

THE FEDERAL SCHOOL IMPROVEMENT GRANT PROGRAM IN RURAL
VIRGINIA SCHOOLS

by

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DEDICATION

This study is dedicated to Eamon. May you always dream big and never give up.

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ABSTRACT

THE FEDERAL SCHOOL IMPROVEMENT GRANT PROGRAM IN RURAL VIRGINIA SCHOOLS

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This study examines the preliminary impacts of the federal School Improvement Grant (SIG) program, as measured by the state assessments, in the 23 rural-recipient schools across the state of Virginia as well as the program implementation efforts in one purposefully selected rural-recipient school. The study uses a mixed method research design. The purpose of the study is to learn more about the implementation of the federal SIG program in rural contexts as well as school and district officials' perceptions of the federal requirements under the program. Study findings show overall mean gains in test scores in reading and mathematics over a four to five-year period using scores that preceded receipt of the grant but also show some declines since the first year of SIG implementation. Findings from an in-depth case study of one select rural-recipient school offer illustrative detail about SIG program implementation, including more detail about school test scores; the importance of local context, opportunity, flexibility, and

adaptation for school improvement; positive and challenging elements of the program;
and goals for continued growth and sustainability in a rural setting.

CHAPTER ONE: BACKGROUND FOR THE STUDY

The School Improvement Grant (SIG) program is a federal program intended to spur dramatic reform and improvement in the nation's lowest achieving schools. On March 19, 2012, U.S. Secretary of Education Arne Duncan reported the following about the program's purpose and preliminary impact on student academic achievement:

Early in his administration, President Obama said that America could no longer maintain this status quo in chronically low-performing schools. We could not continue to tinker. He believes, and I believe, that dramatic change is desperately needed in low-performing schools. So, in 2009, the Administration, with support from Congress, created a new and much more ambitious program for turning around low-performing schools. It gives states and districts four options for dramatically improving schools. But all four options require schools to institute far-reaching changes to improve student learning....our preliminary data show that after just one year, that commitment to change is producing dramatic gains in learning in a significant number of schools. None of these schools are where they need to be, or will be, yet. But the progress and sense of momentum are real. (Duncan, 2012, para 13)

Several components of this federal program, as well as a brief history of its development are outlined in this introductory chapter. Additionally, an overview of the characteristics

of SIG recipient schools across the country, as well as those schools receiving funds in the state of Virginia are included at the end of the chapter.

Background

The Elementary and Secondary Education Act (ESEA) of 1965 is a federal education law that was enacted under President Lyndon B. Johnson’s “war on poverty.” Upon signing the bill, President Johnson said:

By passing this bill, we bridge the gap between helplessness and hope for more than 5 million educationally deprived children.... We strengthen State and local agencies, which bear the burden and the challenge of better education. And we rekindle the revolution—the revolution of the spirit against the tyranny of ignorance. As a son of a tenant farmer, I know that education is the only valid passport from poverty. As a former teacher—and, I hope, a future one—I have great expectations of what this law will mean for all of our young people.

(Johnson, 1965, para 13)

Aimed in this effort, federal funding under ESEA was allocated to help schools with high numbers of low-income children and included federally funded education programs such as Head Start, among other programs. The ESEA has been reauthorized eight times since its initial passage in 1965 (Aud, 2007). President George W. Bush signed the most recent iteration of this legislation, the No Child Left Behind (NCLB) act, in January of 2002. Title I of ESEA (and the ensuing NCLB act) provides federal funding to low-income schools to help improve the achievement of academically struggling students. More specifically, federal funding for school improvement is authorized by two different

provisions of Title I of ESEA—as amended by NCLB—in sections 1003(a) and 1003(g). These funds under both section 1003(a) and 1003(g) are allocated to states by the federal government on a formula basis. Then, states must distribute at least 95% of their school improvement funds under both sections to school districts, which in turn use them to improve low-performing schools. (States may use the other 5% of their funds under both sections to provide *state-level* technical assistance and support for school improvement.) This federal funding for low-performing schools has been available since NCLB was enacted in 2002, however, the amount of this funding was relatively small for the first several years.

Current Context of SIG

The American Recovery and Reinvestment Act of 2009 (ARRA), commonly known as the stimulus package, included \$100 billion dollars for education in the United States (U.S. Department of Education, 2009). Approximately \$3 billion of this funding was provided under ARRA to assist persistently low achieving schools that have not met the achievement benchmarks set forth under NCLB. This portion of the ARRA funding was appropriated under the federal School Improvement Grant (SIG) program, authorized by Title I, section 1003(g) of ESEA. Schools began spending these funds during the 2010-2011 school year (ARRA, 2009).

Drawing on money from ARRA, as well as the SIG program, states were expected to dedicate an unprecedented amount of federal funding for school improvement efforts to approximately 5,000 of the nation’s lowest-achieving schools over the course of three years—from 2010 through September 30, 2013 (Mass Insight,

2010). More specifically, the \$3 billion authorized by ARRA was in addition to the \$546 million provided by the regular fiscal year 2009 appropriations bill for SIG, authorized by Title I, section 1003(g) of ESEA. Thus, this 2009 total of more than \$3.5 billion for section 1003(g) SIGs represents a massive increase compared with the \$491 million appropriated for fiscal year 2008 and the \$125 million appropriated for fiscal year 2007 (U.S. Department of Education, 2010b).

In addition to the funding increase, the U.S. Department of Education (USDE) made major changes to the SIG program requirements in 2010 for allocating and using section 1003(g) school improvement funds, including the ARRA SIG funds (USDE 2010a; USDE 2010c; USDE 2011). For example, under the new 2010 requirements, states were advised to award 1003(g) SIG funds to districts by competitive application, rather than the previously used formula funding (School Improvement Grants, 75 Fed. Reg. 66,363, October 28, 2010). State education agencies (SEAs) established criteria for judging applications and had to develop an approved system for identifying the persistently lowest-achieving (PLA) schools in the state, including secondary schools that were eligible for, but did not receive, Title I funds. These eligible but non-receiving secondary schools did not typically receive SIG funds prior to the changes outlined in the 2010 requirements. Additionally, SEAs are required to serve these lowest-achieving schools before assisting any other schools in NCLB improvement. More details about the eligibility criteria outlined in the 2010 guidance issued by the U.S. Department of Education are presented in Table 1.

Table 1

Federal Eligibility Criteria for SIG Funding

The U.S. Department of Education (2011) guidance contains criteria for identifying three tiers of schools in states that are eligible for SIG funding under section 1003(g). The first two tiers are considered persistently lowest-achieving schools and receive top priority for funding. (Title I schools are those that receive federal funds for disadvantaged children through Title I of the Elementary and Secondary Education Act.)

Tier 1 consists of Title I schools in NCLB improvement, corrective action, or restructuring and have been identified by their state as persistently lowest-achieving because they are—

- (i) among the lowest-achieving 5% of Title I schools in improvement status in the state or the lowest-achieving five Title I schools in this status in the state, whichever is greater; *or*
- (ii) high schools that have had a graduation rate of less than 60% over a number of years.

Tier 2 consists of secondary schools that are eligible for, but do not receive, Title I funds and have been identified by their state as persistently lowest-achieving because they are—

- (i) among the lowest-achieving 5% of such secondary schools or the lowest achieving five such secondary schools in the state, whichever is greater; *or*
- (ii) are high schools that have had a graduation rate of less than 60% over a number of years.

At its option, a state may identify additional schools as tier 1 or tier 2 schools if they meet certain criteria laid out in USDE guidance.

Tier 3 consists of all other Title I schools in NCLB improvement, corrective action, or restructuring.

Within these parameters, states have discretion in making several key decisions:

- The number of years of achievement that count for SIG eligibility (SEA may use as few as two years)
- The number of years of graduation rates that count for SIG eligibility (SEA may use as few as two years)

- The weighting of the two required factors used to determine the persistently lowest-achieving schools—specifically, the performance of all students in the school on the most recent administration of state reading and mathematics tests and the school’s lack of progress on these tests over a number of years
 - The number of years used to determine lack of progress
-

Note. Adapted from the U.S. Department of Education (2011) and McMurrer and McIntosh (2012).

The federal guidance also requires SIG-recipient schools that are categorized in tiers 1 or 2 to use one of four school improvement models, including: (a) transformation, which entails replacing the school principal and undertaking three other specific reforms; (b) turnaround, which involves replacing many of the school staff; (c) restart, which means becoming a charter or privately managed school; or (d) school closure. More details about these four improvement models are presented in Table 2. These changes and prescribed models do not affect school improvement funds provided through section 1003(a), which serve a broader group of schools and can be put to other school improvement uses (U.S. Department of Education, 2012a).

Table 2

Required School Improvement Models under SIG 1003(g)

The federal guidance requires schools receiving ARRA SIG funds, or other section 1003(g) funds for fiscal years 2009 and 2010, to use one of the following school improvement models:

- **Transformation:** Implement all 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. (This model allows schools to “start over” under NCLB’s school improvement timeline and waive the NCLB requirements to offer school choice and supplemental educational services.)
- **Turnaround:** Replace the principal, rehire no more than 50% of the school staff, and grant the principal sufficient operational flexibility to implement fully a comprehensive approach to substantially improve student outcomes.
- **Restart:** Convert a school into one operated by a charter school operator, a charter management organization, or an education management organization that has been selected through a rigorous review process. (This model allows schools to “start over” under NCLB’s school improvement timeline and waive the NCLB requirements to offer school choice and supplemental educational services.)
- **School closure:** Close a school and enroll its students in other schools in the district that are higher-achieving.

U.S. Department of Education guidance for the ARRA SIG program includes a requirement that districts providing SIG grants to nine or more schools in tiers 1 and 2 cannot use the transformation model in more than 50% of the schools.

Note. Adapted from Scott, McMurrer, McIntosh, and Dibner (2012) and the U.S. Department of Education (2011).

Statement of the Problem

In response to this new guidance and influx of substantially more federal funding, researchers, journalists, policymakers, and government agencies have been following the grant application process, implementation efforts, and student achievement on state assessments in SIG-recipient (and some SIG-eligible but non-receiving) schools across the country. As noted in the introductory section of this chapter, Secretary Duncan announced in March of 2012 the preliminary success of the SIG program on student achievement after the first year of implementation. Later that same month, a Deputy Assistant Secretary at the U.S. Department of Education, Jason Snyder, provided some additional detail about these preliminary data in a blog posting:

- In 63 percent of SIG schools, math proficiency increased, compared to 33 percent of schools where math proficiency declined—meaning that increases in math proficiency were almost twice as common as declines.
- In 58 percent of SIG schools, reading proficiency increased, compared to 35 percent of schools where reading proficiency declined. (Snyder, 2012, para 11)

In November of 2012 the U.S. Department of Education released some preliminary student assessment data for schools that received SIG funds. Drawing from one year of test data, beginning in school year 2009-2010 and ending in school year 2010-2011, the U.S. Department of Education reported these “early findings show positive momentum and progress in many schools” (2012d, para 3). More specifically, they note the following:

- Schools receiving SIG grants are improving. The first year of data show that two thirds of schools showed gains in math. And two thirds of schools showed gains in reading....
- Some of the greatest gains have been in small towns and rural communities (U.S. Department of Education, 2012d, para 4).

In slides accompanying the press release, bar graph data show double-digit gains in math and reading ranging from 15 percent to 38 percent in town and rural schools compared to 14 percent to 26 percent gains in suburban and urban schools (U.S. Department of Education, 2012c). Still, the Department cautions that this snapshot includes only one year of SIG implementation and “because many factors contribute to student proficiency rates, it is too early to establish a causal connection between SIG funds and school performance” (U.S. Department of Education, 2012d, para 6). As of the time of writing this dissertation, the complete study (including state-by-state assessment data) had not yet been released by the U.S. Department of Education.

Despite this reported preliminary success, other research as well as stories in the news media suggest some aspects of the SIG program may not be working across all the types of SIG-recipient schools. More specifically, findings from survey and case study data published by the Center on Education Policy (CEP) at the George Washington University indicate some of the SIG program requirements have been challenging to implement, particularly in rural SIG-recipient schools (McMurrer, Dietz, & Rentner, 2011; McMurrer & McIntosh, 2012; Scott, McMurrer, McIntosh, & Dibner, 2012).

The purpose of the first McMurrer et al. (2011) survey was to provide an early look at state officials' experiences with the new requirements and additional funds under the federal SIG program. Ultimately, 46 of the 51 state Title I directors responded to the survey for a response rate of 90 percent. Comments to the open-ended portions of this survey published in the report revealed some dissatisfaction among state Title I directors, particularly in rural states, about restricting SIG-recipient schools to the four improvement models presented in Table 2. The following survey comments from respondents illustrate some of the concerns raised:

- I understand the desire to foster true turnaround as opposed to random acts of improvement, but mandating these models seems like a solution of questionable value.
- The four prescribed models are somewhat restrictive in a small, mostly rural state where options to replace staff and leadership are minimal.
- The four prescribed models are too restrictive—especially for rural areas.
- The tight timeline for implementing significant reforms and the restrictions on the models, particularly the requirement to replace the principal, have and will be challenging for our schools (McMurrer et al., 2011, p. 4).

Based on these survey findings, some state Title I directors do not believe the prescribed school improvement models are appropriate for the rural schools in their state.

As previously noted, the new U.S. Department of Education guidance was intended to focus ARRA SIGs on the persistently lowest-achieving schools in the state. McMurrer et al. (2011) found survey respondents had mixed perceptions about the extent

to which these requirements are targeting the schools most in need of assistance in their respective states. Twenty-three state officials reported that their schools most in need of assistance are being targeted by ARRA SIGs “to the right extent,” whereas 22 respondents reported this was occurring “to some extent” (McMurrer et al., 2011, p. 8). Only one official reported that the schools eligible under ARRA SIG criteria are “not at all” the schools most in need of assistance. The authors speculated that this divergence of views about whether ARRA SIGs are reaching the schools with the greatest needs may be attributable to different state contexts—for example, in predominantly rural versus urban states. Open-ended survey comments from rural states, in particular, evidenced some frustration with school eligibility criteria and other SIG requirements (McMurrer et al. 2011, p. 8).

In 2012, researchers at CEP conducted a second survey of state Title I directors, which focused on state implementation of the federal SIG program as well as general perceptions of the program requirements (McMurrer & McIntosh, 2012). In the open-ended portion of the anonymous survey, some state officials expressed concern that the federal requirements under the SIG program do not address the context of the rural schools in their respective states. For example, one state official wrote:

...Because the SIG models came out of a clearly urban mindset, it places unnecessary limitations on rural environments. For example, replacing a principal. We can improve the principal, or improve the district leadership to the point that they recognize that the principal needs to be replaced, so replacement is not necessary as an automatic requirement. Also, the replacement of 50% of a

teaching workforce in a rural, and especially remote, setting is practically impossible. USDE needs to gain a better understanding of rural improvement strategies. (McMurrer & McIntosh, 2012, appendix p. 4)

Another state survey respondent voiced similar concerns about the required improvement models and wrote:

...As for the intervention models, the requirements do not take into consideration the different needs of states. [This state] has many small, rural schools and districts. The option for turnaround, as outlined by the grant, is virtually impossible. We don't have charter schools and don't close schools, so the only option available is transformation. Our schools did not choose this model as an easy way out, as sometime suggested by USDE, but as the only viable option....

(McMurrer & McIntosh, 2012, appendix p. 3)

In the CEP case study report on SIG implementation across three states (Maryland, Michigan, and Idaho) interviewees at the state, district, and school-levels in Idaho noted that several key ARRA SIG provisions—such as criteria for identifying the lowest performing schools and the requirements to replace principals and staff in schools using certain improvement models—are less workable in a sparsely populated, rural setting (Scott et al., 2012, p. 2). Along this same vein, researchers at the U.S. Government Accountability Office (USGAO) found that SIG “implementation was particularly challenging in some rural areas” (U.S. Government Accountability Office, 2011, p. 25). Anecdotal commentary and stories in periodicals such as *Education Week* and *Education Daily* as well as local and regional newspaper coverage also suggest that

some requirements of the SIG program might not be a perfect fit for school improvement strategies in rural settings (see, for example, Elliott & Klein, 2012; Klein, 2011; and Maxwell, 2010).

Rural SIG-Recipient Schools

In 2011 the Institute of Education Sciences within the U.S. Department of Education published a baseline report that catalogues characteristics of SIG-eligible and SIG-recipient schools across the U.S. The study authors gathered information about SIG-eligible schools from state applications for SIG posted on U.S. Department of Education's website and collected data about SIG-awarded schools from information posted on State Education Agency (SEA) websites (Hurlburt, Le Floch, Therriault, & Cole, 2011). From these sources, researchers compiled a database of SIG-eligible and SIG-awarded schools from all 50 states and the District of Columbia and posted the database excel file on USDE's website for public use. Specific data on SIG awards were not available from Hawaii at the time of the study and the availability of other data elements such as intervention models also differed across states (Hurlburt et al. 2011, p. 22).

Drawing from this database, Hurlburt et al. (2011) found 15,277 schools, or 16 percent of all schools nationwide, were eligible for School Improvement Grants under ARRA (p. 22). Most schools that were awarded SIG funding (53 percent) in school year 2010-2011 were located in large- or middle-sized cities compared with 23 percent in small towns or rural areas. Albeit a smaller percentage, rural schools still account for a substantial portion of the total number of SIG-recipient schools. Further, there is limited

research focused on the experiences of these types of schools. Displayed in exhibit C-2 of the study appendix, researchers disaggregate the number of SIG-recipient schools by state and school urbanicity (Hurlburt et al., 2011). Table 3 displays an extraction from these data.

Table 3

Urbanicity of SIG-Recipient Schools by State

States	Urban	Suburban	Rural	Total
Alabama	5	0	6	11
Alaska	0	1	6	7
Arizona	8	2	7	17
Arkansas	5	0	2	7
California	53	29	10	92
Colorado	15	3	1	19
Connecticut	12	2	0	14
DC	10	0	0	10
Delaware	0	2	0	2
Florida	29	33	15	77
Georgia	11	8	7	26
Idaho	0	1	5	6
Illinois	5	3	2	10
Indiana	6	1	0	7
Iowa	5	0	1	6
Kansas	4	1	1	6

<i>Kentucky</i>	28	42	35	105
Louisiana	17	2	9	28
Maine	2	1	3	6
Maryland	7	4	0	11
Massachusetts	11	1	0	12
Michigan	17	6	5	28
Minnesota	9	2	8	19
Mississippi	1	7	0	8
Missouri	21	11	0	32
Montana	0	0	3	3
Nebraska	1	0	6	7
Nevada	9	0	1	10
New Hampshire	3	2	2	7
New Jersey	8	3	1	12
New Mexico	1	3	5	9
New York	23	2	0	25
North Carolina	9	7	8	24
North Dakota	7	12	19	38
Ohio	33	6	2	41
Oklahoma	9	0	1	10
Oregon	7	4	1	12
Pennsylvania	47	10	1	58
Rhode Island	5	1	0	6
South Carolina	5	6	8	19
South Dakota	13	1	4	18

Tennessee	47	9	16	72
Texas	43	12	11	66
Utah	4	3	0	7
<i>Vermont</i>	8	25	33	66
<i>Virginia</i>	17	16	25	58
Washington	10	7	1	18
West Virginia	2	6	7	15
Wisconsin	46	0	0	46
Wyoming	3	0	3	6
Total	641	297	281	1219

Note. Extracted from Hurlburt et al. 2011, pp. C-3 – C-4.

As highlighted in italics in Table 3, the three states with the largest numbers of rural, SIG-recipient schools are Kentucky, Vermont, and Virginia. Based on the relatively large number of rural SIG-receiving schools, Virginia is the state selected for this study.

