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THE FEDERAL SCHOOL IMPROVEMENT GRANT: TELLING THE STORY THROUGH QUANTITATIVE OUTCOMES

by

Gregg B. Dionne

A dissertation submitted to the Graduate College
in partial fulfillment of the requirements
for the Degree of Doctor of Philosophy
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THE FEDERAL SCHOOL IMPROVEMENT GRANT: TELLING THE STORY THROUGH QUANTITATIVE OUTCOMES

Gregg B. Dionne, Ph.D.

Western Michigan University, 2016

Student success and the mitigation of achievement gaps has been a focus of the federal government since passage of the Elementary and Secondary Education Act of 1965. The federal School Improvement Grant (SIG) is the latest in federal policy inducements to address this.

To tell the story of SIG implementation in one Midwestern state, data was collected from two groups of SIG-eligible schools, one group which received SIG funding and the other group which did not. Data was collected over multiple years and included mathematics and reading outcomes as well as graduation, dropout, and attendance rates. Data was obtained for 49 SIG-eligible and funded schools, and 156 SIG- eligible, but not funded schools. In addition, the SIG applications submitted to the state were analyzed for those SIG funded schools, as was implementation survey data as collected by the state.

An analysis examined differences in outcomes between the SIG-funded and non-funded schools, and the extent to which, if any, SIG funding, levels of per-pupil SIG funding, and chosen reform model could predict outcomes. This study also examined implementation activities to determine if reported levels of sustainability, buy-in and support, and success could also predict outcomes.

Findings from this study indicate that differences in mean outcome changes were not statistically significant between SIG funded and SIG non-funded schools. The receipt

of SIG funding, per-pupil SIG funding, and chosen reform model were predictors of some outcomes; however, covariates such as the percent poverty and the percent minority were more consistent in predicting outcomes. Levels of overall reported sustainability were also a predictor of improved outcomes in several models. The extent to which other variables could predict outcomes was not consistent; however, reported technology implementation and extended learning time actually predicted decreased outcomes in some models.

Overall, race and poverty are more consistent predictors of outcomes than SIG funding, SIG per-pupil funding, chosen reform model, and multiple implementation variables. More research is needed on federal school reform efforts, such as SIG, to determine what is happening in these schools and how outcomes are being impacted by implementation efforts.

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DEDICATION

This dissertation is dedicated to my mother Mary Ashton, my stepfather Mark Ashton, and all of my family who have always supported and loved me. I want to make a special dedication to my cousin Beau Richard Wern and my grandmother Isabelle Wern who are no longer with us. They have both give me strength when I really need it and provide the compass for why I really do all of this work. Beau was a brother to me and taught me about courage, tenacity, and the ability to keep pushing when things get really tough. My grandmother, who was so proud to get all six of her children though school, who volunteered at schools, and who had a big role in raising me, prepared me for so much in so many ways. While never a formal educator, she espoused the importance of education continually, and is the reason I went in to education as a profession.

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CHAPTER I

INTRODUCTION

Student success and educational policy implementation receives heightened attention as state and federal policy leaders demand increasing accountability for the use of public resources. Historically, the federal government has committed resources to decrease the achievement gap, and as such resources are utilized at the state and local levels, it is imperative that objectives are achieved. The study of policy implementation informs practice regarding the use and effectiveness of such resources, and offers information for future policy decisions and improvements.

Background

The Elementary and Secondary Education Act (ESEA) marked a new era in the role of the federal government in public education. The ESEA was passed in 1965 under the presidency of Lyndon B. Johnson, and was intended to close the achievement gap in the United States (U.S.) and provide equity among all students. The policy was part of the War on Poverty and initially included resources allocated for low-income students and the schools serving those students. The most recent authorization of the ESEA, otherwise known as the No Child Left Behind (NCLB) Act, occurred under president George W. Bush in 2002. This sweeping and bold policy instituted high levels of accountability for schools and introduced a system of sanctions for schools that did not perform.

President Obama expanded on these reforms by focusing on low-performing schools through competitive grants for states and Local Education Agencies (LEAs). The American Recovery and Reinvestment Act (ARRA) was signed into law in 2009 by President Obama in an effort to jumpstart the American economy. ARRA included several investments in education by the federal government including Race to The Top

(RTTT), Investing in Innovation, State Educational Technology Grants, and the federal School Improvement Grant (SIG) among others.

SIG Policy and Requirements

This federal SIG is the latest in the federal policy initiatives to reform education at the school and district levels from the United States Department of Education (USED). The SIG is a competitive grant program through USED administered by states, and requires applicants to commit to one of the four federally approved school transformation models. The ESEA Title I Part A Section 1003 (g) identifies the School Improvement Grant program through USED. The USED (2015) provides the following program description on their website:

> School Improvement Grants (SIG), authorized under section 1003(g) of Title I of the Elementary and Secondary Education Act of 1965 (Title I or ESEA), are grants to State educational agencies (SEAs) that SEAs use to make competitive subgrants to local educational agencies (LEAs) that demonstrate the greatest need for the funds and the strongest commitment to use the funds to provide adequate resources in order to raise substantially the achievement of students in their lowest-performing schools. (para. 1)

There are now seven federally approved school reform models (Redding, Dunn, & McCauley, 2015), of which four were allowable for SIG Cohort I and II schools. SIG Cohort I schools are those that were funded beginning in 2010 and are the original recipients of the grant while Cohort II schools are those funded beginning in 2011. The grant duration was three years for recipients. As part of the SIG requirement, schools that applied had to choose one of the original four models to implement. The first is the *turnaround model*. Under this model, schools were required to replace the principal and

rehire no more than 50% of the staff. This model also grants the principal sufficient operational flexibility (including in staffing, calendars, instructional time, and budgeting) to implement a comprehensive approach to substantially improve student outcomes. The second model, or *restart model*, required a district to convert a school or close and reopen it under a charter school operator, a charter management organization, or an education management organization that has been selected through a rigorous review process. The third model, *school closure*, required that the district close a school and enroll the students who attended that school in other schools in the LEA that are higher achieving. The fourth model known as the *transformation model* required that the school implement each of the following strategies: (1) replace the principal and take steps to increase teacher and school leader effectiveness; (2) institute comprehensive instructional reforms; (3) increase learning time and create community-oriented schools; and (4) provide operational flexibility and sustained support.

There have been four rounds of federal funding as of this writing for the SIG, known as SIG Cohorts I, II, III, and IV. According to the USED website (2015), overall funding for SIG nationwide has ranged from $546 million to approximately $505 million between 2010 and 2014.

SIG policy flowed from the federal level to the building level through the SEA. SEAs that were interested were required to apply for SIG funding through USED and administer the SIG to LEAs based on the greatest need and the ability of the LEA to demonstrate a commitment to use the funds to achieve the desired outcomes (ESED, 2004). The functions of the SEA related to services to the field include leadership and advocacy, provision of information, setting standards and evaluating programs, allocation

of resources and compliance monitoring, assistance with continuous improvement, and interventions to correct deficiencies (Redding & Nafziger, 2013).

While there was some flexibility in how states administered the grant and awarded allocations, there were federal requirements that prescribed eligibility and the actions for schools. State Education Agency (SEA) administration of the grants was predicated on the ability of schools to demonstrate a plan based on one of the four models and the eligibility of the schools under the application criteria identified by USED.

Schools eligible for SIG funding were identified by SEAs, in tiers as identified by USED. According to USED (2009), a Tier I school is any Title I school in improvement, corrective action, or restructuring that is either among the lowest-achieving five percent of Title I schools in improvement, corrective action, or restructuring in the state; or is a high school that has had a graduation rate that is less than 60% over a number of years. Tier II schools are secondary schools that are eligible for, but do not receive, Title I funds and are among the lowest-achieving five percent of secondary schools in the state that are eligible for, but do not receive, Title I funds; or is a high school that has had a graduation rate of less than 60% over a number of years. Tier III schools are defined as any state Title I school in improvement, corrective action, or restructuring. These bottom five percent of schools are referred to as *priority schools* (previously referred to as *persistently lowest-achieving* schools) and are determined by states based on federal criteria. Since SIG is a competitive grant, not all priority schools that apply received SIG funding through the SEA. The SEAs have the ability to set exact criteria, which could include schools with low absolute performance but high growth rates over a number years, or the bottom 6–10% of Title I schools in improvement, corrective action, or restructuring.

As schools implement new policies, such as SIG school reform initiatives, deliberate execution with fidelity is necessary and in many cases difficult. Implementation factors and difficulties are inherent in SIG implementation given that the SIG offers significant funding for considerable changes in schools. McGlaughlin (1987) addressed policy implementation difficulties in education and illustrated these by stating "Perhaps the overarching, obvious conclusion running through empirical research on policy implementation is that it is incredibly hard to make something happen, most especially across layers of government and institutions" (p. 172). Educators bring schemas to the process from their training and professional learning within the current systems and from their higher education training. As new policies are implemented, educators will need to consider these implementation strategies as a whole as well as to develop policy implementation actions based on the intent and rules around the use of resources, sometimes in conflict with the knowledge they already have about their practice (Spillane, Reiser, & Reimer, 2002). With this in mind, my research investigated implementation of the federal SIG in one Midwestern state in the U.S.

Problem Statement

Historical research on policy implementation has revolved largely around the difficulties and failures of implementation. Third generation research focuses on the implementation of complex policies with attention paid to unfamiliar approaches to instruction and the expansion of successful reforms (Fowler, 2013). New policies around education reform also incorporate the monitoring of outcomes related to student achievement and success.

Previous studies have explored the topic of policy implementation at the school level and how educators have implemented policies including limitations of

implementation. Such limitations of implementation can be explained through the implementation and cognition lens which purports that educators use their prior knowledge, experiences, and schemas to shape what they believe new policy is (Spillane et al., 2002). This limits the ability to implement due to a less than full understanding of the reform. Other studies consider policy implementation through the lens of implementers as learners. This suggests that implementers interpret a new policy via their past experiences and requires that leaders work very hard to help the implementers learn new schema related to implementation (Fowler, 2013).

Other research addresses school-level implementation of policy related to leadership and implementation capacity within a school. According to Rhim and Redding (2011), "Schools succeed or fail based largely on the collective skills of the professionals working in the schools and in the broader district and state systems focused on supporting the schools" (p. 41). The skills of these educational leaders are critical particularly when considering their responsibility for large scale and disruptive change. The delivery of high-quality instruction is essential to school turnaround and is apparent in the literature. To illustrate this, Zavadsky (2012) indicated that "The most successful turnaround schools have had clear focus, concise and consistent messages, aligned supports, and leaders and teachers who are able to address whatever was missing or not working instructionally to help students succeed" (p. 34). Leadership is addressed specifically in the upcoming literature review and instruction, as well as other potential practices, is addressed through the discussion of professional learning which is the primary vehicle for improving instructional practices within schools.

Given that SIG schools have leverage over the reforms they choose, to some extent, school-level strategies can vary widely. Little is known about what specific

strategies schools are employing to achieve results, which can range from canned programs to alignment of local assessments and curriculum. Recent studies have researched implementation through case studies of SIG implementation generally (Le Floch et al., 2014). Limited research exists, however, about how schools that have implemented school reform under SIG have utilized their resources, and the impact these resources and reform efforts have yielded. Other recent studies have researched school turnaround and SIG implementation generally as well as by examining outcomes in reading and mathematics; however, little research exists that addresses the implementation of the federal SIG program at the school-level, especially related to multiple outcomes. Furthermore, little research is available on how SIG funding can predict outcomes related to multiple variables. A more thorough understanding of these facets informs future policy implementation.

Purpose Statement and Research Questions

Poor student achievement is an issue that plagues all states within the U.S. Historically, education reforms have consisted of multiple strategies, including a combination of sanctions and inducements, the implementation of these strategies is largely related to multiple factors (Elmore & McDonnell, 1987). The SIG is the latest in federal policy intended to improve outcomes for students. Student outcomes that go beyond state assessment results to include attendance, graduation, and dropout rates were analyzed to more fully understand implementation efforts. Furthermore, the significance of funding and expenditures along with further research on implementation strategies and sustainability data provides valuable information to inform future policy decisions and contribute to the larger body of research related to the implementation of federal educational policies.

The purpose of my research was to investigate policy implementation factors and outcomes at identified SIG Cohort I and II schools. Of particular interest was how the SIG was implemented in schools across one Midwestern state related to funding and outcomes such as improvements in student achievement in reading and mathematics, attendance rates, graduation rates, and dropout rates. These variables were compared for SIG-eligible schools that did not receive SIG funding and those that did receive funding, as well as provide analysis of SIG Cohorts I and II schools related to per-pupil SIG funding. Analysis of these schools' per-pupil SIG funding levels provided further information related to connections between funding levels and outcomes. Additionally, this study investigated other factors such as reported implementation strategies, sustainability, staff buy-in, and levels of success from a subset of schools, for which detailed data is available. The research questions for this study were as follows:

1. For SIG-funded schools (Cohort I and II), what reform elements were proposed for implementation within their SIG applications?
2. For two groups of SIG-eligible schools, those that received SIG funding and those that did not,
    a. to what extent, if any, are there differences in school outcomes over three years (e.g., state standardized assessment scores, attendance rates, graduation rates, and dropout rates); and
    b. to what extent, does the obtainment of SIG funding predict such outcomes?
3. For two combined groups of SIG-funded schools (Cohort I and Cohort II), to what extent can SIG per-pupil funding and reform models predict any outcome

variables (e.g., state standardized assessment scores, attendance rates, graduation rates, and dropout rates)?

4. After three years of implementation for SIG Cohort I schools,
    a. in what ways did these schools report actual implementation of various strategies compared to what had been indicated in their SIG applications;
    b. what levels of sustainability, buy-in and support, and levels of success did they report; and
    c. to what extent can reported reform strategies, sustainability, and buy-in and support predict any outcome variables (e.g., state standardized assessment scores, attendance, graduation rates and dropout rates)?

Conceptual Framework

The conceptual framework for my research consists of three main components that impact student outcomes. The three components are policy implementation theory, school-level components, and implementation factors. For the purposes of this research, I used the terms school turnaround and reform synonymously given that available research does not necessarily distinguish the two. Figure 1 displays a visual representation of these factors and how they interact. The arrows in the figure demonstrate direct relationships and impacts. Overall, policy implementation theory influences school-level components as well as implementation factors directly; however, school-level components and implementation factors, such as leadership, professional learning, instructional components, and funding have an impact on and a relationship to each other in a direct manner. These components elicit outcomes when they are all applied within a system.

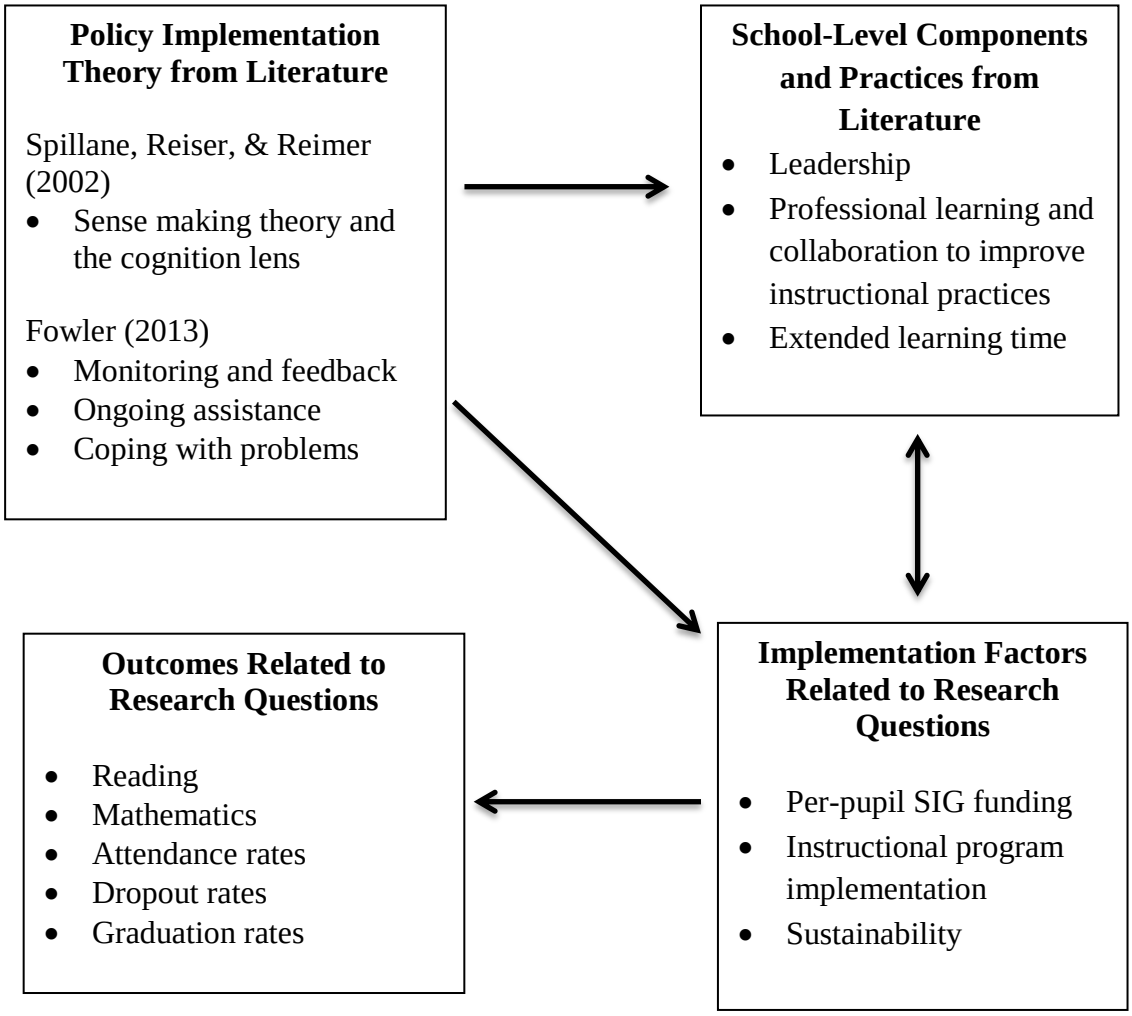

Figure 1. SIG Implementation Factors and Outcomes (Dionne, 2016).

The first component of the conceptual framework through which I viewed my topic was the policy implementation and cognition lens, more specifically, the sense-making theory (Spillane et al., 2002). The sense making theory involves the cognitive process of making sense of complex activities. Sense making and the cognitive processes related to implementation involve, to a large extent, the ideas and knowledge that practitioners bring to the implementation process. This prior knowledge influences how policies are implemented and to what extent the policies are implemented. According to Spillane et al. (2002):

> An individual's prior knowledge and experience, including tacitly held expectations and beliefs about how the world works, serve as a lens influencing what the individual notices in the environment and how the stimuli that are noticed are processed, encoded, organized, and subsequently interpreted. Schemas are knowledge structures that link together related concepts used to make sense of the world and to make predictions. (p. 394)

This lens explains the phenomena that agents can understand new ideas as familiar and thus hinder the change intended by new policies. For the purposes of this study, agents are educators responsible for implementing policy. In the context of putting new ideas or policies into action, Spillane et al. (2002) stated "New ideas either are understood as familiar ones, without sufficient attention to aspects that diverge from the familiar, or are integrated without restructuring of existing knowledge and beliefs, resulting in piecemeal changes in existing practice" (p. 398). The limiters represented through this lens can influence variance in implementation levels.

This lens is also expressed by Fowler (2013) in relation to what he calls "Third Generation Research" on implementation which refers to the implementation of complex policies. Through this lens Fowler discusses the implementation limiters around the cognitive psychology framework. One such limiter is that implementers interpret policy in terms of their past experiences and will need to learn new schemas in order to successfully implement new policies. This lens also purports that implementers need to be provided with the systems necessary to learn collectively how to implement new policies (Fowler, 2013).

The school-level components and practices are not specific to school reform rather are inherent in school improvement generally and provide for a much broader range of activities that contribute to school success as indicated in the literature represented in Chapter two. These components are implemented through the policy implementation theory lens and impact the more specific components of policy implementation. Leadership, professional learning to improve instructional practices, and extended learning time are stressed here given that these school-level components, implemented around the more specific practices identified in the framework, should improve student outcomes and ultimately those of the schools in which they are implemented. These components are also prevalent in available research related to school improvement, school reform, and identified specifically in SIG requirements in some cases.

The third component of the framework, implementation factors that are related to my research questions, includes the inputs that include funding and program implementation strategies that will be explored in more detail with SIG Cohort I schools. These components are directly linked, as indicated by arrows in Figure 1, to school-level

components and policy implementation theory directly as they both impact how these components are implemented and to what extent.

In general, Figure 1 provides a visual representation of how policy implementation theory is applied to school-level activities related to school improvement and reform and more specifically to some of the implementation factors described here. The school-level activities can also be thought of as the activities that need to be implemented with fidelity in order to produce positive outcomes related to my research questions. The policy implementation theory component of the framework can be applied to both the school-level activities and the implementation factors since they are both dependent on implementation with fidelity.

Methods Overview

My quantitative non-experimental study examined implementation factors and outcomes from SIG Cohort I and II schools using data already collected by the SEA within one Midwestern state. This study also included an ex-post facto analysis of school-level data related to student achievement in reading and mathematics, attendance, graduation rates, and dropout rates, comparing outcomes from SIG Cohort I and II schools with those from eligible schools that did not receive SIG funding. These factors were analyzed for SIG Cohort I and II schools combined to determine the extent, if any, funding variables had on outcomes. Finally, SIG Cohort I schools, for which enhanced data was available, were examined in greater detail to determine specific activities implemented, sustainability, buy-in, and reported success levels as reported by the schools as well as the extent to which these variables could predict outcomes for schools.

Significance of Study

This study builds on other SIG research related to early findings indicated in the literature review and goes on to examine additional outcomes related to SIG funding such as student performance in reading and mathematics, while also exploring attendance rates, graduation rates, and dropout rates for a select sample of schools in one Midwestern state. This study also examined these factors across two cohorts of SIG schools that have completed the SIG program. Additionally, this study examined implementation factors specific to SIG Cohort I schools related to implementation strategies, sustainability, buy-in and support, and reported levels of success by schools.

