon the SSOS and IBC interventions.

This chapter also explored the possibility that the economic recession of recent years may be a plausible explanation for the statistically significant negative change in slope among Idaho's Title I schools. This study is insufficient to state with certainty that such is the case. However, it is reasonable based upon the co-occurrence of the state's deep budget cuts to public schools. The question of public school finance and its relationship to student achievement has been a contested issue for many years. In a seminal article, Hanushek (1986) concluded that "schools differ dramatically in 'quality,' but not because of the rudimentary factors that many researchers (and policy makers) have looked to for explanation of these differences ... [such as] variations in expenditures" (p. 1141-1142). Rather, Hanushek (1986) stated that the variance in school performance is attributable to teachers' skills. Hanushek's findings, and others that followed, have suggested time and again that school finance is not the determining factor in whether or not schools will be successful. Many may agree with this under general circumstances. It makes sense intuitively that if two schools are essentially funded in a similar manner and one outperforms the other, it is a result of the human capital, not the financial capital. However, there is an emerging body of literature that questions the conclusions of Hanushek and others, and contends that differences in school funding do indeed contribute to differences in performance (Biddle & Berliner, 2002; Haegeland, Raaum, & Salvanes, 2012; Nicoletti & Rabe, 2012). The findings of this study may add credence to the idea that there is a minimum threshold necessary to maintain educational improvement efforts, and that if that minimum threshold is crossed, school achievement suffers. While the economic recession was an unavoidable reality for Idaho lawmakers, the reality of the cuts to education and the overlapping timing of events in terms of the

intervention and findings of this study are difficult to ignore. As such, they deserve further study in light of the emerging literature about the relationship between school finance and the improvement of student achievement outcomes.

Finally, this chapter considered the possibility that the political environment surrounding the passage of the Students Come First laws of 2011, while not the initial cause of the negative change in slope, may have contributed to whatever led to the weakening performance of Idaho Title I schools. Many teachers in the state might have characterized the laws as putting teachers last and may have believed that they represented a fundamental distrust of the teaching workforce. In the Review of Literature chapter, relational trust within and between the key members of the educational system as well as collective efficacy are both understood to be critical factors in the improvement of schools (Adams & Jean-Marie, 2011; Fullan, 2011; Hattie, 2009). While most of the school improvement literature focuses this discussion at the level of the school as the organizational unit in which trust must be cultivated and collective efficacy built, Fullan (2011) contends that "effective systems have come to trust and respect teachers" (p. 16). Fullan and others expand the definition of the educational system to include the district and the state. Therefore, one might argue that the State of Idaho did not act as an "effective system" in that it broke trust with its teaching workforce; this may in turn have negatively affected collective efficacy and the student achievement outcomes toward which teachers were striving. Similar to the exploration above regarding the recession, this paper is insufficient to determine if the SCF laws contributed to the negative change in slope for Idaho Title I schools. However, considering that the Interrupted Time Series statistical model found strong evidence for a statewide, systemic change, and unless other

systemic changes occurred during the intervention period, it stands to reason that the political environment surrounding the SCF laws deserves further study as a possible causal contributor.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

The four research questions in this study set out to evaluate the creation and implementation of the revised theory of action for the Idaho Statewide System of Support in order to determine if it improved the rates at which Title I schools attained proficiency in Reading and Mathematics among students who are economically disadvantaged. The research questions focused on two levels within the theory of action: the Statewide System of Support (SSOS) in general and the Idaho Building Capacity (IBC) project in particular. The study utilized a quasi-experimental Interrupted Time Series (ITS) design, which allowed for causal inferences related to the change in slope and/or the change in level of the student achievement outcomes being studied and which compared each group's within-subjects performance during the intervention time period with its own performance during a pre-intervention time period. Between-subjects comparisons were added to determine if any statistically significant changes in slope or level were attributable to the intervention or were the result of some other event. This chapter describes the conclusions drawn from the analyses in this study and makes recommendations for further research, state policy, and program implementation.

Conclusions

The results of this study were largely inconclusive. However, the following conclusions emanated from the findings:

1. An unknown systemic change negatively affected the entire population of Idaho Title I schools from 2010 through 2012.
2. The negative effect from this systemic change resulted in a slowing trend among the rates of improvement in Title I schools from 2010 through 2012.
3. The SSOS and IBC treatment schools in this study largely mirrored the statewide data, with no statistically significant differences existing between their results and those of comparison groups.
4. Trends among SSOS and IBC treatment schools were promising in that (a) they demonstrated more positive slopes during the intervention period than the comparison schools, (b) new slopes marked a reversal from trends in the baseline period during which comparison schools had more positive slopes in three of four cases (all expect the analysis of SSOS-Mathematics), and (c) the slope differences between groups increased during the intervention period when they favored the treatment groups. However, the promising trends were inconclusive since it is unknown whether the impact of the unknown statewide systemic change acted as a positive, negative, or neutral influence in relation to the outcomes on treatment schools.

In comparing the within-subjects performance of schools during the intervention period to their own performance during the pre-intervention period, this study found that there was not a statistically significant change in level for any of the treatment or comparison groups. In regard to the slopes (i.e., the rates of improvement) during the intervention and pre-intervention periods, treatment and comparison schools consistently improved at faster rates from 2007 through 2009, and then they substantially slowed or

declined in achievement outcomes during the intervention period from 2010 through 2012, which in many cases marked a statistically significant negative change in slope from the improvement trajectory that would have been expected. The SSOS treatment and comparison groups both had statistically significant negative changes in the slope of achievement outcomes for Reading from 2010 through 2012, and negative but not significant changes in slope for Mathematics during the same period. From 2010 through 2012 in Reading Achievement, IBC treatment schools exhibited an insignificant negative change in slope, while IBC comparison schools experienced a negative change in slope that did reach statistical significance. IBC treatment and comparison schools both demonstrated negative changes in slope in Mathematics Achievement from 2010 through 2012, but the deviation was not statistically significant.

In comparing between-subjects trends during the pre-intervention and intervention period, there were no statistically significant differences between treatment and comparison schools for either the SSOS or IBC in Reading or Mathematics. However, the slopes consistently favored the SSOS and IBC treatment groups in both subject areas during the intervention period at which time they attained greater rates of improvement than comparison schools, often marking a reversal from slopes in the baseline period, which had originally favored the comparison schools in three of four instances. The differences between the slopes of treatment and comparison schools during the intervention period were also consistently larger than during the pre-intervention period. This indicated that (a) the gaps between treatment and comparison schools were closing at this time rather than widening, as had been the case previously, and (b) treatment schools were on track to surpass the achievement of comparison schools.

The findings and patterns in the data led to not only the rejection of the alternative hypotheses as originally stated, but also led to the rejection of the original null hypotheses. The alternative hypotheses stated there would be a statistically significant positive change in slope for the SSOS and IBC treatment schools in both Reading and Mathematics, while there would presumably be no such improvement in the comparison schools. The null hypotheses stated there would be no change in slope for either type of school grouping. Since each of the SSOS and IBC treatment and comparison groups demonstrated consistently negative changes in slope, the implications of these unexpected findings resulted in the exploration of secondary analyses. Namely, was the negative change in slope that occurred in the data for both the SSOS and IBC treatment and comparison schools an artifact of some larger statewide systemic change event that negatively affected school improvement trajectories? As such, the study uncovered an unexpected additional finding: the population of Title I schools in Idaho did indeed demonstrate a statistically significant negative change in slope from 2010 through 2012 in both Reading and Mathematics Achievement for students who are economically disadvantaged, during which time all schools were unable to maintain their previous trajectories of improvement as established during the baseline period of 2007 through 2009. The additional finding illustrates that the introduction of an unknown systemic change event co-occurred relative to the interventions of the SSOS and IBC, which are the primary independent variables of interest in this study. Therefore, the findings for the original research questions are inconclusive. The trends in the data for the SSOS and IBC treatment and comparison schools are indeed artifacts of this unknown secondary co-

occurrence, which makes an answer to each of the original research questions unattainable.