Federal guidance requires states to identify SIG-eligible schools based on student performance on state assessments (percentage of students scoring proficient) in mathematics and reading/English language arts and then to rank eligible schools into three tiers. The specific group of students used to determine eligibility is the “all students” category in the tested grade levels. According the Virginia Department of Education (VDOE), the Standards Of Learning (SOLs) “establish minimum expectations for what students should know and be able to do at the end of each grade or course” in various subject areas (VDOE, 2011c, para 1). These annual assessments are the vehicle

used in public schools across Virginia for the public reporting and accountability requirements under NCLB. Ideally, the school selected for this study will be categorized by the state as either a tier 1 or tier 2 school. (Tier 3 schools are not required to adopt one of the four federal school improvement models.) These test data and the school selection process is explained in more detail in chapter 3.

Research Questions

The purpose of the study is to investigate and provide an in-depth analysis of the federal School Improvement Grant program in a rural context using the following research questions:

1. How has student achievement, as measured by the Virginia Standards of Learning assessments used for NCLB federal accountability reporting, changed (if at all) in the rural, SIG-funded schools across the state since receipt of these grants in school year 2010-2011?
2. How is a selected rural Virginia school implementing the requirements of the SIG program?
3. What are the perceptions of school and district officials in a selected school district about the effectiveness of the policies required under the SIG program?

Chapter 2 outlines the theories, research literature, and conceptual framework that will guide and inform the study within these research questions.

Definition of Terms

Low performing school: Schools in which a large proportion of its students do not meet the performance benchmarks, established by state departments of education, on the state assessments used for federal accountability and reporting requirements under ESEA as reauthorized under NCLB. (Persistently lowest-achieving school or PLA is defined by the U.S. Department of Education in its guidance on the School Improvement Grants under section 1003(g) of ESEA issued on March 1, 2012.)

Percentage proficient (and above): The percentage of students in a group who score at or above the cut score for “proficient” performance on the state test used to determine progress under NCLB. (The Act requires states to report student test performance in terms of at least three achievement levels: basic, proficient, and advanced.) Adequate yearly progress determinations are based on the percentage of students scoring at the proficient level and above (Center on Education Policy, 2010).

Rural school: Schools categorized by the National Center for Education Statistics (NCES) and the Common Core of Data (CCD) as rural fringe, rural distant, or rural remote. NCES (2006) defines these rural categories as follows:

- Fringe - Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster
- Distant - Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster

- Remote - Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster (NCES, 2006, p.1).

School district: The Virginia Department of Education uses the term “division.” For this study, I use the more commonly understood term, school district.

CHAPTER TWO: LITERATURE REVIEW

In their interactive model of research design, Maxwell and Loomis (2003) explain the conceptual framework component of the research design as follows:

What theories and beliefs about the phenomena studied will guide or inform the research? These theories and beliefs may be drawn from the literature, personal experience, preliminary studies, or a variety of other sources. This component of the design contains the *theory* that the researcher has developed, or is developing, about the setting or issues being studied. (p. 245)

This chapter outlines the theories and beliefs about the federal school improvement grant program that inform my thoughts about SIG implementation in rural schools and the study. These theories and beliefs are drawn from the available literature published by federal agencies, universities, other research and special interest organizations, research journals, personal research experience, and media coverage about the program across states and in schools.

The U.S. Government Accountability Office (USGAO) published a preliminary evaluation of the SIG program in 2011 and a second, more in-depth performance audit of the SIG program in 2012. (USGAO, 2011; USGAO, 2012). Researchers at the National Center for Education Evaluation and Regional Assistance also conducted an evaluation of the SIG program for the Institute of Education Sciences at the U.S. Department of

Education (Hurlburt, Le Floch, Therriault, and Cole, 2011). Findings from these evaluations as well as research published by other organizations and in research journals inform preliminary theories about the SIG program generally and in rural contexts—to some extent. Understanding the implementation of the SIG program and its impact on rural schools is informed by the work of Datnow and Park (2009), who argue that the sense-making and co-construction perspectives are especially useful for examining the implementation of current educational policies in the United States (p. 348). The research literature related to the SIG program and school reform more generally (presented in the first section of this chapter) ultimately informs the conceptual framework of this study and are outlined in this chapter.

To begin this chapter I searched the following peer-reviewed journals, organizations, and government agencies to locate published, scholarly research related to the federal SIG program, particularly in rural states and/or schools:

- American Educational Research Association journals, including:
 - Educational Evaluation and Policy Analysis
 - Educational Researcher
 - Review of Educational Research
 - Review of Research in Education
- Journal of Education for Students Placed at Risk
- Journal of Research in Rural Education
- Journal of Rural Studies
- National Rural Education Association

- Rural School and Community Trust
- The Handbook of Education Policy Research
- The Rural Educator
- U.S. Department of Education
- U.S. Government Accountability Office (USGAO)

I simultaneously created search alerts in various education databases, including Education Research Complete and Academic Search Complete and general Google and ProQuest alerts for the terms “school improvement grant,” “rural” and “school improve*”. These alerts pointed to numerous media stories from regional newspapers about local SIG implementation efforts as well as SIG-related research. Finally, the research and reports outlined in this chapter were reviewed and considered using the Locke, Silverman, and Spirduso (2004) frameworks for understanding qualitative and quantitative research (pp. 100-102 & Appendix C).

Research on School Improvement, Turnaround, and Reform

For his study, Carpenter (2011) sought to better understand how the Title I SIG program of 2009 evolved as the chosen solution for persistently low-performing schools. To answer this question, Carpenter conducted a critical interpretive policy analysis, using both case studies of key policy documents and media reports as well as interviews, to show how “dominant discourses and deliberative performances of the federal government shaped the policy vocabularies embedded within the Title I School Improvement Grant program of 2009 as the commonsense solutions for the nation’s chronically low-performing schools” (pp. ix-x). Carpenter focused the interview portion of his qualitative

research study and analysis on three groups of participants: (a) federal government actors—employed, appointed, or elected to positions within the federal government; (b) special interest and advocacy actors—nonprofit or for-profit employees who were invited to participate in the dialogues that helped shape the Title I SIG program or who had an agenda specifically addressing the policy; and (c) university actors—professors who were asked to participate in the formation of the Title I SIG program or specifically targeted turnaround research as a scholarly focus (p. 80).

Carpenter (2011) argued there was little to no empirical research upon which the federal SIG program was based; rather, the policy emerged as a result of the interaction of four elements that surfaced from his study. These elements included the following:

- how the current school reform environment and the push to embrace turnaround strategies are informed by the institutionalization of economic policies intended to secure the health of the United States economy;
- three dominant policy vocabularies (accountability, innovation, and competition) and six guiding subthemes (heightening the monitoring of success, emphasizing teacher and principal performance, redistributing governance/authority, incentivizing success, establishing competitive funding, and expansion of the marketplace) that emerged during the examination of the Title I SIG program documents;
- three dominant story lines most evident during the deliberative revision of the Title I SIG program
 - global competitiveness (leaders must address education reform as a

- way to ensure economic competitiveness)
- unprecedented opportunity (stakeholders must act with urgency to capitalize on the ‘Obama Effect’)
- disrupt complacency (citizens have a moral responsibility to disrupt the complacent bureaucracy of educational systems); and
- four dramaturgical elements of political play—including scripting, staging, setting, and performance and how these practices were used with the discourses in the preceding two bullets to promote the SIG program. (pp. 255-262)

Carpenter’s (2011) research findings do not address SIG implementation in a rural context; however, they do offer a useful perspective about the evolution of federal SIG program and a natural introduction to the literature review portion of this study.

Although there is no guidebook with fail-safe, proven strategies for school improvement across all types of schools, there are published studies about school reform that should be considered for this research and the specific research questions presented in this study.

To begin, it is important to acknowledge there have been other federal initiatives and programs aimed at reform and improving low-performing schools. For example, the Comprehensive School Reform (CSR) program, was intended to foster school wide improvements that (a) address a wide range of school operations, including curriculum, instruction, professional development, parental involvement, and school organization and (b) are “based upon scientifically based research and effective practices” (U.S.

Department of Education, 2004, para 4). The program began in 1998 and was later authorized by Title I, Part F of NCLB.

Desimone (2002) reviewed and synthesized the research literature that documented CSR implementation and found that successful implementation was related to five policy attributes—“implementation fidelity, power to immediate implementation effects, and consistency, authority, and stability to long lasting change” (p. 433). One year later, Borman, Hewes, Overman, and Brown (2003) published a meta-analysis on the achievement effects of CSR and the authors concluded “...the overall effects of CSR appear promising” (p. 125). Nevertheless, a program evaluation published by the U.S. Department of Education found that receipt of a CSR award was not associated with student achievement gains in math or reading in the first three years of the award, CSR-awarded schools were not more likely to implement the legislatively specified components of CSR than other schools, and fidelity of CSR implementation was not associated with gains in school-level math and reading achievement (Orland, Connolly, Fong, Sosenko, Tushnet, Yin, Burt, & Warner, 2008).

Funding appropriations for this program were cut in half in 2005 and eventually ended in 2008. More importantly, key requirements of the CRS program and the peak appropriation of \$310,000,000 in 2002 are quite different from the arguably more extensive and prescriptive requirements under SIG to hire a new school principal, replace at least 50 percent of the school staff, convert to a charter school, or close the school as well as the \$3.5 billion appropriated for SIG in 2009. Therefore, an extensive overview of

the research literature related to the CSR program is beyond the scope of the study, which focuses on SIG implementation in rural Virginia schools.

The U.S. Department of Education (2013) hosts a web site dedicated to information, technical assistance, monitoring, and data about the SIG program. Under the technical assistance category, the U.S. Department of Education lists a handbook focused on the effective implementation of SIGs, which was developed as a resource for schools by the federally supported Center on Innovation and Improvement. Editors Perlman and Redding (2011) explain the purpose of this handbook is to offer “succinct and practical explanations of the SIG’s required and recommended models and strategies, references to the underlying research, and connection to useful resources” (p. i).

The second portion of this handbook outlines 50 plus strategies that the editors argue are relevant to the SIGs and offers action items for state officials, districts, and schools. Perlman and Redding (2011) organize these strategies within the following six overarching categories:

- organizational structures;
- leadership and decision making;
- human capital (personal and professional development);
- curriculum and instruction;
- scheduling and learning time; and
- student supports.

The editors provide extensive explanations and some caveats about specific reform strategies under each of these six categories. For example, they caution in the

introductory text of chapter 4 that “organizational structure is not a proximal variable, but it is a precondition for improving proximal variables and for sustaining the improvements” (p. 27). Perlman and Redding offer such strategies as creating a turnaround office or partnering with an Education Management Organization (EMO) as ways to initiate and manage structural change in SIG schools. Again, they warn readers:

Just as organizational structure can facilitate or obstruct constructive decision making and action in the school and classroom, changes in the organizational structure do not automatically lead to better learning outcomes for students. Again, a change in organizational structure is a pre-condition to improved learning but does not, itself, produce the desired results. (pp. 27-28)

Other reform strategies outlined by the editors range from differentiating instruction under the curriculum and instruction category and extending the school day under the scheduling and learning time category to engaging families in student learning under the student supports category.

The Perlman and Redding (2011) handbook received an outstanding publication award from the American Educational Research Association (AERA) in 2011 and is cited often in other published resources focused on school improvement and reform. Nevertheless, many of the references cited throughout the 200 plus page handbook were published by regional education laboratories, research and advocacy organizations, and other research arms of the U.S. Department of Education rather than by more independent, peer-reviewed journals. Additionally, the Perlman and Redding strategies do not address issues of human capacity to fill positions in a turnaround office or

problems attracting external management organizations to rural areas—which were both cited as challenges to SIG implementation in other research (USGAO, 2011; McMurrer & McIntosh, 2012; Scott et al., 2012). Despite these limitations, the references and guidance offered in this handbook, particularly the six categories of reform strategies, inform preliminary theories about SIG program implementation for this study.

Some of the strategies highlighted in the Perlman and Redding (2011) handbook echo those that were previously outlined by Herman, Dawson, Dee, Greene, Maynard, Redding, and Darwin (2008) in a guide published by the Institute of Education Sciences (IES) and endorsed by the What Works Clearinghouse within the U.S. Department of Education. Their paper focuses on chronically low-performing schools and efforts to show gains in student achievement over a very short (two years) period of time (p. 4). Herman et al. note that the recommendations offered in the guide were drawn from case studies that examined turnaround practices across 35 schools as well as research from the field of business turnaround (p. 6). The authors recommend turnaround schools signal the need for dramatic change with strong leadership, maintain a consistent focus on improving instruction, make visible improvements early in the school turnaround process, and build a committed staff—even if this means replacing and recruiting new staff that meet the specific needs of the school.

Both the low-performing aspect as well as the short timeframe for turnaround addressed in the guide are similar to the SIG schools, which are among the lowest achieving in their respective states and receive grant awards over the course of three years. However, the Herman et al. (2008) guide does not include detailed information

about all of the case study schools that were included in the authors' analysis. So, the specific context of rural schools may or may not be represented in the IES practice guide.

The School Turnaround Group, a division within the nonprofit organization Mass Insight Education and Research Institute, has published several resources on school improvement, including policy guides that are specific to the federal SIG program. The Education Secretary Arne Duncan referenced a 2007 Mass Insight study, funded by the Bill and Melinda Gates foundation, as the “bible” of school turnaround (Mass Insight Education, n.d.). In that study, authors Calkins, Guenther, Belfiore, and Lash (2007), conducted: (a) a literature analysis of 300 research reports, news articles, and other resources on school intervention and organizational turnaround; (b) individual and group interviews with practitioners, researchers, policymakers and reform experts in more than twelve states; (c) interviews with directors of school interventions from six urban school districts and with 50 school management organizations and/or support organizations; and (d) consultation about study findings and recommendations with 24 national reform leaders and the research projects' partners (p. 15).

Calkins et al. (2007) content that “standards, testing, and accountability enable us, for the first time, to identify with conviction our most chronically under-performing schools. Turnaround is the emerging response to an entirely new dynamic in public education: the threat of closure for underperformance” (p. 8). The authors also distinguish school improvement from school turnaround, which they explain “focuses on the most consistently underperforming schools and involves dramatic, transformative change. Change that, in fact, is propelled by imperative: the school must improve or it will be

redefined or closed” (p. 10). Drawing from the high-performing, high-poverty schools included in the study, Calkins et al., advocate for the following major elements to be included in any school turnaround effort:

- clearly defined authority to act based on what’s best for children and learning – i.e., flexibility and control over staffing, scheduling, budget, and curriculum;
- relentless focus on hiring and staff development as part of an overall “people strategy” to ensure the best possible teaching force;
- highly capable, distributed school leadership – i.e., not simply the principal, but an effective leadership team;
- additional time in the school day and across the school year;
- performance-based behavioral expectations for all stakeholders including teachers, students, and (often) parents; and
- integrated, research-based programs and related social services that are specifically designed, personalized, and adjusted to address students’ academic and related psycho-social needs. (p. 11)

Ultimately, the authors conclude that districts and states can work together within a flexible framework to improve their worst schools over the course of a few years.

Despite the bold findings and study recommendations, the report authors provide little to no detail about the data collection methods, study participant selection criteria, or the specific methods used for data analysis. Due to the absence of this information it is difficult to assess the rigor of the research methods used and the applicability of the study findings across different types of low-performing schools. For example, Calkins et al.

(2007) mention that the high-performing, high poverty schools included in one section of the report were located in urban districts but it is not clear whether the main study findings are generalizable and thus applicable in low-performing rural schools.

In a more recent progress report, Mass Insight Education (2012) highlights four states (Louisiana, Michigan, Tennessee, and Connecticut) and seven school districts (Baltimore, MD; Chicago, IL; New York, NY; Philadelphia, PA; Charlotte-Mecklenburg, NC; Providence, RI; and Syracuse, NY) that have adopted the Mass Insight framework for school turnaround. This framework was first outlined in the Calkins et al. (2007) report and at the time that report was published focused on “changing the conditions in which schools operate to allow for greater flexibility and autonomy, building capacity through specialized turnaround resources and talent, and clustering schools to achieve turnaround at scale” (Mass Insight Education, 2012, p. 2). Similar to the earlier Calkins et al. (2007) report, this 2012 progress report provides little detail about the project’s data collection and analysis methods, so provides some helpful but very limited information for the study of SIG implementation in a rural Virginia school.

As outlined in Table 2 in Chapter 1, the transformation and turnaround models under SIG require recipient schools to replace the principal. Additionally, the turnaround model calls for SIG-recipient schools to rehire no more than 50% of the school staff. Herman et al. (2008) advocate replacing staff in their guide to turning around chronically low-performing schools. However, Calkins et al. (2007) cautioned school reformers about this strategy, noting, “the broader research on organizational turnaround suggests that wholesale replacement of staff, while sometimes used effectively, is not a necessary

ingredient of turnaround success” (p. 99). An earlier study conducted by Malen, Croninger, Muncey, and Redmond-Jones (2002) echoes these cautions. In their study of reconstituting schools, which the authors explain as removing a school’s administrator and teachers and replacing them with more capable and committed educators, Malen, et al. found the “theory of action embedded in reconstitution reforms may be seriously, if not fatally flawed” (p. 119). After a thorough review of the research literature, Rice and Malen (2010) in a report published by the National Education Association again reiterated these cautions about the effectiveness of reconstitution as a strategy to improve chronically low-performing schools.

None of the 58 SIG-recipient schools in Virginia that were awarded grants beginning in the 2010-2011 year chose the turnaround model, which requires extensive re-staffing of schools. However, several chose the transformation model, which requires schools to hire a new principal. Two Virginia schools chose the restart model and whereas schools that select the restart model are not formally required to replace principals or staff, many do so as part of their conversion to a charter or privately managed school (McMurrer, 2012).

In their introductory article to a special issue of the *Journal of Education for Students Placed at Risk* (JESPAR), Stuit and Stringfield (2012) argue the current movement to address chronically low-performing schools through intensive school turnaround initiatives, such as those prescribed under the SIG program, is best understood after considering “four steadily evolving factors: changes in the U.S. economy, advances in educational research, the emergence of a vibrant business improvement literature, and

the evolution of education policy” (p. 1). First, similar to the assertions made by Carpenter (2011), Stuit and Stringfield contend the push for dramatic school improvement is, at least in part, fueled by the argument that it is a matter of national importance in a changing economy. Second, Stuit and Stringfield note that the evolving fields of research on school change, educational effectiveness, comprehensive school reform efforts, and school systems, “document the extent to which districts can contribute to more consistent school reform implementations and higher student achievement” (p. 3). Next, the authors write that educators are simultaneously learning about turnaround efforts from the field of business and point to such authors like Collins (2001) and Senge (1990) and their influence on leadership and change in schools. Finally, Stuit and Stringfield acknowledge that efforts to improve schools have been underway for decades, however, they argue the turnaround concept (defined as intensive interventions intended to produce achievement gains quickly in chronically low-performing schools) is a relatively new concept. They write that the turnaround “idea has resonated with leaders and policy makers across the political spectrum and become a centerpiece of the Obama administration’s education reform agenda” (p. 4).