This study is unique in that the data was accessible to me because of my role within a SEA. While these data were collected for other reporting purposes, I utilized them for this study to provide a secondary analysis of selected schools.

My study provides policy makers with information relating to the use of public funds to turn around low-performing schools via the implementation of federal education policy at the school level. As the need to improve education and close achievement gaps remains a priority, decisions related to policy and funding of school turnaround are important, and using data to drive such decisions helps utilize public resources in a manner that fosters results. Additionally, this study provides educators important information related to the use of funds to promote school turnaround and improve student achievement. Specific findings from my research help to identify implementation strategies aligned to quantitative outcomes. This study also provides information for SEAs to consider when writing specific grant criteria as similar funding opportunities become available through the federal government, or when considering the use of other

funding mechanisms intended to turnaround low-performing schools and improve student achievement.

Chapter I Summary

School reform and school-level turnaround efforts are identified priorities with the USED. As resources are allocated to reforming education in this country, the lessons learned from implementation are paramount in providing guidance and implementation strategies. Examining schools that have employed reform efforts and their outcomes provides insight into how these challenges are met by schools and can be applied to a broader audience.

CHAPTER II

LITERATURE REVIEW

This chapter begins with a look at policy implementation in general and investigates some of the theoretical foundations for policy implementation research over time as well as the policy instruments utilized by policymakers. This literature review also provides information relating to my study by identifying background information on school reform and turnaround implementation, specific components of school reform related to SIG, and exploring the research exists on the topic of policy implementation related to school reform efforts and SIG more specifically.

This literature review also focuses on three components of school reform and implementation that have not only emerged in the available research but, are also noted in the final requirements for SIG in the Federal Register (2010).These components include leadership, professional learning, and increased learning time.

Policy Implementation Research

Knowledge about policy implementation in general provides a background for more specific implementation efforts discussed later. Literature on policy implementation research is included in this literature to illustrate how policy implementation has been studied historically and how current research has evolved to a more outcomes-based approach. This section also provides specific background related to the complexity of policy implementation in education. Given that policies are not typically specific actions but rather a set of expectations and outcomes, careful attention should be paid to the agents that implement policies and how they implement these policies to assure effectiveness. Birkland (2011) defined implementation as “The process by which policies enacted by government are put into effect by the relevant agencies” (p. 263). Another

definition of policy implementation offered by O'Toole (2000) reads "Policy implementation is what develops between the establishment of an apparent intention on the part of government to do something, or to stop doing something, and the ultimate impact in the world of action" (p. 266).

A myriad of variables exist in the implementation-level actions undertaken at various levels. This is particularly true in the field of education since individual administrators, teachers, and other school staff each play a role in implementation, and that each of these agents will likely implement with varying levels of fidelity and consistency based on their expertise, training, and notions of implementation of the policy (Spillane et al., 2013).

One job of educators has been summarized by Fowler (2013) as *policy implementers*. These implementers include officials at the federal, state, and local levels that have the legal authority to put new policies into effect. While policies vary in their level of complexity with regards to implementation, it is important to note here what Fowler considers to be the more difficult implementation situations in which redistributive, capacity, or system-changing policies are involved. These policies require a more ambitious approach to implementation and often include systemic changes or scaling of initiatives. Fowler has categorized policy implementation into three generations of research.

First generation research, referred to as the difficulty of implementation, focused on the challenges and sometimes impossibility of policy implementation. Causes of these difficulties include ideology, capacity, and school culture. This first generation of implementation research provided lessons to spur further research. There was, and perhaps still is in some circles, an expectation that when a policy directive is issued that

people followed it. This was untrue because the agents either did not want to follow the policy or that they did not know how to follow the policy (Fowler, 2013). A typical study in this first generation of implementation research looked at school-level implementation. Fowler referred to the challenges of formal implementers by indicating the following:

> The implementers may not want to follow it, or they may not be able to. Moreover, change is hard and the status quo is comfortable. Policies are implemented only if the formal policy implementers are willing and able to work hard and put them in place. (p. 244)

Second generation research, according to Fowler (2013) focused on the analysis of failure and success. Such research considered successful and unsuccessful implementation in an attempt to determine why some policies are fully implemented and why others are not. Studies from this generation of research often involved school-level research and the findings from this generation are reported in relation to levels of success. Second generation research offers hope that implementation can be successful and provides common characteristics of such implementation. Fowler stated that "Using carefully constructed quantitative and qualitative research designs, second generation researchers have teased out many of the common characteristics of strong and weak implementation" (p. 248). Given the difficulty of implementation, many policies are never implemented as intended. Implementation can be apparent on the surface level and as Fowler indicated "Among those policies that are not implemented, a watered down version is often put in place. Sometimes nothing changes at all" (p. 248). This generation of research highlighted the difficulty and hard work required to implement policies. Results of this research indicated that "making concrete recommendations to school

leaders about how to plan and carry out a policy implementation is now possible" (Fowler, 2013, p. 248).

Third generation research now involves the implementation of complex policies. As policies evolve in complexity, the implementation efforts too must evolve. Policies can be implemented with little to no adaptation or real change by instructional staff causing poor implementation outcomes. Fowler (2013) expressed this further by stating "Many of the reforms proposed since 1990 have, however, demanded that schools adopt new and unfamiliar approaches to teaching" (p. 249). Implementers are required to become learners of not only the new policies, but also of the new related strategies. Administrators and instructional staff are trained in content and pedagogy often with experiences in one or more educational settings. They bring ideas to their practice that influence implementation. Spillane et al. (2002) discussed this noting:

> In sum, our usual approach to processing new knowledge is a conserving process, preserving existing frames rather than radically transforming them. New ideas either are understood as familiar ones, without sufficient attention to aspects that diverge from the familiar, or are integrated without restructuring of existing knowledge and beliefs, resulting in piecemeal changes in existing practice. (p. 398)

The necessity of new knowledge application exacerbates the difficulty in implementation with fidelity. When these policies are innovative and require major changes, fidelity can become even more difficult to achieve. Spillane (2000) discussed this and indicated that:

> Policies that propose very innovative practices, relative to current practice and thinking about that practice, require implementers to make tremendous shifts in their existing conceptions of core ideas related to their practice. For locals to

> successfully implement such reforms would involve considerable change in their cognitive schemata. (p. 171)

Given the task of changing schemata, it is evident that the third generation research around policy implementation is highly complex. Implementation that includes changing schema involves significant effort and training. This requires that teachers and leaders understand the deep meaning and intent of the reform and that their practices reflect a commitment to the implementation of those policies.

Policy Instruments

Policy instruments and tools vary depending on intent and are the components that ultimately determine implementation. These instruments have an impact on the implementation and ultimately the outcome of the intended policy and are included in this literature review to provide background related to policy levers that may be used. Elmore and McDonnell (1987) identified four policy instruments used to shape outcomes. These four instruments are mandates, inducements, capacity-building, and system-changing.

Elmore and McDonnell (1987) defined mandates as "rules governing the action of individuals and agencies, and are intended to produce compliance" (p. 134). Mandates usually consist of two components. Those components are the language that spells out the required behavior and the penalty for not complying with the behavior (Fowler, 2013).

According to Elmore and McDonnell (1987) "inducements transfer money to individuals or agencies in return for certain actions" (p. 134). Inducements also include regulations and expectations that are tied to the money. Fowler (2013) indicated that inducements consist of two components which are the money, services, or in-kind

materials to be transferred and the guidelines that delineate how the money is intended to be used.

Capacity-building is defined by Elmore and McDonnell (1987) as "the transfer of money for the purpose of investment in material, intellectual, or human resources" (p. 134). Since this instrument involves investment, the full impact may not be noticed for some time. The intent is long-term permanent change, which is what sets it apart from inducements.

According to Elmore and McDonnell (1987), "system-changing transfers official authority among individuals and agencies in order to alter the system by which public goods and services are delivered" (p. 134). Fowler (2013) indicated that the central component of system-changing is a statute, administrative rule, or policy that eliminates or weakens the authority of an individual or agency and transfers the authority to a new individual or agency. This system change may also reallocate resources.

Political feasibility and available resources influence choices in policy instruments for policymakers. In the field of education, there can exist multiple instruments for a policy. Instruments used in education include those related to law, sanctions, grants, and other funding mechanisms. At the local level, districts and schools are tasked with implementing policy that includes multiple types of instruments depending on the students and programs in the system. Creating a coherent system across schools and districts can create challenges for implementation especially when looking at one policy individually.

Backward Mapping

Understanding policy implementation and the corresponding nuances from the ground level are critical aspects which can inform future policy decisions. It is important

to learn from implementation mistakes and errors but, it is more important to learn from successful examples of implementation to provide models for future success and to increase the likelihood of success for policy formulation and implementation (Birkland, 2011). Backward mapping can provide details on these examples and models. The study of policy implementation, according to Birkland, involves two approaches. These are referred to as *top-down* and *bottom-up* approaches. The top down approach to implementation is defined by Birkland as "A way of studying policy design and implementation that considers the goals of the highest-level policy designers, and traces the design and implementation of the policy through the lowest-level implementers" (p. 265). The focus under this approach is on the structures and controls that compel compliance with regards to implementation. A potential issue with this approach is that there is an emphasis on clear objectives and goals, which seems logical, however, these objectives are dependent upon the policymaker's ability to formulate these objectives and goals and move them through the appropriate policy instrument(s). Under this approach, there is no consensus of the goals and objectives of the policy.

The bottom-up approach to implementation is defined by Birkland (2011) as, "A way of studying policy design and implementation that considers the abilities and motivations of the lowest-level implementers and tracks policy design from that level to the highest levels of government" (p. 268). This approach includes less explicit goals that are ambiguous and issues arise when there is conflict between these goals and other agency goals. Achieving goals in this arena involve bargaining and compromise. The benefit of this approach is the idea that the implementation is more fluid and malleable allowing for adaptation to implementation findings and issues as they arise.

The bottom-up approach to policy implementation is also what Elmore (1980) referred to as *backward mapping*. With regards to backward mapping and implementation, Elmore stated:

> Backward mapping shares with forward mapping the notion that policymakers have a strong interest in affecting the implementation process and the outcomes of policy decisions. But backward mapping explicitly questions the assumption that policymakers ought to, or do, exercise the determinant influence over what happens in the implementation process. (p. 604)

As we shift from a compliance model of policy implementation to one in which results and outcomes are valued, the lessons learned from local and school-level implementation can inform policy while contributing to the research on effective implementation aligned to outcomes. Backward mapping and bottom up approaches allow for the formation of outcome-driven policy starting at the local levels. Given that SIG is implemented at the building level, findings from these schools can offer important insights into the impact of funds and provide information related to outcomes of the policy. Furthermore as we continue to study policy implementation focusing on the utilization of public resources, information on how the resources are used and the impact of these resources will allow policy makers to make better informed decisions based on the intended uses of resources.

Policy implementation research has provided policy makers and educators a background for implementation and an opportunity to investigate the effectiveness of implementation related to outcomes. My study builds on this body of research for school turnaround with federal appropriations more specifically.

The concept of backward mapping is included to provide further background pertaining to the importance of school-level implementation and the potential impact it has on policy decisions, especially at the higher levels. Findings from district and school level implementation can offer significant information to future policy decisions. While many policy initiatives have been implemented from the federal government down to LEAs and schools, knowing the impact of implementation at the school level is critical.

Federal School Reform and Turnaround Implementation

While the federal government's role in education is not new, federally funded school reform efforts targeted at schools are relatively new. The first major federally funded school reform policies are referred to as the Comprehensive School Reform Program (CSRP), formerly known as the Comprehensive School Reform Demonstration (CSRD) program (Borman, Overman, & Brown, 2003). These federal funds were available only to schools that agreed to implement specific school reform efforts. Borman et al. (2003) indicated that "In general, the funding sources supporting the implementation of CSR have been targeted at the schools most in need of reform and improvement: high-poverty schools with low student test scores" (p, 127). This precursor to SIG began in 1998 and was part of the 2002 NCLB. These federal funds were targeted at low-performing schools with a focus on strengthening the entire school. Schools were required to implement strategies based on 11 components that were identified as parts of a comprehensive school reform program (USED, 2004).

Research from Evans, Baugh, and Sheffer (2005), that included 78 schools in the state of Pennsylvania, looked at CSR specifically addressing considerations related to sustainability. Evans et al., reported that "For the schools included in this study, many of the components of CSR are continuing to be implemented, and the majority of the

schools continued to implement the specific CSR model, suggesting that CSR was sustained in many sites" (p. 15). They also represented findings related to student achievement by stating that "In terms of student achievement, the implementation of CSR was associated with enhanced student achievement for this set of schools, and the student achievement results had improved over the past four years in most schools" (p. 15). They went on to address implementation through data collected at the schools and reported that:

> The degree of implementation ratings provided more compelling evidence related to the more lasting features of CSR programs. All schools were highly rated on the post-implementation instrument, with the scores falling between 3.5 and 4.0 on the four-point scale. In terms of implementation results, the initial implementation data gathered during the funding cycle suggest that most CSR features were implemented in most schools. (p. 25)

Slavin (2008) wrote on the potential and promises of CSR. With regards to the potential, he states "On one hand, research on CSR has clearly established that fundamental reforms can be introduced, implemented with quality, and maintained over many years" (p. 17). This of course implies that the programs are implemented with quality. Related to problems associated with CSR, Slavin (2008) indicated that:

> With a few exceptions, CSR programs did not have strong evidence of effectiveness in the early to mid 1990's, yet schools, districts, and policymakers were eager to adopt and implement the models on a grand scale. When high-quality evidence did begin to accumulate, it generally supported the effectiveness of many of the CSR models, but nevertheless, educators and policymakers moved on to other strategies. (p. 18)

While Slavin's research indicates that there were problems with programs' demonstrating evidence of effectiveness initially, the deeper issues could be described as what he referred to as "faddishness" and the eagerness to move on to other models rather than continuing with promising practices and promoting sustainability.

Other research stresses the importance of findings and the impact on the influence on public policy and future reform efforts, Slavin (2008) expressed this by stating that "The lessons learned from CSR are of value in understanding how change happens in schools, and they will surely have influence in reform efforts of the future that may or may not resemble CSR" (p. 18). As with CSR, SIG research will hopefully illuminate reform efforts that will inform public policy and help schools to make decisions related to implementation.

Turnaround Practices

There are several school-level implementation factors indicated in the research specifically related to school turnaround that are pertinent to this study. SIG implementation research has shown trends including findings related to what has happened in SIG schools, success, and challenges. Le Floch et al. (2014) examined the first year of implementation of SIG by conducting case studies on 25 schools in multiple states. Overall findings indicate that a majority of the schools, 21 out of 25, replaced the principal at least once between 2009 and 2011, and they go on to note that leadership approaches and quality varied across the sample schools. The most frequently reported improvement actions in the sample schools included replacing the principal, expanding professional development, and increasing learning time (Le Floch et al., 2014).

School-level implementation efforts depend on multiple factors including the state of the institution, the schemas of staff, and the systems currently in existence (Spillane et

al., 2002). Sustainable changes necessitate commitment from the staff and require that teachers are trained and monitored with supports to implement the strategies effectively. This is done through professional learning. School-level reforms require significant actions to make systematic-level changes to schools with a focused intent on raising student achievement and success. This is done through effective leadership. The success of the system requires quality for each part of the system and the effectiveness of their relationship to other parts of the system (Redding, 2006). Redding indicated that "Determining and improving quality requires methods for measuring the functioning of each part, each subsystem, and the system as a whole" (p. 13). Low performing schools, such as SIG and SIG-eligible schools will need to make systemic changes to the school in order to qualify for and maintain grant funding and to produce positive outcomes for students and the school.

School turnaround practices addressing the actions of implementers are addressed here to provide information on how educators have implemented practices at the school level that have shown positive results related to student achievement and other school-level practices. Lane, Unger, and Souvanna (2014) characterized three practices that they have found to be effective in school turnaround through their research. They refer to these as *Turnaround Practices in Action*. The three practices are building a community of practice through leadership, shared responsibility, and professional collaboration, intentional practices for improving instruction, and providing student-specific supports and instruction for all students. Lane et al. discussed a fourth practice as the existence of a safe, respectful, and collegial climate for teachers and students is also indicated, however, the other three practices encompass components of these practices and as such, this practice was not addressed individually.

These practices require consideration of the data available to schools to allow them to target instructional strategies and the ability to use that data to make improvements. Herman et al. (2008) reported three levels of data to be considered when planning:

> In addition to looking at diverse types of data, turnaround schools considered data at three levels: at the school level to focus on areas that needed schoolwide improvement to meet adequate yearly progress, at the classroom level to focus on teachers' instructional strengths and weaknesses, and at the student level to focus on instructional needs of individual students. (pp. 14-15)

These data provide the diagnostics necessary to establish academic goals for the school and classroom level. With regards to the use of data, Lane et al. (2014) confirmed the importance of data use and express this in their findings by indicating that "Over the course of the three-year turnaround effort, schools making achievement gains developed and continued to refine and broaden their collection and use of student data to inform instructional responses, classroom-based responses and tiered interventions" (p. 7). They further stated that "Schools making the greatest gains over the three years of turnaround were those that collected a wide variety of data frequently and then put that data to use in revising, refining, and informing responses to students' needs" (p. 7). In contrast they report that "Schools not making or sustaining their achievement gains either were not collecting a wide variety of data frequently to determine student needs and/or were not *using* that data to inform instruction or interventions (p. 7).

Leadership

Leadership in school transformation is essential in creating rapid turnaround that is sustainable. Leadership is addressed in the four criteria for approved implementation

plans under SIG and is addressed in my study's literature review to provide background for effective leadership practices more generally, and specifically to, school turnaround. Under the transformation and turnaround models, the leadership of the school is addressed by requiring that the principal be replaced in most circumstances. This sends a strong message about the importance of leadership schools.

Burns (1978) defined leadership as "leaders inducing followers to act for certain goals that represent the values and the motivations-the wants and the needs, the aspirations and expectations-of both leaders and followers" (p. 19). When discussing transformational leaders, Burns stated that "Such leadership occurs when one or more persons *engage* with others in such a way that leaders and followers raise one another to higher levels of motivation and morality" (p. 20). Collective leadership implies, what Burns describes as a *symbiotic* relationship with leaders and followers around common goals. The causal aspect of leadership involves an interactive process that results in a change in leaders and followers motives that produce a causal effect on social relations and political institutions. The sacrifice of all players in the system should complement the common vision set by the leader.

A distinction between transactional leadership and transformational leadership should be noted given the significant commitment of the whole school in turnaround efforts. Transactional leadership relies on an exchange between the leader and the follower while transformational leadership is concerned with the leader and follower sharing a higher level of purpose and commitment to the goals. This often includes the follower participating in the process with a high level of interest and some degree of sacrifice. Burns (1978) expressed this notion by stating that "the function of leadership is to *engage* followers, not merely to activate them, to commingle needs and aspirations and

goals in common enterprise, and in the process to make better citizens of both leaders and followers" (p. 461). Bush (2011) discussed this concept and expresses that "Successful school leaders are expected to engage with staff and other stakeholders to produce higher levels of commitment to achieving the goals of the organization which, in turn, are linked to the vision" (p. 201).

According to Hess (2013) there are two complementary roles of leadership. He stated that "One is coaching, mentoring, nurturing, and inspiring others to forge dynamic, professional cultures" (p. 5). He indicates that this half absorbs almost the whole attention of those tackling educational leadership. When addressing the other role he reports that "Lost is the second half of the leadership equation-the *cage-busting* half that makes it easier for successful and professional cultures to thrive" (p. 5). He is intentional in stressing that cage-busting is not done instead of mentoring, coaching, and inspiring but, that the cage-busting principles will allow leaders to do those things better. The cage-busting mindset, according to Hess is "about 'distorting reality' to change what's possible" (p. 8). Hess admitted that instruction and culture are key but, argues that "this work can be made easier or harder by the way leaders deal with rules, regulations, contracts, policies, and entrenched routines" (p. 13).

Hess (2013) discussed the nuances of policy and leadership throughout his book *Cage Busting Leadership*. Policy implications are significant in school reform at all levels. With regards to local policy, the school board is the primary policy making body and this can be an issue. Hess states that "Boards are much maligned for failing to provide strong leadership, being heavily influenced by the demands of employee groups, wading into micromanagement, and being prone to petty bickering" (p. 91). School board

policy, like state and federal policy, trickles down to classrooms. Hess discussed the challenge of boards to stick to one course or agenda and goes on to say that:

> An even bigger challenge may be that board members, whether elected or appointed, have little appetite for conflict or negativity publicity, and thus typically boast a feeble track record when it comes to negotiating firmly, pushing back on the federal government, or standing up to aggressive employees or community members. (p. 93)

This can leave leaders in a tough situation and create further barriers. Leaders can be challenged with local policy that compounds issues being faced at other policy levels. At any level, Hess (2013) stressed thinking like a poker player, not a tough guy. He sums this up by stating "The cage-buster aims to educate kids and solve problems that'll help her do that; not to rack up style points or to be outrageous" (p. 177).