Considering this additional finding, the patterns in the SSOS and IBC treatment groups may be considered promising. The intervention period slopes for the SSOS and IBC treatment groups consistently trend in the desired direction in that the slopes are more positive and demonstrate a greater trajectory of improvement than that of the comparison groups. Also, the reversal of trends in which the rates of improvement favored the treatment groups in the intervention period, and the fact that the magnitude of the differences between the treatment and comparison groups' rates of improvement were consistently larger during the intervention period are indications that the SSOS and IBC interventions may have helped in participating schools so as to lessen the negative influence impacting the state at large. However, because of the contamination caused by the overarching negative impact of the unknown systemic change, it is impossible to determine if the promising trends in the SSOS and IBC treatment schools' achievement outcomes are the result of the interventions in this study or were simply a random occurrence in the data.

The results of this study were largely unexpected. As such, a number of recommendations seem pertinent. Recommendations are provided below and are the product of the discussion in this study regarding the possible reasons for the lack of definitive outcomes in SSOS and IBC treatment schools.

Recommendations

School improvement is a complex endeavor to be sure. The findings of this study illustrate that the Idaho Statewide System of Support has not yet found conclusive

answers to the question of how to best meet the needs of Title I schools. Because of the inconclusive nature of the results, this study also shows that the Statewide System of Support is not necessarily going in the wrong direction. There are many reasons to continue to examine the potential of the efforts that have been started under the overarching theory of action this study has evaluated. As described in the Review of Literature, evidence suggests that states need to use the right drivers to bring about whole-system school reform − drivers that rely upon systems thinking, collective group work, a focus on continuously improving the instructional core, and strategic and wide-spread capacity building (Fullan, 2011). Effective schools implement actions that represent the following characteristics:

- Clear and Shared Focus
- High Standards and Expectations for All Students
- Effective School Leadership
- High Levels of Collaboration and Communication
- Curriculum, Instruction, and Assessment Aligned with Standards
- Frequent Monitoring of Learning and Teaching
- Focused Professional Development
- Supportive Learning Environment
- High Levels of Family and Community Involvement (Shannon & Bylsma, 2007)

The aforementioned drivers are the means by which to drive the human side of change, which is a necessary precursor to the implementation of the characteristics of effective schools. As a result of the findings in this study, the following

recommendations are pertinent in the areas of further research, state policy, and program implementation. These recommendations are outlined below.

Recommendations for Further Research

Since the results of this study are inconclusive, further studies should be conducted in order to better understand the findings. Three areas of study are needed: research into the cause of the negative statewide systemic change; continued program evaluation of impacts of the Statewide System of Support; and research into the differences between the Idaho Statewide System of Support and the successful models used in other governments, such as Ontario, Canada.

Research the Cause of the Statewide Negative Change in Slope for Title I Schools

The first area of study that should be examined is in relation to the unexpected negative change in slope that occurred among the population of Title I schools from 2010 through 2012. As described earlier, plausible evidence may exist that this change was caused by the introduction of some unknown event that coincided with the years of the interventions in this study. Earlier, a rationale was suggested as to why the state budget cuts that were the result of the economic recession could provide an explanation for this negative influence on Idaho schools. It could be in the interest of the State of Idaho to design a study to determine the accuracy of this being an actual reason for the decline. If budget cuts that pass a certain threshold, for example, interfere with the ability of schools and districts to continue on a path of improved student outcomes, the results of such a study would be pertinent to policy makers both in Idaho and elsewhere. This could be particularly important considering that Idaho and most of the other states in the nation

will soon implement the Common Core State Standards and the new assessments that accompany them. The new standards and assessments are significantly higher and more rigorous than current standards. If the budget cuts have caused schools to struggle in meeting current standards, it will be important to explore the ramifications of these cuts for the adoption of the new standards. A researcher might consider studying the question of whether or not differential funding contributed to school outcomes during the recession by clustering schools throughout Idaho into funding categories that represent the amount of additional assistance the school received above and beyond the basic state allocation. For example, categories might include: non-Title I schools that received no additional federal funding or grants, non-Title I schools that received competitive grants, Title I schools that received no additional funding or grants, and Title I schools that received additional competitive grants. By breaking public schools into funding categories, one might be able to discern whether or not differences in funding contributed to performance outcomes during the same six-year period (2007 to 2012). Additionally, a researcher might consider comparing the performance of schools in the state that may not have been impacted as much by public budget cuts (e.g., private Catholic schools that took the state test, if their budgets remained relatively stable) to see if there are differences between public school trends and private school trends. Studies in this vein would contribute to the emerging literature on the connections between school finance and student achievement outcomes, which question long-held assumptions that school finance does not make a difference in the variance found between schools.

Other plausible explanations for the statewide decline in achievement in Title I schools included testing effects associated with a new assessment, the implementation of

tiered service delivery models (i.e., Response to Intervention), and a negative political environment surrounding the Students Come First laws of 2011. Researchers might consider exploring each of these topics. First, an analysis of testing effects could potentially be conducted by developing a model to compare ISAT performance to other valid assessments administered from 2007 through 2012, such as the National Assessment of Educational Progress (NAEP). It would be valuable to learn whether or not similarities occurred in NAEP data in terms of more rapid improvement from 2007 to 2009 and a cooling trend afterward. However, researchers may need to consider other assessment options for comparison since NAEP is only administered every other year, only in 4th and 8th grades, and only to a sample of Idaho students. For example, it may be possible to find schools in Idaho that administered the ISAT and some other nationally validated assessment concurrently (e.g., the Stanford Achievement Test, or the Iowa Test of Basic Skills). If so, performance on such assessments could be equated and placed into a model to examine achievement trends on ISAT. If performance on the comparison test remained steady, while the ISAT had a larger slope of improvement from 2007 to 2009, this might suggest testing effects were the reason for the statewide findings in this study.

Second, researchers could conduct a statewide inventory of educational practices to determine the level of implementation of Response to Intervention (RTI). Research-based observation and implementation rubrics for examining the elements of RTI could be utilized to collect data in a representative sample of all Idaho Title I schools to determine if Tier I services are being implemented with fidelity to the research that undergirds the RTI model. Such a study might possibly determine if current levels of

performance in schools warrant potential attribution to RTI implementation. A limitation of such a study could be that it would be descriptive only and would not be able to causally link current practices to the performance trends found in this study.

Third, researchers might consider conducting studies that investigate levels and subsequent changes in statewide morale and examine the potential of how educational practices may have changed as a result of the political environment surrounding the passage of the Students Come First laws of 2011. A qualitative descriptive analysis of educators' perceptions could be conducted that examines how the laws and the political environment affected educators' work performance, motivation for improvement of practice, and other topics. Additionally, a researcher could collect existing perceptual data from the Center for Educational Effectiveness related to issues of trust and collective efficacy and conduct a study of correlations to determine if there is a relationship between changes in these areas and student outcomes in Idaho public schools. Each of the studies described above could contribute to understanding how these alternative explanations may or may not have influenced the findings in this study.