Some of the other articles in this special issue of *JESPAR* should be noted in relation to this study on the SIG program across rural Virginia schools. More specifically, Hansen (2012) examined test score data in chronically low-performing schools in three states: Florida, North Carolina, and Texas. He argues that the current methods states use to calculate and identify the lowest achieving schools (school-level proficiency data) are imprecise measures of school performance and may incorrectly

identify schools as persistently low-achieving. This is similar to the concerns voiced by state officials in Idaho about the misidentification of some rural schools in their state (Scott et al., 2012). By way of the study analysis, Hansen concludes:

...we learned the critical importance of using student-level data (rather than school-level aggregate measures), using growth-based measures in conjunction with status-based performance metrics, the stability of these performance metrics over time, and how to empirically recognize turnaround in schools as it occurs. Without being overly prescriptive, I urge state and local policy makers to adopt similar measures and approaches. (p. 66)

Hansen also argues policy makers should use scale scores instead of proficiency scores to identify schools in need of turnaround.

In this same issue of *JESPAR*, Meyers, Lindsay, Condon, and Wan (2012) explain their use of school-level student achievement data in Minnesota to identify schools that are rapidly improving their performance (p. 70). The authors' propose policy makers should use scale scores instead of proficiency rates to measure student achievement. Then, Meyers et al. outline the procedures and present both the benefits and limitations of using factor analysis to estimate a single composite performance score for each school based on its average scale scores in all grades and subjects for one school year. These identification concerns examined by Hansen (2012) and found in Idaho by Scott et al. (2012) as well as the proposed solutions for a more holistic approach to measuring improvement by Meyers et al. (2012) may or may not apply in the rural Virginia school

selected for this study. Nevertheless, they should be considered during study data collection and analysis.

The studies and reports highlighted in this section provide a brief overview of the research about more general school improvement, turnaround, and reform strategies. In some instances, the studies preceded the new guidelines issued for the SIG program under ARRA by the U.S. Department of Education. The following section focuses on studies that are specifically focused on the SIG program implementation and were supported by federally funded agencies such as the Government Accountability Office and the Institute of Education Sciences, which is the research arm of the U.S. Department of Education.

Federally-Supported Research Specific to the SIG Program

A USGAO report (2011) provides preliminary information about (a) how selected states have administered the SIG program for grants starting in school year (SY) 2010-2011; (b) what factors influenced the implementation of SIG interventions in selected schools during SY 2010-2011; and (c) how the U.S. Department of Education has provided oversight of SIG implementation and measured performance to date. The USGAO researchers in this study found that among six states¹ (purposefully selected based on population, use of intervention model, and number of SIG-awarded districts and schools), some implemented the SIG program “more rigorously than others” and that “states with selective competitions funded only those district applications they identified as the strongest, and thus may be positioned for better student achievement outcomes” (p.

¹ Delaware, Nebraska, Nevada, Ohio, Rhode Island, and Virginia

3). Similarly, Lazarín (2012) found access to SIG money may be more competitive in some states than in others in a later study published by the Center for American Progress (p. 2). USGAO researchers also found that local capacity and short timelines affected states' ability to implement the SIG program and that USDE plans to collect and analyze school performance data from SIG schools to help identify high-quality practices (pp. 3-4).

Researchers at the USGAO found that SIG “implementation was particularly challenging in some rural areas” (USGAO, 2011, p. 25). More specifically, USGAO researchers wrote:

- State and local officials from the states we met with told us that small rural districts often have fewer resources than larger districts to implement a SIG.
- Some officials in rural areas felt constrained selecting a model, particularly:
 - in attracting qualified teachers as required in the Turnaround Model;
 - in attracting external providers as required in the Restart Model; and
 - being too far from neighboring schools to allow for School Closure.
- State and local officials told us that—even with higher salaries and other incentives—it is difficult to recruit and retain staff in some rural areas, particularly:
 - principals and teachers with school reform experience; and
 - specialized teachers (e.g., math teachers or those with expertise teaching students with disabilities).

- SIG requirements for increased learning time—which could lead to students leaving school at different times—resulted in high transportation costs for some rural schools with limited transportation resources. (p. 25)

It is important to note that the sample used for this 2011 USGAO report (six states) is not generalizable across all states and SIG-awarded schools. Nevertheless, the study provides useful insight about SIG implementation efforts and preliminary challenges in select rural schools for the study.

In April 2012 the USGAO published a second, more comprehensive evaluation of the SIG program implementation. This study focused on what (if any) aspects of SIG pose challenges for successful implementation; how do U.S. Department of Education and state guidance and procedures for screening potential contractors and reviewing contractor performance compare with leading practices; and to what extent are the U.S. Department of Education’s technical assistance and oversight activities effectively supporting SIG implementation (USGAO, 2012, p. 2). To investigate these questions, researchers at the USGAO administered a web-based survey of state officials in all 50 states and the District of Columbia and ultimately received a 100% response rate. They also conducted interviews with state officials in California, Delaware, Nebraska, Nevada, Ohio, Rhode Island, Texas, and Virginia as well as interviews with district- and school-level officials in one to three districts with SIG recipient schools in each of these eight states. Similar to the 2011 study, for the 2012 study USGAO researchers purposefully selected these eight states “to represent range of size, geographic diversity, and intervention models being used” in SIG-recipient schools (2012, p. 3). Finally, they

analyzed policy documents such as SIG monitoring protocols and spoke with officials from the U.S. Department of Education as a part of their data collection.

From these data, the USGAO researchers (2012) found that successful SIG implementation posed several challenges, including building staff capacity, recruiting and retaining strong staff, developing teacher evaluations, increasing learning time, and making grant renewal decisions due to delayed student achievement data. Further, USGAO researchers found that districts often used SIG funds to hire contractors for specific services. Although these contractors are screened before they are hired, states varied on whether contractor performance is reviewed during program implementation, which USGAO researchers contend, is problematic. In Virginia, schools implementing the transformation or turnaround improvement models are required to use contractors for some services which may include improving teacher performance, principal and management leadership, or changing the school culture (p. 17). Virginia state officials told USGAO researchers they “enacted statewide contracts with four organizations, and strongly encouraged districts to choose one of those four organizations” (pp. 18-19). Finally, the USGAO study found that the U.S. Department of Education “assistance and oversight activities are generally supporting SIG implementation” (p. 1).

The findings from this second USGAO study that are especially relevant to this study on SIG implementation in a rural Virginia school address are those that district-level capacity and staffing as well as the increased learning time requirements under two of the required reform models. More specifically, USGAO researchers (2012) wrote:

...many districts also struggled to develop the necessary staff capacity to

implement successful school reforms. It was particularly difficult for schools to recruit and retain qualified staff members, according to many stakeholders, including officials from several states and districts we visited. They told us that SIG schools were sometimes in rural areas or needed staff to have expertise that was in short supply, such as experience with reform or specialized academic subjects. (pp. 8-9)

Similarly, the increased learning time requirement under the transformation and turnaround models were challenging for some schools. A state-level official in Virginia noted some SIG schools in the state had met resistance from parents to increase learning time because students had jobs or other responsibilities outside of school (p. 13).

Both the 2011 and 2012 USGAO studies, particularly the breadth, depth, and generalizability of the data collected for the 2012 evaluation, provide useful information about SIG program implementation that informs the conceptual framework for this study. However, details about the study methodology are not clear from the information in either of the published reports. For example, details about the interview participants, setting, protocols and survey questions were not included in either report. Similarly, the specific methods for analyzing all these data were not addressed. Finally, it is not clear what proportion of the study's district and school level participants represent rural contexts.

As noted in Chapter 1 of this document, Hurlburt et al. (2011) gathered information about SIG-eligible schools from state applications for SIG posted on USDE's website and collected data about SIG-awarded schools from information posted on State

Education Agency (SEA) websites. From these sources, they compiled a database of SIG-eligible and SIG-awarded schools from all 50 states and the District of Columbia and posted the database excel file on USDE's website for public viewing.

The Hurlburt et al. (2011) report published by USDE also provides a national overview of the funding provided for the SIG program—disaggregated by state—as well as other characteristics of SIG-eligible and SIG-awarded schools such as percentages of students in schools that are eligible for free- and reduced-price lunch, school grade-levels served by SIG-awarded schools, school size, and intervention model chosen. The study's authors analyzed the SEA applications and provide a national overview of how states identify persistently low achieving schools, evidence that states use to determine LEA (district) capacity, and planned state-level monitoring and support for SIG implementation. Exhibit 13 of the Hurlburt et al. (2011) study, which highlights select characteristics of the SIG-eligible and SIG-awarded schools, is excerpted in Table 4 for additional context.

Table 4

Characteristics of the Universe of Schools, SIG-Eligible Schools and SIG-Awarded Schools

**Exhibit 13.
Characteristics of the Universe of Schools, SIG-Eligible Schools and
SIG-Awarded Schools**

Characteristics	Universe of Schools	SIG-Eligible Schools	SIG-Awarded Schools
School Level (percent of schools)			
Elementary	54.3%	56.3%	52.1%*
Middle	17.3%	20.2%	22.1%*
High	20.6%	19.2%	19.4%*
Non-specified	8.2%	5.5%	5.2%
School Type (percent of schools)			
Regular	98.3%	98.9%	97.1%
Alternative	6.3%	5.0%	6.1%
Special Education	2.3%	0.9%	0.9%
Vocational	1.4%	0.3%	0.7% ^b
Quarter school status (percent of schools)			
Full	4.7%	6.3%	5.5%
Urbanicity (percent of schools)			
Large or Suburb-sized City	26.3%	44.9%	52.5%*
Urban Fringe and Large Town	41.9%	35.2%	34.1%*
Small Town and Rural Area	32.2%	19.9%	13.2%*
Free and Reduced-Price Lunch (school average percent of students)			
	44.7%	68.3%	68.4%
Race/Ethnicity (school average percent of students)			
White	56.3%	26.7%	26.5%
African American	17.3%	28.0%	41.9%*
Hispanic	21.5%	38.6%	26.9%*
Native American	1.3%	1.5%	2.1%
Asian	4.7%	3.7%	2.4% ^b
Total School Enrollment (school average)	518	337	364^b

Exhibit note: 54.3 percent of schools nationwide were elementary schools. Among SIG-eligible schools nationwide, 56.3 percent were elementary schools; among SIG-awarded schools nationwide, 52.2 percent were elementary schools.

Source: 2008-09 Common Core of Data; Approved state SIG applications, 564 Web sites.

Notes: Analysis was based on 78,492 schools in 49 states and D.C., 15,217 SIG-eligible schools in 49 states and D.C. Of the 15,217 schools eligible for SIG awards in 49 states and the District of Columbia, 88 schools were not included in the 2008-09 CCDL and 1,268 SIG-awarded schools in 49 states and D.C. (As of March 21, 2011, SIG award information was missing for 10). Due to missing data in CCDL, analysis samples vary across school characteristics, and characteristic rates may contain inaccuracies. For example, 7 percent of the universe of schools, 2.1 percent of SIG-eligible schools, and 1.6 percent of SIG-awarded schools were missing data for at least one of the variables. The variable with the most missing data is percent of free and reduced-price lunch students. Percentage values for characteristics with multiple categories may not sum to 100 due to rounding.

Statistical significance is determined based on one-sample tests of proportion for categorical variables and t-tests for continuous variables. All differences between the universe of schools and SIG-eligible schools were significant at the $p < .05$ level. All differences between the universe of schools and SIG-awarded schools were significant at the $p < .05$ level except for alternate school type and quarter school status. For comparisons between SIG-eligible and SIG-awarded schools, two-tailed statistical significance at the $p < .05$ level is indicated by an asterisk (*).

Non-specified refers to those schools with a grade configuration not fitting within either elementary, middle, or high school categories.

^b Student characteristics are expressed as proportions to the number of students enrolled in a school.

Note. Excerpted from Hurlburt et al. 2011, p. 27.

Data and analysis from this baseline report inform state and school selections for this study. As introduced in Chapter 1, Virginia is the selected state for this study based on the relatively large number of rural SIG-receiving schools in school year 2010-2011. Additional school-specific information such as the invention model chosen and total funding amount awarded, which is published in this database, will be considered throughout the data collection and analysis phases.

Research on the SIG Program in Various Locales

There have been several studies about the SIG program in various locales conducted and published since the U.S. Department of Education issued guidance about its implementation and the infusion of more funding under ARRA. This published research ranges from survey data and case studies to the analysis of test score trends and student achievement on these assessments in a select state. This section outlines some of the major findings from these reports and how they inform this study.

SIG in urban schools. The Council of Great City Schools (CGCS) published a report about the SIG program in America's large city schools (Lachlan-Haché, Naik, & Casserly, 2012). The report findings were based on a survey of the CGCS member districts and focused on school improvement strategies these districts used before and after the grants. The purpose of the study was to "better understand what the nation's large city school districts were doing to turn around these low-achieving schools and how the federal government's School Improvement Grants (SIG) program was aiding or failing to aid that process..." (p. 35). CGCS is a coalition of 65 of the nation's largest

urban public school systems (p. 42). Member districts comprise 30% of the nation's tier I and II schools and 42% of tiers I and II school enrollment (p. 11). A total of 43 of the Council's 65 member districts, or 66.2%, responded to the survey.

Lachlan-Haché et al (2012) found that many of the large city school districts were pursuing school turnaround strategies of some sort well before the SIG program. Some of these strategies were connected to the sanctions required under NCLB and others were not, however, many of the prior reform strategies mentioned mirror the requirements of the federal SIG program. These similar strategies included closing schools, replacing staff, and removing the school principal (p. 35). Survey respondents cited reopening schools as charter or magnet schools as "strategies least often used" and state takeover of schools "received no positive rating by urban educators" (pp. 35-36).

Similar to the challenges cited by educators in rural areas in the 2011 and 2012 USGAO studies, Hurlburt et al. (2011), and Scott et al. (2012) studies, Lachlan-Haché et al. (2012) found the city school survey respondents faced difficulties removing and recruiting teachers. City school survey respondents also faced community resistance to closing schools. Nevertheless, city school survey respondents were generally satisfied with the SIG program. Lachlan-Haché et al. found "responding cities reported that the program gave them ample flexibility to implement turnarounds and that the SIG program had a strong chance of significantly improving student achievement in these persistently low-achieving schools" (p. 36). This general optimism is similar to that found in the McMurrer et al. (2011) and McMurrer and McIntosh (2012) survey of state Title I directors about SIG, however, the reference to flexibility contrasts with some of the

findings from these survey reports, particularly survey responses from states with SIG-funded schools in rural areas. Similarly, state and school-level case study research in Idaho suggests the SIG program does not provide adequate flexibility in this state's rural context (Scott et al., 2012).

The Lachlan-Haché et al. study (2012) published by the Council of Great City Schools provides a useful pulse on the implementation efforts of the SIG program in large, urban schools across the U.S. However, the authors included very little detail about the survey development, administration, and analysis procedures. Additionally, the survey response rate is somewhat low hovering at 66%. According to Fowler (2009) there is no agreed upon minimum acceptable response rate, yet the federal Office of Management and Budget (OMB) pushes for a response rate in excess of 80% and requires a nonresponse analysis if a survey does not meet this standard (OMB, 2006). Survey findings of general optimism about the program's potential and challenges related to school staffing are echoed in other reports, however, perceptions about program flexibility contrast with findings from studies with more geographically diverse participants.

SIG in California. Dee (2012) conducted an analysis of student achievement in SIG-recipient schools across the state of California. Drawing from the Hurlbert et al. (2011) dataset, Dee points out that California had the largest number of SIG eligible schools and awarded the most grants of any state across the U.S. for school year 2010-2011 (p. 4). His study sample consisted of the 2,892 schools in the state that met the Tier I or Tier II criteria to receive a 2010-2011 SIG award. Of this sample, 82 schools (three

percent) received a 2010-2011 SIG award (p. 18). Dee's study used a multivariate regression-discontinuity design and examined the Annual Performance Index (API) across the California study schools. According to Reardon and Robinson (2010), regression discontinuity designs "can produce plausible estimates of the treatment effect on an outcome for individuals near a cutoff score," which appropriately fits the purpose of Dee's study (p. ii).

Dee (2012) explains that a school's annual API is:

...a measure of school-level performance based on statewide student testing....

The API is also one indicator of whether a school is making "adequate yearly progress" (AYP) and can avoid sanctions under the No Child Left Behind

(NCLB) Act. A school's annual API can range from 200 to 1000 and is

calculated by converting student performance on statewide tests covering the core

academic subjects (i.e., advanced, proficient, basic, below basic, and far below

basic) into values on the API scale. These calculations rely largely on student performance in the California Standards Tests (CSTs) in ELA, mathematics,

social studies, and science. (pp. 15-16)

Dee (2012) found that there were statistically significant improvements in test-based performance in SIG-funded schools in California (p. 28). This was drawn from 2009 and 2010 baseline API scores used to determine SIG eligibility and 2010-2011 API scores—so, one year into a three year grant implementation cycle. According to Dee, "complementary panel-based estimates suggest that these improvements were largely concentrated among schools adopting the federal 'turnaround' model" (p. ii).

Although this study does not provide detailed accounts of SIG implementation, Dee's analysis does offer relevant insight about early student achievement trends in SIG-funded schools across the state of California. Ultimately, trends on state assessments will be the primary criteria upon which the SIG-recipient schools are evaluated.

Unfortunately, it is not clear from the data presented in the appendix to the study if there were differences in performance trends when schools are disaggregated by locale—urban, suburban, or rural. Public remarks from officials at the U.S. Department of Education indicate they are conducting similar audits of student achievement trends in SIG-recipient schools across the U.S. (Duncan, 2012; Snyder, 2012); however, results from these evaluations were not published at the time of data collection for this study.

SIG in Michigan. In 2012 WestED published a report that summarized implementation trends for the first of a three-year evaluation of 18 districts and 28 schools across the state of Michigan that received SIG funds in the fall of 2010. The purpose of this first evaluation was to provide the Michigan Department of Education (MDE) with “an independent snapshot of implementation progress in year one, and allow the evaluation team to gather perspective and context around key elements of early implementation of SIGs” (Bojorquez, Rice, Hipps, & Li, 2012, p. 3). The three-year evaluation is both formative and summative, with this first and upcoming second evaluation designed to provide information to schools, districts, and the state that can be used to improve SIG interventions and the final evaluation will be used to determine the effectiveness of the transformation and turnaround models in Michigan.

Bojorquez et al. (2012) combined qualitative and quantitative research approaches, which included on-site observations, interviews, surveys, and “relevant student- and school-level outcomes for all districts and schools receiving SIG funding” (p. 9) to conduct the evaluation. Researchers conducted semi-structured interviews with a total of 51 individuals, including district-level SIG administrators, principals of SIG schools, and school-level SIG specialists across 18 districts and 28 schools implementing the turnaround or transformation models during the first year (school year 2010-2011) of the grant period. These interview data were coded and analyzed by WestED staff.

Bojorquez et al. (2012) found that SIG schools in the study made appreciable modifications to both governance structures and leadership by the end of the first year (p. 16). This included changing school schedules, creating department heads and professional learning communities among teachers, and principals exercising shared or distributed leadership “so that school staff played a larger role in key decisions regarding school policies or practices” (p. 16). Bojorquez et al. also found that SIG schools met most of the SIG staffing requirements but that some turnaround schools had difficulty hiring non-teaching positions that were created specifically for SIG. Principals in the study also expressed frustration with retaining teachers based on seniority instead of basing these decisions solely on performance and the short timelines under which they had to hire staff with the start of the school year (p. 17). Most of the districts and schools in the Bojorquez et al. evaluation were developing new staff performance evaluations systems, however, very few districts had made comprehensive changes to their principal and teacher evaluation procedures. All of the study schools and districts monitored SIG

implementation “to some degree,” however, the form and frequency of monitoring varied among districts (p. 18). Finally, study participants cited both successes and obstacles to program implementation during the first year. The most commonly cited successes were changes in school climate and student attitudes toward learning, increased collaboration among stakeholders, and tangible increases in student achievement measured by benchmark assessments or growth on standardized assessments (p. 39). Barriers to SIG program implementation cited by participants included district-level bureaucracy, negotiating with the unions that represent teachers and other staff, and the short time constraints due to late notification of grant awards.