More specifically related to school turnaround, leaders must make dramatic changes quickly. According to Herman, Dawson, Dee, Greene, Maynard, Redding, and Darwin (2008):

> A failing school does not have the luxury of years to implement incremental reforms. Instead, leaders at the school should make a clear commitment to dramatic changes from the status quo and signal the magnitude and urgency of those changes. (p. 10)

Turnaround changes are deliberate through replacing the principal with leadership that can implement new policies or through radically changing the leadership provided at the school level. High expectations made clear throughout the school and inclusion of staff is essential. Rapid improvements in student achievement hinge upon the instructional

leadership in the school (IES, 2008). The IES (2008) addressed new principal roles by stating:

> In successful turnaround schools, new principals came into the schools with a clear purpose, ready to share responsibility for turning around the school. They immediately began to set clear expectations for students and faculty. They initiated a culture of change from the first day, letting teachers and students know that a defeatist or business-as-usual attitude would not be accepted. They sent the message that everyone—including administrators—needed to change the daily school operations and the way instruction was delivered. (p. 11)

With regards to leadership, shared responsibility, and professional collaboration, Lane, Unger, and Souvanna (2014) noted that leadership is critical to both rapid turnaround and in sustaining improvements. They expressed this by stating:

> Leaders and teachers became even more deliberate in their focus on instruction throughout the school community by using a specific instructional framework and/or set of practices (for example, the workshop model or guided reading) as the basis for setting instructional expectations. And principals and others in the school allocated additional and significant time and effort on observing the delivery of classroom instruction and providing constructive feedback where needed based on established and shared instructional expectations. (p. 7)

Rice et al. (2014) conducted and evaluation of outcomes after three years for SIG Cohort I schools in Michigan. With regards to leadership, the report indicates that "All principals exercised some form of distributed leadership and delegated SIG-related responsibilities, though to varying degrees and of varying scope" (p. 40), which was different than the previous principals' styles. The leadership teams are reported to consist of assistant

principals, department heads, and SIG coordinators which caused a reported disconnect between the principal and what took place in the classrooms since few schools included SIG coaches or other teacher leaders.

Overall, leadership is arguably the most important component in school turnaround and sustaining improvements in schools. This is not only reflected in the literature as indicated here but, also appears as one of the main components of SIG implementation.

Professional Learning

Professional learning is paramount for policy implementation at the school level and is included here because it can encapsulate so many components of improvement and turnaround. Instructional staff require time and training in new policies as well as opportunities to evaluate and refine implementation efforts. Teacher training that informs new instructional strategies is necessary to allow teachers to develop these skills and apply them to the implementation model ultimately changing the overall performance of the school. Professional learning is the hub around which strategies and efforts are developed and refined. According to Wei, Darling-Hammond, Andree, Richardson, and Orphanos (2009):

> To meet federal requirements and public expectations for school and student performance, the nation needs to bolster teacher skills and knowledge to ensure that every teacher is able to teach increasingly diverse learners, knowledgeable about student learning, competent in complex core academic content, and skillful at the craft of teaching. (p. 3)

Targeted professional learning is one of the most critical components of implementation relating to school reform efforts. Professional learning that focuses on

increasing student growth and achievement is essential to improving instructional practices within a school and in classrooms. According to the Center on Innovation and Improvement (2011) there are three main components of high quality professional development (PD) that districts should consider. These areas are developing a deeper understanding of the community served by a school, developing subject-specific pedagogical knowledge, and developing leadership capabilities. Teacher retention and student achievement struggles require professional development focused on the understanding the community culture as it relates to individual students and the external factors, including, parents and others supporting students outside of the school.

More specific to SIG, Bojorquez et al. (2012) reported that in year one, "SIGs provided for significant training in support of school reform" (p. 18). In general the report indicates that teachers received more frequent professional development that covered more domains that that of principals. Teacher professional development includes areas such as instructional strategies, curriculum and content standards, support for struggling students, instruction for English learners, behavior management, peer observation, data use, and classroom observation. The report goes on to indicate that coaching content for teachers primarily focused on literacy and mathematics while principal content focused on supporting effective SIG implementation more specifically through aligning curriculum, instruction, assessments, monitoring teachers and leadership skills (Bojorquez et al., 2012).

PD should employ multiple modes of learning for teachers. Typical in-service trainings can be effective but, when teachers use data to target professional learning based on student needs, other delivery systems will be necessary and the should relate to improvement of instruction. Zepeda (2004) indicated that "A comprehensive professional

development program that prepares teachers for change and supports their learning needs during change must employ a variety of learning opportunities for teachers" (p. 134). PD activities should be based on student data, supported by rigorous research, and facilitate active learning among teachers. Ongoing PD that is embedded in practice that is differentiated allows for monitoring of the outcomes and progress of the activities allow teachers and schools to make decision about the refinement of PD and promote student learning. At the school level, there should include a culture of this continual learning that stresses collaboration and school leaders should ensure that regular specific feedback is provided to help teachers grow and improve professionally (Center on Innovation and Improvement, 2011).

Going beyond the more typical staff meeting delivery of PD, a Professional Learning Community (PLC) should offer educators' opportunities to participate in a process that includes the elements of quality indicators based on professional growth and improvement. It is critical that educators allocate resources to these activities including time and choosing providers that are high quality and aligned to the goals of the professional learning. Learning goals should be identified and included in a system of professional learning based on student needs. Given the potential magnitude of such a system development, careful planning, implementation, and monitoring are essential. According to Little and Houston (2003), "To positively affect student achievement, research-based instructional practices must be implemented well, must be relatively few in number, and must address the learning needs of student within the classroom so that there is support for potential changes" (p. 61). This illuminates the need for teacher participation and instructional leadership in the process. This also requires a long-term commitment to the process. "Professional development is likely to be of higher quality if

it both sustained over time and involves a substantial number of hours" (Garet, Porter, Desimone, Birman, & Yoon, 2001, p. 933). Careful planning to allow for the conditions of this learning to occur should be built into the School Improvement and reform planning processes.

In a study by Newman, Kings, and Youngs (2000), it is reported that while individual PD is important, building capacity in schools also requires organizational improvement. They state "While individual teacher learning of subject matter, pedagogy, and expectations remains critical, professional development should be expanded beyond the improvement of individuals to improvement of other organizational resources" (p. 290). This study was over a two year period and included nine urban elementary schools in the United States. The authors stated that "Comprehensive professional development was most strongly related to the school's initial level of capacity and principal leadership, less related to per teacher funding, least related to external assistance and district/state policy" (p. 259). Delivery and structure of PD is also discussed and the more traditional PD offerings and structures such as single workshops have been demonstrated to be less effective. Newman et al. support this notion by stating that:

> Schools that used professional development less comprehensively were less likely to use schoolwide professional development with a consistent long-term focus and more likely to use traditional mechanisms such as one-time workshops or college courses chosen at teachers' discretion without collaboration and systematic infusion into the school program. (p. 291)

The importance of leadership in creating the environment for effective professional learning cannot be understated. According to Kilbane (2009):

> Just as the environmental factors can promote or hinder the ability of a natural ecosystem to flourish, the system of relationships or culture in a school can be supported or hindered by the actions and activities of key personnel. A school leader's attention to these factors can increase the chance of success in building and maintaining a professional learning community within a school. (p. 202)

In general, professional learning is necessary to improving instructional delivery, particularly in schools undergoing reform and turnaround efforts.

Building on the notion of collaboration, core instruction or intentional instructional practices are at the epicenter of student achievement and without these practices schools will continue to perform poorly. Implementation of these strategies requires a collaborative focus on the part of administrators and teachers. According to Lane et al. (2014), "Year 3 Achievement Gain schools began or continued to focus on a school-wide shared instructional model or practice which was reinforced through ongoing monitoring by administration and/or instructional coaches throughout the building, inclusive of frequent classroom- and teacher-specific feedback" (pp. 7-8). Their findings also demonstrate that focused professional development, classroom observations, and feedback on implementation were factors evident in schools that made gains (Lane et al., 2014).

Professional development and coaching also played a primary role in SIG implementation Rice et al. (2014) indicated that "Across most schools, feedback indicated professional development and coaching were effective by creating and fostering the use of common practices, language, strategies, and expectations" (p. 45). These components of implementation also elicited other improvements as well. The report stated that:

> Another key manner in which professional development and coaching contributed to improvements was by facilitating a shift in school culture from one that was teacher-centered to student-centered. This shift was accompanied by teachers learning to transition their attention from what they were *doing* to what students were *learning*. This helped shift conversations among teachers from blaming students for not learning to examining what teachers could do to help students better understand and master content. (p. 45)

Extended Learning Time

The idea of increasing instructional time has been apparent in education for many years especially given that most students do not adhere to an agrarian calendar that would necessitate taking summers off. The length of the school day and the *instructional* time that occurs in schools and classrooms is a significant factor in improving outcomes for students. It is not enough to increase the hours of the school day. SIG schools were incentivized to increase instructional time through the application process, however, the implementation of instruction and the increased time devoted to it is critical. Silva (2007) reported that "Not all time in school is equal because not all school and classroom time is devoted to formal instruction or learning" (p. 2). The amount of time students are engaged in learning is quite different than time simply spent in the classroom and school. Silva (2007) also indicated that:

> the correlation between time and student achievement gets stronger with more engaged time. Students who are given more allocated school time have outcomes only slightly better than students who receive less. But the correlation between time and achievement increases when students are given more instructional time, and it is even greater when students' academic learning time increases. (pp. 2-3)

Given that school reform efforts are part of a larger effort to close the achievement gap, it is important to consider the needs of poor and minority students that may experience compounded barriers to achievement. According to Silva (2007), "Poor and minority students are less likely than their more affluent peers to have educational resources outside of school and therefore may benefit more from increased school time" (p. 5). Extended school time is one of the interventions reported by SIG schools.

Extending learning opportunities can happen in a variety of ways and should be based on increasing student achievement if considered part of a larger school reform effort. Redd et al. (2012) performed a review of the evidence base for Extended School Day (ESD), Extended School Year (ESY), and Expanded Learning Opportunity (ELO) outcomes. While ESD evidence is addressed substantially in their report, Redd et al. (2012) noted that:

> …the majority of our knowledge about the effect of ESD initiatives in elementary and secondary school comes from evaluations of comprehensive school reform models that incorporate an extended school day as one component among several, which makes attributing academic gains to ESD difficult. However, these models' other programs often differ substantially, and the consistency of positive outcomes across all models suggest that having a longer school day is a key component of these programs' success. (p. 22)

With regards to ESY findings, Redd et al. (2012) indicated that "Most of the studies (18 out of 28) showed that ESY programs generally had a positive effect on students' attendance, as well as their academic achievement as measured usually by test scores" (pp. 33-34). They go on to state that "Our review also suggests that providing targeted instruction to lower-achieving ESY students seems to be associated with mostly

favorable outcomes" (p. 34). This leads one to believe that all forms of extended learning time are beneficial to students and overall, Redd et al. reported that based on quasi-experimental studies reviewed that "The evidence suggests that extended learning time programs, including ESD, ESY, and ELO programs, can be effective in improving educational outcomes for students" (p. 64). Given that targeted instructional time is the focus when working to achieve increased student performance in tested subject areas one could conclude that each of the extended learning interventions are beneficial however, "In general, ELO programs tended to be more effective in improving predictors of academic achievement and educational attainment outcomes, such as scholastic behaviors and educational expectations, than in improving academic achievement and educational outcomes" (Redd et al., 2012).

According to the findings from Bojorquez et al. (2012), related to district school governance and leadership, "The most common modifications were changes to school schedules (namely, extension of the school day) and principals exercising shared or distributed leadership so that school staff played a larger role in key decisions regarding school policies and practices" (p. 16). The Council of Great City Schools (2015) used qualitative data as part of their study on SIG and reported that increased instructional time allowed schools to increase interventions through the addition of after school instructional programming and additional time during the school day to make improvements. The report indicates that "Regular-day classes focused on small group work and more individualized attention, while after-school time focused on tutoring" (p. 35). Additionally, the report states that "Other teachers interviewed by the research team used the extra time to create more personalized and differentiated instruction and provide more opportunities to work with families" (p. 35).

SIG Implementation

Given that SIG is relatively new, available literature on the topic of implementation is relatively limited. Available research is included here in an effort to provide information and background related to initial findings, and to help identify gaps in current research to ultimately add to the body of research of federal policy implementation at the school level.

SIG funds and other supports are intended to turn around low-performing schools through somewhat prescriptive options at the policy level; however, implementation can vary widely between schools and districts. Since SIG policy implementation at the school level is the focus of this study, it is important to look at what the literature says about SIG implementation and the available research. Considerations for implementation include challenges to implementation, the use of SIG funding, and what outcomes are evident in available research about SIG specifically.

SIG Implementation Findings

With regards to other factors, there are initial findings related to SIG implementation that can offer valuable information to policy makers, and as such are included here. Research has found that improved instruction with a common focus on instruction and strategies is arguably the most critical factor. Rice, Bojorquez, Diaz, Wendt, and Nakamoto (2014), discussed findings related to implementation in schools and indicated that:

> Feedback from all schools indicated the most significant contribution of their schools' focus on instruction was creating consistent, common, and continuous threads and themes. This extended across curriculum, planning, pacing, expectations (of students and staff), and support strategies. These efforts occurred

> school wide and contributed to a sense of accountability and investment in SIG reform efforts. (p. 47)

Other available literature on SIG includes evaluations performed at the state level and school turnaround research more generally. Bojorquez, Rice, Hipps, and Li, (2012) examined implementation trends in the first year of implementation related to governance, leadership, and staffing and reported that:

> Changes in governance and leadership at the district level during the first year were much more limited compared to the changes at schools. In fact, staff from most districts and schools claimed that their districts had yet to modify their culture to a degree that significantly improved the functioning of SIG schools. (p. 16).

These findings are consistent with the overarching factors of leadership, professional learning, and extended learning time in important aspects of implementation.

While SIG is awarded to individual schools, the LEA system cannot be ignored. According to Redding (2006), "A system is a group of linked parts that work together toward a common end" (p. 13), and these systems impact implementation efforts. To illustrate this further, McLaughin and Talbert (2003) indicated:

> Most fundamental to reforming districts is their focus on the system as unit of change. These districts engender shared norms of reform practice across schools through system-wide communication and strategic planning, and the central office continually improves its support of schools' reform efforts through data-based inquiry and learning. Capacity to improve teaching and learning is developed and sustained through the system, with the district office playing particular, strategic roles to lead and support school reform. (p. 10)

Of particular importance is the notion of the systems operating to support schools in a manner that stresses the use of data, communication, and strategic planning anchored around teaching and learning. Other factors such as funding are integral to the overall implementation efforts of the schools and districts.

Challenges of SIG Implementation. SIG implementation includes challenges at multiple levels. The Government Accountability Office (GAO) produced a report in 2012 to congressional requesters entitled *School Improvement Grants: Education Should Take Additional Steps to Enhance Accountability for Schools and Contractors*, in which they administered a survey to 50 states and received a 100% response rate. In the report a number of challenges were identified at both the state and local levels. State level challenges included staffing and expertise in supporting school turnaround as well personnel turnover. Local challenges such as the readiness of schools and districts to implement reforms, as well as staff capacity, were indicated in the report. The GAO (2012) elaborated on these findings by indicating that "Moreover, some districts did not have staff with expertise in using performance and evaluation data—such as data on student performance—to inform plans for reforming schools and ongoing instructional improvements" (p. 9). Reforms related to increased student learning time and teacher evaluation systems were addressed specifically in the report as indicated by the following statement:

> Our analysis showed that increased learning time and teacher evaluation requirements were challenging because the planning needed to implement them was complex and time-consuming, and stakeholders, such as unions and parents, were sometimes reluctant to embrace the changes. (GAO, 2012, p. 12)

While these challenges are expressed in the GAO report, others emerged from similar state-level evaluations of SIG implementation. According to Bojorquez et al. (2012), "The most commonly cited barriers to SIG implementation were district-level bureaucracy, union difficulties, and time constraints" (p. 38). Other challenges have emerged in SIG studies, such as one by Le Floch et al. (2014) who demonstrated further challenges by stating "Delayed funding was most often reported as a constraint on schools' ability to hire new staff, finalize contacts with external support providers, and implement plans for extended learning time" (p. x). Le Floch et al. addressed the delay in funding and add findings related to capacity by stating that:

> Initial implementation of schools' selected improvement actions was, in some cases, reportedly hampered by issues such as delays in the distribution of SIG awards. In addition, support for some schools was reportedly limited due to inadequate capacity at both the state and district levels. (p. 126)

These findings demonstrate that capacity and the operation of related systems appears to be a barrier to SIG implementation at various levels and these challenges likely have an impact on overall results of SIG implementation.

Use of SIG Funding. Given that overall SIG funding to schools was significant, it is important to consider how these funds were spent. SIG funds were used in a number of ways relating back to school turnaround practices including staffing, hiring of other professionals (nurses, social workers, etc.), the use of service providers, PD, teacher evaluations, assessments, instructional materials, and technology (Council of Great City Schools, 2015). More generally, funds were spent on salaries and benefits, purchased services, supplies and materials, and capital outlay in some states. The investigation of the use of SIG funds in this study is important to consider since this information can lead

to discoveries about the effective use of funds to promote student-level outcomes and school reform more generally.

Given the historically low performance of these schools, SIG funds were used to implement initiatives that were required of the SIG, however, reform or turnaround efforts are not necessarily new to these schools given their historically low performance. Le Foch et al. (2014) discuss this and reported that:

> The schools were thus not blank slates for reformers to craft anew. Rather, they were existing organizations with prior reform histories in which the participants tried to leverage change by addressing identified performance problems as well as implementing specific requirements of the SIG program. (p. xii)

Variability also exists in the spending of SIG money related to specific schools and their history of reform within the districts. According to Le Floch:

> That the case study schools were using SIG funds to implement different change strategies could be expected given the diversity across schools and the fact that many had been the subject of improvement initiatives and accountability policies over the years. (p. xii)

This could also reflect the variability in levels of reform or turnaround implementation across schools. These findings indicate it is possible that some schools were already implementing some requirements prior to receiving SIG funds.

Many SIG schools utilize external service providers to assist with implementation efforts, and SIG funding has brought about a significant increased use of these providers. Corbett (2014) confirmed this by stating, “The engagement of external partners, for the purpose of turning around schools underwent a radical shift in 2010 with the advent of the revised federal School Improvement Grant (SIG) program” (p. 142). Corbett goes on

to discuss how Massachusetts created a network of qualified providers noting that "After Massachusetts completed the review process, the SEA approved 4 partners to assist with social and emotional health, 8 partners for maximizing learning time, 10 partners for the effective use of data, and 5 partners for district systems of support" (p. 146), revealing the numbers of types of providers offering somewhat specific assistance to LEAs. Other states provided similar processes for choosing providers based on specialization. For example, Scott, McMurrer, McIntosh, and Dibner (2012) discussed how the state of Michigan supported the use of external providers for districts and indicated that:

> In hopes of improving the quality and coherence of the assistance delivered by external providers, the state offered them technical assistance. External providers, for example, were asked to use the templates, needs assessments, and language for school improvement developed by the state rather than provide unrelated services. (p. 15)

In general, the use of external providers, locally developed efforts, and other SIG funded activities provided schools with additional supports to achieve turnaround. Yet, the extent to which these efforts had an impact is not apparent in the research literature to date.

SIG Outcomes

As with other policy implementation efforts, there are a number of variables that determine outcomes. Outcomes can also be variable in terms of what research has indicated about implementation. Anrig (2015) summarized some of the existing research around SIG implementation by stating that:

> While the academic jury will continue to deliberate for years about the overall impact of the SIG program, amplified by ideologues with their entrenched positions, it is already clear that students in a meaningful, albeit small, subset of

> schools that received grants performed significantly better after major changes were implemented with the additional support. (p. 2)

Some studies on SIG indicate that there were some initial improvements made within SIG schools. The Council of Great City Schools (2015) collected data from 38 states in which a Council-member district was present. The data was derived from state websites or from state research departments and included data that compared changes in the percentage of students at or above each state's proficiency levels who were enrolled in one of three types of schools. Those three types of schools were SIG-award schools in each state, a random sample of SIG-eligible but non-award schools in each state, and a random sample of non-SIG-eligible schools in each state. Results of the study reported by The Council of Great City Schools indicated that "In general, the achievement gaps between SIG-award schools and the two comparison groups appear to have narrowed steadily for the first two years, and then leveled off in the third year" (p. 16). The study also included a comparison of the two most common SIG models, turnaround and transformation. Findings related to this portion of the study indicate that "For all four analyses, there were no statistically significant differences between the transformation and turnaround SIG intervention models in their rates of improvement" (The Council of Great City Schools, 2015, p. 21). Given that there is a relative lack of rigor in the transformation model compared to the turnaround model, the study indicates that "This lack of difference between the two models in their rates of improvement is somewhat unexpected because there was a presumption that the transformation model might not have as pronounced an effect as the turnaround model" (The Council of Great City Schools, 2015, p. 23).

Other research indicates limited improvements under SIG. For example, Nakamoto, Rice, and Bojorquez (2013) compared Michigan Educational Assessment Program (MEAP) and the Michigan Merit Exam (MME) results from 28 SIG schools with 58 comparison schools. Their findings indicated that essentially, there was not a statistically significant difference in the performance of SIG schools in Cohort I when compared to the comparison students first year. Results on the MEAP and the MME were considered for reading, mathematics, and science for the study. With regards to elementary and middle school results, Nakamoto et al. (2013) stated:

> Consistent with the mathematics results, none of the differences on the MEAP reading assessment were statistically significant. In addition, the reading results pooled across grades 4-8 showed the SIG-I and comparison students had nearly identical performance on the MEAP reading assessment. (p. 15)

The report goes on to indicate that "The results pooled across grades 5 and 8 showed a small and non-significant difference favoring the comparison students" (p. 15). Impact of SIG at the high school level is consistent with findings at the elementary and middle school levels. Specifically related to high school, Nakamoto et al. reported that "None of the differences on the mathematics, reading, and science assessments were statistically significant" (p. 17).

These and other inconsistent results related directly to overall SIG implementation impacts indicate that additional research is still needed to learn more about performance. In addition, other implementation factors and outcomes are helpful to investigate, such as attendance, graduation rates, dropout rates and SIG funding at the school level. These factors are not apparent in the available literature on SIG. Furthermore, specific

implementation research related to strategies and sustainability, not apparent in the available literature, will contribute to the research base for SIG implementation.

Chapter II Summary

School reform and turnaround implementation related to SIG provides valuable information to inform policy development at all levels, but more specifically at the federal level, these findings can help shape effective policy based on research and findings from implementation at the school level. As policy makers make decisions about resources and the strings attached to those resources, it is imperative that those decisions be informed by results. The literature indicates that there are challenges and success stories related to SIG and school turnaround in general, but questions still remain related to the impact of funding on intended outcomes of policies. While some studies have examined performance factors related to student achievement and SIG, little research exists on other factors such as attendance rates, graduation rates, and dropout rates as they relate to SIG. Additionally, research to explore per-pupil funding related to these factors provides information to fill the research gap related to these variables.