Continue Program Evaluation of the Statewide System of Support

A second area of research that is necessary is in the ongoing evaluation of impacts and implementation of the Idaho Statewide System of Support. Idaho puts significant federal resources into improving school outcomes because of accountability requirements. It is important to understand if the current theory of action is effective, or if the state should reconsider its policies on how to best leverage federal finances to support schools. Therefore, rigorous study is needed in three key areas. First, because this study was concerned with the overarching theory of action as a change in policy

rather than simply as a program to be implemented, this study did not evaluate implementation efforts (i.e., fidelity of implementation) with the interventions. Therefore, state decision-makers would benefit from further descriptive implementation studies. Specifically, a qualitative study should be conducted to determine if the WISE Tool improvement planning process is resulting in (a) plans that are of high-quality and (b) specific, measurable actions are implemented that match the literature on the characteristics of effective schools. Additionally, a descriptive study should be conducted that analyzes the actual alignment between Statewide System of Support projects (i.e., the Superintendents Network of Support, Instructional Core Focus Visits, and the Idaho Building Capacity project), new projects that have come to fruition in recent years, and the systematic connections that are made to the WISE Tool with each of the programs. The state's theory of action implies that these are all systemically connected, but the inconclusive results of this study indicate that such an assumption may need to be re-evaluated. Second, self-efficacy and collective efficacy among schools' teachers and leaders are important aspects of school improvement (Elmore, 2008), and therefore a study of teachers and leaders should be conducted that measures the degree to which improvements in self and collective efficacy have improved over time as well as the degree to which school and district leaders attribute such changes in perception to the support provided by the state. This recommendation comes from the knowledge that organizational health contributes to a system's ability to improve since improvement at scale is a property of the organization rather than its individual members (Elmore, 2008). The state has collected data in this area, and therefore such a study could theoretically be conducted over a longitudinal period. Considering that school turnaround efforts may

take three to five years (Rhim, Kowal, Hassell, Hassell, & Public Impact, 2007), it would benefit state decision-makers to know if perceptual changes exist and if those may indeed serve as leading indicators of change that show up more clearly before impacts on student learning are evident. Such a study would provide information to assist state decision-makers in knowing whether to intervene more intensely in schools that struggle, or perhaps to intervene differently as schools venture along the path of improvement. Lastly, the state should design and conduct another impact study, or series of impact studies, to examine the causal relationships between support efforts and school outcomes. However, as evidenced by the results of this study, it is difficult to discern impacts on school outcomes not only because of the distal nature of state actions but because other state policies can co-occur in ways that may interfere rather than support. The state could benefit from carefully designed studies that somehow account for these overlapping influences, if possible. For example, the intent of the current study might be repeated using a different cohort of SSOS and IBC schools beginning with a new baseline period of 2010 to 2012 and study intervention outcomes from 2013 to 2015. Barring any additional, significant statewide policy or funding changes, such a repeated study could reduce the alternative explanations that surfaced in the findings of this study. Further research could be bolstered by adding, to the extent possible, design features that would minimize the risk of alternative explanations. If the Interrupted Time Series (ITS) is utilized again, such design features should include the addition of more schools and perhaps four years of data in the baseline period and intervention period to bring greater stability to the pooled data set and the trend lines it produces. In an ideal setting, it would be beneficial if the interventions could be examined in Randomized Control Trials

(RCT). However, this would still not account for the concerns raised about crossing the minimum threshold of school funding, if that indeed is found to inhibit improvement. Therefore, an RCT would benefit from placing some type of control in place for financial stability. Considering the difficulties of RCTs within the arena of state governance, a remaining possibility for further inquiry into the SSOS and IBC interventions might be to utilize micro-process studies (Little, 2012). Such studies could be designed to identify bright spots where the SSOS and IBC interventions are potentially working, and then examine the situational aspects of the particular school and district to discern *why* the interventions are working. Conversely, a micro-process study could be employed to determine why the interventions are not working within other contexts. Studies from both of these perspectives would give decision-makers useful information for how to proceed and improve policy and practice. In a national policy context of increased accountability, the state of Idaho must proactively evaluate its efforts in an ongoing fashion in order to best utilize tax payer money, learn from the successes and mistakes of the past, and to achieve its mission of meeting the needs of all learners in Idaho public schools.

Compare Idaho with Governments Successful at Educational Reform

Fullan (2011) and other authors have argued that governments outside the United States, such as Ontario, Canada, have been successful at large-scale educational reform that leads to improvement throughout the public school system. While the theory of action behind the SSOS and IBC was built upon the work of Fullan and others, there are likely some key policy differences in the way in which Idaho has supported improvement when compared with other governments, such as the province of Ontario. The Review of

Literature chapter articulated clearly the "right drivers": capacity building, group quality, a focus on pedagogy, and system-ness. These are presumably at work in Ontario. In order to understand why large-scale improvement is being attained in Ontario but remains elusive in Idaho, it could be beneficial to compare the political and organizational systems of Ontario and Idaho. A descriptive study, or perhaps a micro-process study, that examined the characteristics of what made large-scale reform possible might include the following questions. First, what organizational and human capital structures or changes were required for Ontario to be successful at improving achievement in schools? Second, what policies were necessary to create a context that balanced the various levels of government (provincial, local, etc.) in order to maintain and maximize the proper roles at each level? Third, what activities did the provincial government of Ontario carry out in order to ensure success throughout the system as opposed to in pockets? Fourth, what other elements of the educational system in Ontario can be identified and culled out which have contributed to their success, as well as what implementation hurdles did they face and how were those overcome? And finally, how do each of these characteristics differ from Idaho, and are there any elements of implementation in Ontario that could not in some way be adapted to Idaho due to political or other constraints? A study that explicitly evaluates these elements could provide educational leaders in Idaho with information for how to create a plan of action for moving the entire public school system forward.

Recommendations for Idaho State Policy

The political arena is one that is often fraught with difficulty in making decisions that are meaningful, impactful, and lasting. In efforts to scale up school improvement

results, policy makers often create programs and plans that roll out too quickly and which are not based on solid research (Fullan, 2011). These programs may or may not work. Conversely, because politics can be driven by public opinion, policy makers can often change policies quickly or cancel programs because they are not popular or because people believe they do not work as a result of inconclusive research. An example of this occurred when the Reading First impact study (Gamse, Jacob, Horst, Boulay, & Unlu, 2008) was released. Leading researchers decried the design flaws in the study related primarily to contamination caused by the sampling framework; however, Congressional opinion had swayed, and Congress used the evaluation report as a reason to cancel the program (Manzo, 2008). The Reading First program had other studies that showed positive impacts in some areas and weaknesses in other areas, which indicated the program needed to be improved not scrapped.

As an employee of state government who is responsible for the Statewide System of Support programs, I am on the one hand responsible for moving forward and making policy decisions based on the recommendations of this study. Yet, on the other hand, I am subject to policy makers that are above me. Therefore, I make the following recommendations regarding the policy perspectives of the Idaho State Department of Education (ISDE).

Continue to Focus on the Right Drivers for Whole-System Reform

First, the results of this study should not be construed as evidence that the SSOS and IBC programs are not producing positive results or that the state should take an entirely different direction. Previous studies in Idaho have shown there are strengths and weaknesses inherent to the work of school improvement from the state perspective.

Therefore, I recommend that ISDE ensure it has a balanced policy perspective in which it learns from the findings of this study and other studies of Idaho school improvement programs to improve upon current efforts rather than trade them for something new or different. The results of this study were inconclusive because of other events affecting statewide achievement outcomes. As mentioned above, further study is needed to determine if current efforts are on the right track or not. At the heart of this recommendation is that ISDE should stay true to and build upon the right drivers for whole-system reform that have demonstrated promising results in other governments, such as the province of Ontario in Canada and the country of New Zealand (Fullan, 2011). The current Statewide System of Support was an attempt to move in the direction indicated by these drivers. Further study, such as that recommended above, will assist ISDE in improving upon current policy perspectives. In the meantime, Idaho should endeavor to remain committed to the right drivers of capacity building, group quality, a focus on pedagogy, and system-ness. First, each state program of support should continue a commitment to the notion that it must build capacity of others in order that they can implement improved professional practices. Second, the state should refine its efforts in building upon the strength of social capital as a lever for system-wide improvement. Leaders and teachers learn from one another, and group quality serves and the fertile ground in which improved practices can grow. Third, the state of Idaho should attempt to not be distracted by substitutes for good pedagogy. All innovations in learning should be evaluated based on the degree to which they support improvements with the adaptive challenges of high-quality teaching and learning, rather than because they serve as a potential solution to a technical challenge. Finally, Idaho policy makers should find

ways to build a more coherent system. As of early 2013, many processes within the state remain in unintentional silos for various reasons, although there are recent efforts to increasingly develop coherence. If the ISDE continues to pursue an agenda of coherence and intentionally builds "system-ness" throughout the state, it would presumably be of tremendous support to districts and schools as they seek to improve student outcomes.