Bojorquez et al.’s (2012) evaluation findings from SIG schools in Michigan may or may not fit the implementation experiences of the participants in this study of a rural SIG-recipient school in Virginia. Researchers did not disaggregate data from the evaluation according to school locale and the study was not designed for generalizability across all SIG recipient schools. Nevertheless, the Bojorquez et al. evaluation published by WestED provides useful insight about program implementation challenges and obstacles during the first year of the grant.

SIG in Washington. In their study of SIGs, Yatsko, Lake, Nelson, and Bowen (2012) looked at the early implementation of the program in select schools in Washington. The purpose of the study was to “learn what kinds of school-level changes are underway, how they compare to the intent of the grants, and the role districts play in SIG implementation” (pp. 1-2). Researchers visited nine of the 17 schools that received SIG awards under the first round of funding, which were purposely selected to represent

different school types (rural, suburban and urban), geographic regions of the state, and different school improvement strategies (p. 4). A total of 44 one hour interviews were conducted with state department of education officials, teacher's union executives, district-level officials, school principals and vice principals, and two to three teachers at each school. Schools names and study participants were not identified to protect anonymity.

Yatsko et al. (2012) found SIG schools in their study implemented a myriad of school improvement strategies rather than focused reform, demonstrated weak connections between adopted school improvement strategies and the use of SIG funds, and that changes in human resource policies to facilitate the remove of ineffective teachers were incremental (p. 6). Other findings from the district-level included challenges with the tight timelines of the grant, communication between the district and school recipients, and allowing school-level autonomy. Yatsko et al. wrote:

The clear message from the DOE is that School Improvement Grants are intended to help districts make bold decisions in order to completely reinvent their schools. Many forces, however—including politics, fear of controversy, lack of knowledge, and the constraints of collective bargaining—have prevented districts from choosing controversial interventions for schools. In nearly every case, the districts studied treated the SIG as they do other grant programs: as incremental additions to ongoing activities, rather than as a tool for completely reimagining what's possible for students. (p. 6)

Similar to the Bojorquez et al. (2012) study, the Yatsko et al. report does not represent all SIG-recipient schools nor do they disaggregate the data collection in the state by school locale (urban, suburban, rural). Yatsko et al. provide a relatively detailed account of their study participants and data collection, however, they provide very little information about the method of analysis. Due to this important limitation, findings from the Yatsko et al. report inform the conceptual framework of this study, however, with caution.

SIG in Idaho, Maryland, and Michigan. As presented in Chapter 1 of this document, Scott, McMurrer, McIntosh, and Dibner (2012) conducted case studies of SIG implementation in select schools across three states—Idaho, Maryland, and Michigan. According to Scott et al., these states were purposely selected to represent different geographic locations (Western, MidAtlantic, and MidWestern regions), different types of schools (rural, urban, and suburban), and different improvement models (transformation, turnaround, and restart). The general purpose of the study was to better understand SIG implementation in select schools in the first year. Data for this study were collected through interviews conducted between September 2011 and February 2012 with 14 state and district officials and 21 principals, teachers, and other school staff in the three states (p. 1).

Scott et al. (2012) highlight several key findings from the interview data, including more general perceptions about the SIG program and its implementation from state-level officials as well as concrete examples of program implementation efforts from district and school-level leaders charged with carrying out the program. For example, researchers reported, “state and local officials we interviewed in Maryland and Michigan

had more positive views about the appropriateness of the SIG requirements than did those in Idaho” (p. 2). This finding is relevant to this study because study participants in Idaho explained some of the key SIG provisions “...such as the criteria for identifying the lowest-performing schools and the requirements to replace principals and staff in schools using certain improvement models—are less workable in a sparsely populated, rural setting” (p. 2). Finding and retaining teachers and principals was a major challenge cited by interview participants in case study schools across all three states. Scott et al. found “rural schools in Idaho were especially hard pressed to attract staff, but this was also cited as a challenge by most ARRA SIG schools in Michigan and Maryland as well” (p. 3). Similar perceptions and implementation experiences may or may not hold true in the rural Virginia school setting selected for this study.

It is important to note that the Scott et al. (2012) study findings may not represent the experiences of the staff in all of the SIG funded schools in Idaho, Maryland, or Michigan. As reported by Hurlburt et al. (2011) there were six schools in Idaho, 11 schools in Maryland, and 28 schools in Michigan that received SIG awards during the first round of funding in school year 2010-2011. Scott et al. only spoke with district and school leaders in two to three SIG-funded schools in each state and staff in an additional one to two SIG eligible but not funded schools in each state. Further, most of these interviews took place during the fall and early winter months of 2011, which is approximately one school year and a few months into the three year SIG program implementation. Experiences and perceptions about the SIG program will possibly evolve as schools move forward with their implementation and school reform efforts.

SIG in Illinois, Louisiana, and Vermont. Lazarín (2012) provides an overview of how three states—Illinois, Louisiana, and Vermont—have approached the SIG competitive grant-making process (p. 3). As noted earlier in this chapter, Lazarín argued that access to the federal SIG funds is more competitive in some states than in others. These three states were purposely selected to highlight the “spectrum of competitiveness that has emerged” since the passage of ARRA in 2009 (p. 15). Lazarín found that state education agencies still have a “great degree of flexibility” in evaluating SIG applications, providing technical assistance to districts during the grant application process, and in their process for monitoring and renewing grants (p. 2). She found that these three states provided extensive technical assistance to grant applicants to strengthen the quality of the applications but that the number of grant applicants varied across the case study states. Lazarín found “a smaller proportion of SIG-eligible schools and their districts applied for federal dollars in both the first and second round in Illinois and Louisiana in comparison to Vermont’s turnout in the first round” (p. 3). She attributes this variance to districts’ perceived likelihood of winning a grant as well as the level of technical support provided to applicants by the state education agencies. Finally, Lazarín concludes the criteria that Illinois, Louisiana, and Vermont use to monitor recipient districts are clear, however, the details surrounding the grant renewal and termination process should be more transparent.

Lazarín’s (2012) report offers limited detail about the studies’ data collection methods and alarmingly less information about the data analysis methods used to assert these findings. Further, the study findings may or may not mimic the state-level SIG

application and monitoring process in Virginia. Nevertheless, Lazarín provides a useful overview of the context of the SIG program in Vermont, which similar to Virginia, funded a large number of Tier III schools. (Under the U.S. Department of Education guidance, Tier III schools are the least prioritized among SIG eligible schools and only 11 states—including Vermont and Virginia—awarded SIG funds to tier III schools for school year 2010-2011.) Tier III schools are not required to adopt one of the four school improvement models, however, some states attached other requirements to the SIG funds for these schools. For example, Virginia requires Tier III SIG grant recipients to hire a school improvement coach that coordinates and assists in school reform efforts.

According to Lazarín (2012), Vermont state officials chose to award SIG funds to all 66 school applicants, including 56 tier III schools because they “had a philosophical challenge in that we [state officials] didn’t want to be identifying schools as lowest achieving and then say we can’t support you” (pp. 22-23). This may or may not be similar to the state education agency award process and rationale in Virginia. According to the Hurlburt et al. (2011) database, Virginia awarded grants to 40 of its tier III schools in school year 2010-2011. A total of 66 schools in the state of Virginia were eligible for SIG funds during the first round of funding, however, information on the total number of applicants was unavailable.

SIG in Virginia. The federally supported Center on Innovation and Improvement published two brief reports (Corbett, 2010; Corbett 2011) with information about SIG implementation in Virginia. In Corbett (2010), the author explains the relationships

between the state, district, school, and “lead turnaround partners” working together to implement the SIG program. Corbett provides the following definitions of terms:

An Internal Lead Partner (ILP) is a staff member of the [district] who oversees and manages implementation at the local level. The ILP is also responsible for acting as the liaison between school leadership and an external Lead Turnaround Partner (LTP) that is hired to guide the improvement process. Together, the ILP, representative(s) from the external LTP, and school leadership form the local team in charge of making decisions and driving the implementation of the selected improvement model. (p. 2)

Any SIG recipient school that selected the transformation or turnaround school improvement model was required by Virginia to select an external LTP to help guide the work. This organizational structure outlined by Corbett provides important context for the study.

Corbett (2010) argues that SIG implementation in Virginia offers three main promising practices, which she categorizes under communication, hiring and staffing, and state oversight and assistance. Under communication, Corbett explains there were some misunderstandings about the requirements of the federal grant among school principals prior to the summer 2010 institute that convened state officials, districts staff, ILPs, LTPs, and school principals working under SIG. She attributes some of this confusion to the short timeframe for districts to submit SIG applications on behalf of its school(s). However, she writes that principals should be involved in the application and planning process in the future. Similar problems with these short time frames were also reported

by the USGAO (2011) and Scott et al. (2012) studies. On a more positive note, Corbett (2010) reports that Virginia state officials clearly defined and provided a detailed description of the SIG requirements for districts in the SIG reward letters, which she notes, helped define roles and responsibilities among key school improvement staff.

Under the hiring and staffing category, Corbett (2010) notes that the schools and districts that “had the ability to select their LTP field staff felt much more a part of the process and tended to experience fewer personality conflicts at the beginning of implementation” (p. 6). She projects the ILP position in more rural regions may shift into a regional collaborative or a shared position between districts. Finally, Corbett argues that Virginia Department of Education’s strong infrastructure is an important component to SIG implementation. She explains that the state’s Office of School Improvement used a variety of systems “to facilitate and streamline data collection, file sharing, and reporting mechanisms” including an online reporting portal called Indistar, as well as common assessment systems (iStation’s Indicators of Progress to assess reading and Algebra Readiness Diagnostic Test to measure proficiency in mathematics) to monitor schools’ progress (p. 7). The state hired five new facilitators that act as the liaisons between SIG districts and the state as well as monitor progress and help “problem solve with the district teams as issues arise” (Corbett 2010, p. 7).

Drawing from Corbett’s report, understanding the monitoring system and organizational structure and dynamics of all these positions and how they relate to the case study school selected for this study may be important components of the study. However, very little detail about the data sources for the paper is included in the Corbett

(2010) report. Additionally, it is important to note that the author's company, Corbett Education Consulting, is providing technical assistance to the Virginia Department of Education's Office of School Improvement.

In 2011 the Center on Innovation and Improvement published a second report by Corbett focused on the use of Lead Turnaround Partners (LTP) under the SIG program. This study draws from reviews of SIG policy and process documents, surveys, and interviews with eight state education agencies (Colorado, Hawaii, Illinois, Indiana, Massachusetts, New York, Tennessee, and Virginia) and seven LTP organizations—Academy for Urban School Leadership, American's Choice, Cambridge Education, EdisonLearning, Learning Point Associates/AIR, Pearson School Achievement Services, and WestED (Corbett 2011). Corbett focused on the implementation of the transformation and turnaround models under the SIG program during the 2010-2011 school year. Similar to her 2010 report, Corbett says a LTP “refers to education organizations working with schools and districts to turn around a persistently low—achieving school” and that these types of partnerships are “often funded with federal SIG dollars and implement either the federally defined turnaround or transformation models” (p. 4). Overall, the report offers a descriptive analysis of LTPs under SIG and highlights promising practices of these organizations.

Select findings from the Corbett (2011) study may be relevant for further research about SIG implementation in a rural Virginia school. For example, in the 2010-2011 school year Virginia SEAs permitted districts to choose from a list of state approved LTPs. The next school year, the state still allowed districts to choose LTPs, however,

SEA officials provided more flexibility and input about which LTPs might work best drawing from the experiences of the first year of implementation, including local needs, local capacity limitations, and strengths of various partners. Corbett notes “comments from district staff imply that districts appreciate the state guidance, as district staff members often lack the time or skills to evaluate the various partners, many of whom are contacting the district with sales pitches” (p. 19).

Next, Corbett points out that SEAs historically focused on compliance, “so supporting implementation in the field [as is required under the revised SIG program] created a number of growing pains and required adjustments to both staffing and practices” (p. 26). Corbett asserts that the Virginia SEA has grown more involved in these efforts and sponsors trainings, webinars, conference calls, site visit, and technical assistance sessions for SIG recipients. Corbett found “LTPs report that attending training sessions with the district and school staff is helpful and ensures that everyone is on the same page” (p. 28). Again, this positive perception may or may not hold true for study participants that were interviewed for the study of a rural SIG school in Virginia.

Corbett provides a relatively detailed explanation of the participants and data collection procedures for this 2011 study. Still, as noted by Corbett, the findings outlined in the report do not represent all of the states that are working with LTPs nor does it capture the experiences of every SIG recipient school in Virginia. Nevertheless, findings from this report, particularly the shift in role of the SEA as more support-focused than simply compliance-focused agency, inform my thinking about the SIG program for the study.

Conceptual Framework: Theories on Education Policy Implementation

Theories about the SIG program implementation are more broadly based on Datnow and Park's (2009) explanation of sense-making and co-construction to examine education policy implementation. Datnow and Park outline various theories for examining the policy implementation process and "argue that the sense-making and co-construction perspectives are particularly useful for examining the dynamics involved in the implementation of current educational policies in the United States" (p. 348). The Datnow and Park argument provides a useful conceptual framework for this study. More specifically, Datnow and Park emphasize the importance of context in policy formation and implementation. This emphasis parallels my preliminary understanding of the federal SIG program and its implementation in rural schools outlined in the first chapter on the real world problem that will be addressed in this study. Datnow and Park explain "[t]he sense-making and co-construction perspectives build upon on the importance of context in the mutual adaptation view by elaborating on the interconnections between actors and explaining just exactly how context has shaped policy implementation" (p. 350).

Additionally, Datnow and Park (2009) explain the co-construction theory includes many of the same assumptions as the sense-making perspective (people socially construct their worlds as they interact with others and their environment) but co-construction also takes into consideration political and cultural differences as well as the role of power. They write:

...unlike policy makers whose main role is to help design policy, implementers (whether they are situated at the state, district, or school levels) are simultaneously the object of reform and the agents of changes. Consequently, implementers tend to carry the bulk of the weight in adjusting or conforming to policy mandates, and although this gives them power in shaping outcomes, it does not always equate to power in setting policy. (p. 351)

These considerations are useful to frame an exploration of the implementation of the SIG program in rural schools. Federal policy makers have issued strict guidance about the award eligibility criteria and use of the SIG program funding, however, state, district, and school-level officials are charged with making these reform models and prescribed guidance work in their individual rural contexts and schools. A graphic representation of my interpretation of the Datnow and Park (2009) framework is presented in Figure 1.

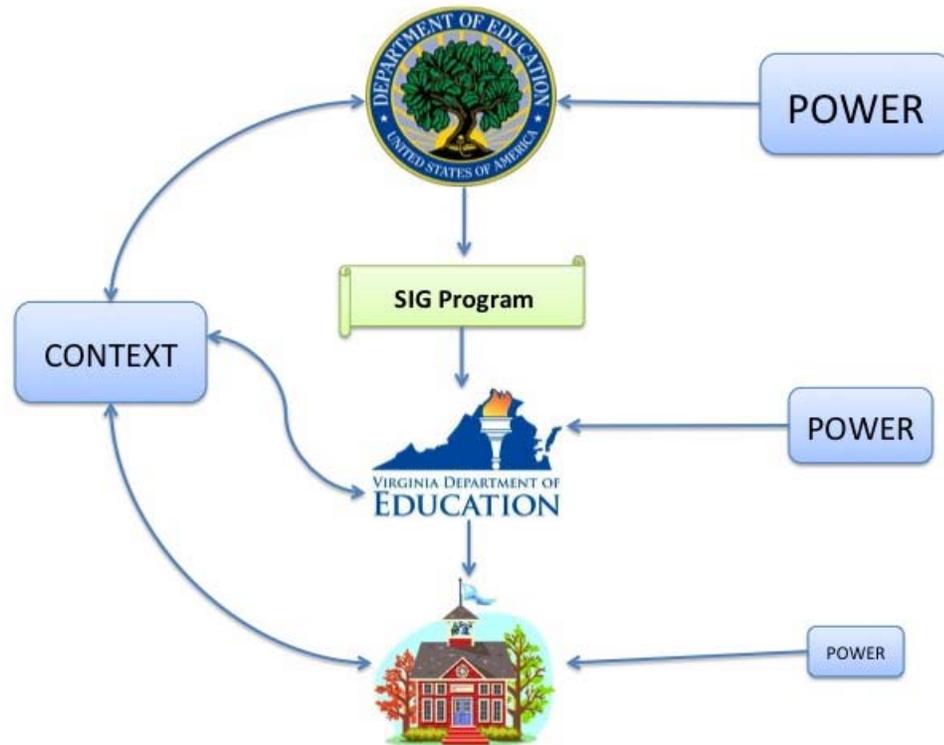


Figure 1. Concept map of sense-making and co-construction: School Improvement Grant program in a rural school

This concept map of part of my conceptual framework, informed by Datnow and Park (2009), can be applied to the findings outlined in many of the studies highlighted in this chapter. For example, in the Idaho, Maryland, and Michigan case study, Scott et al. (2012) explain that the U.S. Department of Education issued program guidance about the SIG eligibility criteria and strict guidelines about the school improvement models that must be adopted in SIG-recipient schools. As argued by Carpenter (2011), federal-level policymakers responded to general concerns about persistently low-achieving schools (context) and wielded their power to encourage “dramatic change” and to “institute far-

reaching changes to improve student learning” (Duncan 2012, para 13). State-level officials in Maryland reported the federally prescribed models for school improvement are “adequate, and for most of these schools, quite appropriate” (Scott et al., 2012, p. 11). However, officials went on to explain how they have adapted their state-level monitoring and assistance in persistently low-achieving schools to focus on services, such as school-level social workers and behavioral specialists, that go beyond students academic needs. Finally, a school principal interviewed for this study illustrated how her school implemented the federal requirement to increase learning time for students by way of after school programs focused on enrichment programs like “cooking with math.” However, her power to continue this type of program beyond the three-year grant period was entirely dependent upon the school improvement decisions made at the state and federal levels above her school building (Scott et al, 2012). It is important to consider this multi-layered framework in the study.

Summary and Scholarly Significance

As outlined in Chapter 1, the federal School Improvement Grant program calls for dramatic reform and improvement in the nation’s lowest achieving schools. The American Recovery and Reinvestment Act of 2009 provided an unprecedented amount of money for these efforts. The U.S. Secretary of Education, Arne Duncan, announced preliminary success of the SIG program on student achievement after the first year of implementation in March of 2012 and the U.S. Department of Education released some preliminary data related to these improvements in November of 2012. As outlined in this chapter, other research about more general school turnaround and reform efforts as well

as those specifically focused on the SIG program suggest more mixed results. More specifically, some research and stories in the news media suggests some aspects of the SIG program requirements may not be working in rural schools. For example, the teacher and principal replacement requirements under the transformation and turnaround models are challenging for rural schools that already struggle to recruit and retain school staff in these remote areas. According to a state official in Idaho, rural schools in this state have similar difficulties attracting charter and other education management organizations to remote districts, which are required under the restart model (Scott et al, 2012). The school closure model is not a viable option for some rural schools that lack other schools nearby where students could be sent. Further, published research focused on SIG in this rural context is scant. This study about SIG program implementation in rural Virginia schools helps to inform this void in the research literature.

In Chapter 3 I explain how I studied the three research questions presented in Chapter 1. More specifically, I outline my research design, study setting, participants, and data collection and analysis methods drawing in part from the literature examined in this chapter. The conceptual framework piece on sense-making and co-construction offers an important structure in the research design and for data analysis.