CHAPTER III

METHODOLOGY

SIG implementation has been underway since 2010 and findings have emerged as to the implementation and results of the policy. This quantitative non-experimental study examined implementation factors and outcomes from SIG Cohort I and II schools using data already collected by the SEA within one Midwestern state. This study included an ex-post facto analysis of school-level data related to student achievement in reading and mathematics as well as attendance, graduation, and dropout rates comparing these outcomes from SIG Cohort I and II schools with those from SIG-eligible schools that did not receive SIG funding. These factors were then compared across SIG Cohort I and II schools to determine the extent, if any, other variables such as SIG per-pupil funding and chosen reform model had on outcomes. Finally, SIG Cohort I schools, for which enhanced data exists, were examined in greater detail to determine specific strategies executed, the sustainability of those strategies, and reported success levels as reported by schools.

The purpose of my research was to investigate policy implementation factors and outcomes at identified SIG Cohort I and II schools. Of particular interest was how the SIG was implemented in schools across one Midwestern state related to outcomes such as achievement in reading and mathematics, attendance rates, graduation rates, and dropout rates. These outcome variables were analyzed for SIG-eligible schools that did not receive SIG funding and those that did receive funding and provided analyses across SIG Cohorts I and II. Additionally, this study investigated implementation strategies from a subset of schools and how they rated the sustainability of those efforts, buy-in and

support, and reported levels of success after implementation of the SIG. The research questions for my study were as follows:

1. For SIG-funded schools (Cohort I and II), what reform elements were proposed for implementation within their SIG applications?
2. For two groups of SIG-eligible schools, those that received SIG funding and those that did not,
    (a) to what extent, if any, are there differences in school outcomes over three years (e.g., state standardized assessment scores, attendance rates, graduation rates, and dropout rates); and
    (b) to what extent, does the obtainment of SIG funding predict such outcomes?
3. For two combined groups of SIG-funded schools (Cohort I and Cohort II), to what extent can SIG per-pupil funding and reform models predict any outcome variables (e.g., state standardized assessment scores, attendance rates, graduation rates, and dropout rates)?
4. After three years of implementation for SIG Cohort I schools,
    (a) in what ways did these schools report actual implementation of various strategies compared to what had been indicated in their SIG applications;
    (b) what levels of sustainability, buy-in and support, and levels of success did they report; and
    (c) to what extent can reported reform strategies, sustainability, and buy-in and support predict any outcome variables (e.g., state standardized assessment scores, attendance, graduation rates and dropout rates)?

Research Design

This non-experimental quantitative study utilized data extracted from SEA sources for SIG cohort I and II schools, and SIG-eligible schools that did not receive SIG funding. State standardized assessments results, attendance rates, graduation rates, and dropout rates were analyzed for schools that implemented the SIG for at least three academic years. SIG per-pupil funding, chosen reform model, and other quantitative variables were used to examine the impact of SIG funding on various outcomes. A quantitative design was chosen for this study because the variables to be considered provided information that helped address the gap in current research around quantitative outcomes. According to Creswell (2009), "Quantitative research is a means for testing objective theories by examining the relationships among variables" (p. 4). These quantitative variables were analyzed to determine the relationship among SIG related variables.

Data for this study also included an ex post facto analysis from a cross-sectional survey administered by the SEA to examine the implementation of the federal SIG related to specific strategies and sustainability. Cross-sectional survey design is used consistently in educational research. Creswell (2008) addressed this and stated, "The most popular form of survey design used in education is a cross-sectional survey design. In a cross-sectional survey design, the researcher collects data at one point in time" (p. 389). Cross-sectional survey design was appropriate for this study given that the data was collected after administration of the grant for all schools.

Population, Sample or Participants

The sample for this study included 205 schools total, and consisted of 49 SIG funded Cohort I and II schools, and 156 SIG-eligible schools that were not SIG funded in

one Midwestern state (see Table 1). State standardized assessments results, attendance rates, graduation rates, and dropout rates included data on all students who were part of the accountability calculations for each of these schools. State standardized assessments are administered only once a year and the state is a local control state.

The schools in my study are from a variety of locales and include variable demographics. Table 1 includes information regarding the demographic information for schools in my sample. Schools were categorized into four locale codes which were city, suburban, town, and rural. Table 1 also includes percent poverty and percent minority for all groups of sample schools. Overall, the majority of sample schools were located in cities or suburbs, while there were also some rural SIG Cohort I and SIG non-funded schools. SIG II schools had a higher percentage of minority students than SIG I and SIG non-funded schools.

Table 1

Sample School Demographic Information

	SIG I	SIG II	SIG Non-Funded
Percent City	57.14	66.67	50.32
Percent Suburban	17.86	28.60	26.11
Percent Town	7.14	5.00	7.01
Percent Rural	17.86	0.00	15.60
Percent Minority	66.56	80.00	60.01
Percent Poverty	75.82	74.50	70.05

More specific to research questions one and two, 28 of the schools were SIG Cohort I schools which began SIG implementation during the 2010-2011 school year and 21 are SIG Cohort II schools which began implementation during the 2011-12 school year. Overall data for SIG Cohort I and II funded schools included 25 high schools compared to 118 SIG non-funded high schools, and included 24 SIG funded elementary schools and 38 SIG non-funded elementary schools (Table 2). Of the SIG-funded

schools, 35 schools chose the Transformation model while 14 chose the Turnaround model .

Table 2

Number of Sample Schools and Data Elements

	SIG-I	SIG-II	Total SIG	SIG-I Eligible Not Funded	SIG-II Eligible Not Funded	SIG- Eligible Not Funded
Total Schools	28	21	49	191	66	156
- High Schools	16	9	25	133	36	118
- Elementary/Middle Schools	12	12	24	58	30	38
- Assessment z scores	28	21	49	191	66	156
- Attendance Rates	28	21	44	191	66	156
- Graduation Rates	16	9	25	191	66	118
- Dropout Rates	16	9	25	191	66	118
- *SIG Cohort I Sustainability Survey*	21					
- Per-pupil SIG funding	28	21	49			

Note: Some SIG-II Eligible schools were also eligible for SIG I.

For research question four, survey data from 21 SIG Cohort I schools were available. These data elements included implementation strategies, sustainability, buy-in and support, and reported success levels for SIG Cohort I schools. These 21 schools represent the remaining SIG Cohort I schools at the time of the survey. A single-stage sampling procedure was used by the SEA for collecting these survey data. This is described by Creswell (2009) as "one in which the researcher has access to the names in the population and can sample the people (or other elements) directly" (p. 148). These data were gathered as part of the required reporting process for SIG evaluation procedures through the SEA.

Other descriptive data including demographics such as poverty rates and percent minority were included in the data analysis for all schools as covariates. Poverty rates

were based on the percentage of students eligible for free and reduced lunch and minority included all non-white students within sample schools.

Instrumentation and Data Collection

For this study I used a comparison of one point in time (2009) to another point in time (2013) to determine mean changes over multiple years of implementation. All data for my study began with the 2009-2010 school year and ended with the 2013-2014 school year. Data for reading and mathematics scores were derived from state reporting systems and were expressed in z scores for SIG Cohorts I and II funded schools as well as SIG non-funded schools. State standardized assessments were chosen for this study due to the validity and reliability of the assessments and because the reporting of these scores is consistent and secure with regards to test administration. Additionally, state standardized assessment scores in reading and mathematics were used to determine school accountability for state and federal reporting and are publicly available. Standardized assessment scores for grades three, five, eight, and 11 were used to determine outcomes in assessment scores for my study.

Attendance rate data was reported by schools into the state data collection and reporting system and will be represented as an annual average as reported in the state accountability system. Annual attendance rates as an outcome in my study were measured across implementation school years and as mean changes between pretest and posttest results. Similarly, graduation rates and dropout rates were reported at the school level, contained in the state reporting system, and expressed as a percentage for inclusion in state and federal reporting. For the purposes of this study, I used the four year graduation cohort rate.

Data related to SIG per-pupil funding was collected from SEA approved budgets that were accessible due to my role at the SEA for SIG funded schools. These funding data were the best data available in terms of reporting grant awards at the state level for the purposes of the SIG grant.

Original SIG application data for Cohorts I and II were derived from the applications submitted by LEAs and reviewed to determine what intervention strategies were proposed by schools. These applications were accessible through my role at the SEA and provided information to illustrate the types of strategies proposed within applications for SIG funded schools.

For research question four, survey data was derived from the *SIG Cohort I Sustainability Survey* which consisted of 34 total questions and was designed specifically for collecting data related to implementation and sustainability of SIG Cohort I schools by the SEA in February of 2014. The survey was completed by one participant at each SIG Cohort I school electronically. According to Sue and Ritter (2012):

> Electronic methods of survey data collection have been touted as the wave of the future, with supporters citing speedy responses, low cost, and easy fielding as major benefits, while detractors lob harsh criticism about the low response rates and claims that samples do not adequately represent populations. (p. 12)

The questions on the survey instrument consisted of a combination of dichotomous, ordinal, nominal, and open-ended responses. Open ended questions allowed for responses that may be useful when investigating new topics and also offer me an opportunity to learn information that is sometimes unexpected (Sue & Ritter, 2012). The instrument elicited responses to implementation pertaining to reform strategies, sustainability, buy-in, and other implementation factors such as reported success. According to Babbie

(2013), "Survey research is probably the best method available to the social researcher who is interested in collecting original data for describing a population too large do observe directly" (p. 253). For the purposes of this research, data relating to strategies and sustainability were included in my ex post facto data analysis to address research question four, as indicated in Table 3.

Table 3

SIG Cohort I Sustainability Survey Data Elements

Survey components	Specific data	Survey Instrument Questions
Strategies implemented	Specific strategies and current implementation status at time of survey	Questions 7, 8
Overall sustainability	Self-rating of sustainability	Questions 3, 4
Staffing	SIG funded staff and continuation of staffing after SIG funding	Questions 10, 22
Buy in and support	SIG staff, instructional staff, central office	Questions 11, 12, 13, 16, 17, 18
Reported level of success	Student achievement, accomplishing strategies,	Questions 6, 14, 19

Data Analysis Plan

Data for research question one was gathered from SIG applications that include planned activities, intervention models, budgets, and other implementation information based on the SIG requirements.

Analysis for research question 2a included reading and mathematics as well as graduation, dropout, and attendance rate outcomes to determine if there were statistically significant differences between SIG funded and SIG non-funded schools. Covariates included percent minority and percent poverty. A comparison of pretest and posttest means was conducted to determine change scores for both groups of schools and ANOVA or Welch's t-test were used to determine if there were statistically significant differences between SIG funded and SIG non-funded schools for all of these outcomes.

With regards to research question 2b, mathematics and reading scores as well as mean change outcomes were analyzed using multiple regression models to determine what variables could predict outcome variables. The models included outcomes for multiple years and mean change outcomes with variables such as SIG funding, the SIG Cohort, pretest (2009 outcome), and covariates such as percent minority and percent poverty. Attendance, graduation rate, and dropout rate data including mean change outcomes were also analyzed using the same independent variables and covariates.

For research question three, multiple regression modeling was utilized to determine whether level of per-pupil SIG funding or chosen reform model could predict any outcome variables. The outcome variables for research question three included reading and mathematics as well as graduation, dropout, and attendance rates for academic years 2010-2013. Mean change was also an outcome variable. Independent variables in the model included SIG per-pupil funding, chosen reform model, and pretest (2009 outcomes).

For research question 4, *SIG Cohort I Sustainability Survey* data was organized into quantitative variables for analysis. Implementation strategies were categorized and other reported variable such as sustainability, buy-in and support, and reported success levels were coded for analysis in SPSS. To address research question 4a, I analyzed and organized available SIG application data to determine the reform elements schools reported within their SIG Cohort I and II applications. Research question 4b analysis included the levels of sustainability, buy-in and support, and reported levels of success for SIG Cohort I schools. To address research question 4c and the extent, if any, that these reported levels could predict outcome variables, I performed multiple regression analyses using the outcome variables of reading and mathematics as well as graduation,

dropout, and attendance rates for academic years 2010-2013. Mean change was also included as an outcome variable. Independent variables in my model included the levels of sustainability, buy-in and support, and reported levels of success. Covariates in the model included percent minority and percent poverty.

An overall summary of the data sources that was used in my study along with the corresponding analysis and research questions can be found in Table 4.

Table 4

Data and Statistical Analysis Explanation

Research Question	Data Source	Analysis
1. For SIG-funded schools (Cohort I and II), what reform elements were proposed for implementing within their SIG applications?	1. Approved SIG applications	Descriptive statistics
2. For two groups of SIG-eligible schools, those that received SIG funding and those that did not, (a) to what extent, if any, are there differences in school outcomes over three years (e.g., state standardized assessment scores, attendance rates, graduation rates, and dropout rates); and (b) to what extent, does the obtainment of SIG funding predict such outcomes?	1. SEA Listing of SIG funded and SIG non-funded schools 2. SEA public databases on assessment scores, attendance rates, graduation rates, and dropout rates 3. Per-pupil funding from SEA staff	ANOVA, Welch's t-test and multiple regression
3. For two combined groups of SIG-funded schools (Cohort I and Cohort II), to what extent can per-pupil funding predict any outcome variables (e.g., state standardized assessment scores, attendance rates, graduation rates, and dropout rates)?	1. SEA Listing of SIG funded and SIG non-funded schools 2. SEA public databases on assessment scores, attendance rates, graduation rates, and dropout rates 3. Per-pupil funding data from SIG approved budgets	Multiple regression
4. After three years of implementation for SIG Cohort I schools, (a) in what ways did these schools report implementation of various strategies compared to what was indicated in their SIG applications; (b) what levels of sustainability, buy-in and support, and levels of success did they report; and (c) to what extent can reported reform strategies, sustainability, and buy-in and support predict any outcome variables e.g., state standardized assessment scores, attendance, graduation rates and dropout rates?	1. *SIG Cohort I Sustainability Survey* 2. SEA public databases on assessment scores, attendance rates, graduation rates, and dropout rates	Descriptive statistics and multiple regression

Note: Percent poverty (free and reduced lunch) and percent minority will be included as covariates in the statistical model.

Limitations and Delimitations

Limitations to this study included the relatively small sample size of schools for which data is available overall. The survey instrument was designed specifically for collecting SIG implementation data for Cohort I and is not available for other Cohorts which would provide more relevant data related more specifically to implementation. Survey data was not originally collected for the purposes of this study, however, is relevant to the research question for which it is being used. Attendance rates, graduation rates, and dropout rates are self-reported by schools into state reporting systems, and as such are only as accurate as what is included by school and district personnel.

Chapter III Summary

An ex post facto examination of existing data was chosen to examine the implementation of SIG at the school level to better understand connections to implementation strategies, sustainability, and impact on student achievement. As schools continue to struggle, it is important to understand implementation related to school turnaround and what it takes to transform schools from low achieving to schools that facilitate student success.

CHAPTER IV

RESULTS

The purpose of my research was to investigate policy implementation factors and outcomes at identified SIG Cohort I and II schools in one Midwestern state related to outcomes in reading and mathematics, attendance rates, graduation rates, and dropout rates. Additionally, this study sought to investigate other factors such as implementation strategies, sustainability, staff buy-in, and reported successes from a subset of schools, for which detailed data is available. The research questions for this study are as follows:

1. For SIG-funded schools (Cohort I and II), what reform elements were proposed for implementation within their SIG applications?
2. For two groups of SIG-eligible schools, those that received SIG funding and those that did not,
    (a) to what extent, if any, are there differences in school outcomes over three years (e.g., state standardized assessment scores, attendance rates, graduation rates, and dropout rates); and
    (b) to what extent, does the obtainment of SIG funding predict such outcomes?
3. For two combined groups of SIG-funded schools (Cohort I and Cohort II), to what extent can SIG per-pupil funding and reform models predict any outcome variables (e.g., state standardized assessment scores, attendance rates, graduation rates, and dropout rates)?
4. After three years of implementation for SIG Cohort I schools,
    (a) in what ways did these schools report actual implementation of various strategies compared to what had been indicated in their SIG applications;

(b) what levels of sustainability, buy-in and support, and levels of success did they report; and

(c) to what extent can reported reform strategies, sustainability, and buy-in and support predict any outcome variables (e.g., state standardized assessment scores, attendance, graduation rates and dropout rates)?

Description of Data

In this one Midwestern state, 205 schools were originally identified as SIG-eligible. For the purposes of my data analysis, I have separated the high schools from the elementary and middle schools to consider graduation and dropout rates amongst the high school sample schools and to organize assessment outcomes by grade levels. A detailed list of the variables included in my study can be found in Table 5.

Table 5

Quantitative Variable List

Name and Type of Variable	Academic Years
High School Outcome Variables	
- Grade 11 Mean Mathematics Z Scores	2009, 2010, 2011, 2012, 2013
- Grade 11 Mean Reading Z Scores	2009, 2010, 2011, 2012, 2013
- 4-year graduation rate	2009, 2010, 2011, 2012, 2013
- Dropout rate	2009, 2010, 2011, 2012, 2013
- Attendance rate	2009, 2010, 2011, 2012, 2013
Elementary and Middle School Outcome Variables	
- Grade 3, 5, 8 Mean Mathematics Z Scores	2009, 2010, 2011, 2012, 2013
- Grade 3, 5, 8 Mean Reading Z Scores	2009, 2010, 2011, 2012, 2013
- Attendance rate	2009, 2010, 2011, 2012, 2013
SIG Independent Variables	
- SIG I, II Per-Pupil Funding (from approved budgets)	2010, 2011
- SIG Reform Model Implemented	2010, 2011
- SIG Approved Applications	2010, 2011
- *SIG Cohort I Sustainability Survey* Responses	2014
Covariates	
- Percent Poverty	2009
- Percent Minority	2009

Table 5 includes outcome variables as well as independent variables and covariates used in my data analysis. Academic school years are also included. All pretest

data (i.e., scores from the year before the grant started for Cohort I and two years before it started for Cohort II) was derived from the 2009 academic year because this was the most recent year for which both SIG Cohort I and II data was available for comparison across all sample schools before SIG implementation. Posttest data was derived from 2013 academic year outcomes since this was the final year available to use state assessment data for outcomes. The minimum level of significance is $\alpha = .05$ for my study.

Analysis of Research Questions

Research Question 1

Research question one asked what reform elements were proposed for implementation by SIG schools. Analysis of this question involved the review of SIG applications for schools that received SIG funding for Cohorts I and II. Within these applications, schools reported their intended implementation strategies for the SIG among other components.

SIG Cohort I applications included a Proposed Activities section where schools reported their intended strategies for implementation. There were 20 SIG Cohort I schools that chose to implement a Transformation model and eight schools that chose Turnaround initially. Schools reported many specific strategies for implementation within their SIG applications and upon analysis of these plans, I was able to categorize SIG Cohort I activities into six major reform categories including professional learning, instructional programs, extended learning time, curriculum, data, and assessment use, technology, and climate, culture, and parent involvement. More detail on specific strategies as reported directly by schools can be found in Table 6.

Table 6

Specific Implementation Strategies Reported by SIG Cohort I Schools

Categories and Strategies
Professional Learning
- Hope Foundation Assistance with leadership teams
- Math institute: transition to conceptual math and focus on deepening the understanding of mathematical concepts
- Improved interactions between student-student, teacher-student, teacher-teacher
- Job Embedded PD
- High Quality PLC's, Technology Integration and Data Support
- Instructional Coaches/Best practice Instruction
- Alignment of curriculum
- Math and Literacy Coaching
- PLCs/Common Assessments
- Teaching strategies
- Lesson Design/Benchmark Testing/Professional Learning Communities
- Building leadership in the building
- Effective Instructional Practices
- Job-Embedded Professional Development
- Implementation of School-Wide Close and Critical Reading with extensive teacher training.
- Differentiated learning
- Professional Learning Communities
- Provide ongoing high-quality job embedded PD
- Opportunities for teacher instructional professional development content coaching
- Professional Development: Instructional Best Practices
- Aligning our content curriculum, developing pacing guides and common assessments and meeting in content PLC's monthly.
- Content Level Instructional Coaching
- Teacher training on all the new technology.
- Administrators, instructional coaches and graduation coaches trained in DII to work with teachers to further coach, develop and maintain the DII model at Adrian High School.
Instructional Programs
- Purchased Read 180 Program
- All School Literacy Focus through implementation of Reading Apprenticeship
- CHAMPS PBS/SFA RTI Programs
- Development of Smaller Learning Communities
- Literacy Reading Comprehension and Argumentative Writing
- Instructional delivery
- International Baccalaureate Program
- Contracting with Action Learning Systems to teach us how to implement the Direct Interactive Instruction model.
- Reading and Math Intervention
- Math
- RTI
- Rigor/Relevance Framework
- Curriculum Alignment
Extended Learning Time
- Increased Learning Time
- After school tutoring and summer jump start program
- Extended Learning Time
- Extended learning time
- Extended Learning Time (Literacy Lab)
- Extended Day
- Extended Learning Time

Table 6 – Continued

Categories and Strategies
- Increase Learning Time
- Extended learning time
Technology
- Infusion of technology into classrooms to increase student engagement and support teacher pedagogy.
- Redesigned curriculum/ Technology/ PD Curriculum and Instructional Coordinator
- Integrating technology
- Integration of technology
- Instructional Technology
Climate, Culture, and Parental Involvement
- Employment of a graduation coach to assist students in graduating in a timely manner.
- Increased parental involvement / Family Fun Nights Parent Coordinator
- Attendance and Discipline
- Social and Emotional Support, How to Use Data To Drive Instruction

Note: Each of these strategies are reported only once by SIG Cohort I schools and was categorized for analysis.