Implement a State-Level Program of Research and Evaluation

A second policy recommendation is that ISDE should consider developing a state office which is devoted to school and district achievement research. Other states have such research divisions in which they are able to study the impacts of state policies and programs; ISDE has no such mechanism of study. Since ISDE operates in a fiscally conservative state, it may be unlikely the legislature will appropriate funds or personnel to solely conduct research. Therefore, this recommendation could be met in the following possible ways. Senior staff in ISDE could identify individuals within the agency who are capable of conducting sound research and devote part of their time to researching questions of interest to leadership. ISDE should consider developing collaboration protocols between leaders of divisions within the agency in order to identify available data sources and design possible research questions. By devoting at least part of available employee time to research, ISDE could begin to answer some of its most pertinent questions. Furthermore, ISDE has federally funded research centers available to support school improvement endeavors, including the Regional Education Laboratory (REL) at Education Northwest. An existing partnership with the REL is a research alliance devoted to evaluating the Statewide System of Support. This research alliance should focus on (a) inquiring into the study recommendations outlined above and (b)

assisting ISDE in the development of an internal process for researching its own questions. Lastly, ISDE should consider ways of advancing its research needs by strategically partnering with university professors and students in Idaho who are interested in school reform. For example, each of the three public universities has a center devoted to school improvement, leadership, or effectiveness. ISDE could leverage partnerships with these universities that are mutually beneficial to both parties. ISDE does not have dedicated funding for research, but it has substantial data on Idaho schools and districts as well as important questions that should be addressed. On the other hand, the universities have students and professors who are looking for meaningful topics to research, but often do not have the funding to implement large-scale data collection efforts. By partnering together, ISDE and the universities would be able to leverage each other's resources without significant funding requirements in order to conduct meaningful research inquiries that benefit the academic needs of professors and students as well as the program and policy improvement needs of the state.

Examine Policies Related to State Fiscal Emergencies

This study did not determine that the financial recession negatively affected student achievement. However, a reasonable recommendation drawn from the possibility that it did impact the findings of this study is that the Idaho legislature should evaluate its current policies on fiscal emergencies and determine if there might be ways to minimize such dramatic cuts to education in future recessions. The State of Idaho does have a school stabilization fund that is used for "rainy day" emergencies. Also, statutes presently exist that provide some flexibility to school districts when financial emergencies arise. It might be prudent for the legislature to consider whether or not there

are other ways to handle financial emergencies that would not impact public services as severely. For example, based on the Idaho Constitution, the state cannot incur debt without the approval of 2/3 of voting citizens, but are there reasonable alternatives to simply cutting the budget automatically? The legislature could consider developing a statute would automatically offer the public a vote on such topics as school funding and public indebtedness if the revenues for public schools in any given year fall below what can be stabilized through the rainy day fund. Or, the legislature might consider creating policies that establish an emergency plan for basic educational services in which there is a definition for which school services must be held harmless and which must be cut first in the event of unforeseen and precipitous economic decline, rather than leaving it to local districts to determine how to balance cuts using their own fund balances. While no one could likely anticipate the magnitude of the Great Recession, one might argue that economic theory supports the idea that recession is inevitable. Therefore, it could be beneficial for the state to consider how it might respond differently in the future when a recession happens again.

Be Proactive Regarding the Impact of Political Environment on Achievement

While this study also did not establish a causal link between the passage of the Students Come First laws of 2011 and the negative change in slope for Title I schools, it would be sensible for ISDE to consider the potential role that the political environment has on statewide student achievement outcomes. As Fullan (2011) concluded, the entire system must demonstrate a respect for the teachers in the system in order to improve, even before that respect is presumably earned. In moving forward, ISDE might proactively consider how potential policy changes may affect the morale and collective

efficacy of the existing workforce. While it is difficult, and at times seemingly impossible, to arrive at consensus with all stakeholders, one might argue that there is certainly room for improvement in how ISDE can engage educators throughout the state and allow their perspectives to inform decision making. ISDE would benefit from having a rigorous outreach approach to gather the perceptions of teachers and leaders on various upcoming policies. For example, a survey was conducted in February 2013 which sought educators' perceptions on very specific aspects of evaluation policies the state is considering in order to be in compliance with the requirements of its ESEA Flexibility Waiver Plan. Such outreach could be a powerful tool to collect and engage stakeholders on a number of issues. A specific way that ISDE could improve in this area would be to develop a database of email addresses for all teachers, administrators, school board trustees, and other educational system personnel in the state in order to be able to solicit surveys via email blasts in a timely and efficient manner. Additionally, ISDE might consider establishing and publicizing a public information portal that regularly links to issues of importance for decision making and connects to the types of surveys mentioned above. These and other potential outreach strategies would be beneficial to ensure the public is informed and input is heard before developing policy solutions for contentious issues. By developing a proactive partnership with all stakeholders, not just their representatives, the ISDE might be able to enhance efforts to foster an improved culture throughout the state, which may in turn facilitate the implementation of school improvement initiatives.

Recommendations for Program Improvement

The final set of recommendations which are fitting from the results of this study relate to design aspects of the Statewide System of Support programs. The recommendations below are based upon the fact that while intervention slopes trended in the right direction, they did not clearly indicate that the programs were effective. While it is evident that something larger was suppressing school achievement during the period of the Statewide System of Support interventions, one could argue that the impacts should still be clearly detectable. This is perhaps true, but it is difficult to know just how much the statewide downturn in improvement trends impacted the ability of the programs in question to achieve the desired outcomes. Either way, as the state employee responsible for the Statewide System of Support programs, the following recommendations seem reasonable given the results of this study.

Use Informal Data Sources to Refine Statewide System of Support Practices

The Statewide System of Support division should consider using anecdotal and informal data to analyze which areas of the theory of action and which program elements may have been implemented poorly or inconsistently in the past few years. The division within ISDE has experienced significant turnover in staff. Therefore, it would be a beneficial starting point to inspect current expectations and practices to ensure alignment among existing staff members. For example, is there calibrated understanding of what elements are necessary for school improvement planning in the WISE Tool? Or, when team members conduct Instructional Core Focus Visits, do they utilize a similar understanding of the Danielson Framework for Teaching in order to make judgments about classroom observations? The Statewide System of Support division within ISDE

would benefit from thinking through current practices to understand where strengths and weaknesses may exist and pursuing solutions in the areas of weakness.

Decrease the Variance in Improvement Planning

Throughout the years in which the WISE Tool has been implemented for improvement planning, ISDE has seen both growth in the quality of plans as well as significant variance in that quality. This study did not evaluate implementation. As such, a logical recommendation would be for ISDE to focus efforts on decreasing the variance in the quality of improvement plans and increasing the degree to which all schools and districts understand and implement the features of good planning. These features include the use of specific goals, a clear understanding of one's current practices, a clear understanding of the practices that should be in place, and an ability to develop action steps (tasks) that lead from current to desired levels of practice. It would be beneficial for the ISDE to develop a plan for how to teach all schools and districts the qualities of a good plan and then instill feedback loops by which educators throughout the state can understand their own strengths and weaknesses in relation to planning. As of early 2013, ISDE only reviews plans twice per year, which results in a determination of "approved" or "needs revision." Feedback is provided, but it is summative in nature. ISDE might consider developing benchmarks in which schools and districts can submit portions of their improvement plans early and receive formative feedback prior to the final submission. The theory of action behind the improvement planning process intends to change the way that local leaders think about action planning and the characteristics of effective schools. This outcome would be more likely if educators were given timely, formative feedback. In turn, this could help local leaders to adjust the course of practices

in their school or district such that student achievement outcomes could be more quickly improved each year.