CHAPTER THREE: METHOD

The purpose of the study is to investigate and provide an in-depth analysis of the federal School Improvement Grant program in a rural context using the following research questions:

1. How has student achievement, as measured by the Virginia Standards of Learning assessments used for NCLB federal accountability reporting, changed (if at all) in rural, SIG-funded schools across the state since receipt of these grants in school year 2010-2011?
2. How is a selected rural Virginia school implementing the requirements of the SIG program?
3. What are the perceptions of school and district officials in a selected school district about the effectiveness of the policies required under the SIG program?

This chapter outlines the research design, study participants and setting, data sources and collection, and data analysis processes of the study.

Research Design

This study used a mixed methods research design, which is defined by Creswell as “a procedure for collecting, analyzing, and ‘mixing’ both quantitative and qualitative research and methods in a single study to understand a research problem” (2008, p. 552). More specifically, Desimone’s (2009) work on complementary methods for policy

research, Greene's (2007) text on mixed methods in social inquiry, and Maxwell and Loomis' (2003) research design map informed the research design for studying the SIG program in select rural schools. To begin, Desimone generally argues that multiple methodologies, either quantitative or qualitative in nature, "might be combined to improve our ability to answer important education policy questions" (p. 164). To help construct this argument she cites Greene, Caracelli, and Graham's five purposes for mixed methods studies, including: (a) triangulation, (b) complementarity, (c) development, (d) initiation, and (e) expansion (Greene et al., 1989, p. 255). Desimone also notes that each of these strategies or purposes can be used in combination or at various points during a study.

The research design of this study uses existing quantitative test results, collected by states for NCLB accountability purposes, to study the impact of the SIG program on student achievement in Virginia rural schools *alongside* qualitative data, gathered through interviews and policy documents, to study SIG program implementation and school officials' perceptions about the program in a select rural school. This model falls in line with Desimone's (2009) perspective that "...important policy questions need to be studied from multiple perspectives using multiple paradigms" (p. 165). The testing data and interview findings can be used to provide different levels of insight into the same phenomena, which Desimone categorizes as "complementarity." Under this framework, "results from one method are intended to enhance, enrich, elaborate, illustrate, or clarify results from the other" (p. 166).

For example, test score data from the SIG-awarded rural school in Virginia selected for the case study showed very low pass rates in mathematics for school years 2007-2008 and 2008-2009 but jumped 35 percentage points for students in school year 2009-2010. There are multiple possible reasons for a large increase or decrease in test scores. For example, there may be a statistical explanation called regression effect, which Smith and Smith (2005) explain “causes extremely high or low pretest scores to tend to move toward the mean on the posttest regardless of treatment” (p. 378). Or, these test scores may actually be “corrupt indicators” because of the high-stakes attached to them (Nichols & Berliner, 2005, p. i). As argued by Nichols and Berliner, the pressures associated with high-stakes testing may have resulted in administrator and/or teacher cheating, students cheating, inappropriate teaching to the test, or other corrupting behavior which would impact the validity of these test score increases. More detail about these possible explanations is outlined in the validity section of this chapter.

However, from talking with district and school level officials, I learned that they believed this change was because the primary math teacher for one grade resigned in April 2009, just weeks before the 2008-2009 spring tests. The new permanent teacher hired in April 2009, who eventually helped to bring the scores up in 2009-2010, only had a few weeks with the students before the spring assessments in the 2008-2009 school year. The school principal felt these disruptions and instability negatively impacted her students’ and resulted in low scores on the state math assessment. Conversely, after a full school year with the new math teacher, the school showed double-digit increases on the math assessment in 2009-2010. This more detailed understanding about the school and

the students' test scores is gleaned from both pieces rather than from either piece on its own. Figure 2 depicts a more general graphical representation of this concept.

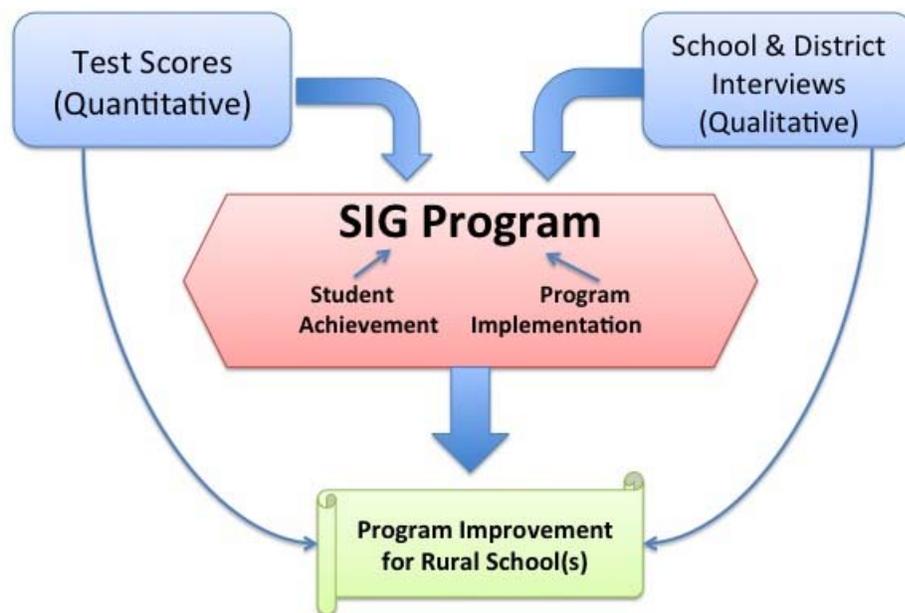


Figure 2. Concept map of complementarity mixed methods

In applying Desimone's (2009) complementarity mixed method model, student test scores provide a quantitative measure and the interview findings from a particular rural school provide qualitative detail about SIG program implementation. Represented by the blue squares in Figure 2, both measures are used to understand the implementation efforts and school officials' perceptions of the SIG program in a rural school, shown in

the middle red hexagon and connected to the blue squares with large blue arrows and ultimately to program improvement for rural school(s). More specifically, Desimone explains that results from mixed methods studies could potentially increase the use of the research findings:

...another purpose of using complementary methods is that it might increase the use of the results in policymaking....the more different types of data and multi-dimensional answers to policy questions we can provide using multiple methods, the more chance we have that education policy research will have an influence on policy decisions. (p. 168)

I use both measures to understand how (if at all) the program might be improved for this context. This connection is also represented graphically with thin arrows at the bottom of Figure 2.

I combined quantitative and qualitative research methods because, as explained by Greene (2007), “a mix of methods will generate a better understanding [of the SIG program] than will a single method alone” (p. 98). A more specific overview of this research design is presented in Figure 3. This design map, adapted from the model published by Maxwell and Loomis (2003), visually displays and highlights the nonlinear, interconnected relationships between each piece of the study, including the goals, research questions, conceptual framework, methods, and validity. The research questions, study goals, and conceptual framework pieces that help guide the inquiry were outlined in chapters 1 and 2. This third chapter focuses on the methods square in the

bottom left corner of the design map as well as the potential validity threats presented in the right corner of the map.

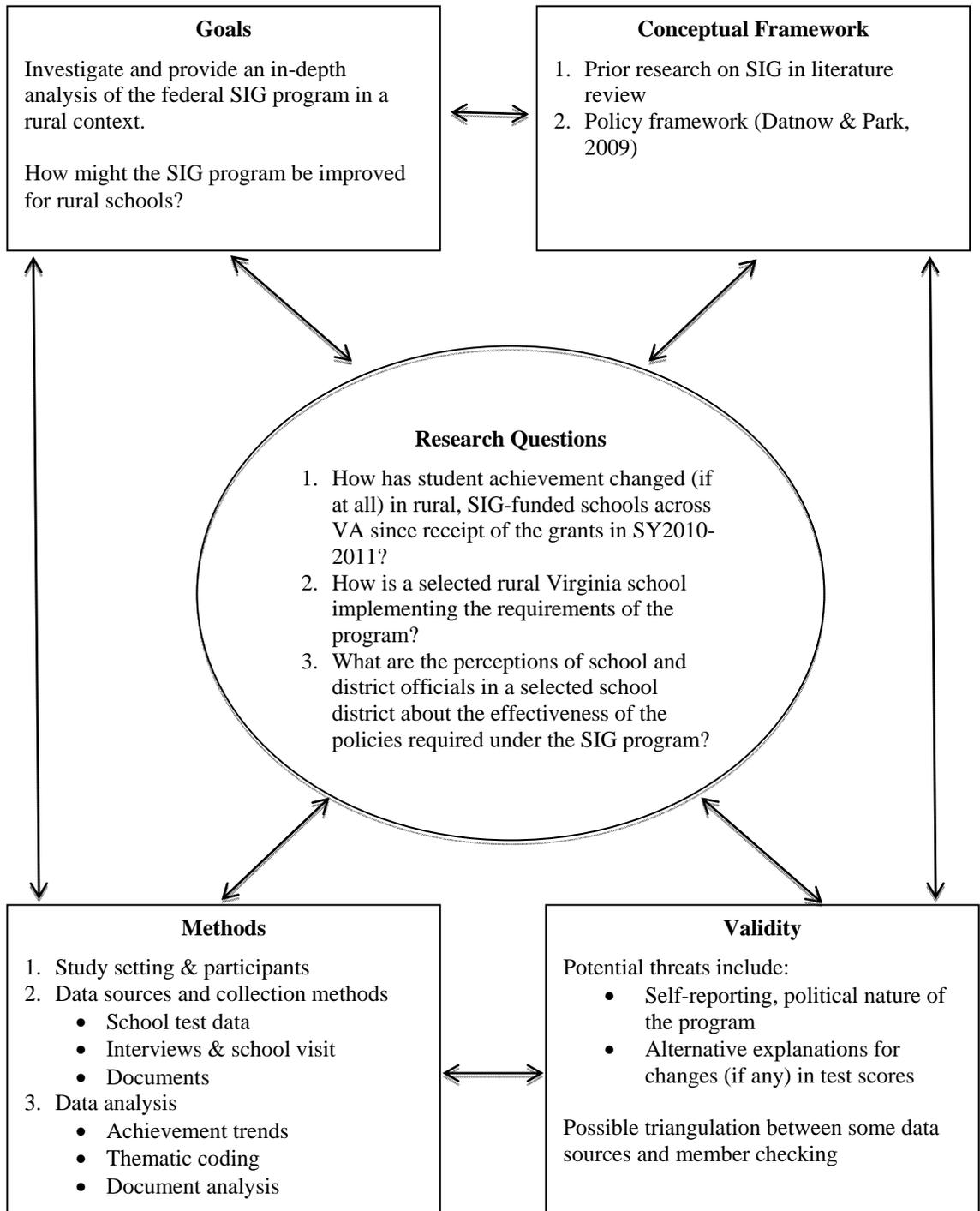


Figure 3. Research design map. Adapted from “Mixed methods design: An alternative approach,” by J. Maxwell and D. Loomis, 2003, *Handbook of mixed methods in the social and behavioral sciences*, p. 6. Copyright 2008 by Sage Publications.

Further, to help determine the specific methodological approaches for my study, I used Maxwell's (2005) research question and methods matrix to consider the logical connections between the research questions and sample selection, data collection, and data analysis as well as potential validity threats and ideas on addressing these threats and my initial plans for data integration (pp. 102-103). This matrix is included in Appendix C. More detail about the study setting and participants, data sources and collection, data analysis and potential validity threats, as well as study expectations is outlined in the next sections of this chapter.

Study Setting and Participants

Rural SIG schools in Virginia. Drawing from the Hurlburt et al. (2011) data, there were 281 rural schools across the U.S. that were awarded federal school improvement grants (SIG) beginning in school year 2010-2011. As shown in Table 3 in Chapter 1 of this document, the three states with the largest numbers of rural, SIG-recipient schools are Kentucky, Vermont, and Virginia. Based on the relatively large number of rural SIG-receiving schools, Virginia was the state selected for this study. Virginia awarded 58 schools with three years of SIG funding beginning in the fall of the 2010-2011 school year (Virginia Department of Education, 2011b; K.M. Smith, personal communication, April 23, 2012). Eligibility for these SIG awards in Virginia were made based on test scores from the 2007-2008 and 2008-2009 school years. Of these 58 schools, 25 are categorized as rural by the National Center for Education Statistics' Common Core of Data.

Originally, I anticipated that all 25 of these rural Virginia schools would be included in the quantitative analysis portion of the study. During data collection, however, I discovered test scores were missing from two of these 25 total schools. After further investigation, including conversations with an employee at the Virginia Department of Education, I determined these two schools housed unique grade configurations—kindergarten through second grade—so do not participate in the state testing (National Center on Education Statistics, 2012; J. Ellis, personal communication, January 14, 2013). So, the remaining 23 rural schools were included in the quantitative analysis portion of the study.

Federal guidance requires states to identify SIG-eligible schools based on student performance on state assessments. The state tests used in Virginia are called the Standards of Learning Examinations or SOLs. More specifically, states must consider the percentage of students scoring proficient in mathematics and reading/English language arts and then rank eligible schools into three tiers. (More details about the three tiers and ranking process are outlined in Table 1 in Chapter 1). The specific group of students used to determine SIG eligibility is the “all students” category in all of the tested grade levels (3-8 and various grades in Virginia high schools) in a particular school. According to the Virginia Department of Education (2011c), the SOLs “establish minimum expectations for what students should know and be able to do at the end of each grade or course” in various subject areas (para 1). These annual assessments are the vehicle used in public schools across Virginia for the reporting and accountability requirements under NCLB.

The individual school selected for the case study portion of this study should be categorized by the state as either a tier I or tier II school because tier III schools are not required to adopt one of the four federal school improvement models. As outlined in chapters 1 and 2, these are the required models under which preliminary research and media coverage suggests may not be working well in rural contexts. Thus, I deliberately examined a school that was required to choose and implement one of the four designated improvement models. Further, according to the U.S. Department of Education (2011) guidance, tier I and tier II schools are considered the persistently lowest-achieving schools and should receive top priority for funding. Drawing from the SIG data posted on the Virginia Department of Education website, as well as personal communication with a Virginia Department of Education official, 22 of the total 58 SIG-recipient schools were categorized as either a tier I or tier II school (Virginia Department of Education, 2011b; K.M. Smith, personal communication, April 23, 2012). Only five of these schools are categorized as rural (Hurlburt et al., 2011; Virginia Department of Education, 2011b).

Three of these five rural schools chose the transformation school improvement model and the remaining two rural schools chose the restart model. Again, I purposefully selected one of the three rural schools that chose the transformation school improvement model to achieve a “typicality of the setting...and activities selected” (Maxwell 2005, p. 89). According to the Hurlburt et al. (2011) study, the transformation model was adopted by 96 percent of rural SIG-awarded schools across the United States (p. 31), so I focused my study on one of the three rural schools that selected this model.

Finally, Maxwell (2005) explains “[s]election decisions should also take into account the feasibility of access and data collection, your research relationships with study participants, validity concerns, and ethics” (p. 90). Among these three schools, I approached the SIG-recipient school located in a specific region of Virginia. I spent my adolescent years living in and attending schools in this area of the state, so am very familiar and comfortable with the local context and culture of the public schools. This familiarity was important and helpful to establish relationships and develop rapport with case study interview participants. Ultimately, the goal of this research is to learn more about the implementation of the federal SIG program in a rural context and the school and district officials’ perceptions of the requirements for tier I and II SIG-recipients under the program. This type of purposeful selection of the case study school best fits these goals of the study.

The case study school selected is similar in size (number of enrolled students), ethnic/racial demographics, and percentage of students who are economically disadvantaged to one of these other two schools. The second of these schools is larger and more ethnically diverse than the case study school. More details about the selected case study school—including a brief history of the town, school, and surrounding community—are included in chapter 4 of this document.

After securing study approval from the Office of Research Integrity and Assurance at George Mason University, I mailed a letter about the study to the school district superintendent that oversees the select case study school. Shortly thereafter, I spoke with the school superintendent over the telephone and he shared he was interested

in participating in the research. The superintendent explained, however, that he was new to the school district and had recently moved from out of state to Virginia, so he would not be the most helpful person to learn from about the program. The new superintendent recommended that I speak with another long-time employee at the central office who was and still is directly involved with the SIG program.

I spoke with this central office employee in October of 2012 and we coordinated a time for me to travel to this area of Virginia in November to conduct interviews and learn more about the SIG program implementation at the case study school. I planned—and ultimately did—interview additional staff who were recommended by the district superintendent, a purposeful sampling technique called snowball, chain, or network sampling (Creswell 2008, p. 217; Glesne 2006, p. 35). This was not the primary sampling technique for this study, however, it did lead me to helpful study participants that I did not anticipate prior to data collection.

District and School Administrators. For the case study portion of the research I conducted interviews with two district officials and the school principal at the select rural SIG-recipient school. My rationale for interviewing both school- and district-level staff relates directly to the structure of the SIG awards and its implementation. According to the federal guidelines, individual schools receive SIG funds, however, districts apply for these SIG funds on behalf of their school(s). District and school-level administrators are generally responsible for coordinating and leading the SIG program initiatives.

Quantitative Data

The first research question focuses on student test scores used for NCLB accountability purposes. According to the U.S. Department of Education (2011), the purpose of the SIG program is to “improve student achievement” in low-performing schools (para 1). Despite criticism about measuring school performance and improvement with school-level proficiency scores (Center on Education Policy, 2011; Hansen, 2012; McNeil, Coppola, Radigan, & Vasquez Heilig, 2008; Meyers et al., 2012; Nichols & Berliner, 2005) the U.S. Department of Education measures student achievement by way of student proficiency on tests in reading and math that are developed and used by states for federal NCLB accountability reporting. Ultimately, this is a major component of how school performance and improvement will be measured under the SIG program. Therefore, I examined whether the 23 rural SIG-recipient schools in Virginia are meeting the program purpose defined by U.S. Department of Education by analyzing these available school-level test scores for the all students category in reading and math in each of the tested grade levels used for NCLB accountability reporting. As recommended by Meyers et al. (2012), I also analyzed the mean scale scores reported by the Virginia Department of Education for these rural schools.

More specifically, the VDOE used test scores from the 2007-2008 and 2008-2009 school years to determine which schools in the state were eligible for SIG funds (Virginia Department of Education, 2010b). Drawing from case study interview data, schools were notified by the VDOE about eligibility for the SIG funds in the spring of 2010. Then districts submitted applications to VDOE on behalf of their eligible school(s) for the

funds in June of 2010 and began planning for program implementation efforts that same summer. Under this first round of grants, SIG-awarded schools received funds to begin implementation of the three-year program in the fall of the 2010-2011 school year.

Displayed in the tables in Chapter 4, I collected proficiency data and mean scale score data for the 23 rural schools that received SIG funds across the state of Virginia for the 2007-2008, 2008-2009, 2009-2010, 2010-2011, and 2011-2012 school years for the all students category in reading and mathematics. I examined these scores back to school year 2007-2008 because this was the start year that the VDOE used for grant eligibility and to provide some additional context about the schools' test scores prior to receiving the SIG funds in the fall of 2010. Proficiency and scale scores for the 2012-2013 school year, which is the third and final year of SIG funds for the first cohort of schools, were not included because they were not yet available at the time of the data collection for this study. These school-level proficiency and scale scores are publically available and posted on the Virginia Department of Education website as part of the Virginia Longitudinal Data System.