I also examined SIG Cohort II applications which were different in that they included a Permissible Elements section that allowed schools to choose from 17 elements for Transformation schools, or 18 elements for Turnaround schools, to implement as strategies as opposed to Proposed Activities found in Cohort I applications. There were 15 SIG Cohort II schools that chose to implement a Transformation model and six that chose Turnaround.

Table 7 includes those Permissible Elements as well as their frequencies for both Turnaround and Transformation schools, as ranked by highest to lowest frequency for Turnaround schools. Table 7 indicates that PD, curriculum implementation, and the utilization of technology-based interventions were the most frequently reported appearing 12 times each, and implementation of a schoolwide Response to Intervention model and the establishment of an early warning system both appeared 11 times as the second most frequently reported strategy for Transformation schools. Turnaround schools demonstrated a more evenly distributed frequency of permissible elements ranging from

one to three schools. Overall, 145 elements were reported for Transformation schools and 38 total were reported for Turnaround schools. Only three schools chose to implement a new school model as part of a turnaround strategy.

Table 7

Proposal Reform Elements in SIG Cohort II Applications

	Frequency: Transformation	Percentage: Transformation	Frequency: Turnaround	Percentage: Turnaround
- Conduct reviews to ensure that the curriculum is implemented with fidelity and is impacting student achievement.	12	8.28	3	7.89
- Use and integrate technology-based interventions.	12	8.28	3	7.89
- Institute a system for measuring changes in instructional practices that result from professional development.	12	8.28	2	5.26
- Implement a school wide Response to Intervention model.	11	7.59	3	7.89
- Establish early warning systems to identify students who may be at risk of failure.	11	7.59	2	5.26
- Provide PD to teachers/principals on strategies to support students in least restrictive environment and English language learners.	10	6.9	3	7.89
- Ensure that the school is not required to accept a teacher without the mutual consent of teacher and principal, regardless of seniority.	10	6.9	2	5.26
- Extending or restructuring the school day to add time for strategies that build relationships between students, faculty, and other school staff.	10	6.9	2	5.26
- Implementing approaches to improve school climate and discipline	10	6.9	2	5.26
- Provide summer transition programs or freshman academies	9	6.21	2	5.26
- Partner with parents and other organizations to create safe school environments that meet students' social, emotional, and health needs.	9	6.21	2	5.26
- Increase rigor through such programs as AP, IB, STEM, and others.	7	4.83	2	5.26
- Increase graduation rates through credit recovery, smaller learning communities, and other strategies.	7	4.83	2	5.26
- Provide additional money to attract and retain staff.	6	4.14	1	2.63
- Allow the school to be run under a new governance arrangement.	4	2.76	2	5.26

Table 7 – Continued

	Frequency: Transformation	Percentage: Transformation	Frequency: Turnaround	Percentage: Turnaround
- Expanding the school program to offer full-day kindergarten or pre-kindergarten.	3	2.07	1	2.63
- Implement a per pupil school based budget formula weighted based on student needs.	2	1.38	1	2.63
- A new school model (themed, dual language academy, etc.)			3	7.89
Total	145		38	

Note: Permissible Elements are the same for both Turnaround and Transformation schools and *A new school model (themed, dual language academy, etc.)* is available to Turnaround schools only.

Both SIG Cohort I and II applications indicated plans to work closely with their Intermediate Schools Districts (ISDs) to collaborate on efforts such as special education programming, professional development, assessment implementation and the use of assessment data. The implementation of Response to Intervention, or tiered systems of supports for students, and other technical assistance related to implementation also included ISD collaboration. With regards to increased learning time specifically, many schools added instructional time to the school day and also included after school and summer programming to address student needs.

Both SIG Cohort I and II schools report the intended use of third party vendors to deliver services within their applications. Some of these were vendors from out of state and some included entities within the state to provide online classes.

Research Question 2a

Research question 2a asked whether there were differences in school outcomes over three years, and if so, to what extent there were differences between SIG Cohort I and II schools that received SIG funding and those that were eligible, but did not receive SIG funding. To answer this question I compared mean z scores, and performed data

analysis using ANOVA or by using Welch's t-test when homogeneity of variance was violated according to Levene's *F*. The outcome variables of mathematics and reading scores, graduation rates, dropout rates, and attendance rates were analyzed to determine if there were statistically significant differences between SIG funded schools compared to SIG-eligible schools that did not receive SIG funding. I also compared mean change over time for all outcome variables that included comparing the differences in their scores before and after grant implementation.

For analysis of mathematics and reading, z scores were used which allowed for the comparison of scores across multiple years regardless of differences in means, scales, and standard deviations. Converting the scaled score variables into z scores allowed me to equate all means to zero. Z scores that are below zero or negative indicate that groups are preforming below the mean for all schools within the state, and the higher the negative mean, the worse they are performing. Inversely, groups that perform above zero are performing above the mean average for all schools in the state, and as they move toward a higher positive mean, their outcomes are considered to be higher performing on mathematics and reading assessments. Graduation, dropout, and attendance rates are reported as percentages for all data analysis.

High schools. For all sample high schools, mean reading and mathematics scores, as well as graduation and dropout rates were analyzed to determine if there were statistically significant difference in outcomes, between SIG-eligible schools which received grant funds and those SIG-eligible schools that did not, over grant implementation years. Table 8 includes the z score means for the year before the grant started (i.e., pretest) and the z score means for the year after the grant ended (i.e.,

posttest) for both groups of schools as, well as the mean difference between pretest and posttest means for both groups of schools.

The mathematics z score change for SIG non-funded schools was .038, while for SIG funded schools, it was -.071. With regards to reading, SIG non-funded schools demonstrate a positive mean change (M= .003) while the mean change for SIG funded schools demonstrated a decrease (M= -.047). To determine whether these changes were statistically significant, I used Welch's t-test results. As indicated in Table 8, neither mean difference was statistically significant.

Table 8

Mathematics and Reading Z Score Differences for SIG-Eligible Funded and Non-Funded High Schools

			Pretest	Posttest	Mean Change	*p*-value
Mathematics Grade 11	SIG Non-funded	Mean	-.951	-.913	**.038**	
		N	77	77	77	
		Std. Deviation	.846	.836	.641	
	SIG Funded	Mean	-.739	-.811	**-.071**	
		N	21	21	21	
		Std. Deviation	.890	.828	.432	
		Difference				.363
Reading Grade 11	SIG Non-funded	Mean	-.874	-.871	**.003**	
		N	77	77	77	
		Std. Deviation	.735	.811	.579	
	SIG Funded	Mean	-.645	-.692	**-.047**	
		N	21	21	21	
		Std. Deviation	.738	.785	.417	
		Difference				.658

Overall, SIG non-funded schools actually demonstrated small increases in z scores during the three years, while SIG funded schools demonstrated a decline in z score mean differences between pre and posttest results in both reading and mathematics.

Graduation and Dropout. With regards to graduation rates and dropout rates, results for means are listed in Table 9. Before the grant period began, the SIG funded

schools performed better than SIG non-funded schools (M= 74.31 and M=53.35). Both groups of schools had graduation rates that decreased between pretest and posttest results.

Dropout rates were initially higher for SIG non-funded schools (M= 17.81 and M= 11.09). Both groups of schools had higher dropout rates for posttest results, with SIG funded schools actually having a higher change increase in dropout rates. Analysis using Welch's t-test reveals that there is not a statistically significant difference in changes for graduation (M= -2.37 and M= -5.82) or dropout rate (M= 7.06 and M= 11.52) between the two groups of schools.

Table 9

Graduation and Dropout Rates for SIG-Eligible Schools

			Pretest	Posttest	Mean Change	*p*-value
Graduation Rate	SIG Non-funded	Mean	53.35	50.99	**-02.37**	
		N	100	100	100	
		Std. Deviation	27.57	29.78	22.03	
	SIG Funded	Mean	74.31	68.49	**-05.82**	
		N	24	24	24	
		Std. Deviation	11.68	29.69	23.66	
		Difference				.520
Dropout Rate	SIG Non-funded	Mean	17.81	24.88	**07.06**	
		N	100	100	100	
		Std. Deviation	11.72	23.58	23.41	
	SIG Funded	Mean	11.09	22.60	**11.52**	
		N	24	24	24	
		Std. Deviation	04.81	30.66	29.29	
		Difference				.493

Elementary and middle schools. As with high school results, mean z score outcomes for SIG funded schools are higher for pretest and remain higher for posttest results. In grade three, SIG funded and non-funded schools show a decrease in z score mean change in mathematics (M= -.003 and M= -.035), and an increase in reading (M= .011 and M= .029) with regards to mean change. In grade five, SIG non-funded schools display a decrease in mean z score change in both mathematics and reading, while SIG

funded schools demonstrate a decrease in mean change for mathematics (M= -.177) and an increase for reading (M= .019). In grade eight, SIG funded schools demonstrate an increase in mean z score change while SIG non-funded schools demonstrate a decrease in mean z score changes on both subject areas.

Further analysis using Welch's t-test reveals that there is not a statistically significant difference in changes for reading or mathematics outcomes in grades three, five, or eight in either subject area between the two groups of schools (Table 10).

Table 10

Mean Mathematics Z Score Changes for SIG-Eligible Elementary and Middle Schools

			Pretest	Posttest	Mean Change	*p*-value
Mathematics Grade 3	SIG Non-funded	Mean	-.165	-.168	**-.003**	
		N	26	26	26	
		Std. Deviation	1.052	.928	.158	
	SIG Funded	Mean	.014	-.021	**-.035**	
		N	10	10	10	
		Std. Deviation	.107	.161	.151	
		Difference				.587
Reading Grade 3	SIG Non-funded	Mean	-.167	-.155	**.011**	
		N	26	26	26	
		Std. Deviation	1.070	.934	.169	
	SIG Funded	Mean	-.026	.003	**.029**	
		N	10	10	10	
		Std. Deviation	.081	.158	.113	
		Difference				.726
Mathematics Grade 5	SIG Non-funded	Mean	-.069	-.246	**-.177**	
		N	26	26	26	
		Std. Deviation	.930	1.157	.828	
	SIG Funded	Mean	.059	.047	**-.011**	
		N	10	10	10	
		Std. Deviation	.129	.087	.116	
		Difference				.328
Reading Grade 5	SIG Non-funded	Mean	-.079	-.225	**-.146**	
		N	26	26	26	
		Std. Deviation	.932	1.151	.835	
	SIG Funded	Mean	.044	.063	**.019**	
		N	10	10	10	
		Std. Deviation	.073	.062	.067	
		Difference				.326

Table 10 – Continued

			Pretest	Posttest	Mean Change	*p*-value
Mathematics Grade 8	SIG Non-funded	Mean	-.070	-.143	**-.073**	
		N	22	22	22	
		Std. Deviation	1.038	1.095	.601	
	SIG Funded	Mean	.338	.375	**.037**	
		N	21	21	21	
		Std. Deviation	.027	.034	.023	
		Difference				.400
Reading Grade 8	SIG Non-funded	Mean	-.063	-.136	**-.073**	
		N	22	22	22	
		Std. Deviation	1.047	1.096	.594	
	SIG Funded	Mean	.347	.367	**.020**	
		N	21	21	21	
		Std. Deviation	.018	.031	.026	
		Difference				.469

Attendance. To determine the extent, if any, differences in attendance rates existed between schools that received SIG funding and those that did not, I compared mean attendance rates for both groups of schools and used Welch's t-test analysis to determine if statistically significant differences existed. Schools that received the SIG grant displayed higher attendance rates initially and demonstrated a mean increase (M= .26) compared to SIG non-funded schools that demonstrated a decrease (M= -3.31) in attendance between pretest and posttest results. Furthermore, my analysis indicates there was not a statistically significant difference in mean change for attendance rates for SIG funded schools and SIG non-funded schools (Table 11).

Table 11

Attendance Rate Mean Changes for SIG-Eligible Schools

		Pretest	Posttest	Mean Change	p-value
SIG Non-funded	Mean	86.13	82.82	**-3.31**	
	N	138	138	138	
	Std. Deviation	11.50	14.47	13.69	
SIG Funded	Mean	90.05	90.30	**.26**	
	N	42	42	42	
	Std. Deviation	8.11	8.94	9.23	
	Difference				0.056

Research Question 2b

Research question 2b asks to what extent the obtainment of SIG funding can predict outcomes such as mathematics and reading, attendance, graduation, and dropout rates. To address this question, I performed multiple regression analysis for eleventh grade assessment results for all SIG-eligible high schools, and grades three, five, and eight assessments for all SIG-eligible elementary schools. Other outcomes measured to answer this question include graduation rates, dropout rates, and attendance rates. Variables in this model include a pretest, whether the school was funded as a SIG Cohorts I and II or not, as well as percent minority and poverty as covariates. The pretest variable in my model refers to the 2009 academic year outcome for that variable. To compare SIG funded and SIG non-funded schools, I coded the variables within SPSS for analysis as 0=SIG non-funded, 1= SIG Cohort I, and 2 = SIG Cohort II.

For these analyses, I chose to use both year by year data, as well as an overall pretest-to- posttest change score outcomes. This was done so I could examine predictors of outcome variables between SIG funded and SIG non-funded schools over time and to see if the SIG Cohort I or II were statistically significant predictors of outcomes more specifically in individual years.

High schools. Overall, being funded as a Cohort I or II schools was not a statistically significant predictor of z score outcomes for mathematics. Instead, the only statistically significant predictors are pretest and percent minority (Table 12). According to results from this model, mathematics z score outcomes decrease from .600 to .744 for every one unit increase in percent minority for academic years 2012 and 2013.

Pretest and percent minority were predictors of mean change outcomes for mathematics. Table 12 includes regression analysis results for mean change and more

specifically, analysis indicates that for every one unit increase in percent minority, a decrease of .690 in z score mathematics mean change could be predicted. In general percent minority is a consistent predictor of decreased mathematics outcomes and z scores change for high schools compared to other variables.

Table 12

Multiple Regression Results for HS Mathematics Outcomes for SIG-Eligible Schools

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2010 Mathematics Grade 11	Mathematics Pretest	.667	.066	.000*
	Cohort I Funded	.187	.140	.185
	Percent Minority	-.335	.174	.057
	Percent Poverty	-.103	.394	.794
2011 Mathematics Grade 11	Mathematics Pretest	.705	.063	.000*
	Cohort I Funded	.194	.134	.151
	Percent Minority	-.600	.168	.001*
	Percent Poverty	.059	.376	.876
	Cohort II Funded	.091	.174	.600
2012 Mathematics Grade 11	Mathematics Pretest	.748	.077	.000*
	Cohort I Funded	.226	.164	.172
	Percent Minority	-.744	.203	.000*
	Percent Poverty	.258	.460	.576
	Cohort II Funded	.324	.208	.123
2013 Mathematics Grade 11	Mathematics Pretest	.568	.071	.000*
	Cohort I Funded	.141	.159	.379
	Percent Minority	-.690	.186	.000*
	Percent Poverty	-.349	.422	.411
	Cohort II Funded	.067	.199	.736
Mathematics Mean Change Grade 11	Mathematics Pretest	-.432	.071	.000**
	Cohort I Funded	.141	.159	.038
	Percent Minority	-.690	.186	.000**
	Percent Poverty	-.349	.422	.411
	Cohort II Funded	.067	.199	.736

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

High school reading assessment results were analyzed using a multiple regression model including the same protocol and covariates as for the mathematics results (see Table 13). Like mathematics outcomes, being funded in Cohort I or II was not a statistically significant predictor of z score outcomes for reading, and the reading pretest

and percent minority were the only statistically significant predictor for years 2010 through 2013 as well as for change outcomes. In the case of reading, for every one unit increase in percent minority, there was a decrease in reading z scores ranging from .463 to .355.

Table 13

Multiple Regression Results for HS Reading Outcomes for SIG-Eligible Schools

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2010 Reading Grade 11	Percent Minority	-.355	.158	.027*
	Percent Poverty	-.704	.366	.057
	Reading Pretest	.646	.068	.000*
	Cohort I Funded	.173	.130	.185
2011 Reading Grade 11	Percent Minority	-.316	.191	.100
	Percent Poverty	-.393	.435	.368
	Reading Pretest	.757	.080	.000*
	Cohort I Funded	.271	.155	.084
	Cohort II Funded	.092	.201	.648
2012 Reading Grade 11	Percent Minority	-.433	.214	.046*
	Percent Poverty	-.565	.485	.246
	Reading Pretest	.683	.089	.000*
	Cohort I Funded	.251	.174	.152
	Cohort II Funded	.194	.220	.379
2013 Reading Grade 11	Percent Minority	-.463	.180	.012*
	Percent Poverty	-.742	.409	.073
	Reading Pretest	.647	.079	.000*
	Cohort I Funded	.184	.154	.235
	Cohort II Funded	.053	.192	.784
Reading Mean Change Grade 11	Percent Minority	-.463	.180	.012*
	Percent Poverty	-.742	.409	.073
	Reading Pretest	-.353	.079	.000**
	Cohort I Funded	.184	.154	.235
	Cohort II Funded	.053	.192	.784

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Overall, the obtainment of SIG funding was not a statistically significant predictor of mean z score outcomes or changes for reading or mathematics; however, pretest and percent minority both were statistically significant in some models. More specifically as

the percent minority increases within sample schools, z score outcomes and mean change outcomes for mathematics and reading were predicted to decrease.

Graduation and dropout. To determine whether or not the obtainment of SIG funding could predict outcomes related to graduation and dropout rates, I used the same variables and covariates in my multiple regression models that I used for mathematics and reading outcomes.

Results revealed that being funded in SIG Cohort I was a statistically significant predictor of graduation rates for the academic year 2010 only. For all other academic years included in my study, being funded in SIG Cohort I or II was not a statistically significant predictor of graduation outcomes.

Graduation rate pretest was a statistically significant predictor of graduation rate outcomes consistently. Percent minority was also a statistically significant predictor of graduation rates for academic years 2010 and 2011 graduation rate outcomes, demonstrating that as percent minority increased, improvements in graduation rates also increased. Table 14 includes multiple regression analysis for graduation rate outcomes.

Additionally, I looked at mean change as to determine if these variables were predictors of outcomes. Multiple regression model results for graduation rate mean change were not statistically significant with regards to good model fit and as such are not included in my results.

Table 14

Multiple Regression Results for Graduation Outcomes for SIG-Eligible Schools

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2010 Graduation Rate	Percent Minority	.118	.032	.000**
	Percent Poverty	-.137	.076	.072
	Cohort I Funded	.058	.029	.050*
	Graduation Pretest	.872	.037	.000**
2011 Graduation Rate	Percent Minority	.079	.039	.044*
	Percent Poverty	-.091	.089	.308
	Cohort I Funded	.042	.035	.230
	Graduation Pretest	.862	.044	.000**
	Cohort II Funded	.015	.045	.748
2012 Graduation Rate	Percent Minority	-.081	.065	.216
	Percent Poverty	.024	.152	.876
	Cohort I Funded	.071	.059	.228
	Graduation Pretest	.917	.075	.000**
	Cohort II Funded	-.105	.076	.173
2013 Graduation Rate	Percent Minority	-.089	.071	.210
	Percent Poverty	.030	.164	.853
	Cohort I Funded	.038	.061	.536
	Graduation Pretest	.832	.084	.000**
	Cohort II Funded	-.028	.084	.742

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Multiple regression analysis was performed to determine the extent that certain variables can predict dropout rate outcomes. Being funded as part of SIG Cohort I or II was not a statistically significant predictor of dropout rate outcomes. Instead, percent minority was a predictor of dropout rates for years 2010 through 2013, as well as for dropout change.

Interestingly, percent minority was a predictor of improved dropout rates for academic years 2010 and 2011; but it was also a predictor of worsening dropout rates for academic year 2012 and 2013, as well as for the mean change over three years (see Table 15). Dropout pretest was a statistically significant predictor of dropout rate outcomes for all models at with the exception of mean change outcomes. More specifically, dropout

rate mean change can be predicted to increase by .198 as percent minority increases indicating that as percent minority can predict increases in dropout rate changes over time.

Table 15

Multiple Regression Results for Dropout Outcomes for SIG-Eligible Schools

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2010 Dropout Rate	Percent Minority	-.056	.025	.028*
	Percent Poverty	.118	.062	.059
	Dropout Pretest	.717	.063	.000**
	Cohort I Funded	-.022	.024	.362
2011 Dropout Rate	Percent Minority	-.095	.026	.000**
	Percent Poverty	.193	.063	.003**
	Dropout Pretest	.507	.065	.000**
	Cohort I Funded	-.042	.025	.091
	Cohort II Funded	.003	.032	.917
2012 Dropout Rate	Percent Minority	.143	.073	.050*
	Percent Poverty	.079	.172	.646
	Dropout Pretest	.565	.177	.002**
	Cohort I Funded	-.044	.066	.508
	Cohort II Funded	.074	.089	.407
2013 Dropout Rate	Percent Minority	.265	.083	.002**
	Percent Poverty	-.027	.196	.893
	Dropout Pretest	.851	.202	.000**
	Cohort I Funded	-.077	.077	.319
	Cohort II Funded	.031	.101	.764
Dropout Mean Change	Cohort I Funded	-.035	.066	.594
	Cohort II Funded	.023	.091	.799
	Percent Minority	.198	.073	.008**
	Percent Poverty	-.124	.176	.483
	Dropout Pretest	-.323	.206	.120

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Elementary and middle schools. The receipt of SIG funding was not a statistically significant predictor of mathematic or reading outcomes for elementary or middle schools. Table 16 includes multiple regression analysis model results that were statistically significant, showing that only pretest, percent poverty, and percent minority

are statistically significant predictors of mathematics and reading assessment scores in grade five for years 2011 and 2012 (Table 16).