Develop Improved Structure within the Idaho Building Capacity Project

In relation to the Idaho Building Capacity project in particular, the Statewide System of Support division should consider adding more structure to the project regarding which practices are non-negotiable and to be held in common statewide as well as where it will permit different practices from school to school. A common description Kinnaman used of the project when it was new was that the state was "building the plane while flying it" (personal communication, n.d., 2009). The project had several key aspects that have been held in common from the beginning (e.g., a time commitment to the schools that diminished over three years, assignments of Capacity Builders to the school and the district concurrently, etc.). However, ISDE team members have expressed in recent years the need to tighten up the project in a way that maintains its ability to differentiate, but which also focuses more explicitly on what may be key levers in the improvement toolkit available to Capacity Builders. Specifically, team members have recommended the development of new protocols for Capacity Builders that connect even more explicitly to the WISE Tool and the Nine Characteristics of High-Performing Schools (Shannon & Bylsma, 2007), such as developing monthly reporting mechanisms that narrow the focus of Capacity Builder work to specific types of coaching activities. Additionally, team members have recommended that having the Capacity Builders solely work with school and district sites may be insufficient, since the sites are not moving in a common direction together. They have thus suggested that ISDE develop training offerings in which participating sites come together for support from the state in key

issues identified in the Capacity Builder reports which are seen as common across the state. This set of recommendations from the existing team members seems justified given the inconclusive nature of this study's results. Adding these types of structures and protocols would potentially deepen the project's ability to capitalize on the right drivers for whole-system reform, such as developing group quality through the professional networking of participating sites and an increasingly focused and coherent systematic approach to the project's design.

Consider Revising Expectations for Capacity Builders

In light of the fact that the Idaho Building Capacity (IBC) project is the most intensive support program within the Statewide System of Support, ISDE might consider revising the expectations for Capacity Builders. The IBC project relies heavily on the work of these individuals to carry out the mission of the project. As such, the following areas would be beneficial to revisit and refine. First, the amount of time that Capacity Builders provide to schools and districts may be insufficient. Project personnel should consider the feasibility of increasing the amount of time given to each site. Second, a specific coaching model has never been determined. The project may benefit from establishing parameters and expectations specifically for how a specific coaching model may be used to improve project implementation. Third, project personnel should consider how the job description of a Capacity Builder may need to change in order to affect more substantial change within participating schools and districts. For example, should Capacity Builders be guides and coaches alone, without authority, or should they have the authority to be more prescriptive with participating sites? Additionally, in this vein, project personnel should consider whether all of the current Capacity Builders are a

good fit for such revised expectations. This would include determining whether the current model of using primarily retired educators is a good fit for the future or whether it might be beneficial to explore new models for filling this role, such as temporarily buying out the contracts of respected district personnel or having full time employees at the regional universities.

Final Thoughts

The Idaho Statewide System of Support was designed based on years of previous learning and from a perspective in which we attempted to apply lessons learned from the literature of leading school reform experts. It continues to exist through the work of a team of individuals who are committed to its ongoing improvement, and that team has much to be proud of in its efforts to help meet the needs of all learners. There is still much to learn and still much work to do. This study marks one more addition to the knowledge base necessary to progress from what was done in the past. I am confident that the Statewide System of Support team will continue to learn and improve its practices for the sake of Idaho's public school children.

REFERENCES

Adams, C. M., & Jean-Marie, G. (2011). A diffusion approach to study leadership reform. *Journal of Educational Administration, 49*(4), 354-377.

Alabama Department of Education. (2011). Alabama Leadership Academy. Retrieved December 31, 2011, from http://alex.state.al.us/leadership/ala.html

Aladjem, D. K., Carlson LeFloch, K., Zhang, Y., Kurki, A., Boyle, A., Taylor, J. E., et al. (2006). *Models matter: The final report of the National Longitudinal Evaluation of Comprehensive School Reform*. Washington, DC: American Institutes for Research.

Barr, R. D., & Flachbart, M. (2003). *Idaho Reading Initiative status report: 1999-2003*. Boise, ID: Center for School Improvement and Policy Studies, College of Education, Boise State University.

Barr, R. D., Flachbart, M., & Stewart, R. (2002). *Idaho Reading Initiative status report: 1999-2002*. Boise, ID: Center for School Improvement and Policy Studies, College of Education, Boise State University.

Barr, R. D., & Parrett, W. H. (2007). *The kids left behind: Catching up the underachieving children of poverty*. Bloomington, IN: Solution Tree.

Barr, R. D., & Parrett, W. H. (2008). *Saving our students, saving our schools: 50 proven strategies for helping underachieving students and improving schools*. Thousand Oaks, CA: Corwin Press.

Battistich, V., Solomon, D., Kim, D., Watson, M., & Schaps, E. (1995). Schools as Communities, Poverty Levels of Student Populations, and Students' Attitudes, Motives, and Performance: A Multilevel Analysis. *American Educational Research Journal, 32*(3), 627-658.

Berry, W. D., & Lewis-Beck, M. S. (1986). *New Tools for Social Scientists: Advances and Applications in Research Methods*. Beverly Hills, CA: Sage Publications.

Biddle, B. J., & Berliner, D. C. (2002). Unequal school funding in the United States. *Educational Leadership, 59*(8), 48-59.

Bloom, H. S. (2003). Using "short" interrupted time-series analysis to measure the impacts of whole-school reforms: With applications to a study of accelerated schools. *Evaluation Review, 27*(1), 3-49.

Boone, R. (2004, March 8). Idahoans balk at No Child Left Behind. *Associated Press*. Retrieved March 20, 2012, from http://newsmine.org/content.php?ol=cabal-elite/w-administra...child-left-behind/idahoans-balk-at-no-child-left-behind.txt

Borman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2003). Comprehensive School Reform and achievement: A meta-analysis. *Review of Educational Research, 73*(2), 125-230.

Brinson, D., Kowal, J., Hassell, B. C., Morando Rhim, L., & Valsing, E. (2008). *School turnarounds: Actions and results*. Lincoln, IL: Center on Innovation & Improvement.

Brookover, W. B., & Lezotte, L. W. (1979). *Changes in school characteristics coincident with changes in student achievement*. East Lansing, MI: Institute for Research on Teaching, Michigan State University.

CCSSO. (n.d.). State leadership action: State resources. *CCSSO Secondary School Redesign Web Portal* Retrieved December 31, 2011, from http://highschool.ccsso.org

Center for Public Education. (2009). A synthesis of validated research on high-performing, high-poverty students. Retrieved January 15, 2012, from http://www.education.com/reference/article/Ref_Research_review/

Center on Innovation & Improvement. [CII]. (2009a). *Indistar: Lighting our path to stellar learning (brochure)*. Lincoln, IL: Academic Development Institute.

Center on Innovation & Improvement. (2009b). *Patterns of practice: A school review process*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement

Center on Innovation & Improvement. (2011a, December). Indistar features. Retrieved December 31, 2011, from http://www.indistar.org/resources/IndistarFeatures-12-2011.pdf

Center on Innovation & Improvement. (2011b). Indistar: Lighting our path to stellar learning. Available from http://www.indistar.org/

Centers for Disease Control and Prevention. (2011). *Developing an effective evaluation plan*. Atlanta, GA: National Center for Chronic Disease Prevention and Health Promotion.

Chappuis, J., & Chappuis, S. (2002). *Understanding school assessment: A parent and community guide to helping students learn*. Portland, OR: Assessment Training Institute, Inc.

Chenoweth, K. (2007). *"It's being done": Academic success in unexpected schools*. Cambridge, MA: Harvard Press.

Chetty, R., Friedman, J. N., & Rockof, J. E. (2011). *The long-term impacts of teachers: Teacher value-added and student outcomes in adulthood* (Working paper). Cambridge, MA: National Bureau of Economic Research.