Analysis. I determined the change and movement in test score trend lines by calculating the average annual changes in test results for the 23 rural SIG-recipient schools in Virginia in reading and mathematics for the all students category across the grades tested. First, I calculated these changes starting with test scores from the 2007-2008 school, which was the first year of data used by the VDOE to determine SIG program eligibility. Then I analyzed the test score trends since receipt of the SIG funds in the fall of 2010. I also calculated the overall mean scores for each year across these 23

schools. These data are publicly available on the Virginia Department of Education website and were extracted and uploaded into a Microsoft excel spreadsheet for more efficient calculation and analysis. Basic average annual changes were calculated by taking the overall increase or decrease in percentage of all students scoring proficient at the tested grade levels in the school and dividing it by the number of years of testing minus one (because I am looking at the difference between two years). This follows the test score trend analysis methods used by researchers at the Center on Education Policy in their studies on student achievement (Chudowsky & Chudowsky, 2010; Chudowsky, Chudowsky, & Kober, 2007; Kober, Chudowsky, & Chudowsky, 2009; Kober, McMurrer, & Silva, 2011; McMurrer & Kober, 2011).

Then I listed the schools in descending order based on the schools' overall mean change in scores, with the school that made the largest gains over the longer timeframe beginning in 2007-2008 at the top of the list and the school with the smallest gains (or the largest declines) at the bottom of the list. I began the analysis with the 2007-2008 test scores because this was the start year used by the VDOE to determine SIG funds eligibility. This timeframe provided a general picture of test scores in rural Virginia SIG schools prior to and since grant receipt in the fall of 2010. The rank order was also helpful to evaluate and provide context about the case study school's test scores performance relative to the other rural SIG-funded schools across Virginia.

I also calculated the average annual changes in test scores and overall mean change in scores across the 23 rural Virginia schools since receipt of the grant funds in the fall of the 2010-2011 school year. This provided an early picture as to whether there

were gains, declines, or no change in test scores in rural SIG schools as well as the overall magnitude of these changes since receipt of the SIG funds. The purpose of this test score analysis, presented in Chapter 4, was to determine how test scores changed in rural SIG-recipient schools across the state of Virginia during this time period. Is there an overall pattern in the test score trends or is performance on these assessments mixed across schools? And how do the case study school's test scores compare to the other rural, SIG schools across Virginia? How do test score patterns, since receipt of the SIG funds in the fall of 2010, compare with the performance trends in the few years preceding the grant that were used by the VDOE for program eligibility?

Validity. There may be alternative explanations to my conclusions about why changes in student test score trends occurred and its direct relation to the SIG program. More specifically, it is difficult to isolate SIG program impact on student achievement from other school improvement initiatives that may be in place based on the test score analyses. So, I used interview data from the individual school-level case study to explore other possible explanations of gains, declines, no net change, or mixed results in student test scores at the select case study school. Moreover, it is still early to evaluate effects of the SIG program drawing from only a few years of student test scores. Some scholars (Kane & Staiger, 2002; Linn & Haug, 2002) have raised concerns about year-to-year changes in test scores and issues related to test score volatility, particularly in small schools. For example, Linn and Haug assert there may be many other factors that contribute to year-to-year changes and test score variability, including “measurement error, differences in the student body from year to year, and nonpersistent factors, such as

changes in the teaching staff” (pp. 33-34). This consideration is especially important for the analysis of the rural school test data in mathematics, because there is only one year of comparable test scores available since receipt of the SIG funds in 2010.

Further, as noted earlier in this Chapter, there may be another statistical explanation relevant to how mean test score trends changed in these rural SIG-recipient schools over the years. According to Smith and Smith (2005), a “statistical regression effect causes extremely high or low pretest scores to tend to move toward the mean on the posttest regardless of treatment” (p. 378). SIG-recipient schools in Virginia received the program funds based on their very low test scores in the two years preceding the grant. Smith and Smith note that this type of regression to the mean is “a pervasive but subtle statistical principle that is often misunderstood or insufficiently appreciated” (2005, p. 379). Thus, I also consider regression to the mean in the test score analysis section presented in Chapter 4 and the implications in Chapter 5 of this study.

Finally, Nichols and Berliner (2005) argue that heavy reliance on high-stakes test, such as the SOL examinations which were used to identify SIG-eligible schools in Virginia, lead to “serious negative repercussions” (p. i). More specifically, from October of 2003 to October of 2004, Nichols and Berliner collected news stories and traditional research studies related to high-stakes testing and student achievement. They analyzed their collection and write that the data fell into 10 categories, which “...reveal a striking picture of the corrupting effects of high-stakes testing” (p. ii). These corrupting effects include:

1. Administrator and teacher cheating

2. Student cheating
3. Exclusion of low-performance students from testing
4. Misrepresentation of student dropouts
5. Teaching to the test
6. Narrowing the curriculum
7. Conflicting accountability ratings
8. Questions about the meaning of proficiency
9. Declining teacher morale
10. Score reporting errors (pp. ii-iii)

Ultimately, Nichols and Berliner conclude that scores from high-stakes test cannot be trusted because they are corrupted and distorted (p. 170). They recommend, “building a new indicator system that is not subject to the distortions of high-stakes testing” (p. iv). Similar concerns about using high-stakes test scores to make policy decisions have been published by other scholars (for example, Hamilton, 2003; Koretz, 2003; Koretz, 2008; Linn, 2000; Popham, 2008a; Popham, 2008b; Rothstein, Jacobson, & Wilder, 2008). Thus, the possibility of test score distortion is also considered in chapters 4 and 5.

Qualitative Data

The second and third research questions in this study are qualitative and were intended to investigate how the SIG program is implemented in one rural school in Virginia. In the research design, displayed in Figure 3, I refer to this piece as the school-level case study. The underlying idea about the SIG program in rural contexts is that the school improvement models prescribed by the 2010 guidance from the U.S. Department

of Education are challenging for rural schools to implement. This idea is drawn from the research literature outlined in Chapter 2, including my own prior survey research and experience (Hurlburt et al., 2011; McMurrer, 2012; McMurrer, et al., 2011; McMurrer & McIntosh, 2012; Scott et al., 2012; USGAO, 2011; USGAO, 2012).

The goal of the school-level case study was to find out more about program implementation in a particular rural school, including school officials' perceptions of the program, and to try to parse out what aspects of the SIG program could be improved (if any) to meet the needs of this rural context. Data sources for these questions include basic background information about the town drawn from the U.S. Census Bureau, the town historical society, and published media reports for the one rural school in Virginia; the school's submitted application for SIG funding; interviews (semi-structured and open-ended questions) with school- and district-level officials charged with implementing the SIG program; and observation notes from a school visit. The sample guide used for the district- and school-level interviews is included in appendices A and B. The questions in this guide were adapted from an unpublished interview protocol used in the Scott et al. (2012) study of SIG program implementation in Idaho, Maryland, and Michigan.

To better meet the scheduling needs of the three officials at the select rural case study school, the interviews were conducted all together as a group interview in a meeting room at the district offices. This interview lasted a little more than two hours and was recorded using a digital audio recording device. Some follow-up, one-on-one, via the telephone and/or e-mail was necessary to clarify some of the dates discussed after

this initial in-person group interview with two of the three participants. The initial in-person interview and time required for follow-up maintains respect for these school leaders' limited time.

After my initial interviews at the district office ended, the school principal continued working at the district offices due to another meeting that was scheduled for later that afternoon. So, I traveled approximately 30 minutes from the district office to visit the case study school without the school principal. The school visit was led by the school resource officer, so additional data were collected about the school and community by way of this unplanned conversation and interaction with this school employee and long-time town resident. Therefore, several pages of observation notes from this school visit and conversation with the school resource officer were also included in my analysis.

I also collected any supporting policy documentation or materials that I thought may be relevant to my queries both on site and in advance of the interviews. For example, the grant application submitted to the Virginia Department of Education by the school district on behalf of the case study school provided helpful context and information about planned program implementation. These types of documents also offered useful information about specific strategies and supplemental programs—for example after school tutoring programs or professional development for teachers—that have been adopted in the case study school to meet the federal requirements of the program.

Analysis. I began the data analysis process with some basic organizational tasks. The semi-structured, open-ended interviews with two district-level and one school-level official were recorded and transcribed using pseudonyms to protect all participants involved. I uploaded the audio file of the interviews and saved them as “.wav” files. I also started a binder and inserted paper copies of my interview questions that included my handwritten notes from the interview session as well as my general notes from the interviews, school visit observation notes, and general background information about the school and the surrounding community I collected before the scheduled interviews and visit.

Once I felt adequately organized, I listened to the recorded interviews several times as I reviewed and analyzed the transcripts, alongside my notes taken before, during, and after the interviews. I wrote notes in the margins of my interview transcripts. As I listened to the audio file, I asked myself “what stood out from this person’s response to this question?” I added these notes to my growing binder. I also wrote short memos, an essential procedure for qualitative analysis according to Miles and Huberman (1994), throughout the data collection and analysis process. This way, some level of analysis began just as soon as the study was underway.

A few days later I re-read the printed transcripts. As I read, I wrote down key words in the margins as preliminary ideas for organization as well as substantive coding (Maxwell, 2005). I drew boxes around the specific words and phrases that I thought were important. I used this “boxing” and “notes in the margin” process as an attempt to use a more emic than etic coding strategy, where one maintains the terminology used by the

study participants during the interview. After I finished reading and marking up the interview transcript I scanned the terms that I had written in the margins and typed them into a word document that I titled “coding and visuals.” I repeated this same boxing and notes in the margin process with the school’s SIG application document and my own school observation notes and memos.

Next, I took a close look at the terms I had listed in my “coding and visuals” document. What did the terms mean? Could they be the basis for my initial, more organizational coding scheme? I copied my research questions and pasted them at the top of the page to provide some guidance and maintain focus. I began to see some commonalities between the listed terms, both within and between the various data sources. I started drafting more of my own notes, in green font, in bulleted lists. I copied, pasted, and grouped these initial coding schemes beneath each data source heading until they made better sense to me. Then I went back to my binder of notes that I assembled in the beginning and asked myself, have I left anything important out of this initial coding structure? At this point, the initial organizational coding scheme that I developed included six broad categories:

- History/context/foundation/community/pride
- Money/opportunity/budget/economic realities
- Continual optimism/positive aspects of SIG program
- Misfit of some aspects of SIG program/make it work mentality
- Continued growth/upward trajectory/sustainability

- Miscellaneous (anything that did not seem to fit under the first five organizational categories)

Later, I decided a concept map would be helpful to start making connections, so I drew a preliminary draft of this visual by hand. I was able to draw some arrows but thought the direction of these arrows would develop later in the analysis process. Based on this rough concept map, the organizational categories formed a comfortable fit before my research questions. More specifically, the SIG funding offered an opportunity for the case study school, considering the local economic and school context, to continue moving toward improvement. This opportunity and SIG program implementation resulted in both positive and challenging experiences. These experiences—coupled with the local context—resulted in an overall upward trajectory of continued improvement.

Next, I began coding all of the data sources (background information, the SIG application, interview transcripts, and school observation notes and memos) within the broad organizational categories in the bulleted list as a loose framework. I assigned each category a color, which resulting in overlapping colors during the coding process. Then, I looked more closely at the passages coded by each organizational color category. I highlighted words and passages that I saw as substantive categories (Maxwell 2005, p. 98). I developed a matrix with the organizational categories listed across the x-axis and the data sources listed along the y-axis. I listed the words and passages that I had highlighted from the various data sources as substantive categories in this matrix. Some of the same passages were chunked beneath multiple categories.

My initial organizational coding, continual revisions on my concept map, and subsequent matrix analysis using the substantive coding scheme offered a helpful bridge to make connections and draw findings about all the qualitative data sources. After completion of these exercises and continued consultation with outside reviewers (my dissertation committee) of this study, I circled back to the test score analysis. The case study findings are presented in chapter 4 under headings developed from the organizational coding scheme and integrated within the test score analysis sections.

Validity. Similar to the validity threats presented for the quantitative analysis, there are possible alternative explanations for the qualitative pieces in my study. For example, interview participants may have been reluctant to talk about implementation challenges or recommendations for SIG program improvement. Substantial funding has been allotted for this federal program and there are also political pressures associated with school improvement. So, I considered the possibility of “reactivity,” (Maxwell, 2005, pp. 108-109), wherein study participants respond to questions with answers they perceive as politically correct. Thus, careful attention was paid to develop and build relationships with study participants and I emphasized the confidentiality of their responses. Further, the collection of relevant documentation related to program implementation provided some additional evidence and triangulation.

Summary and Expectations

Initially, the state- and school-level test score trends collected at the beginning of the study provided context for my subsequent school-level case study interviews, school visit observation notes, and document analysis. According to Creswell (2008), this is a

process theory and “explains an educational process of events, activities, actions, and interactions that occur over time” (p. 432). Thus, I expected the school-level qualitative data collection would provide additional insight and explanation of the overarching test score trends across rural schools in the quantitative analysis. After conducting the interviews and school visit for the qualitative portion of the study, I revisited my initial quantitative analysis with a different and deeper perspective about the influence of the SIG program in a rural school and possible misperceptions about school improvement that may be drawn from the test scores alone. More detail and explanation about this process and the study findings are presented in Chapter 4.

CHAPTER FOUR: FINDINGS

Chapter three outlined the research design, study participants and setting, data sources and collection, and data analysis for the study. The following research questions guided this study:

1. How has student achievement, as measured by the Virginia Standards of Learning assessments used for NCLB federal accountability changed (if at all) in rural, SIG-funded schools across the state since receipt of these grants in school year 2010-2011?
2. How is a selected rural Virginia school implementing the requirements of the SIG program?
3. What are the perceptions of school and district officials in a selected school district about the effectiveness of the policies required under the SIG program?

The analysis techniques described in chapter three were used to explore these questions and the study findings are presented in this chapter.

Research Question One

As outlined in Chapter 3, I examined school-level proficiency pass rates and mean scale score data to determine how student achievement, as measured by the Virginia SOL assessments used for federal accountability reporting changed in rural, SIG-funded schools across the state. These data were assembled using the Virginia Department of

Education (VDOE) online database with published assessment and achievement data. The VDOE maintains a portion of its website where the public can create customized student achievement reports through its online data tool to generate reports. This database, called the Virginia Longitudinal Data System (VLDS) is primarily funded by federal grants authorized under the ARRA, similar to the SIG program. According to the VDOE website, the data system grant was “awarded to support the development and implementation of a data system that would examine student progress from early childhood to postsecondary and beyond...” (VDOE, 2012b, para 5).

According to the Hurlburt et al. (2011) baseline data, 25 rural schools were awarded SIG funding in Virginia beginning in the 2010-2011 school year. School and school district names were assembled from the excel file posted online by the Virginia Department of Education and then rank ordered by calculated changes in test scores for the purposes of this study. The bolded font in Table 5 through Table 8 represents Terry Canyon, the school selected for the case study portion of the study. Two of the total 25 rural SIG recipient schools include grade configurations of kindergarten through second grade students only, therefore do not participate in SOL testing and do not have proficiency pass rate or average scale scores included in the database (J. Ellis, personal communication, January 14, 2013). Based on this information, proficiency pass rates and mean scale scores were assembled for a total of 23 rural SIG-funded schools across the state.

SIG Funding Timeline. Drawing from information gathered from the school case study interview participants as well as SIG documents from the VDOE (2010b),

schools were notified about their funding eligibility in the spring of 2010. The VDOE used two years of SOL proficiency pass rate data—school years 2007-2008 and 2008-2009—in reading and mathematics to determine eligibility and tier rankings for the SIG funding (p. 4). District officials interviewed for the case study submitted the SIG application to the VDOE on behalf of the SIG-eligible school, Terry Canyon, in June of 2010. These district and school officials were notified by the VDOE about receipt of the grant within a few weeks of their submission and began planning and implementation efforts for the SIG program during the summer of 2010. The grant allocation period for this first cohort of schools that received federal SIG funding began on July 1, 2010 and runs through September 30, 2013. Based on this timeline, I analyzed test score data across the 23 rural SIG-recipient schools in Virginia beginning in 2007-2008—and since SIG funding receipt in 2010-2011—through 2011-2012, the most recent year of available comparable scores at the time of the study.

Reading Achievement. As displayed in Table 5, most of the rural SIG-funded schools in Virginia—20 of the total 23 schools—showed gains in the percentages of students scoring proficient in reading using school year 2007-2008 as the starting point and school year 2011-2012 as the end year. The overall mean change in reading proficiency scores was a gain of 1.76 percent for this timeframe across all rural SIG schools in the state. Only three schools showed declines, using the calculated average annual change during this same timeframe. The case study school, Terry Canyon, highlighted by bold font ranked third highest and was among those 20 schools with average annual gains in proficiency pass rates in reading. These positive outcomes for

rural SIG-funded schools in Virginia are in line with the early successes cited by the U.S. Department of Education (2012c; 2012d) for student achievement in all SIG schools across the country. The overall gains in reading proficiency at Terry Canyon between 2007 and 2012 also corroborate with the general increases and timeline of successes in student achievement explained by case study interviewees at the district and school later in this chapter.

As outlined in Chapter 3, I also calculated the average annual changes in student proficiency pass rates starting in school year 2009-2010 (the year before schools received the SIG funds as the baseline) through school year 2011-2012 (the most recent year of available data). Similar to the trend for the longer timeframe (2007-2008 through 2011-2012), most rural SIG-funded schools showed gains in the percentages of student scoring proficient in reading from 2009-10 through 2011-2012 with an overall mean change of 1.26 percent; 15 schools showed gains and eight schools showed declines over these three years. The case study school, highlighted in bold font, was among the eight schools that showed declines during this shorter timeframe since receipt of the funds.

Student test scores at Terry Canyon improved since 2007-2008, the start year used for funding eligibility, but then declined from its peak in 2009-2010 after receipt of the SIG funds and program implementation in school year 2010-2011, a somewhat counterintuitive finding considering the intent of the federal SIG program to “improve student achievement” (U.S. Department of Education 2011, para 1). Drawing from the interview data and the school’s application for SIG funding, I learned more specific detail about the Terry Canyon case study school and SIG program implementation. To begin,

the school changed its grade configuration from grades 4 through 6 during 2009-2010 and opened as a pre-kindergarten through grade seven building at the beginning of the 2010-2011 school year. This impacted the grade levels and total number of students included in the “all students” tested category. Study participants said they thought this new grade configuration accounted for some of the change in test scores between the peak in 2009-2010 and the declines in 2011-2012.

Case study interview participants also cited a very challenging relationship with the school’s lead turnaround partner that was hired to assist Terry Canyon during the first year of the SIG program implementation in 2010-2011 as a major factor in the score declines during this shorter timeframe. Case study participants said the company that the school hired as the lead turnaround partner with the SIG funds did not understand the needs, context, or history of the Terry Canyon school. They explained that the partnership resulted in a decline in the staff morale at the school, which interview participants felt negatively impacted the student test scores. More detail about these findings is presented later in this chapter.