Table 16

Multiple Regression Results for Elementary and Middle Mathematics and Reading for SIG-Eligible Schools

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2011 Mathematics Grade 5	Cohort I Funded	-0.030	0.282	.917
	Cohort II Funded	0.167	0.291	.570
	Percent Poverty	5.491	1.353	.000**
	Percent Minority	-1.229	0.494	.017*
	Mathematics Pretest	0.520	0.125	.000**
2012 Mathematics Grade 5	Cohort I Funded	-0.016	0.288	.956
	Cohort II Funded	0.173	0.298	.566
	Percent Poverty	5.708	1.430	.000**
	Percent Minority	-1.389	0.554	.017*
	Mathematics Pretest	0.513	0.141	.001**
2011 Reading Grade 5	Cohort I Funded	-0.064	0.286	.823
	Cohort II Funded	0.181	0.295	.545
	Percent Poverty	5.168	1.396	.001**
	Percent Minority	-1.165	0.502	.026*
	Reading Pretest	0.565	0.128	.000**
2012 Reading Grade 5	Cohort I Funded	-0.038	0.287	.895
	Cohort II Funded	0.190	0.297	.527
	Percent Poverty	5.290	1.451	.001**
	Percent Minority	-1.325	0.553	.022*
	Reading Pretest	0.555	0.143	.000**
Mean Change Reading Grade 3	Cohort I Funded	0.049	0.051	.347
	Cohort II Funded	0.036	0.051	.482
	Percent Poverty	-0.101	0.302	.739
	Percent Minority	-0.113	0.118	.346
	Reading Pretest	-0.111	0.028	.001**
Mean Change Mathematics Grade 3	Cohort I Funded	-0.009	0.058	.878
	Cohort II Funded	-0.004	0.058	.939
	Percent Poverty	-0.009	0.134	.945
	Percent Minority	-0.182	0.341	.597
	Reading Pretest	-0.107	0.032	.003**

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

I also performed multiple regression analysis on mean change outcomes for elementary and middle school mathematics and reading results. Pretest was the only predictor of mean change outcomes for grade three mathematics and reading outcomes

(see Table 16). Mean change outcome models were not statistically significant for grades five and eight and are not included.

Attendance. Multiple regression analyses were performed to determine how the obtainment of SIG funds can predict outcomes for attendance rates. Multiple regression analysis indicate that there are some statistically significant predictors for attendance rates (Table 17). More specifically, for 2011 and 2012, Cohort II is a statistically significant predictor of attendance rate increases. For 2011, participation in SIG Cohort II could predict an attendance rate increase of 5.83%, and for the 2012 academic year, participation in SIG Cohort II schools could predict an increase of 9.17%.

With regards to mean change, percent minority and pretest are both statistically significant predictors of attendance outcome changes (Table 17). More specifically, attendance rate change increased 6.41% for every one unit increase in percent minority.

Table 17

Multiple Regression Results for Attendance Outcomes for SIG-Eligible Schools

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2010 Attendance Rate	Cohort I Funding	0.323	1.685	.848
	Percent Minority	-2.706	1.895	.155
	Percent Poverty	0.543	4.274	.899
	Attendance Pretest	0.635	0.050	.000**
2011 Attendance Rate	Cohort I Funding	-1.532	2.539	.547
	Cohort II Funding	5.828	2.778	.037*
	Percent Minority	-3.247	2.980	.277
	Percent Poverty	13.768	6.683	.041*
	Attendance Pretest	0.500	0.076	.000**
2012 Attendance Rate	Cohort I Funding	6.140	3.721	.100
	Cohort II Funding	9.167	4.064	.025*
	Percent Minority	-9.792	4.407	.027*
	Percent Poverty	17.894	9.816	.070
	Attendance Pretest	0.550	0.116	.000**

Table 17 – Continued

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2013 Attendance Rate	Cohort I Funding	4.576	2.748	.098
	Cohort II Funding	5.382	3.008	.075
	Percent Minority	6.410	3.233	.049*
	Percent Poverty	-11.697	7.144	.103
	Attendance Pretest	0.579	0.084	.000**
Attendance Mean Change	Cohort I Funding	4.576	2.748	.098
	Cohort II Funding	5.382	3.008	.075
	Percent Minority	6.410	3.233	.049**
	Percent Poverty	-11.697	7.144	.103
	Attendance Pretest	-0.421	0.084	.000**

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Research Question 3

For research question three, I sought to address the extent to which the SIG per-pupil funding and chosen reform model could predict outcomes for mathematics and reading, attendance rates, graduation rates, and dropout rates for SIG funded schools only. I included variables such as per-pupil SIG funding amounts, chosen reform model implemented as independent variables, and included percent minority and poverty as covariates.

For these analyses, I chose to use both year by year data, as well as an overall pretest-to- posttest change score outcomes specifically for SIG Cohort I and II schools and to examine predictors of outcome variables between SIG Cohort I and II schools.

SIG per-pupil funding amounts were derived from approved SIG budgets from the SEA and entered into SPSS as continuous variables for use in my model. SIG reform model was coded as 1=turnaround and 0=transformation. The maximum per-pupil average funding amount was $16,236.18 while the minimum was $532.63, demonstrating that there was a significant difference in approved budget amounts when considering average per-pupil SIG funding. The average per-pupil funding amount for all SIG funded

schools was $5682.28. All schools chose to implement either a Turnaround or Transformation model, and 35 schools (71.4%) chose to implement a transformation model while 14 (28.6%) schools chose a turnaround model.

SIG funding is awarded to schools based on their requested funds within their budgets that are included as part of the application. The SEA approves these amounts based on the plans and scoring of the applications.

High schools. Chosen reform model, percent minority, and per-pupil funding were statistically significant predictors of outcome variables in some models. Table 18 includes multiple regression analysis results for those outcomes. More specifically implementation of a Turnaround model can predict mathematics outcomes to decrease -.452 compared to a Transformation model. Results from reading analysis demonstrate that, for the 2013 school year, per-pupil funding was a statistically significant predictor of outcomes; however, this appears minimal given that for every one unit increase in per-pupil SIG funding, mathematics z scores can be predicted to increase by only .0000889 for academic year 2011 reading. Reading z scores could also be predicted to decrease by 1.66 for every one unit increase in percent poverty for 2013. SIG Cohort I was removed from the model by SPSS to assure a good model fit for 2013 mathematics and reading as well as mean change.

Multiple regression analysis was also performed to determine if any of these variables were predictors of mean change outcomes. Percent minority and mathematics pretest were statistically significant predictors of mean change outcomes. More specifically, as the percent minority increases, the mean change in mathematics decreases by 1.31.

Table 18

Multiple Regression Results for High School Assessment Results Related to Per-Pupil Funding and Reform Model Implemented

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2010 Mathematics Grade 11	Cohort I	-0.184	.140	.204
	Per-pupil Funding	.00000872	.000	.637
	Turnaround Model	-0.452	.181	.022*
	Percent Poverty	0.270	.619	.668
	Percent Minority	-0.568	.396	.169
	Pretest Mathematics	0.695	.101	.000**
2013 Mathematics Grade 11	Cohort II	-0.093	.238	.701
	Pre-pupil Funding	.0000422	.000	.212
	Turnaround Model	0.133	.290	.652
	Percent Poverty	-0.357	.840	.678
	Percent Minority	-1.313	.562	.035*
	Pretest Mathematics	0.398	.152	.020*
Mathematics Mean Change Grade 11	Cohort II	-.093	.238	.701
	Per-pupil Funding	.00004215	.000	.212
	Turnaround Model	.133	.290	.652
	Percent Poverty	-.357	.840	.678
	Percent Minority	-1.313	.5620	.035*
	Pretest Mathematics	-.602	.1520	.001**
2013 Reading Grade 11	Cohort II	-0.234	.260	.383
	Per-pupil Funding	.0000889	.000	.025*
	Turnaround Model	0.540	.327	.121
	Percent Poverty	0.493	.927	.604
	Percent Minority	-1.666	.632	.020*
	Pretest Mathematics	0.361	.225	.131

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Graduation and dropout rates. To determine the extent to which variables such as per-pupil funding and type of reform model can predict outcomes for graduation and dropout rates, I used a multiple regression analysis including the same variables as I did for mathematics and reading outcomes.

As Table 19 shows, SIG Cohort I funding was a predictor of graduation rate for the 2010 academic year. More specifically, graduation rate can be predicted to increase 11.8% for SIG Cohort I funded schools. Graduation rates can also be predicted to

increase by 18.6% for each one unit increase in percent minority for 2010 only. SIG model chosen was not a statistically significant indicator of graduation rates.

The implementation of a Turnaround model could predict an increase in dropout rate of 10% compared to a Transformation model. Additionally, 2010 results indicate that there are statistically significant differences in dropout rate outcomes depending on percent minority, poverty, per-pupil funding, model, and dropout rate pretest. No mean change regression analysis models were statistically significant for graduation or dropout rates. Additionally, as percent minority increases, dropout rates can be predicted to drop 12.6%.

Table 19

Statistically Significant Predictors of Graduation and Dropout Rates

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2010 Graduation Rate	Percent Minority	0.186	.088	.049*
	Percent Poverty	-0.322	.167	.070
	Cohort I	0.118	.033	.002**
	Graduation Rate Pretest	0.875	.147	.000**
	Per-pupil Funding	-.00000496	.000	.279
	Turnaround Model	-0.057	.047	.238
2010 Dropout Rate	Percent Minority	-0.126	.058	.043*
	Percent Poverty	0.288	.109	.016*
	Per-pupil Funding	.00000652	.000	.041*
	Turnaround Model	0.1	.030	.004**
	Cohort I	-0.029	.021	.187
	Dropout Rate Pretest	0.498	.219	.035*

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Per-pupil funding is also shown to be predictive of dropout rates, however, my analysis only indicates that an increase of only .00000652 in graduation rate can be predicted for every one unit increase in per-pupil SIG funding.

Elementary and middle schools. None of my multiple regression models performed to predict academic outcomes for SIG Cohort I and II schools related to

research question three for elementary and middle schools were statistically significant.

Attendance results. Multiple regression analyses results indicate that 2010 and 2011 academic year outcomes demonstrated statistically significant models only. Most notably, percent minority was statistically significant as a variable and could predict a 30.87% decrease in attendance outcomes for SIG schools for each unit of increase in percent minority (Table 20) in 2011 and a decrease of 9.59% for 2010. Additionally, percent poverty could predict a 55.15% increase in attendance rate for 2011.

Table 20

Statistically Significant Predictors for Attendance Rates

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2010 Attendance Rate	Cohort I	-2.031	1.860	.282
	Percent Minority	-9.586	4.107	.025*
	Percent Poverty	0.356	8.559	.967
	Per-pupil Funding	0.000	0.000	.502
	Turnaround Model	-1.714	2.166	.434
	Attendance Pretest	0.543	0.135	.000**
2011 Attendance Rate	Cohort II	4.303	3.995	.288
	Percent Minority	-30.872	9.184	.002**
	Percent Poverty	55.148	19.07	.006**
	Per-pupil Funding	0.000	0.001	.409
	Turnaround Model	1.146	4.746	.810
	Attendance Pretest	0.161	0.234	.494

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Research Question 4a

Research question 4a sought to answer the ways in which SIG Cohort I schools reported the implementation of various strategies compared to what they indicated in their SIG applications. Theoretically, strategies implemented in these schools should be mirrored in their original SIG applications.

To answer this first part of question four, I reviewed the original SIG Cohort I applications for each school and compared the strategies reflected in the applications to

those reported by schools in the *SIG Cohort I Sustainability Survey*. Each school reported three strategies or activities that they implemented as a result of their SIG award in the online *SIG Cohort I Sustainability Survey*. These strategies are listed in their respective categories in Table 6. The survey was completed after three full years of implementation by 21 schools.

To determine the types of strategies the schools implemented, I performed an analysis of the reported strategies from the survey and organized them into categories. The categories and the number of schools that reported implementing strategies in those categories as well as how many were reported in original applications is found in Table 21. Each school reported up to three strategies and the sum indicates the total number of times each strategy was reported in the survey.

Professional learning and instructional programs are the two most frequently reported strategies with professional learning appearing 24 times and instructional programs appearing 14 times in survey responses for all schools. Extended learning time is reported nine times while climate, culture, and parent involvement and curriculum, data, and assessment appear six and seven times respectively. Technology is reported five times.

Of these reported strategies, 58 out of 63 or 92% of the overall strategies matched those that appeared in applications for each school. Those five activities that could not be matched to original application include PLCs/Common Assessments, International Baccalaureate program, contracting with a specific vendor, instructional technology, and math. Table 21 includes the frequency for number of time strategies were reported in each category as well as the number of strategies that matched those reported in applications.

Table 21

SIG Cohort I Implementation Strategies Survey Results

Categories of Strategies Implemented	N	Frequency: Strategies Implemented from Survey	Frequency: Matched in Applications and Survey (% Match)
Professional Learning	21	24	23 (96)
Instructional Programs	21	14	11 (79)
Extended Learning Time	21	09	9 (100)
Curriculum, Data, and Assessment	21	07	7 (100)
Technology	21	05	4 (80)
Climate, Culture, and Parent Involvement	21	04	4 (100)
Total		63	58 (92)

Research Question 4b

To answer research question 4b, which asked the levels of sustainability, buy-in and support, and levels of success SIG Cohort I schools reported in the survey, I compared responses related to multiple variables. The survey questions used to answer questions specific to each components are indicated in chapter three.

Sustainability. To address the sustainability portion of research question 4b, a four point Likert scale was used to capture responses to the question of the overall sustainability to continue school improvement efforts without the presence of SIG resources. The assignment of numbers to the scale were 1=highly likely to be discontinued, 2=moderately likely to be discontinued, 3=moderately sustainable, and 4=highly sustainable. To address whether or not schools have planned or were planning to gather other resources to assist in carrying out their SIG sustainability plan, the response options were yes or no, and were coded as 1= yes and 0= no for analysis.

In terms of overall sustainability, most schools, 76.2% reported that the efforts of SIG are moderately sustainable and 19% report that their efforts are highly sustainable. In terms of gathering resources for sustainability, 71.4% of schools reported that they have

or are planning to gather resources to assist in carrying out sustainability plans, while 28.6% report that they do not (Table 22).

Table 22

Reported Overall Sustainability and Gathering of Resources to Continue Implementation

Category	School Rating	Frequency	Percent	Mean
Overall Sustainability	Highly Discontinued	0	0.0	
	Moderately Discontinued	1	4.8	
	Moderately Sustainable	16	76.2	
	Highly Sustainable	4	19.0	
	Total	21	100.0	3.14
Resources for Sustainability	No	6	28.6	
	Yes	15	71.4	
	Total	21	100.0	.71

Note: Mean score or overall sustainability is on a four point Likert scale (1=highly discontinued, 2=moderately discontinued, 3=moderately sustainable, and 4=highly sustainable) and resources for sustainability was a yes or no response (1=yes and 0=no).

Overall reported sustainability across all schools appears at least moderately sustainable (M= 3.14) as indicated in Table 22, and 71.4% of schools that completed the survey indicated that they are planning to gather other resources to continue to carry out the sustainability plan.

The second factor I utilized to measure sustainability was the number of SIG-funded staff employed during grant implementation and staff continuing after grant funding was discontinued. These data include staff funded full time or part time during the grant. As Table 23 indicates, there were 357 full time staff (M= 17) and 134 (M= 6.38) part-time staff funded during SIG implementation. When I compared the data related to staff continuing in schools, at the district, and at the ISD, those numbers drop significantly. SIG funded staff at buildings drops to 40 full time staff (M= 1.90) and 25 part time staff (M= 1.19).

Table 23

SIG Cohort I Sustainability and Staffing Survey Results (N=21 Schools)

Survey Topic	Sum	Minimum	Maximum	Mean
SIG Funded Full Time Staff	357	0	44	17.00
SIG Funded Part Time Staff	134	0	28	6.38
SIG Funded Staff Continuing Full Time	40	0	7	1.90
SIG Funded Staff Continuing Part Time	25	0	12	1.19

Buy-in and support. To determine levels of buy-in and support, I examined reported buy-in among SIG staff, instructional staff, and central office staff for years one through three, and then for year four of the SIG grant from the *SIG Cohort I Sustainability Survey*. To do this, I coded the degrees of measurement as 1=low buy-in and support, 2=moderate buy-in and support, 3=considerable buy-in and support, 4=nearly complete buy-in and support, and 5=full buy-in and support. Table 24 includes mean scores for each of these components for all schools completing the survey. Overall, schools reported *considerable* to *nearly complete* buy-in on average for years one through three and in year four, after the SIG. In years one through three and in year four, buy-in from central office was the highest of each reported group (M= 4.10, M= 4.24). Of all three categories of staff, central office buy-in is reported as full more compared to other groups for years one through three (52.4%) and in year four (61.9%). In general, most schools reported a range of buy-in levels from considerable to full buy-in for most categories of staff and levels were fairly consistent between years three to four.

Table 24

SIG Cohort I Buy-in Survey Results

Category	Survey Rating	N (%) Years 1-3	Mean	N (%) Year 4	Mean
Buy-in SIG Staff	Low	1 (4.8)		1 (4.8)	
	Moderate	1 (4.8)		1 (4.8)	
	Considerable	4 (19.0)		4 (19.0)	
	Nearly Complete	6 (28.6)		6 (28.6)	
	Full	9 (42.9)		8 (38.1)	
	Total	21 (100)	4.00	21 (100)	3.95
Buy-in Instructional Staff	Low	0 (0)		0 (0)	
	Moderate	1 (4.8)		1 (4.8)	
	Considerable	6 (28.6)		6 (28.6)	
	Nearly Complete	8 (38.1)		8 (38.1)	
	Full	6 (28.6)		6 (28.6)	
	Total	21 (100)	3.90	21 (100)	3.76
Buy-in Central Office	Low	0 (0)		0 (0)	
	Moderate	3 (14.3)		2 (9.5)	
	Considerable	3 (14.3)		4 (19.0)	
	Nearly Complete	4 (19.0)		2 (9.5)	
	Full	11 (52.4)		13 (61.9)	
	Total	21 (100)	4.10	21 (100)	4.24

Note: Degrees of measurement are 1=low buy-in, 2=moderate buy-in, 3=considerable buy-in, 4=nearly complete buy-in, and 5=full buy-in.

Reported levels of success. To determine levels of reported success, I looked at data regarding how the schools reported an increase in student achievement and systems-level change, and their reported level of success in years one through three and in year four. Reported increases in student achievement and systems-level change responses were coded into 1=yes and 2=no for analysis. Levels of success in years one through three, and then in year four were addressed on a five point Likert scale that I coded into degrees of measurement as 1=not successful, 2=moderately successful, 3=considerably successful, 4= almost flawless, and 5=fully successful. Table 25 includes means for responses to each of these questions from sample schools that completed the survey.

With regards to success in years one through three and in year four, Table 25 includes frequencies for specific responses and percentages for those responses. No

schools reported that they were not successful; however, all reported a range of moderately to fully successful for these questions. The percentage of schools that reported being considerably successful decreased in year four compared to years one through three as did schools' reporting of being almost flawless. All schools reported an increase in student achievement and systems-level change. Generally, schools reported that they were moderately successful (M= 3.14, M= 2.90).

Table 25

SIG Cohort I Reported Levels of Success Survey Frequency Results

	Survey Rating	Frequency	Percent	Mean
Reported Level of Success in Years 1-3	Not Successful	0	0.0	
	Moderately Successful	4	19.0	
	Considerably Successful	11	52.4	
	Almost Flawless	5	23.8	
	Fully Successful	1	4.8	
	Total	21	100.0	3.14
Reported Levels of Success in Year 4	Not Successful	0	0.0	
	Moderately Successful	8	38.1	
	Considerably Successful	8	38.1	
	Almost Flawless	4	19.0	
	Fully Successful	1	4.8	
	Total	21	100.0	2.90

Note: Degrees of measurement are 1=not successful, 2=moderately successful, 3=considerably successful, 4= almost flawless, and 5=fully successful.

Research Question 4c

Research question 4c asked the extent to which reported reform strategies, sustainability, and buy-in and support could predict any outcome variables. To answer this question, I performed multiple regression analysis using the same outcome measures as research questions two and three including outcomes for mathematics and reading, graduation rates, dropout rates, attendance rates, and mean change outcomes. More specifically, to examine this question, I included variables related to reported sustainability overall, buy-in for years one through three for SIG staff, instructional staff and central office staff, and reported levels of success after three years of

implementation. A pretest variable (2009 data) was used and percent minority and poverty were also included as covariates within the model. Coding for survey variables in SPSS were identical to those used in analysis for question 4b.

High schools. When examining mathematics outcomes, there were statistically significant predictors for eleventh grade assessment for years 2011, 2012, and 2013 and for mean change. For all three of these years, overall reported sustainability is a statistically significant predictor of mathematics outcomes. More specifically, mathematics performance increased between .552 and .842 for each unit increase in overall sustainability reported by schools. For mean change outcome, overall sustainability was also a statistically significant predictor; however, results indicate that for every one unit increase in overall sustainability reported, mean change can be predicted to decrease .552 (Table 26).

Table 26

Sustainability and Buy-in Predictors for HS Mathematics for SIG Funded Schools

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2011 Mathematics Grade 11	Mathematics Pretest	0.037	0.306	.910
	Percent Minority	-1.321	0.648	.111
	Percent Poverty	-0.570	0.914	.566
	Overall Sustainability	0.784	0.245	.033*
	Buy-in SIG Staff Year 3	-0.115	0.188	.576
	Buy-in Instructional Staff Year 3	0.266	0.158	.168
	Buy-in Central Office Year 3	-0.274	0.152	.145
	Reported Level of Success After Year 3	-0.055	0.129	.692
2012 Mathematics Grade 11	Mathematics Pretest	0.107	0.376	.791
	Percent Minority	-1.767	0.795	.090
	Percent Poverty	0.941	1.122	.449
	Overall Sustainability	0.842	0.301	.049*
	Buy-in SIG Staff Year 3	0.277	0.231	.298
	Buy-in Instructional Staff Year 3	0.007	0.194	.972
	Buy-in Central Office Year 3	-0.257	0.186	.240
	Reported Level of Success After Year 3	-0.055	0.158	.744

Table 26 – Continued

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2013 Mathematics Grade 11	Mathematics Pretest	0.285	0.145	.122
	Percent Minority	-0.925	0.308	.040*
	Percent Poverty	-0.947	0.434	.095
	Overall Sustainability	0.552	0.117	.009**
	Buy-in SIG Staff Year 3	0.055	0.090	.570
	Buy-in Instructional Staff Year 3	0.030	0.075	.713
	Buy-in Central Office Year 3	-0.127	0.072	.153
	Reported Level of Success After Year 3	-0.086	0.061	.235
Mean Change Mathematics Grade 11	Mathematics Pretest	-0.715	0.145	.008**
	Percent Minority	-0.925	0.308	.040*
	Percent Poverty	-0.947	0.434	.095
	Overall Sustainability	-0.552	0.117	.009**
	Buy-in SIG Staff Year 3	0.055	0.090	.570
	Buy-in Instructional Staff Year 3	0.030	0.075	.713
	Buy-in Central Office Year 3	-0.127	0.072	.153
	Reported Level of Success After Year 3	0.086	0.061	.235

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Multiple regression results for reading are included in Table 27. Overall sustainability reported by schools is also a statistically significant predictor of outcomes for reading as with mathematics for the 2012 and 2013 academic years. Results indicate that reading performance could be predicted to increase .668 and .569 for every one unit increase in reported overall sustainability level by schools.