Chudowsky, N., & Chudowsky, V. (2008). *Many states have taken a "backloaded" approach to No Child Left Behind goal of all students scoring "Proficient"*. Washington, DC: Center on Education Policy.

City, E. A., Elmore, R. F., Fiarman, S., & Teitel, L. (2009). *Instructional rounds in education: A network approach to improving teaching and learning*. Cambridge, MA: Harvard Education Press.

Coleman, J. S. (1987). Families and schools. *Educational Researcher, 16*(6).

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology, 94*(1), S95-S120.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., et al. (1966). *Equality of educational opportunity*. Washington, DC: United States Department of Health, Education, and Welfare Office of Education.

Collins, J. (2001). *Good to great: Why some companies make the leap ... and others don't*. New York, NY: Harper Business.

Daly, A. (2009). Rigid response in an age of accountability: The potential of leadership and trust. *Educational Administration Quarterly, 45*(2), 168-216.

Daly, A., Der-Martirosian, C., Ong-Dean, C., Park, V., & Wishard-Guerra, A. (2011). Leading under sanction: Principals' perceptions of threat rigidity, efficacy, and

leadership in underperforming schools. *Leadership and Policy in Schools, 10*(2), 171-206.

Danielson, C. (1996). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Data Recognition Corporation. (2011). *ISAT technical report: Spring 2011*. Boise, ID: Idaho Department of Education.

Datnow, A., Lasky, S., Stringfield, S., & Teddlie, C. (2005). Systemic integration for educational reform in racially and linguistically diverse contexts: A summary of the evidence. *Journal of Education for Students Placed at Risk, 10*(4), 441-453.

Datnow, A., & Stringfield, S. (2000). Working together for reliable school reform. *Journal of Education for Students Placed at Risk, 5*(1-2), 183-204.

DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2004). *Whatever it takes: How professional learning communities respond when kids don't learn*. Bloomington, IN: Solution Tree.

Edmonds, R. R. (1979). Effective schools for the urban poor. *Educational Leadership, 37*(1), 15-24.

Edmonds, R. R. (1982). Programs of school improvement: An overview. *Educational Leadership, 40*(3).

Education Northwest. (2012). Idaho Statewide System of Support (ID SSOS) Alliance. Retrieved April 30, 2012, from http://educationnorthwest.org/rel-northwest/rel-research-alliances/id-ssos

Elmore, R. F. (2008). *School reform from the inside out: Policy, practice, and performance*. Cambridge, MA: Harvard Education Press.

Elmore, R. F. (2009). Video: The (only) three ways to improve performance in schools. Retrieved April 30, 2012, from http://www.uknow.gse.harvard.edu/leadership/video-lead001a-uk_re_core.html

English, F. W., & Steffy, B. E. (2001). *Deep curriculum alignment: Creating a level playing field for all children on high-stakes tests of educational accountability*. Lanham, MD: Rowman & Littlefield Education.

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175-191.

Flachbart, M. (2002). Idaho Reading First Program. Idaho: U.S. Department of Education.

Flachbart, M. (2008, March 20). *Data analysis, adequate progress, action planning.* Paper presented at the Idaho Building Capacity Project monthly collaboration meeting, Boise, ID.

Flachbart, M. (2009). *Bringing science to scale through increased technical assistance.* Unpublished Dissertation, Boise State University, Boise.

Fullan, M. (2003). *The moral imperative of school leadership*. Thousand Oaks, CA: Corwin Press, Inc.

Fullan, M. (2007). *The new meaning of educational change*. New York, NY: Teachers College Press.

Fullan, M. (2011). Choosing the wrong drivers for whole-system reform. *Centre for Strategic Education Seminar Series* Retrieved December 22, 2011, from http://www.michaelfullan.ca/home_articles/SeminarPaper204.pdf

Fullan, M., Bertani, A., & Quinn, J. (2004). New lessons for districtwide reform. *Educational Leadership, 61*(7), 42.

Gamse, B. C., Jacob, R. T., Horst, M., Boulay, B., & Unlu, F. (2008). *Reading First impact study final report*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Gates, C., Peixotto, K., & Chelemer, C. (2009). *Idaho Statewide System of Support: Self-assessment report*. Portland, OR: Northwest Regional Comprehensive Center.

Gore, C. (2010). The global recession of 2009 in a long-term development perspective. *Journal of International Development, 22*(6), 714-738.

Grinstead, C. M., & Snell, J. L. (1997). *Introduction to probability* (2nd ed.). Providence, RI: American Mathematical Society.

Haegeland, T., Raaum, O., & Salvanes, K. G. (2012). Pennies from heaven? Using exogenous tax variation to identify effects of school resources on pupil achievement. *Economics of Education Review, 31*(5), 601-614.

Hanes, S., Kerins, T., Perlman, C., Redding, S., & Ross, S. (2009). *Evaluating the statewide system of support*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Hanushek, E. A. (1986). The economics of schooling: Production and efficiency in public schools. *Journal of Economic Literature, 24*(3).

Harris, A. (2011). System improvement through collective capacity building. *Journal of Educational Administration, 49*(6), 624-636.

Hattie, J. C. (2009). *Visible learning: A Synthesis of over 800 meta-analyses relating to achievement*. New York: Routledge.

Haycock, K. (1998). Good teaching matters...A lot. *OAH Magazine of History, 13*(1), 61-63.

Henderson, A., & Redding, S. (2011). Parent leadership. In S. Redding, M. Murphy & P. Sheley (Eds.), *Handbook on family and community engagement*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., et al. (2008). *Turning around chronically low-performing schools: A practice guide* (No. NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Hiatt, J. M. (2006). *ADKAR: A model for change in business, government and our community*. Loveland, CO: Prosci Learning Center Publications.

Honig, M. I., Copland, M. A., Rainey, L., Lorton, J. A., & Newton, M. (2010). *Central office transformation for district-wide teaching and learning improvement*. Seattle, WA: University of Washington Center for the Study of Teaching and Policy.

Hoover-Dempsey, K. (2011). Self-efficacy: Up to the challenge. In S. Redding, M. Murphy & P. Sheley (Eds.), *Handbook on family and community engagement*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Idaho Board of Education. (2006). *Idaho Board of Education consent agenda meeting materials: June 14-15, 2006*. Retrieved March 29, 2012, from http://www.boardofed.idaho.gov/meetings/board/archive/2006/06_15_06/consent.pdf.

Idaho Comprehensive Literacy Act: Reading assessment, Idaho Code § 33-1614 (1999).

Idaho Department of Education. (2009a). Idaho Statewide System of Support (SSOS) Action Plan.

Idaho Department of Education. (2009b). *Instructional Core Focus Visit: Patterns of practice process manual*. Boise, ID: Idaho Department of Education.

Idaho Department of Education. (2009c). Theory of Action for the Idaho Statewide System of Support (SSOS).

Idaho Department of Education (2010). Idaho Race to the Top grant application. Available from http://www.sde.idaho.gov/site/race/docs/Idaho%20Grant%20Application.pdf

Idaho Department of Education (2012). Idaho State Department of Education ESEA Flexibility Request (02/16/2012). Available from http://www2.ed.gov/policy/eseaflex/id.pdf

Idaho Department of Education. (n.d.-a). Adequate Yearly Progress (AYP). Retrieved March 29, 2012, from http://www.sde.idaho.gov/site/assessment/ISAT/ayp.htm

Idaho Department of Education. (n.d.-b). High Schools That Work & Making Middle Grades Work. Retrieved March 29, 2012, from http://www.sde.idaho.gov/site/hstw/

Idaho Department of Education. (n.d.-c). Superintendents' Network of Support. Retrieved April 17, 2012, from http://www.sde.idaho.gov/site/ssos/suptNetworkofSupport/

Idaho Education Association. (2012). Busy day in Senate Education. Retrieved March 20, 2012, from http://idahoea.org/hotline/articles/busy-day-in-senate-education1

Idaho House of Representatives. (2012). *House Joint Memorial No. 8*. Retrieved March 20, 2012, from http://legislature.idaho.gov/legislation/2012/HJM008.pdf.