Table 5

Proficiency Pass Rates in Reading for All Students by School

School	2007-08	2008-09	2009-10	2010-11	2011-12	Average Annual Change	
						2007-12	2009-12
1	56.93%	61.69%	70.76%	73.16%	87.05%	7.53%	8.15%
2	77.82%	84.47%	88.89%	88.64%	92.33%	3.63%	1.72%
3	68.99%	71.74%	90.77%	84.25%	83.44%	3.61%	-3.67%
4	71.43%	74.53%	78.64%	81.70%	84.76%	3.33%	3.06%
5	64.67%	79.87%	71.53%	72.08%	76.83%	3.04%	2.65%
6	66.67%	63.33%	77.81%	80.32%	78.70%	3.01%	0.45%
7	79.22%	79.02%	91.89%	90.61%	89.56%	2.59%	-1.17%
8	73.68%	80.23%	72.67%	86.25%	83.14%	2.37%	5.24%
9	83.87%	82.72%	88.12%	87.78%	92.05%	2.05%	1.97%
10	78.42%	75.00%	78.87%	77.61%	85.71%	1.82%	3.42%
11	84.80%	77.60%	93.39%	92.97%	92.00%	1.80%	-0.69%
12	82.67%	90.87%	91.87%	87.50%	87.75%	1.27%	-2.06%
13	79.10%	76.19%	80.79%	81.09%	83.71%	1.15%	1.46%
14	81.70%	80.12%	88.30%	92.05%	86.21%	1.13%	-1.05%
15	80.56%	81.51%	82.57%	84.83%	84.58%	1.01%	1.01%
16	81.55%	76.85%	82.80%	80.26%	84.35%	0.70%	0.78%
17	85.61%	78.35%	91.18%	86.07%	88.18%	0.64%	-1.50%
18	76.50%	78.10%	73.43%	71.88%	78.74%	0.56%	2.66%
19	82.43%	86.77%	79.25%	81.13%	84.40%	0.49%	2.58%
20	89.93%	85.32%	89.55%	88.22%	90.93%	0.25%	0.69%
21	74.73%	67.71%	59.09%	72.22%	73.81%	-0.23%	7.36%
22	83.33%	81.16%	81.51%	82.77%	80.83%	-0.63%	-0.34%
23	84.50%	83.45%	89.39%	77.90%	81.82%	-0.67%	-3.79%
Mean:	77.79%	78.11%	82.31%	82.66%	84.82%	1.76%	1.26%
Total Number of							
Gains						20	15
Declines						3	8
No Change						0	0

Finally, I also calculated the overall mean percentage passing rates across schools for each of the five years. These calculations are presented near the last row in Tables 5, 6, 7, and 8. As explained in the validity section of Chapter 3, there may be statistical explanations, rather than purely educational reasons, that are relevant to how test scores changed in SIG-recipient schools over the years. More specifically, SIG-recipient

schools qualified for the grant based on their very low test scores in 2007-2008 and 2008-2009. The federal guidance called for states to fund the persistently lowest-achieving schools in the state (U.S. Department of Education, 2010c, p. 1). At Terry Canyon, reading proficiency rates were roughly 69 percent and 72 percent for the all students category in the two years preceding the grant. Smith and Smith (2005) explain a “statistical regression effect causes extremely high or low pretest scores to tend to move toward the mean on the posttest regardless of treatment” (p. 378).

Smith and Smith (2005) caution that, similar to individual student test scores, groups—and this case a whole schools—that are “far from the mean on one test are likely to regress toward the mean on another test” (p. 388). Reading proficiency pass rates at Terry Canyon moved closer and closer to the overall mean proficiency pass rates in the 2010-2011 and 2011-2012 school years. Thus it is important to consider that these changes in test scores across rural Virginia SIG-recipient schools may not represent changes in these schools’ students’ abilities, rather they may merely represent fluctuations in scores *about* ability—which maybe be natural and/or expected occurrences (Smith & Smith, 2005). The implications of this possibility are discussed in Chapter 5 of this document.

Drawing from the test scores displayed in Table 6, student performance trends in reading on the SOL tests in rural Virginia SIG schools were also positive over the 2007-2008 through the 2011-2012 school years using mean scale scores. As explained in Chapters 2 and 3, mean scale scores are a more comprehensive measure of student achievement because they encompass all student scores across the continuum, rather than

just the percentages of students who score at or above a specific cut score or proficiency level (Center on Education Policy, 2011; Meyers et al., 2012). As shown in Table 6, 17 of the total 23 rural SIG-funded schools in Virginia showed gains and six schools showed declines on the reading assessment from school year 2007-2008 through 2011-2012 using this measure, with an overall mean change in scores of 2.3. The Terry Canyon case study school, highlighted in bold font, ranked third and was among those showing gains in scaled scores during this timeframe.

Table 6

Mean Scale Scores in Reading for All Students by School

School	2007-08	2008-09	2009-10	2010-11	2011-12	Average Annual Change	
						2007-12	2009-12
1	413.08	423.18	431.03	435.58	458.15	11.27	13.56
2	460.43	471.84	484.10	477.26	491.91	7.87	3.90
3	439.91	452.33	469.48	462.21	462.38	5.62	-3.55
4	428.92	417.50	448.95	448.86	450.43	5.38	0.74
5	453.37	457.38	464.72	464.20	472.41	4.76	3.85
6	437.18	443.40	444.13	452.24	455.28	4.53	5.58
7	429.23	451.49	447.26	443.04	446.46	4.31	-0.40
8	461.76	459.34	477.21	476.05	475.21	3.36	-1.00
9	452.67	449.27	480.11	474.48	464.73	3.02	-7.69
10	458.50	445.55	447.16	460.34	468.37	2.47	10.60
11	450.49	455.13	446.95	470.42	460.30	2.45	6.67
12	446.81	434.29	419.93	442.15	453.52	1.68	16.80
13	464.00	479.92	484.00	474.23	470.69	1.67	-6.66
14	463.37	457.70	485.64	475.66	469.62	1.56	-8.01
15	472.57	480.32	466.12	463.40	478.37	1.45	6.13
16	464.71	454.66	479.55	476.30	466.45	0.43	-6.55
17	466.34	458.95	466.34	468.85	466.89	0.14	0.27
18	480.60	476.16	484.69	485.38	478.61	-0.50	-3.04
19	451.51	452.31	448.14	442.92	448.33	-0.80	0.09
20	473.76	458.43	469.74	467.44	466.75	-1.75	-1.49
21	493.20	484.66	489.82	492.22	485.99	-1.80	-1.91
22	466.25	456.82	465.32	461.31	458.12	-2.03	-3.60
23	469.93	472.75	479.11	454.49	461.38	-2.14	-8.87
Mean:	456.46	456.23	464.33	463.87	465.67	2.30	0.67
Total Number of							
Gains						17	11
Declines						6	12
No Change						0	0

Conversely, changes in mean scale scores over the shorter timeframe of the SIG implementation, from the 2009-10 baseline year through 2011-2012, are more mixed with only 11 schools showing gains and 12 schools with declines in reading and an overall mean change of only 0.67. Terry Canyon School, the selected case study school highlighted in bold font, was among those schools showing a decline in means scale

scores in reading. This decline, based on mean scale scores, is in line with the decline in reading at the Terry Canyon School using the proficiency measure, with average changes calculated and displayed in Table 5. More insight about the context at Terry Canyon and details behind these test scores from the case study are presented in the section about proficiency test score trends.

Mathematics Achievement. The VDOE created, adopted, and implemented new standards in mathematics in 2009 and implemented new assessments in mathematics related to these standards in the 2011-2012 school year. So, it is not possible (or appropriate) to compare SOL mathematics scores from the 2011-2012 school year to scores from previous years (J. Ellis, personal communication, January 22, 2013). Prior to the implementation of these new standards, Dr. Patricia Wright, the state superintendent of public instruction announced:

Virginia's public schools are beginning a new trend line with the implementation of more challenging standards and assessments. The goal is to build on the progress already made under the Standards of Learning program and ensure that all graduates possess the knowledge and skills needed for success in college and the workplace (VDOE, 2012c, column 2).

More detailed information about the new mathematics standards and the new assessment is published in memos from the state superintendent and posted on the Virginia Department of Education website (VDOE, 2010a; VDOE, 2011a).

Acknowledging these changes, I examined performance trends in mathematics starting in school year 2007-2008 through 2010-2011, the most recent year of available

comparable data. As displayed in Table 7, most of the rural SIG-funded schools in Virginia—19 of the total 23 schools—showed gains in the percentages of students scoring proficient in mathematics using school year 2007-2008 as the starting point and school year 2010-2011 as the end year. More specifically, the overall mean change in scores was 3.25 percent. Only four schools showed declines, using the calculated average annual change during this same timeframe. The case study school, highlighted by bold font, posted the highest gains among those 19 schools with average annual gains in proficiency pass rates in mathematics. Similar to reading, these positive outcomes in mathematics for rural SIG-funded schools in Virginia are in line with the early successes cited by the U.S. Department of Education (2012c; 2012d) for student achievement in all SIG schools across the country.

To better understand math test scores trends since receipt of the SIG funds, I again calculated the average annual changes in student proficiency pass rates starting in school year 2009-2010 (the year before schools received the SIG funds) through school year 2010-2011 (the most recent year of available comparable data). The proficiency pass rates in mathematics for the 2011-2012 school year are not shown in Table 7 and this column is shaded to denote the new assessment and that scores are not comparable to the scores from previous years. Unlike the performance trends for the longer timeframe (2007-2008 through 2011-11), most rural SIG-funded schools showed declines in the percentages of student scoring proficient in mathematics from 2009-2010 to the 2010-2011 school year; nine schools showed gains and 14 schools showed declines between

these two years, with an overall mean decline of -1.01 percent. The case study school, Terry Canyon, was among the nine schools that showed gains—albeit small—since 2009.

Table 7

Proficiency Pass Rates in Mathematics for All Students by School

School	2007-08	2008-09	2009-10	2010-11	2011-12	Average Annual Change	
						2007-11	2009-11
1	43.51%	51.11%	86.18%	86.99%		14.49%	0.81%
2	49.36%	88.61%	86.34%	84.31%		11.65%	-2.03%
3	74.57%	81.77%	90.38%	90.48%		5.30%	0.10%
4	70.65%	67.01%	84.09%	85.96%		5.10%	1.87%
5	76.68%	91.29%	93.94%	91.88%		5.07%	-2.06%
6	80.39%	77.02%	87.65%	94.80%		4.80%	7.15%
7	58.47%	59.86%	72.66%	71.05%		4.19%	-1.61%
8	75.00%	84.80%	90.00%	85.95%		3.65%	-4.05%
9	74.66%	85.58%	87.14%	83.98%		3.11%	-3.16%
10	85.44%	87.54%	94.70%	94.18%		2.91%	-0.52%
11	74.81%	86.76%	88.72%	82.61%		2.60%	-6.11%
12	75.21%	81.01%	82.27%	82.75%		2.51%	0.48%
13	61.17%	66.01%	70.81%	68.40%		2.41%	-2.41%
14	77.07%	72.67%	82.59%	84.24%		2.39%	1.65%
15	80.00%	80.00%	88.78%	87.13%		2.38%	-1.65%
16	85.39%	84.76%	93.60%	92.39%		2.33%	-1.21%
17	85.11%	87.80%	86.92%	88.78%		1.22%	1.86%
18	82.68%	89.79%	85.82%	86.01%		1.11%	0.19%
19	75.71%	81.22%	79.62%	78.97%		1.09%	-0.65%
20	82.53%	87.02%	88.48%	81.82%		-0.24%	-6.66%
21	87.90%	83.75%	91.32%	86.99%		-0.30%	-4.33%
22	81.91%	79.00%	82.14%	78.39%		-1.17%	-3.75%
23	79.25%	59.02%	70.93%	73.75%		-1.83%	2.82%
Mean:	74.67%	78.84%	85.44%	84.43%		3.25%	-1.01%
Total Number of							
Gains						19	9
Declines						4	14
No Change						0	0

Similar to the achievement trends in reading, student performance trends in mathematics on the SOLs in rural Virginia SIG schools were also positive over the 2007-

2008 through the 2010-2011 school years using mean scale scores. As shown in Table 8, 18 of the total 23 rural SIG-funded schools in Virginia showed gains and five schools showed declines on the mathematics assessment from school year 2007-2008 through 2010-2011 using this measure, with an overall mean change of 6.16. Again, the Terry Canyon school ranked first among those showing gains in scaled scores during this timeframe.

As noted previously, a number of factors could account for large increases or decreases in test scores. Consistent with the theoretical framework of sense-making, these gains at Terry Canyon, which were particularly large over the longer timeframe, using proficiency and mean scaled scores were explained during interviews with study participants. School and district officials said the primary math teacher for one grade resigned in April 2009 of the 2008-2009 school year, just weeks before the spring assessments. The new permanent teacher hired in April 2009, who eventually helped to bring the scores up in 2009-2010, only had a few weeks with the students before the spring assessments in 2009. The school principal felt these disruptions negatively impacted her students' and resulted in low scores on the state math assessment. Conversely, after a full school year with the new math teacher, the school showed double-digit increases on the math assessment for the 2009-2010 school year. Even with the change in grade configurations at Terry Canyon and the rocky first year with the school leader turnaround partner under the SIG grant, the school maintained these proficiency pass rates on the SOL assessments in mathematics in 2010-2011 but showed slight declines using mean scale scores.

Table 8

Mean Scaled Scores in Mathematics for All Students by School

School	2007-08	2008-09	2009-10	2010-11	2011-12	Average Annual Change	
						2007-11	2009-11
1	387.60	397.92	478.86	478.36		30.25	-0.51
2	392.13	455.22	457.10	447.98		18.61	-9.13
3	461.21	465.99	486.97	502.87		13.89	15.90
4	463.36	501.65	505.48	504.16		13.60	-1.33
5	452.19	473.60	485.35	487.76		11.86	2.41
6	489.07	486.87	514.83	516.39		9.11	1.55
7	488.77	484.96	504.74	514.19		8.48	9.45
8	452.90	438.46	485.16	476.44		7.85	-8.72
9	427.51	435.46	449.57	446.74		6.41	-2.83
10	454.05	478.00	481.50	471.91		5.95	-9.59
11	422.77	426.18	443.28	439.06		5.43	-4.21
12	460.45	468.64	476.62	474.56		4.70	-2.07
13	480.54	475.71	497.17	491.99		3.81	-5.18
14	486.90	477.70	494.52	497.94		3.68	3.41
15	472.47	464.68	483.38	482.75		3.43	-0.63
16	467.33	484.52	483.05	477.63		3.43	-5.42
17	485.20	505.10	491.56	491.68		2.16	0.12
18	467.64	485.64	499.67	473.89		2.08	-25.77
19	466.92	466.65	475.44	466.84		-0.03	-8.60
20	437.79	438.76	439.78	437.42		-0.12	-2.36
21	479.35	492.49	498.51	478.68		-0.22	-19.83
22	491.97	483.49	483.18	476.03		-5.31	-7.15
23	479.42	424.05	445.02	457.08		-7.45	12.05
Mean:	459.46	465.73	480.90	477.93		6.16	-2.97
Total Number of							
Gains						18	7
Declines						5	16
No Change						0	0

Overall changes in mean scale scores over the shorter timeframe of the SIG implementation, from the 2009-10 baseline year through the 2010-2011, which is the last year of comparable test data in math, are not as promising as the longer trend lines. The overall mean change in scores declined at -2.97; only seven schools showed gains and 16

schools showed declines in mathematics. Terry Canyon was among those 16 schools showing a decline in means scale scores in mathematics—albeit very small—a decline of .51. These test score comparisons across schools in math between 2009-2010 and 2010-2011 should be interpreted with caution, however, due to the limited number of years of comparable data and volatility of single year comparisons—particularly in small populations (Linn & Haug, 2002; Kane & Staiger, 2002).

In summary, the rural SIG funded schools in Virginia showed increases in test scores on the reading and mathematics SOL assessments using both the proficiency and mean scaled score measures over the longer timeframe from 2007-2008 (the first year of test scores used by the VDOE for SIG eligibility) through the most recent year of available comparable test data. The Terry Canyon case study school ranked third in reading and first in mathematics among the schools posting gains over this timeframe. Conversely, there were more declines over the shorter timeframe since SIG implementation in 2010-2011. Twelve of the 23 schools showed declines in scaled scores in reading and the overall mean change in scaled scores in math was a decline of -2.97. Terry Canyon was among these schools showing declines over the shorter timeframe since receipt of the grant. The next section of this chapter presents findings from the case study interviews, school visit, and document analysis that provide more insight about these test scores at Terry Canyon, SIG program implementation, and perceptions of district and school officials about the SIG program.

Research Questions Two and Three

To explore the second and third research questions posed in this study, I conducted a case study of a rural SIG-recipient school in Virginia. Data analyzed for this portion of the study included some general information about the school and surrounding community, the application submitted by the school district to the state for SIG funds, observation notes from my school visit, and interviews with two district officials and one school-level administrator at the select rural SIG-recipient school. As prefaced in the conceptual framework presented in chapter 2 and procedurally outlined in Chapter 3, I assembled some general background information about the school, district, and community prior to these interviews. This information was collected from the school and district websites, news media outlets based in the case study town and surrounding area, as well as more general published materials maintained by the town's historical society and office for tourism. Basic statistical data about the town's population were obtained from the U.S. Census Bureau. The purpose of this background data collection was to provide a deeper context about the case study school and the surrounding community to help frame the research findings. Merriam (1998) argues this type of "documentary data are particularly good sources for qualitative case studies because they can ground an investigation in the context of the problem being investigated" (p. 126).

To encourage frank responses and provide confidentiality for my study participants, pseudonyms are used for the Virginia town, school name and district, as well as the district- and school-level officials. The bulleted list displays a quick overview of

these pseudonyms, some of which have already been introduced in preceding sections of this study:

- Terry Canyon (school name)
- Ambrose, Virginia (town name)
- Ranger Mills (town mill name)
- Paine Education (educational consulting company)
- Mr. Hopper (district official)
- Ms. Saunders (district official)
- Principal Smith (school principal)
- Officer Willock (school resource officer)

The following sections outline the five major themes that were drawn from the analysis of the background information, SIG application, interview transcripts, and school visit observation notes.

Local context. The local school and community context, including the area's cultural and economic history, influenced why the district applied for the federal grant as well as how the SIG program requirements were implemented by district and school officials charged with leading the federal program. The Terry Canyon school is located in Ambrose, a very small town in Virginia (U.S. Census Bureau, 2010a). The school is a fair distance away from the district's tiny central office, traveling along a two-lane winding mountain road peppered with smaller homes and trailers—many with small farms and/or some livestock like chicken, cows, and horses. Nearly the entire footprint of the town is visible upon entry from the main access road. The school, an old mill, a

large white church, and an old playhouse style theater are the main focal points within the entry vantage point. Small, single-story, cape-cod-style homes that appear to date back to the early 1900s, are arranged in perfect rows along the main street and the side streets facing a river.

Interview participants characterized Ambrose as “an old mill town” because in the early 1900s, people moved to the area to work in a then newly constructed mill on the river, Ranger Mills, which was in operation until the late 1980s. At its peak, the mill employed a significant portion of the town’s residence. Interview participants said the mill closed due to increased competition from companies in other areas of the country and from overseas. Ambrose is also known for music. According to the Terry Canyon school resource officer as well as other published documents about the area, this music is an important part of the town’s culture and history.

Since Ranger Mills closed in the late 1980s, the Terry Canyon school has suffered declining enrollment and a struggling economy. When asked how he would describe the county to a new employee at the Terry Canyon school, one interview participant replied:

Economically depressed. Practically all of the factories have shut down and moved out. Christmas trees right now are a big industry within our county. We’re one of the few counties around that has the climate that will allow for Christmas tree growers to farm here. It used to be a thriving farming community. We had cows and sheep and goats, and hogs and all sorts of things. But with the industries moving out the farmers have been crimped and have been moving out also. The small farmers cannot exist like we used to. But the school is the

number one employer, as [another interviewee] alluded to, in our county. This has been a tough economic time for us. We've seen it for several years before the rest of the country is kind of catching up. All of a sudden they start moving out. We don't have the infrastructure in the county. The roads are not that good; the water supply is not as good as some of the surrounding counties that have brought in industry... They're on the hub of the ...[interstate] corridor and we're not so we kind of got left behind.