Buy-in from SIG staff for academic year 2010, could predict an increase in reading outcomes of .545 for every one unit increase. Inversely, for every one unit increase in reported buy-in from central office staff, a decrease of .393 could be predicted for 2010 reading outcomes. Multiple regression results for reading mean change outcomes were not statistically significant for model fit and are not included.

Table 27

Sustainability and Buy-in Predictors for HS Reading Outcomes for SIG Funded Schools

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2010 Reading Grade 11	Percent Minority	-0.033	.571	.957
	Percent Poverty	0.308	.714	.689
	Overall Sustainability	0.470	.179	.058
	Buy-in SIG Staff Year 3	0.545	.147	.021*
	Buy-in Instructional Staff Year 3	-0.136	.128	.350
	Buy-in Central Office Year 3	-0.393	.110	.023*
	Reported Level of Success After Year 3	0.015	.101	.886
	Reading Pretest	1.209	.354	.027*
2011 Reading Grade 11	Percent Minority	-0.156	.234	.540
	Percent Poverty	-0.901	.293	.037*
	Overall Sustainability	0.668	.073	.001**
	Buy-in SIG Staff Year 3	0.041	.060	.531
	Buy-in Instructional Staff Year 3	-0.024	.053	.673
	Buy-in Central Office Year 3	-0.094	.045	.106
	Reported Level of Success After Year 3	-0.019	.041	.665
	Reading Pretest	0.609	.145	.014*
2013 Reading Grade 11	Percent Minority	-0.200	.489	.704
	Percent Poverty	-0.288	.612	.662
	Overall Sustainability	0.569	.153	.021*
	Buy-in SIG Staff Year 3	0.300	.126	.076
	Buy-in Instructional Staff Year 3	-0.185	.110	.168
	Buy-in Central Office year 3	-0.180	.094	.130
	Reported Level of Success After Year 3	-0.052	.087	.580
	Reading Pretest	0.739	.304	.072

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Graduation and dropout. To address the extent to which reform strategies, sustainability, and buy-in and support can predict graduation and dropout rates, I performed multiple regression analysis. None of my models could predict outcome variables (Sig. F Change >.05).

Elementary and middle schools. There were only seven schools in the sample for this subset of schools and six of them were middle schools. None of my multiple regression models could predict elementary and middle school outcome variables (Sig. F Change >.05).

Attendance. For the 2012 academic year only, four variables demonstrated that they could predict outcomes for attendance. Table 28 includes multiple regression analysis results related to those variables. As indicated, buy-in from central office staff after year three, overall sustainability rating, and percent minority were all statistically significant. More specifically, for every one unit increase in overall sustainability reported by schools, the model can predict a 4.93% increase in attendance rates. Additionally, for every one unit increase in buy-in from central reported, the model can predict a 2.34% decrease in attendance rates. No other models were statistically significant.

Table 28

Sustainability and Buy-in Predictors for Attendance Outcomes

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
Attendance 2012	Percent Minority	-8.040	2.154	.014*
	Percent Poverty	3.447	6.081	.595
	Overall Sustainability	4.925	1.157	.008**
	Buy-in SIG staff year 3	2.493	1.208	.094
	Buy-in Instructional Staff Year 3	0.788	1.057	.490
	Buy-in Central Office Year 3	-2.337	0.737	.025*
	Reported Level of Success After Year 3	1.204	0.643	.120
	Attendance Pretest	-0.431	0.371	.298

Note: * *p*-value statistical significance at the 0.05 level. ** *p*-value statistical significance at the 0.01 level.

Strategies implemented. Aside from overall sustainability and buy-in and support, I also wanted to determine the extent, if any, to which specific strategies implemented by schools could predict outcome variables such as mathematics and reading, graduation, dropout, and attendance rates, as well as mean change outcomes. Independent variables in the model were derived from the categories of strategies implemented according to the *SIG Cohort I Sustainability Survey* (Extended Learning

Time; Professional Learning; Climate, Culture, and Parent Involvement; Instructional Programs; Technology Curriculum; Data; and Assessment).

High schools. Academic year 2011 mathematics was the only high school outcome variable to yield any statistically significant predictors. All other models including mean change outcome, were not able to significantly predict outcome variables. Table 29 includes multiple regression results for 2011 academic year mathematics results. Extended learning time was the only statistically significant predictor of mathematics outcomes in my model and for every one unit increase in reported extended learning time, the model predicted a .66 decrease in mathematics z score outcomes for academic year 2011.

Table 29

Multiple Regression Results for Mathematics Outcomes Related to Strategies Implemented

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
2011 Mathematics Grade 11	Mathematics Pretest	-0.376	0.525	.514
	Percent Minority	-2.000	0.919	.095
	Percent Poverty	1.164	1.332	.432
	Extended Learning Time	-0.658	0.225	.043*
	Professional Learning	0.257	0.113	.086
	Climate, Culture, and Parental Involvement	-0.678	0.356	.130
	Technology	0.631	0.281	.088
	Curriculum, Data, and Assessments	-0.084	0.172	.651

Note: * *p*-value statistical significance at the 0.05 level.

Graduation and dropout. Multiple Regression results demonstrate that there were statistically significant predictors of graduation rate variables for academic years 2012 and 2013 only. As the results in Table 30 indicate, graduation pretest is a statistically significant predictor of outcomes for graduation rates in my model for both years included in the table. Poverty was a statistically significant predictor of decreased graduation rates for 2013 only. More interestingly, Table 30 illustrates that the

implementation of technology activities are a statistically significant predictor of graduation rate outcomes for 2012 and 2013. More specifically, graduation rates show a decrease as schools report increases in the implementation of technology as a strategy. Multiple regression models for graduation rates for other academic years, dropout rates for all academic years, and mean change outcomes could not predict and outcome variables.

Table 30

Multiple Regression Results for Graduation Rate Outcomes Related to Strategies Implemented

Outcome		Unstandardized Coefficients	Std. Error	*p*-value
Graduation Rate 2012	Extended Learning Time	-.011	.035	.777
	Professional Learning	.015	.018	.453
	Climate, Culture, and Parental Involvement	-.029	.052	.610
	Technology	-.137	.046	.042*
	Curriculum, Data, and Assessments	-.013	.024	.631
	Percent Minority	.133	.067	.119
	Percent Poverty	-.418	.143	.043*
	Graduation Pretest	.967	.233	.014*
Graduation Rate 2013	Extended Learning Time	-.028	.048	.589
	Professional Learning	.036	.025	.218
	Climate, Culture, and Parental Involvement	.052	.071	.505
	Technology	-.192	.063	.039*
	Curriculum, Data, and Assessments	-.013	.033	.724
	Percent Minority	.008	.092	.931
	Percent Poverty	-.424	.195	.095
	Graduation Pretest	1.208	.319	.019*

Note: * *p*-value statistical significance at the 0.05 level.

Elementary and middle schools. None of the models, utilizing the same independent variables and covariates as other outcomes for this research question, could predict outcome variables for specific years or for mean change (Sig. F Change >.05).

Attendance. None of my models for attendance outcomes related to reported strategies implemented could predict outcome variables for specific years or mean change (Sig. F Change >.05).

Chapter IV Summary

Overall, I was able to examine SIG plans through their applications, utilize several multiple regression models to predict outcome variables for several independent variables and to determine if there was a statistically significant difference between SIG-eligible schools that received SIG finding and those that were SIG-eligible but, did not receive SIG funding in general. Chapter five provides a summary of the major results of this study, implications for future research, and implications for future policy implications based on my findings.

CHAPTER V

DISCUSSION

This study examined quantitative outcomes and other issues related to implementation of the federal SIG program in one Midwestern state. The intent of this study was to investigate policy implementation factors and outcomes at identified SIG Cohort I and II schools as well as SIG-eligible schools that did not receive SIG funding. Additionally, this study sought to investigate factors such as the impact of specific implementation strategies, sustainability, buy-in and support, and reported success from a subset of schools, for which more detailed data is available.

Findings from my study indicate that SIG funding had an inconsistent impact on outcome variables; however, percent poverty and percent minority demonstrated a much more consistent impact on outcomes than SIG and I generally found that as percent minority and percent poverty increased, outcomes for schools tended to decrease meaning that poverty and race continue to be predictors of decreased performance outcomes for schools even with significant additional SIG funding.

Overview of Findings

Findings Related to SIG School Plans and Reform Elements (Research Question 1)

In research question one, I examined various implementation strategies that schools reported within their SIG applications for 49 Cohort I and II schools. SIG Cohort I applications reveal that schools implemented a myriad of specific strategies and upon analysis, six categories of such strategies emerged including:

- professional learning (frequency=24);
- instructional programs (frequency=14);
- extended learning time (frequency=9);

- curriculum, assessment and data use (frequency=7);
- technology including professional learning (frequency=5); and
- climate, culture, and parent engagement (frequency=4).

Professional learning was sometimes also aligned with other initiatives such as the use of technology, data, assessments, and curriculum.

With regards to SIG Cohort II, Permissible Elements were included in the applications and I was able to analyze those elements reported by schools to determine what strategies they planned to implement. There were 17 elements for Transformation schools, or 18 for Turnaround schools. Curriculum implementation, PD, and the utilization of technology-based interventions were the most frequently reported appearing 12 times each within all application reviewed. Implementation of a schoolwide Response to Intervention model and the establishment of an early warning system both appeared 11 times as the second most frequently reported strategy for Transformation schools. Overall, 145 specific elements were reported within the 17 permissible elements by Transformation schools and 38 total were reported for Turnaround schools within the 18 permissible elements. Turnaround elements were more evenly distributed across the elements. Only three schools chose to implement a new school model as part of a turnaround strategy.

Comparison of SIG Funded to SIG Non-funded Schools (Research Question 2)

Research question two sought to determine if there were any statistically significant differences in outcomes for SIG funded schools and those schools that were SIG-eligible but, did not receive SIG funding. The first part of research question two asked the extent, if any, to which there were differences in outcomes over three years for SIG-eligible schools that received SIG funding and those that did not receive funding.

Mean change scores for mathematics and reading as well as graduation, dropout, and attendance rates were analyzed as outcome variables.

Overall, results from research question two analysis indicated that SIG funding did not have a consistent impact on school outcomes over time and that there were not statistically significant differences in mean outcome changes over the grant period between the two groups of schools. In some instances, SIG non-funded schools demonstrated mean change improvements and SIG funded schools showed a decrease in outcomes between pretest and posttest results. When I included SIG funding in my multiple regression models as variables, there were few instances in which the receipt of SIG funding for either Cohort I or II was a statistically significant predictor of improved outcomes.

Research question 2a. SIG non-funded high schools demonstrated mean change improvements in z scores between the pretest and posttest for both mathematics and reading, while SIG funded schools showed a negative mean change between pretest and posttest for both subject areas. There were no statistically significant differences with regards to mean changes in outcomes for mathematics or reading between the two groups of high schools.

In elementary and middle schools, both groups demonstrated a decrease in mathematics mean z score change outcomes for grades three and five. In grade eight mathematics, SIG funded schools demonstrated an increase in mean change while SIG non-funded schools demonstrated a decrease.

Reading outcomes show that both groups of schools had improvements in z score mean change outcomes between the pretest and posttest for grades three and eight. For

grade five reading, SIG funded schools had a mean change increase while SIG non-funded schools decreased between pretest and posttest.

None of the mean change outcomes, however, were statistically significant between SIG funded and SIG non-funded schools for mathematics or reading in grades three, five, eight, or 11. These findings confirm research by Nakamoto et al. (2013), who also found that SIG funded and SIG non-funded schools did not show statistically significant differences in mathematics and reading.

In my study, both SIG funded and SIG non-funded schools demonstrated a mean change decrease in graduation rates and an increase in mean change in dropout rates, both considered negative, not positive, outcomes. While SIG funded schools demonstrated higher graduation rates for both pretest and posttest, the mean change showed a larger decrease in graduation rates than SIG non-funded schools (M= -5.82 and M= -2.37). SIG funded schools also showed a higher mean change in dropout rate (M= 11.52 and 7.06). None of the mean change outcomes were statistically significant between SIG funded and SIG non-funded schools for graduation or dropout rates.

With regards to attendance, SIG funded schools demonstrated a mean change increase of 0.26, while SIG non-funded schools showed a mean change of -3.31, indicating that mean attendance change improved for SIG funded schools between pretest and posttest means compared to SIG non-funded; however, none of the mean change outcomes were statistically significant between SIG funded and SIG non-funded schools for attendance rates.

Research question 2b. The second part of research question two asked the extent, if any, the obtainment of SIG funding could predict outcome variables such as mathematics and reading assessment scores, as well as graduation, dropout, and

attendance rates. In general, percent minority and pretest were more consistent predictors of all outcomes than any other variable in my analysis. The receipt of SIG funding could predict outcome variables in some models such as graduation rates and attendance rates.

The receipt of SIG Cohort I funding could predict an increased graduation rate for 2010 only, and receipt of SIG Cohort II funding was a statistically significant predictor of attendance rate increases for academic years 2011 and 2012. Receiving SIG funding was not a statistically significant predictor of reading or mathematics outcomes for academic years 2010 through 2013, or for mean z score change outcomes.

Pretest was a statistically significant predictor of several outcomes including both mathematics and reading outcomes for multiple grade levels and outcome years and some mean change outcomes.

Percent minority was a statistically significant predictor of mathematics outcomes for years 2011-2013, reading outcomes for 2010 and 2012-2013, as well as mean z score change outcomes in grade 11and could predict a decrease in outcomes as percent minority increased. This was also true for academic years 201 and 2012 in grade 5 only.

Percent minority was a statistically significant predictor of graduation rate outcomes for academic years 2010 and 2011only indicating some improvement in graduation rates as percent minority increased. With regards to dropout rates, percent minority was a statistically significant predictor of outcomes for all academic years, and for mean change. Results were somewhat inconsistent. More specifically, as percent minority increased dropout rates were predicted to decrease for years 2010, 2011, and for mean change. Inversely, as percent minority increased, dropout rates could be predicted to increase in years 2012 and 2013.

Percent poverty was also a statistically significant predictor of mathematics and reading outcomes for academic years 2011 and 2012 for grade five. Interestingly, as percent poverty increased for these schools, there was also an increase in reading and mathematics outcomes for both years.

Highlights related to SIG funding and other notable findings are as follows:

- SIG funding was able to predict some outcomes; however, not as consistently as other independent variables, such as pretest, and covariates such as percent minority and percent poverty;
- SIG Cohort I funding was a statistically significant predictor for graduation rates in the academic year 2010 only;
- SIG Cohort II funding was a statistically significant predictor of attendance rate increases for academic years 2011 and 2012;
- percent minority was a statistically significant predictor of graduation rates for academic years 2010 and 2011 outcomes, demonstrating that as percent minority increased, improvements in graduation rates also increased;
- percent minority was a statistically significant predictor of dropout rate outcomes for all years and mean change; however, results were mixed with regards to predicting increases or decreases in dropout rates consistently; and
- percent poverty was a statistically significant predictor of reading and mathematics outcomes for grade five reading indicating that as the percent poverty went up, mathematics and reading outcomes were predicted to increase for years 2011 and 2012.

Findings Related to SIG Schools & Implementation Factors (Research Question 3)

In research question three, I looked only at SIG funded schools to examine the extent to which SIG per-pupil funding and chosen reform model could predict outcomes for mathematics and reading assessments, as well as graduation, dropout, and attendance rates. I also included analysis of mean changes as an outcome for all variables. SIG per-pupil average funding ranged from $16,236.18 down to $532.63, with the average per-pupil funding amount for all SIG funded schools being $5682.28.

Multiple regression analyses for high schools revealed that pretest, percent minority, and percent poverty were statistically significant predictors of outcomes more consistently that SIG per-pupil funding or chosen reform model. SIG per-pupil funding and chosen reform model were predictors of outcomes in only a few models and the amount of SIG per-pupil funding schools received had minimal impact in terms of being a statistically significant predictor of outcomes despite the significant amount of money and difference in additional per-pupil funding from SIG.

Schools that received SIG funding in Cohort I only, demonstrated an increase in predicted graduation rates of 0.118. Dropout outcome results for academic year 2010 demonstrate that per-pupil funding is a statistically significant factor; however, for every one unit increase in per-pupil funding, dropout rate outcomes only increased by .000006520.

Turnaround or Transformation models were the two approved models chosen by all SIG funded schools in my sample, and 35 schools (71.4%) chose to implement a Transformation model while, 14 (28.6%) schools chose a Turnaround model. Chosen reform model was a statistically significant predictor of high school mathematics outcomes for academic year 2011 only. More specifically, implementing a

Transformation model can predict an increase in mathematics z score outcomes for grade 11 of .452 compared to implementation of a Turnaround model. This contradicts research by the Council of Great City Schools (2015) who reported that there were not statistically significant differences between the two types of models. Given that the Turnaround model had more rigorous requirements, there are implications for thee findings.

Percent minority was a predictor of decreases in mathematics mean change and 2013 outcomes as well as 2013 reading outcomes for grade 11. Graduation and dropout rates could both be predicted to improve as percent minority increases in 2010.

Pretest was a statistically significant predictor of reading and mathematics outcomes for grade 11 in academic years 2010 and 2013 as well as in mean change for mathematics only. Pretest was also a predictor of 2010 graduation, dropout and attendance rates.

Highlights of findings related to question three include:

- SIG per-pupil funding was a statistically significant predictor of some outcomes; however, the extent to which per-pupil funding had an impact on outcomes was minimal;
- implementation of a Turnaround model was able to predict decreases in mathematics z score outcomes for grade 11 and increases dropout rates in academic year 2010, compared to Transformation model;
- percent minority was a statistically significant predictor of graduation rate improvement for academic years 2010 and 2011 indicating that graduation rates improved as percent minority increased;

- percent minority was a statistically significant predictor of dropout rates. More specifically, dropout rates can be predicted to improve by 12.6% for every one unit increase in percent minority for academic year 2010.

Findings Related to SIG Cohort I Outcomes and Survey Data (Research Question 4)

Question four addressed outcome variables for specific SIG strategies, and reported levels of buy-in and support, sustainability, and reported success for SIG Cohort I schools. The first part of research question four asked about the ways in which schools reported implementation of specific strategies compared to what they indicated in their SIG applications.

Research question 4a. For SIG Cohort I schools, I was able to analyze the strategies that schools reported implementing and compare them to strategies indicated in their SIG applications. Of the 65 responses total, from 21 schools, five of the strategies did not appear in the SIG applications meaning that 92.3% of the strategies matched. In general, schools appear to have stuck to their original plans for implementation of strategies.

Research question 4b. The second part of research question four addressed the levels of sustainability, buy-in and support, and levels of success school reported by schools from the *SIG Cohort I Sustainability Survey*. With regards to overall sustainability, SIG Cohort I schools reported that their continued SIG implementation efforts are *moderately* to *highly* sustainable. More specifically, 76.2% of SIG Cohort I schools report that their SIG efforts are *moderately sustainable* in the absence of SIG resources, while 19% report that their SIG efforts are *highly sustainable* in the absence of SIG funding. Related to sustainability, 71.4% of SIG Cohort I schools report that they were planning to gather resources to assist in carrying out their sustainability plan and

28.6% report that they were not. These findings build on the research of Evans et al. (2005) related to Comprehensive School Reform (CSR) in that higher levels of reported sustainability from the survey are consistent with what schools in the previous research have also reported related to CSR effort sustainability.

Staffing supported by SIG was not maintained after the grant period. For example, there were 357 (M= 17.00) full time and 134 (M= 6.38) part time staff reported by schools as being funded by the grant; however, after the grant period, that number dropped to 40 (M= 1.9) full time and 25 (M= 1.19) part time for all schools collectively.

Buy-in and support results were reported by schools specifically related to SIG staff, instructional staff, and central office staff, for years one through three and in year 4 of implementation. Results indicate that buy-in was *considerable* to *nearly complete* for the most part and more specifically, buy-in from central office staff was rated as *nearly complete* to *full* for years one through three and in year four indicating that buy-in from central office staff was higher overall than buy-in from SIG staff or instructional staff.

Schools also reported levels of success for years one through three and for year four. Overall, all schools reported increased student achievement and systems-level change, according to the survey. Reported levels of success were higher in years one through three (M= 3.14) compared to year four (M= 2.90).

Highlights from these findings include:

- The majority of reported implementation strategies for SIG Cohort I schools are categorized as professional learning and instructional programs;
- with regards to overall sustainability, 95.2% of schools reported that the efforts of SIG are highly or moderately sustainable in the absence of continued SIG funding; and

- staffing of sustained implementation efforts is reported to have decrease significantly after the SIG grant period.

Research question 4c. The final part of research question four addresses the extent to which multiple variables can predict SIG outcomes for SIG Cohort I schools. I used results from the *SIG Cohort I Sustainability Survey* as variables in my multiple regression models and included percent poverty and minority as covariates.