Idaho Office of the State Board of Education (2009). *Idaho consolidated state application accountability workbook*. Available from http://www2.ed.gov/admins/lead/account/stateplans03/index.html

Idaho State Department of Education. (2011). *Making meaningful connections in the WISE Tool*. Retrieved December 31, 2011, from http://www.sde.idaho.gov/site/schoolImprovement/docs/Making%20Meaningful%20Connections%20In%20the%20WISE%20Tool.pdf.

Jeynes, W. (2011). Aspiration and expectations: Providing pathways to tomorrow. In S. Redding, M. Murphy & P. Sheley (Eds.), *Handbook on family and community engagement*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Johnson, H. (2006). *Idaho assessment letter*. Retrieved November 30, 2009, from http://www.ed.gov/admins/lead/account/nclbfinalassess/id3.html.

Kincheloe, J. L. (2005). *Critical pedagogy primer*. New York, NY Peter Lang Publishing, Inc.

Kinnaman, L. (2009). *Idaho Building Capacity: Developing a statewide system of support for districts and schools in need of improvement.* Unpublished Dissertation, Boise State University, Boise, ID.

Knapp, M. S., Copland, M. A., Honig, M. I., Plecki, M. L., & Portin, B. S. (2010a). *Learning-focused leadership and leadership support: Meaning and practice in urban systems*. Seattle, WA: University of Washington Center for the Study of Teaching and Policy.

Knapp, M. S., Copland, M. A., Honig, M. I., Plecki, M. L., & Portin, B. S. (2010b). Urban renewal: The urban school leader takes on a new role. *Journal of Staff Development, 31*(2), 24-29.

Knapp, M. S., Copland, M. A., Plecki, M. L., & Portin, B. S. (2006). *Leading, learning, and leadership support*. Seattle, WA: University of Washington Center for the Study of Teaching and Policy.

Knapp, M. S., Copland, M. A., & Talbert, J. E. (2003). *Leading for learning: Reflective tools for school and district leaders*. Seattle, WA: University of Washington Center for the Study of Teaching and Policy.

Knight, J. (2009). Coaching: The key to translating research into practice lies in continuous, job-embedded learning with ongoing support. *Journal of Staff Development, 30*(1), 18-20, 22.

Lane, B. (2010). *Transforming a statewide system of support: The Idaho story*. Lincoln, IL: Academic Development Institute Center on Innovation & Improvement.

Langan, D., & Aspey, S. (2003, March 12). Paige blasts "soft bigotry of low expectations": Says every school must teach every student to high level with high

standards. *U.S. Department of Education*. Available from http://www2.ed.gov/news/pressreleases/2003/03/03122003.html

Leithwood, K. (2010). Characteristics of school districts that are exceptionally effective in closing the achievement gap. *Leadership and Policy in Schools, 9*(3), 245-291.

Leithwood, K., Harris, A., & Hopkins, D. (2008). Seven strong claims about successful school leadership. *School Leadership and Management, 28*(1), 27-42.

Lewis-Beck, M. S., & Alford, J. R. (1980). Can government regulate safety? The coal mine example. *The American Political Science Review, 74*(3).

Lezotte, L. W. (2001). Revolutionary and evolutionary: The effective schools movement. Retrieved December 18, 2011, from http://www.effectiveschools.com/images/stories/RevEv.pdf

Lezotte, L. W. (2009). Effective schools: Past, present, and future (presentation given upon receipt of the 2009 Brock International Prize in Education). Retrieved December 21, 2011, from http://www.effectiveschools.com/images/stories/brockpaper.pdf

Little, J. W. (2012). Understanding data use practice among teachers: The contribution of micro-process studies. *American Journal of Education, 118*(2), 143-166.

Loucks, S. F., & Hall, G. E. (1979). *Implementing innovations in schools: A concerns-based approach*. Paper presented at the Annual Meeting of the American Educational Research Association.

Maine Department of Education. (n.d., January 23, 2009). School improvement handbook. *General NCLB Topics* Retrieved December 31, 2011, from

http://www.maine.gov/education/nclb/school_improvement/cips_handbook_titles.htm

Manzo, K. K. (2008, May 7). Reading First doesn't help pupils "Get It": Other factors skewing results of study, federal officials posit. *Education Week*.

Mart, A., Dusenbury, L., & Weissberg, R. P. (2011). Social, emotional, and academic learning: Complementary goals for school-family partnerships. In S. Redding, M. Murphy & P. Sheley (Eds.), *Handbook on family and community engagement*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Marzano, R. J. (2000). A new era of school reform: Going where the research takes us. Unpublished Working Paper. Mid-continent Research for Education and Learning (McREL).

McDowall, D., McCleary, R., Meidinger, E. E., & Hay, R. A. (1980). *Interrupted time series analysis* (Vol. 07-021). Beverly Hills, CA: Sage Publications, Inc.

Mellard, D. F., & Johnson, E. (2008). *RTI: A practitioner's guide to implementing response to intervention*. Thousand Oaks, CA: Corwin Press.

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform - A report to the nation and the Secretary of Education*. Washington, DC: United States.

Nelsestuen, K. (2008). *Evaluation of the Idaho Reading First intensive technical assistance project*. Portland, OR: Northwest Regional Education Laboratory (NWREL).

Nelsestuen, K., Burke, A., Greenberg-Motamedi, J., & Scott, C. (2009). *Idaho Reading First annual evaluation report: 2008-2009*. Portland: Education Northwest.

Nelsestuen, K., & Roccograndi, A. (2010). *How Title I and IDEA funds from ARRA were used in Idaho districts: Phase I report*. Portland, OR: Education Northwest.

Newmann, F. M., King, M. B., & Youngs, P. (2000). Professional development that addresses school capacity: Lessons from urban elementary schools. *American Journal of Education, 108*(4), 259-299.

Newmann, F. M., Smith, B., Allensworth, E., & Bryk, A. S. (2001). Instructional program coherence: What it is and why it should guide school improvement policy. *Educational Evaluation and Policy Analysis, 23*(4), 297-321.

Nicoletti, C., & Rabe, B. (2012). The effect of school resources on test scores in England. *Journal*. Retrieved from https://www.iser.essex.ac.uk/publications/working-papers/iser/2012-13

No Child Left Behind Act, 20 U.S.C. 6301 et seq. (2001).

Noll, J. W. (1999). *Taking sides: Clashing views on controversial educational issues*. Guilford, CT: Dushkin/McGraw-Hill.

Office of Educational Assessment. (2005). Program evaluation: Frequently asked questions. Retrieved October 16, 2011, from http://www.washington.edu/oea/services/research/program_eval/faq.html

Office of the Idaho Governor. (2009/2011). State Fiscal Stabilization Fund Application: U.S. Department of Education.

Oklahoma State Department of Education. (n.d.). No Child Left Behind: District and school improvement. Retrieved December 31, 2011, from http://sde.state.ok.us/NCLB/Improvement.html

Priest, S. (2001). A program evaluation primer. *Journal of Experiential Education, 24*(1), 34-40.

Provasnik, S., KewalRamani, A., Coleman, M. M., Gilbertson, L., Herring, W., & Xie, Q. (2007). *Status of education in rural America: NCES 2007-040*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences.

Purkey, S. C., & Smith, M. S. (1983). Effective schools: A review. *The Elementary School Journal, 83*(4), 426-452.

Redding, S. (2006). *The Mega System: Deciding. Learning. Connecting*. Lincoln, IL: Academic Development Institute.

Redding, S. (2011). The school community: Working together for student success. In S. Redding, M. Murphy & P. Sheley (Eds.), *Handbook on family and community engagement*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Redding, S., & Walberg, H. J. (2007). *Strengthening the Statewide System of Support: A manual for the Comprehensive Center and State Education Agency*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Redding, S., & Walberg, H. J. (2008). *Handbook on statewide systems of support*. Charlotte, NC: Information Age Publishing.

Reed, B. (2011, Fall-Winter). From good to great. *Education Northwest Magazine, 17,* 10-15.

Rhim, L. M. (2011). Engaging families and communities in school turnarounds: When students can't wait. In S. Redding, M. Murphy & P. Sheley (Eds.), *Handbook on family and community engagement*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Rhim, L. M., Kowal, J., Hassell, B. C., Hassell, E. A., & Public Impact. (2007). *School turnarounds: A review of the cross-sector evidence on dramatic organizational improvement*. Lincoln, IL: Center on Innovation & Improvement.

Robinson, V. M. J., McNaughton, S., & Timperley, H. (2011). Building capacity in a self-managing schooling system: the New Zealand experience. *Journal of Educational Administration, 49*(6), 720-738.

Santayana, G. (1905/2009). *The life of reason* (Vol. 3 of Reason in Religion): General Books LLC.

Scheerens, J., & Bosker, R. J. (1997). *The foundations of educational effectiveness*. New York, NY: Pergamon.

Schmoker, M. (2006). *Results now: How we can achieve unprecedented improvements in teaching and learning*. Alexandria, VA: Association for Supervision and Curriculum Development.

Scriven, M. (2004). Michael Scriven on the differences between evaluation and social science research. *The Evaluation Exchange, IX,* 7.

Shadish, W. R., & Cook, T. D. (2009). The renaissance of field experimentation in evaluating interventions. *Annual Review of Psychology, 60*, 607-629.

Shannon, G. S., & Bylsma, P. (2007). *The nine characteristics of high-performing schools: A research-based resource for schools and districts to assist with improving student learning*. Olympia, WA: Office of the Superintendent of Public Instruction.

Sheldon, S. B. (2011). A framework for partnerships. In S. Redding, M. Murphy & P. Sheley (Eds.), *Handbook on family and community engagement*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Stewart, R. (2005). *Idaho Reading First 2004-2005 evaluation*. Boise: BSU Center for School Improvement & Policy Studies.

Stewart, R. (2006). *Idaho Reading First 2005-2006 evaluation*. Boise: BSU Center for School Improvement & Policy Studies.

Stewart, R. (2007). *Idaho Reading First 2006-2007 evaluation*. Boise: BSU Center for School Improvement & Policy Studies.

Stullich, S., Eisner, E., & McCrary, J. (2007). *National assessment of Title I: Final report* (Vol. I: Implementation). Washington, DC: National Center for Education Evaluation and Regional Assistance Institute of Education Sciences, U.S. Department of Education.

Stullich, S., Eisner, E., McCrary, J., & Roney, C. (2006). *National assessment of Title I: Interim report* (Vol. I: Implementation). Washington, DC: National Center for Education Evaluation and Regional Assistance Institute of Education Sciences, U.S. Department of Education.

The Center for Educational Effectiveness. [CEE]. (2011). Leadership, Instruction, Organization: Better data, better decisions, better schools. Retrieved April 10, 2012, from http://www.effectiveness.org/

Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration* (No. 9780790326290 0790326299). Wellington, N.Z.: Ministry of Education.

Trochim, W. M. K. (2006, October 20, 2006). The research methods knowledge base. 2nd. Retrieved May 17, 2012, from http://www.socialresearchmethods.net/kb/intreval.php

Tyack, D., & Cuban, L. (1995). *Tinkering toward utopia*. London, UK: Harvard University Press.

U.S. Department of Education. (2000). Title I grants to local educational agencies (Archived Information). Retrieved October 9, 2012, from http://www2.ed.gov/offices/OUS/title1.html

U.S. Department of Education. (2005). *Idaho Title I monitoring report*. Retrieved March 29, 2012, from http://www.thompson.com/images/tpg/nclb/monitoringreports/idltrrpt05.doc.

U.S. Department of Education. (2006). Fiscal Year 2007 ED budget summary: Elementary and Secondary Education (Archived). Retrieved March 18, 2012, from http://www2.ed.gov/about/overview/budget/budget07/summary/edlite-section2a.html

U.S. Department of Education. (2007a). *School Improvement Fund state application: Section 1003(g) fiscal year 2007*. Retrieved April 1, 2012, from http://www2.ed.gov/policy/elsec/guid/stateletters/schimpfundappl.pdf.

U.S. Department of Education. (2007b). Secretary Spellings awards over $52 million to 21 states in School Improvement Grants. Retrieved April 1, 2012, from http://www2.ed.gov/news/pressreleases/2007/12/12202007.html

U.S. Department of Education. (2008). *Idaho Title I monitoring report*. Retrieved March 29, 2012, from http://www.thompson.com/images/tpg/nclb/monitoringreports/2007-08monitoringreport-idaho.doc.

U.S. Department of Education. (2010a). *Achieving dramatic school improvement: An exploratory study*. Washington, DC.

U.S. Department of Education. (2010b, January 20). Guidance on school improvement grants. *School Improvement Fund.* Retrieved May 1, 2010, from http://www2.ed.gov/programs/sif/faq.html

U.S. Department of Education. (2010c, January). School improvement grants application. *School Improvement Fund.* Retrieved February 8, 2010, from http://www2.ed.gov/programs/sif/applicant.html

U.S. Department of Education. (2011, March 30). Overview: The Federal role in education. Retrieved December 26, 2011, from http://www2.ed.gov/about/overview/fed/role.html

U.S. Department of Education. (2012, February 4, 2013). ESEA Flexibility. Retrieved February 10, 2013, from http://www2.ed.gov/policy/elsec/guid/esea-flexibility/index.html

U.S. Government Accountability Office. (2011). *Disadvantaged students: Schools districts have used Title I funds primarily to support instruction*. Retrieved October 9, 2012, from http://www.gao.gov/new.items/d11595.pdf.

U.S. Government Accountability Office. (2012). *Designing evaluations: 2012 revision*. Retrieved May 3, 2012, from http://www.gao.gov/products/GAO-12-208G.

U.S. Senate. (2006). *Senate hearings before the Committee on Appropriations: Departments of Labor, Health and Human Services, Education, and related agencies appropriations (S. HRG. 109–286, PT. 6)*. Retrieved March 18, 2012, from http://www.gpoaccess.gov/congress/index.html.

Ungar, M. (2011). The social ecology of resilience: Addressing contextual and cultural ambiguity of a nascent construct. *American Journal of Orthopsychiatry, 81*(1).

United States General Accounting Office. (2000). *Program evaluation: Studies helped agencies measure or explain program performance*. Retrieved October 16, 2011, from http://www.gao.gov/new.items/gg00204.pdf.

Walberg, H. J. (2007). *Handbook on restructuring and substantial school improvement*. Charlotte, NC: Information Age Publishing, Inc.

Walberg, H. J. (2011). *Improving student learning: Action principles for families, classrooms, schools, districts, and states*. Charlotte, NC: Information Age Publishing, Inc.

Weiss, H., & Lopez, E. (2011). Making data matter in family engagement. In S. Redding, M. Murphy & P. Sheley (Eds.), *Handbook on family and community engagement*. Lincoln, IL: Academic Development Institute / Center on Innovation & Improvement.

Wisconsin Department of Public Instruction. (n.d., February 22, 2008). School-2-school (S2S) resource materials and support. Retrieved December 31, 2011, from http://dpi.wi.gov/sst/s2s_resource.html

Wong, M., Cook, T. D., Steiner, P. M., & Society for Research on Educational, E. (2009). *Comparison Groups in Short Interrupted Time-Series: An Illustration Evaluating No Child Left Behind*. Evanston, IL: Society for Research on Educational Effectiveness.

Worthen, B. R., Sanders, J. R., & Fitzpatrick, J. L. (1997). *Program evaluation: Alternative approaches and practical guidelines*. New York, NY: Addison Wesley Longman, Inc.