Mathematics grade 11 outcomes for academic years 2011, 2012, and 2013 demonstrate that overall reported sustainability ratings by schools were a statistically significant predictor of increases in z scores. Contrary to this, overall sustainability was able to predict a decrease in mean change for grade 11mathematics only. Grade 11 reading outcomes for academic years 2011 and 2013 demonstrated that overall sustainability ratings were also a statistically significant predictor of improved outcomes. Furthermore, 2012 attendance rate outcomes indicate that overall sustainability ratings by schools were statistically significant predictors of improvements.

Buy-in was also a statistically significant predictor of some outcomes. For example, 2010 reading z score outcomes for grade 11 can be predicted to increase 0.545 for each unit increase in reported buy-in from SIG staff after year three of implementation. Buy-in from central office, however, after three years of implementation could predict a decrease in reading grade 11 outcomes. This specific finding contradicts research from McLaughlin and Talbert (2003) who indicated that "Capacity to improve teaching and learning is developed and sustained through the system, with the district office playing particular, strategic roles to lead and support school reform" (p. 10).

In general these results indicate that higher levels of overall sustainability reported by schools were predictive of some outcome variables; however, multiple

regress analyses models for graduation and dropout rates and for elementary and middle school mathematics and reading could not significantly predict any outcome variables.

Highlights from these findings include:

- Overall sustainability levels reported by schools is a statistically significant predictor of improved mathematics (2011-2013), reading (2011 and 2013) and attendance (2013) outcomes;
- overall sustainability was able to predict a decrease in mean change for grade 11 mathematics only;
- technology as an implementation strategy is a statistically significant predictor of graduation rate outcomes (2012 and 2013) in that as the level of reported implementation of technology increased, graduation rates were predicted to decrease; and
- extended learning time reported as an implementation strategy is a statistically significant predictor of decreased mathematics z score outcomes for the 2011 academic year only.

Discussion and Relationship of Results to Existing Studies

My findings, based on the current data, offer a bleak picture of the return on investment for SIG funding. There were no statistically significant differences between SIG funded and SIG non-funded schools with regards to mean change over time in mathematics and reading. This confirms research by Nakamoto et al. (2013), who reported that SIG funded schools and SIG non-funded schools in their study that were similar had nearly identical performance on reading assessments, and that there were no statistically significant differences between the two groups of schools for reading and

mathematics outcomes. Additionally, in my study SIG funding was not found to be a predictor of improved mathematics or reading outcomes and results for all grade levels.

These findings should be tempered with the fact that they are based on data that is collected by the SEA once per year, and that the assessment outcome data is derived from a state standardized assessment that is administered only once per year and does not include any interim data or measurements of specific growth in student proficiency at the school level. Schools in this one Midwestern state use a variety of local assessments to measure progress and these are not consistent across schools or districts and as such cannot be compared across schools currently. This consideration of the sensitivity of the data means that there is significant room for examining other outcomes in the future and that my findings are limited by these data.

In an attempt to determine if these schools were making a difference with regards to other outcomes, I analyzed graduation, dropout, and attendance rate outcomes for individual years of grant implementation and mean change over multiple years. Again, there is not a statistically significant difference in the outcomes between the two groups of schools, and SIG funding does not predict improvements in outcomes consistently.

When looking at SIG funded schools more specifically, the findings related to levels of SIG per-pupil funding are also inconsistent, and provided no promise for the impact of SIG funding to improve outcomes. The only SIG variable to have been a real predictor of outcomes was the reform model chosen by schools, and my analysis demonstrated that the Turnaround model, which was considered the more rigorous of the two models because of the significance of the changes within the school, such as replacing the principal and 50% of the teaching staff, actually predicted decreased performance in mathematics and an increase in dropout rates for 2010 only, which are

both negative outcomes. The only other available research I was able to locate regarding this was from The Council of Great City Schools (2015), who found no statistically significant differences between the Transformation and Turnaround SIG intervention models in their rates of improvement, which my findings contradict somewhat. Despite the prediction results from my study, these results were only for one year and the reform model chosen was unable to predict any mean change outcome variables in my analysis.

A couple of specific findings do stand out within my analyses. As schools reported more implementation of technology as an activity, graduation rates were predicted to decrease for some academic years (a negative outcome). Yet, the implementation and use of technology appears consistently as an implementation strategy in my analyses of SIG applications, in my survey data, and in other reform related findings (Council of Great City Schools, 2015). While I was not able to find research related to technology as a predictor of outcomes in the literature, caution should be taken when considering the use of technology as a reform strategy. While my study was not able to secure data on implementation fidelity, my analysis suggests that schools may need to carefully focus on the fidelity of implementation.

Another notable finding is that as schools reported higher levels of extended learning time, 2011 mathematics outcomes were predicted to decrease (another negative outcome). While this is only a predictor for 2011 high school mathematics, it raises questions about the use of extended learning time in these schools especially given that it is a requirement of the grant and that there is literature which contradicts my finding by identifying extended learning time as an effective strategy to improve outcomes (Silva, 2007; Redd et al., 2012). Like technology implementation, my results indicate that there

may be implementation fidelity issues that need to be addressed particularly with regards to what was done with the extended time.

Despite schools reporting that there was very little continuation of SIG funded staff after the grant period, sustainability, buy-in, and reported success levels are reported as favorably by schools based on my analyses. When these variables were used as predictors of outcomes, only overall reported level of sustainability is able to predict improved outcomes for SIG Cohort I schools for multiple years and outcomes. When looking deeper at what my analysis yielded regarding overall sustainability, these results may indicate that those strongly believing they can sustain their reform efforts beyond the grant funding may actually have put into place changes that did result in student outcome improvements.

Table 31 provides an overall summary of my major findings connected as to related literature.

Table 31

Overall Summary of Findings to Related Research

Findings (Dionne, 2016)	Previous Research Findings
- Overall findings indicate that mean change outcomes were not statistically significant between SIG funded and SIG non-funded schools for mathematics or reading; and no statistically significant differences were found in mean changes for graduation, attendance, or dropout rates.	- Affirms: Assessment outcomes indicate that schools displayed "nearly identical performance" on the reading assessments. Additionally, mathematics and reading assessments demonstrated no statistically significant differences (Nakamoto et al., 2013) Adds: No statistically significant differences were found in mean changes for graduation, attendance, or dropout rates between SIG funded and non-funded schools.
- SIG funding does not consistently predict improvements in outcomes.	- No previous research found
- Levels of SIG per-pupil funding was not found to be a statistically significant predictor of any outcomes for SIG funded schools	- No previous research found

Table 31 – Continued

Findings (Dionne, 2016)	Previous Research Findings
- Implementation of a Turnaround model predicted decreases in mathematics z score outcomes for grade 11, and increases in dropout rates in academic year 2010, compared to Transformation model.	- Contradicts: No statistically significant differences between the transformation and turnaround SIG intervention models in their rates of improvement (The Council of Great City Schools, 2015)
- The implementation of technology predicted decreased graduation rates for some academic years.	- No previous research found
- Extended learning time was a predictor of decreased mathematics outcomes for 2011.	- Contradicts: The correlation between time and achievement increases when students are given more instructional time and increased academic learning; extended learning time had a positive effect on attendance and academic outcomes (Silva, 2007; Redd et al., 2012)
- Reported levels of SIG implementation staffing decrease significantly after the SIG grant period as indicated by number of SIG funded staff continuing after the grant.	- No previous research found
- Overall sustainability reported by schools was a statistically significant predictor of increased mathematics, reading, and attendance outcomes.	- No previous research found

Limitations

Available outcome data is a limitation of this study. Comparable assessment results were only available through academic year 2013-2014 for these schools due to a significant change in state assessments for all grade levels. These assessment changes would not allow for comparison, therefore, I was not able to utilize multiple year averages for outcome assessment data.

Another limitation to this study is a relative lack of available implementation data. While the *SIG Cohort I Sustainability Survey* offered additional data to examine these schools, it only included results from 21 schools and they were all from Cohort I. The survey was also self-reported by schools and some of the strategy identification data was

vague or not specific enough to allow for a more full understanding of what happened in terms of implementation of the strategies at these schools. Further information related to the fidelity of implementation would allow for additional analysis of specific implementation data to determine a more accurate view of implementation related to outcomes.

The relatively small sample size if SIG funded schools, particularly for elementary and middle schools, was also a limitation of my study. Additionally, I used school level aggregate data to examine outcomes, and the use of student-level data to look at similar outcomes or to further examine the achievement gaps for minority students and students of poverty would inform the research more specifically with regards to SIG funding and school reform efforts.

In addition, the state assessment is only administered once per year in this Midwestern state meaning that the outcome data for mathematics and reading only reflect these data for a single point in time. Additional outcome data would be helpful; however, the state is strong local control state and collects only minimal standardized outcome data.

Implications for Future Research

This research builds on existing policy implementation research; however, studies related to SIG and other school reform policies are still needed to inform policy decisions and the overall use of public resources to improve outcomes for students. Given that federal policy inducements like SIG and CSR are relatively new, there is room for further research to determine the effectiveness of various implementation strategies and a need to examine policy decisions that drive these reforms and the outcomes they intend to

produce. For schools in my sample, the question remains as to the fidelity of reform implemented in these schools and how the money was spent more specifically.

My findings illuminate the reality that SIG funding has not been connected to consistently improved outcomes over multiple years, or able to predict improvements in outcomes for low-performing schools compared to similar schools. Of equal importance is the reality that percent minority and poverty in these schools continues to be a statistically significant predictor of decreased outcomes rather than the receipt of SIG funding or the amount of SIG money schools spent per-pupil to reform their schools. These findings leave further questions to be explored.

As schools continue to implement these reforms, data on larger numbers of schools in this one Midwestern state and in other states will be available to allow for larger sample sizes. Additional data on SIG implementation that looks more specifically at what happened in these schools related to specific strategies and how funding was utilized is needed to build on my research in examining the impact of such policy on outcomes.

Future studies could examine student-level, rather than school-level outcomes to allow for more specificity within schools and additional outcome data to better understand the role these reforms can play related to the mitigation of achievement gaps for minority students and students of poverty. With access to student-level data, further analyses of data could be conducted using designs such as Hierarchical Linear Modeling, Interrupted Time Series, Regression Discontinuity, or Mediation Analysis to further examine the impact of SIG on school outcomes overall.

A closer examination of how SIG money was spent within schools and across districts would be helpful in overall implementation research. For example, knowing how

schools used resources to work with third-party vendors to provide services, and how much funding went to specific implementation efforts that could be tied to outcome results, would be helpful.

Implications for Policy and Practice

Examining quantitative outcomes for low performing schools related to specific policy, as with SIG, allows policy makers and implementers to use evidence to make decisions related to future policy and implementation. The use of public resources, particularly federal funds, to improve outcomes for students stems back to the ESEA of 1965 when federal policy and funding was targeted at supporting struggling students and those in need of the most support. Results from my study indicate that schools receiving significant additional federal funding in one Midwestern state did not consistently show improved outcomes during the time of the three year grants and the year immediately following the grant, and such funds were also not a consistent predictor of outcomes over these multiple years. Furthermore, percent minority and percent poverty were more consistently able to predict outcomes for schools that received SIG funding than level of SIG per-pupil funding, indicating that the use of these federal funds should continue to be examined to make decisions about similar reforms.

As we shepherd our way through this new era of accountability, outcomes related to the use of resources will continue to gain importance. Given the findings in my study, it would be hard to justify funding additional implementation efforts without considering policies related to implementation fidelity or a more cohesive focus on outcomes aligned to funding.

I believe that further reporting and monitoring by the grant funders to gain a better idea of what happened in these schools would offer a better understanding of fidelity and

the ability of implementers to change their schemas related to reform practices. A greater understanding of how additional time was spent related to instructional changes, use of technology, and implementation of local assessments to improve outcomes is critical. More attention is needed to determine the actual implementation practices within these schools related to the use of these additional public resources.

Schools in my study reported high levels of sustainability with regards to carrying out SIG activities after the grant cycle; however, what they are sustaining is still unclear. Since SIG funding did not show any statistically significant differences in outcomes, and was not able to predict consistent improvements in outcomes, schools may be sustaining practices that are not actually making improvements or truly reflecting turnaround practices. Furthermore, continuation of SIG funded staff was minimal and the impact of this is unknown. Further oversight from SEAs and districts may better help leverage practices that have been shown by other research to facilitate school turnaround.

The idea that schools received significant amounts of money and did not produce outcomes that are indicative of successful reform efforts, especially for minority students and students of poverty, raises concerns. Perhaps most importantly, the quality of implementation efforts such as PD, the use of appropriate technology, the use of third-party vendors, and what schools did with the extended learning time remain as questions. Truly leveraging SIG and similar funds will require SEAs, districts, and schools to focus on quality and evidence-based practices in the use of such funds. It is clear that schools will need additional support in order to implement these practices with fidelity.

Recommendations to State Leaders

Given the significant amounts of funding provided via these SIG grants, and the limited amount of data actually collected on any outcomes, state educational leaders

should collect more data as a requirement of the grant and also monitor implementation more closely. In addition to compliance monitoring, the SEA could collect implementation data such as specific approaches to professional development, the application of new instructional practices, technology use, growth data, and changes in instructional practices as a result of SIG reforms. For example, additional data elements could include:

- Intermediate School District (ISD) supports and collaboration;
- Specific instructional practices implemented as part of the SIG reform;
- Exactly how technology is being used to improve instruction;
- specific use of additional learning time in schools;
- the role of third party vendors;
- specific professional learning activities and the effectiveness of these activities as perceived by instructional staff;
- professional learning specific to administrators; and
- interim assessment results to measure growth and proficiency.

These additional data elements could also be used as variables to examine outcomes for SIG schools.

Chapter V Summary

This study exposes the reality that educators need to target reform and turnaround efforts in a manner that addresses the needs of minority students and students of poverty. This study included several points of data to tell part of the implementation story through examining outcomes. Assessment scores, other outcome variables, SIG applications, and the survey for SIG Cohort I allowed a greater knowledge base for the SEA, grant funders, and policy makers. Yet, given that no statistically significant progress had occurred, these

data may not have been sensitive enough to see progress or SIG funding has not produced the return on investment for the schools in my study. Funding alone will not fix the problem of achievement outcomes and the fact that race and poverty are significant predictors of decreased outcomes compared to variables such as increased funding signal the need for much more effort to mitigate these achievement gaps. It is clear that much more outcome focused research is needed to better understand these relatively new school reform policies and practices.

As policy and practice continue to meld and we become better informed about policy implementation, and the related practices, we must continue our transition from focusing on inputs and compliance to valuing outcomes and student success.

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Appendix A

HSIRB Letter

WESTERN MICHIGAN UNIVERSITY

Human Subjects Institutional Review Board

Date: December 1, 2015

To: Louann Bierlien Palmer, Principal Investigator
Gregg Dionne, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair Amy Naugle

Re: Approval not needed for HSIRB Project Number 15-12-04

This letter will serve as confirmation that your project titled "Federal School Improvement Grant Implementation Factors" has been reviewed by the Human Subjects Institutional Review Board (HSIRB). Based on that review, the HSIRB has determined that approval is not required for you to conduct this project because you are not collecting personal identifiable (private) information about individual and your scope of work does not meet the Federal definition of human subject.

45 CFR 46.102 (f) Human Subject

(f) *Human subject* means a living individual about whom an investigator (whether professional or student) conducting research obtains

(1) Data through intervention or interaction with the individual, or
(2) Identifiable private information.

Intervention includes both physical procedures by which data are gathered (for example, venipuncture) and manipulations of the subject or the subject's environment that are performed for research purposes. Interaction includes communication or interpersonal contact between investigator and subject. *Private information* includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

Thank you for your concerns about protecting the rights and welfare of human subjects.

A copy of your protocol and a copy of this letter will be maintained in the HSIRB files.

1903 W. Michigan Ave., Kalamazoo, MI 49008-5456
PHONE: (269) 387-8293 FAX: (269) 387-8276
CAMPUS SITE: 251 W. Walwood Hall

Appendix B

SIG Cohort I Sustainability Survey

SIG Cohort I Sustainability Survey-Due 2-14-14

School/District Identity

1. Please identify the district your school is located in

If your school is not in the list, put school name here AND email this to us at doll2@michigan.gov.

2. Please identify your SIG Cohort I school

3. Overall, rate the sustainability of your continuing school improvement efforts being implemented without the presence of SIG resources?

	Highly sustainable	Moderately sustainable	Moderately discontinued	Highly discontinued
Select one				

If anything needs improvement, please specify what it is and/or how to improve it

***4. During the current school year (SIG Year 4, first year after the grant has ended), have you or are you planning to gather any other resources to assist in carrying out your sustainability plan? If yes, please list.**

Yes

No

If yes, please list.

***5. What are the major challenges facing your school in regard to working towards and/or maintaining increased student academic growth in the absence of SIG funding?**

SIG Cohort I Sustainability Survey-Due 2-14-14

***6. Did the School Improvement Grant result in enabling your school to increase student achievement and affect systems-level change? If so, how?**

- Yes
- No

If so, how? (*Building capacity refers to

Close-up on SIG Strategies / Reforms

7. What main three strategies or reforms did your school undertake as a result of the SIG award?

Strategy/Reform 1	
Strategy/Reform 2	
Strategy/Reform 3	

8. Describe how actively your school is currently working on each of the strategies/reforms listed in question #7 (in 2013-2014 SY)?

	Not active	Moderate effort	Continual active focus
Strategy/Reform 1			
Strategy/Reform 2			
Strategy/Reform 3			

9. Rate the sustainability of the strategies or reforms in question #7; in other words, do you have the capacity for these to continue implementation with fidelity in 2015-16 and beyond?

	Not active	Moderate effort	Continual active focus
Completed			
Partial implementation			
Full implementation			

SIG Staffing

***10. What were the numbers of SIG-funded full-time staff employed in each year of your grant? (also put the number of part time staff in parentheses)**

Year 1 (2010-2011 SY) FULL-TIME (and PART TIME)	
Year 2 (2011-2012 SY) FULL-TIME (and PART TIME)	
Year 3 (2012-2013 SY FULL-TIME (and PART TIME)	

Describing SIG I, Years 1-3

SIG Cohort I Sustainability Survey-Due 2-14-14

11. Describe the level of buy in/support from the school's SIG staff in accomplishing the SIG strategies/reforms set during Years 1 through 3?

Low | Moderate | Considerable | Nearly complete | Full

12. Describe the level of buy in/support from all of your other instructional staff (teachers, tutors, paraprofessionals, coaches, consultants) in accomplishing the SIG strategies/reforms set during Years 1 through 3?

Low | Moderate | Considerable | Nearly complete | Full

13. Describe the level of buy in/support from your district/central office in accomplishing the SIG strategies/reforms set during Years 1 through 3?

Low | Moderate | Considerable | Nearly complete | Full

14. Describe the level of success (also see next question) in accomplishing the SIG strategies/reforms set during Years 1 through 3?

Not successful | Moderately successful | Considerably successful | Almost flawless | Fully successful

15. What evidences can you provide for your success (give at least three, use as much space as you need) to completely justify your answer in question #14?

Evidence 1

Evidence 2

Evidence 3

Describing Year 4, the last year of the PLA cohort (Final year of grant implementation)

16. Describe the level of buy in/support from the school's SIG staff in accomplishing the SIG strategies/reforms during Year 4?

Low | Moderate | Considerable | Nearly complete | Full

17. Describe the level of buy in/support from all of your other instructional staff in accomplishing the SIG strategies/reforms during Year 4?

Low | Moderate | Considerable | Nearly complete | Full

18. Describe the level of buy in/support from your district/central office in accomplishing the SIG strategies/reforms during Year 4?

Low | Moderate | Considerable | Nearly complete | Full

SIG Cohort I Sustainability Survey-Due 2-14-14

19. Describe the level of success (see next question) in accomplishing the SIG strategies/reforms during Year 4?

- Not successful
- Moderately successful
- Considerably successful
- Almost flawless
- Fully successful

20. What evidences can you provide for your success (give at least three, use as much space as you need) to completely justify your answer in question #19?

Evidence 1

Evidence 2

Evidence 3

***21. What initiatives have you not been able to sustain and why?**

***22. Of SIG-funded staff employed during years 1 through 3, how many have or are transitioning to a continued role with your school, either directly or indirectly (provide a number for each line)?**

Continuing full time

Continuing part time

Continuing at district-level

Continuing at regional/ISD level

***23. What are the roles of the transitioned *full-time* employees in question #22?**

***24. What are the roles of the transitioned *part-time* employees in question #22?**

***25. Were climate and culture issues addressed by any of the strategies used by your school during the years you had SIG funding, and did these connect with student achievement gains? Is so, what strategies were used; if not, why not?**

***26. What system do you have in place for continuous review of successes/needs in your school?**

SIG Cohort I Sustainability Survey-Due 2-14-14

***27. What processes were used to determine how you spent your SIG fund in your school was sustainability a focal part of this?**

28. What was your opinion of the working relationship with/effectiveness of the External Service Provider, and why?

	Extremely helpful	Very helpful	Moderately helpful	Slightly helpful	Not helpful
During Year 1	○	○	○	○	○
During Year 2	○	○	○	○	○
During Year 3	○	○	○	○	○

Did your identity of your ESP change during the years of the SIG funding?

29. Overall, what was your opinion of the technical assistance and supports provided by MDE, and why?

○ Extremely helpful ○ Very helpful ○ Moderately helpful ○ Slightly helpful ○ Not helpful

Explain your answer! let us know what worked and/or what could have been improved

30. Describe with examples the technical assistance you received during SIG Years 1 through 3 that was the most beneficial in increasing student achievement.

31. Was any technical assistance you received during SIG Years 1 through 3 not beneficial (so we can improve or not repeat it) – If so, what was the least beneficial?

32. Which strategies in SIG I years 1 through 3 were not implemented completely or did not result in increased student achievement, and why?

SIG Cohort I Sustainability Survey-Due 2-14-14

33. Finally, given your experience with the SIG process, what specific support should MDE provide to schools that would be more effective?

34. Do you have any additional information to share with us?

Thank you for your time and consideration. If you have any questions, please feel free to call me (517-373-3488) or email me (dollj2@michigan.gov).