Another interview participant agreed with this description and noted that the economically disadvantaged population for the district was at "sixty-something percent." The third interviewee added the students on free- and reduced-price lunch at the Terry Canyon school is more than 70 percent.

According to interview participants and U.S. Census information (2010b), the public school system is the primary employer for the town of Ambrose as well as the larger county. In addition to the schools, many residents commute outside of the town to work in other service occupations. One study participant said there are a few factories in the neighboring counties that employ residents who live in Ambrose. The median household income for Ambrose is just over \$26,000 per year. Roughly a quarter of the town's residents did not earn a high school diploma and about 15 percent earned a bachelor's degree (U.S. Census Bureau, 2010c).

The original Terry Canyon school was built shortly after the cotton mill, Ranger Mills, opened in the early 1900s and was largely funded by the company. Principal Smith explained, "originally, it [the mill] purchased the property for the school" and Mr.

Hopper commented “it [the mill] helped with everything.” The school was added onto and partially rebuilt several times over the decades. In the mid 1920s a new two-story building replaced the original wooden structure and in the late 1940s a wing was added to the main building which housed the high school. Officer Willock grew up in Ambrose and attended the Terry Canyon school when it served students from kindergarten through the twelfth grade. He earned his high school diploma from Terry Canyon and said he was “a proud alumnus.”

Similar to Officer Willock, the three interview participants grew up in the community surrounding Ambrose. One interviewee has been an employee in the county for more than a decade and in educational professions for more than 35 years. This participant was a teacher, principal, and now central office administrator in the county system. Another interviewee started her career in the county and has more than 25 years of combined experience as a teacher, principal, and now central office person. The third interview participant also has more than 25 years of experience in education with 17 years as a classroom teacher and eight years as a principal, all in the county system.

Soon after Ranger mill closed in the late 1980s, the high school grades at Terry Canyon were consolidated with another county school, as were the elementary grades. One interviewee explained:

The mill used to be the center employer for the town of [Ambrose], and the school is, was and still is the center hub of the community. The community is very supportive of the school. The teachers, faculty, staff—it’s more of a family atmosphere.

After the consolidation, Terry Canyon remained open as a middle school with sixth, seventh, and eighth grades.

The school was closed in 2004 due to a problem with black mold. The problem was referenced in the school's SIG application and was cited by Principal Smith during the study interview. She explained:

There was a question of whether or not the school was safe with mold. There was a team that came in and declared that there was black mold in the building, so they physically moved the students out of [Terry Canyon] to [another county middle school].

Officer Willock also mentioned the occurrence without my inquiry. He commented:

...inspectors found mold all over and they had to shut it [the school] down. The thing is, if you inspected all the houses in this town along the river you'd find mold—it's just the nature of where we live and when all these houses were built.

Terry Canyon was later re-opened in 2007 with grades four through six.

When district officials applied for SIG funding on behalf of the Terry Canyon in the summer of 2010 the school still housed grades four through six, however, it opened as a pre-kindergarten through seventh-grade school at the beginning of the 2010-2011 school year, which was also the first year of SIG funding. Principal Smith explained that, after major renovations were complete, the Terry Canyon school was consolidated with its feeder elementary school. An additional wing was constructed with more classrooms as well as a new library media center and new art, band, and chorus room.

As of the 2012-13 school year roughly 260 children were enrolled at the Terry Canyon school, ranging from prekindergarten-age students through grade seven. According to the VDOE enrollment statistics, most all of these students are white and a little more than 70 percent of the children at Terry Canyon are categorized as economically disadvantaged (VDOE, 2012a). The glossary of education terms, published by the VDOE, defines economically disadvantaged as “a student who is a member of a household that meets the income eligibility guidelines for free or reduced-price school meals (less than or equal to 18% of federal poverty guidelines)” (n.d., p. 3).

Like other SIG-funded schools across Virginia, Terry Canyon qualified for the SIG funds based on student achievement on the SOL assessments in reading and mathematics for the 2007-2008 and 2008-2009 school years. District officials included details about these data in the school’s application to the state. More specifically, they explain the “analysis of the student achievement data indicate the need for improvement in the subject of math at grades six and seven as well as the need for improvement in two student subgroups,” students with disabilities and economically disadvantaged students. The application also cites low pass rates on the SOLs in reading and concludes these data “clearly indicate a need for school improvement for [Terry Canyon] school.”

Funding and opportunity. The economic reality in Ambrose and the surrounding community was a major reason why district officials and the school principal decided to apply for the SIG funds. The budgetary constraints described by interview participants within the school system and the community were apparent in the physical structure of the district’s central office. The building is small and similar to the modular

buildings used as classrooms during construction in appearance. There is a tiny reception area at the front door with two chairs and an end table for magazines. The conference room is also very small with a rectangular table and room for only five chairs. There is no sign of any type of technology in the meeting room, with no projection screen or television in visible site.

A study participant said in the spring of 2010 the district received a letter in the mail from the Office of School Improvement at the Virginia Department of Education explaining that a school in the district qualified to apply for funding under the federal SIG program. The interviewee explained:

The letter said that we qualified—[Terry Canyon] was one of the lower performing schools and I think lowest five percent and we qualified for the grant. \$1.5 million, basically it would be \$500,000 a year for three years. As bad off as we are economically in this [district] we could not have turned that down...

This participant said the district officials needed approval from the local school board to apply for the grant. The interviewee described the board's reaction as "a little leery because of maybe the strings that would be attached" but ultimately they were supportive. The participant emphasized and repeated, "...we couldn't turn it down. 1.5 million for a small [district] like we are was substantial and it has been a really good opportunity for us to try some programs and do some things that we wouldn't have been able to do."

Another study participant talked about the impact that the SIG funds have had on purchasing materials for the school. The interviewee explained:

For once in our [district] in that particular school—schoolteachers were able to purchase things like math manipulatives. Because we are on such a tight budget locally, there was very little that they were able to purchase. So instead of just making a wish list year to year, they were actually able to utilize this money and purchase lots of instructional materials.

Even Officer Willock commented during my school tour “ma’am—this school lives on grant money.” Mr. Hopper reminisced “...it’s kind of like [Ranger] Mills came back for a little while—it’s kind of like with this SIG grant it’s kind of like the way it was prior to the 1980s when [Terry Canyon] had stuff.”

Positive experiences. The interview participants were generally positive and optimistic about many aspects of the SIG program, including specific requirements under the transformation model such as professional development, evaluation and support systems, instructional change, and increased learning time. Mr. Hopper, Ms. Saunders, and Principal Smith all said they feel supported by officials at the Virginia Department of Education and have a collaborative relationship. This shared collaboration was also apparent between the three interview participants.

Drawing from the Terry Canyon SIG application, rigorous professional development is a major component of the school improvement plan. Approximately \$85,000 of the SIG funds was allocated to professional development during the first year of the grant. Elements outlined in the application specific to professional development included “providing all staff with ongoing, job-embedded, and differentiated professional

development that is directly aligned with identified needs based on classroom observations (including peer observations).”

Mr. Hopper, Ms. Saunders, and especially Principal Smith all spoke highly about the benefits and quality of the professional development they have experienced using SIG funds. Principal Smith also noted the direct impact of these programs and emphasized:

We’ve had a lot of positive this past year and continuing this year with the professional development that we’ve had because that’s going to be changing what the teachers doing the classrooms and ultimately that’s where the change is going to be...

Principal Smith explained that she and the teachers at Terry Canyon are working closely with professors at William and Mary who are providing customized professional development for the school. Two professors come to the school and observe the teachers and then they coordinate a feedback session with them that same afternoon. Principal Smith also attends a principals’ academy that is facilitated by two different professors at William and Mary, where she learns more about the observation forms that are used with the her teachers at Terry Canyon. Principal Smith explained:

... [the teachers] were so excited at the beginning of the school year and excited that my observation forms were right in line with their professional development, so it’s more embedded professional development. It’s continuing... they’ve really grasped some of these concepts and strategies and my leadership coach, when we were observing last month, she made the comment that she had seen more student engagement in these classrooms than she had in the last two years. They’re

actually changing, but they want to—it's not because they're told. They're getting the idea themselves that this is the thing to do to get the students involved.

Mr. Hopper added that he and Ms. Saunders had also attended some sessions hosted by the VDOE and they had “learned a whole lot.” He continued “we've emphasized now more to look at student engagement instead...and if they're engaged then you can tell good teaching is actually going on.”

Interview participants also spoke positively about the reading and math coaches hired with SIG funds to support instructional change at the Terry Canyon school—a requirement under the federal program. Principal Smith reported the coaches are an “integral part of our success.” She explained they help with the formative assessments, data collection, and analysis so that the coaches and teachers can track progress of individual students and provide intervention when needed. The coaches model lessons for teachers and help with professional development. Mr. Hopper added that iStation, a software program used at the Terry Canyon school for reading intervention and progress monitoring, has also really helped to improve the reading program. The school used SIG money in the second year of the grant (2011-2012) to purchase additional computers so that more students could use the program simultaneously and across grade levels.

The U.S. Department of Education guidance for section 1003(g) SIGs also requires schools that select the transformation improvement model to increase learning time by extending the school day, week, or year (U.S. Department of Education, 2012a). The guidance defines increased learning time as follows:

...increasing the length of the school day, week, or year to significantly increase the total number of school hours so as to include additional time for (a) instruction in core academic subjects including English, reading, or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography; (b) instruction in other subjects and provision of enrichment activities that contribute to a well-rounded education, such as physical education, service learning, and experiential and work-based learning opportunities; and (c) teachers to collaborate, plan, and engage in professional development within and across grades and subjects. (p. 23)

One study participant noted they embedded tutors at Terry Canyon to help increase learning time during the school day using both SIG funding combined with a 21st Century learning grant that was awarded to the school. Technically, the school day was already much longer than what is required by the VDOE because the winter weather is a problem in Ambrose. The district purposely builds in a longer school day because, as noted by another interviewee, “we know that when the schools are open we need to have a lot of learning going on because they might not be open tomorrow.” Moreover, embedding tutors during the regular school day has been helpful “when the kids are fresh” instead of “burned out” after school.

Mr. Hopper and Principal Smith also spoke fondly of the summer camp the school has hosted with SIG funds. Principal Smith described the camp as popular with the students and provided some specific examples about the instruction and activities. She joked, “...after the first two or three days I had about three kids come up to me at

different times and say ‘Ms. Smith, I think I’m going to the wrong place. I’m supposed to be in academic summer school!’” Mr. Hopper added that, without the SIG funds, these opportunities would not have been possible for the students at Terry Canyon. A third camp is planned for the summer session in 2013.

Finally, Mr. Hopper, Ms. Saunders, and Principal Smith each described the school and district relationship with the VDOE, particularly the state director of school improvement, as very supportive and helpful. One study participant said “I think she and her staff do a tremendous job.” The interviewee continued:

...[The state director] works all the time....It’s taken a toll on her I’m sure because she goes and tries every way in the world to help us. And if there’s some program out there she’s more than willing to get it for us and have us try it if she can. The iStations are a good example of that. We’re all thinking ... ‘here’s another thing.’ And sure enough it works.

Another study participant agreed and commented “they’ve been very supportive and given lots of technical assistance.” A third interviewee added “it’s been good that now [V]DOE really recognizes [Ambrose] and what we’re doing.”

Adaptation. Although the interview participants were generally positive about many aspects of the SIG program, they were also candid and frank about some of their negative experiences. Nevertheless, these district and school leaders maintained an optimistic attitude and make-it-work mentality in their descriptions of these challenges. Drawing from the interview data, the district leaders and the school principal seemed to

adapt to the SIG program requirements and make them work for the Terry Canyon school's needs and context.

Just weeks before the district received the letter from the VDOE about SIG eligibility, Terry Canyon staff were celebrating their students' improvements on the SOL assessments for the 2009-2010 school year. The school had just made AYP and accreditation for the first time. One study participant remembered, "we were so happy with what we had done." When the district was notified about the SIG program eligibility, the interviewee continued "it almost calmed our enthusiasm a little bit...and was a little demoralizing I think to the staff." As noted in the introductory section of this chapter, Terry Canyon was eligible for SIG funds based on the 2007-2008 and 2008-2009 test scores, which were much lower than the then most recent 2009-2010 test results. Still, the district applied for the SIG funds in June of 2010 because they could not turn down the opportunity for the funding in their economically depressed community.

Under the transformation school improvement model, SIG recipient schools must replace the school principal, among other strategies. However, Principal Smith had been at Terry Canyon for less than two years at the time of the SIG grant application. Mr. Hopper recalled that when the director of school improvement at the state reiterated this replacement requirement. He said he "dug his heels in" and replied:

Whoa whoa whoa ... we can't do that because we've just got this school improving and we have the data. We're accredited. We've made AYP. We've just come out of terrible test scores and the learning environment before [Ms. Smith] came to [Terry Canyon] ... it was really bad.... We can't do this to [Ambrose].

There is a provision in the federal guidance from the U.S. Department of Education (2012a) that allows SIG recipient schools to keep a recently hired principal under the program. The guidance states:

G-1b. Does the flexibility afforded in Section I.B.1 of the final requirements enable an LEA to retain any principal who has been hired for a Tier I or Tier II school within the last two years? No. The flexibility in Section I.B.1 is not intended to protect the job of any recently hired principal in a Tier I or Tier II school. Rather, the flexibility provided is intended to permit an LEA to continue a previously implemented intervention aimed at turning around a low-achieving school that included hiring a new principal for that purpose. Accordingly, an LEA taking advantage of this flexibility should be able to demonstrate that: (1) the prior principal in the school at issue was replaced as part of a broader reform effort, and (2) the new principal has the experience and skills needed to implement successfully a turnaround, restart, or transformation model. (p. 49)

The VDOE director notified Mr. Hopper that the district was permitted to keep Principal Smith at the Terry Canyon school because she was part of the school's improvement and reform efforts. The district's SIG application acknowledged Principal Smith was just completing her second year of administration at the school and cited the specific changes she had made to improve the school and become a transformational leader.

After Terry Canyon was awarded the SIG funding beginning in the 2010-2011 school year, district officials thought they were required to choose a lead turnaround partner from one of the education companies approved by the VDOE. They chose to

work with Paine Education and one study participant said they thought that Paine “would be the best fit for us at that time.” In the end, the partnership was not successful. The interviewee explained:

...during that first year it was not a good fit and we actually declined—our morale went down in the building.... They were trying to fit [Terry Canyon] into what [Paine] had instead of them trying to fit in with us and trying to supplement. It was overwhelming. They were trying to get us to do what they wanted us to do. We did our best to do it ... and tried to tell them that we had already fixed a lot of the problems, that we were already accredited, we had already changed the team there, lead by [Ms. Smith] had changed the culture at that school. We were just needing to go forward with more sustainability, more people in the building, those types of things in which we could really emphasize the things that we had already done and the foundation we had put down there. But it was a mess.

Another study participant concurred and said Paine used a predetermined step model and she acknowledged, “it probably worked well with large school [districts] ... but we were so small it just didn’t fit.” Principal Smith shared that she knew the company was not a good fit when the leadership coach from Paine asked Principal Smith to be her mentor while she pursued her administrative degree. Under this dynamic, Principal Smith was not receiving the leadership mentoring she needed or was promised by the company.

One study participant acknowledged the model may have worked in other schools but that Paine did not build on the strong foundation that Principal Smith had created at Terry Canyon. The interviewee said:

We chose a transformational model but it was almost a restructuring is what they were trying to do with us They were just trying to bulldoze all those programs and initiatives that we had put in place and start with their model from ground zero. If our test scores were at the lowest I could see that working but that wasn't us and we tried to make that very plain from the get go.

Another interviewee added it was a "commercial-type model" where "you start at step one—everyone starts at step one." But, this participant continued, "we were beyond step one!"

After the first year, Mr. Hopper found out that "they could have gone ahead and picked our own types of initiatives," so they changed the school's strategies during the second year (2011-2012) of the three-year grant program. These changes included hiring a reading, math, and leadership coach, as outlined in the earlier section. Despite this challenging first year, Mr. Hopper said he felt there were still "some good things" that came from the experience with Paine Education. He reflected:

In any situation you always look for the best and some good did come of that. I think we're stronger than we would have been, maybe because we had to rally the troops and circle the wagons. It pulled the staff apart and they had divided a little bit, so it took a little strong leader at the school level, and [Ms. Smith] tried to get it back to where it needed to be. Now we've been able to go forward, and the people down there, it was like we just set them free from slavery or something compared to what it is... I think it was mistaken at DOE a little bit that maybe it was what [Terry Canyon] needed, but that wasn't what we needed. It was a cry to

–let’s do what we were doing when things were going in the right direction. Let’s emphasize those things. Certainly there’s lots of things we need to do differently but lets accentuate the good things instead of just taking a bulldozer and pushing all of us away and starting at the bottom.

Ultimately, Mr. Hopper, Ms. Saunders, and Principal Smith said they felt the VDOE better understood the needs and context of the Terry Canyon school after that first year of the grant in 2010-2011.

Continued growth and sustainability. Mr. Hopper, Ms. Saunders, and Principal Smith each reported that they felt the Terry Canyon school was heading in the right direction. District officials set the following student achievement goals outlined in the Terry Canyon SIG application:

- By June 2011, 85% of all students in grades 3-7 will score 400 or better in language arts/reading on the Spring SOL test.
- By June 2011, 85% of all students in grades 3-7 will score 400 or better in mathematics on the Spring SOL test.

Drawing from the proficiency scores presented earlier in this chapter, the students at Terry Canyon nearly met the reading goal and exceeded the goal set for math. For the 2010-2011 school year 84.25 percent of all the students scored proficient or above in reading and 86.99 percent of all students scored proficient or above in mathematics, as displayed in Tables 5 and 7.

Interview participants also emphasized the SIG funds are an integral part of their continued success. Even with its challenges, all three of the interview participants said

they felt the benefits of the SIG program were well worth the time, paperwork, and the initial struggles. According to study participants, they think the intention and goal under the SIG program at Terry Canyon is sustainability. One interviewee said “the whole idea was for sustainability, to give us the tools that we needed so that we could sustain the progress that we already made and take it that further step.” Another study participant added “we wanted to go up that next higher tier.” Mr. Hopper, Ms. Saunders, and Principal Smith each talked about their collaborative efforts to continue on an upward trajectory with and beyond the SIG funding.

Two study participants admitted, however, it will be difficult to keep the reading and math coaches hired with the SIG funds when the grant ends in September of 2013. The third interviewee added “everybody’s a little concerned about whether or not we can keep the coaches.” One study participant explained they hope to keep the coaches but the economic reality is uncertain.

Our wish would be to [keep the coaches] and we’ve put that in our budget. Is that going to happen? Under, again, these budgetary constraints that the feds and the state and our own locality has it’s going to be real tough. But we’re going ahead. [Ms. Smith] would, she’s a very innovative principal, and she’s one that will do whatever she can to maintain the integrity of the program that we have there and we will sustain a lot of those pieces because the professional development was embedded and those teachers are taking away tremendous things that they’d never have had opportunities to do...

Principal Smith said that she and her staff have worked to build leadership in the building, “so it doesn’t matter who sits in the leadership chair—it’s already embedded within the staff.” She also explained that some of the big items the school has purchased with SIG funds are “non-consumable—we have the math manipulative, we have the computer programs, we have the technology.”

Overall, study participants reported they felt they had built a strong foundation at Terry Canyon school just before and over the course of the SIG program funding. One study participant commented the state governor has warned there may be additional cuts to state education funds and this interviewee worries about the future. Another study participant added the district budget is already “bare bones.” Nevertheless, Mr. Hopper said that the state director of school improvement had told him, more than once, that “we probably do more with less than any other [district]....” He explained “we do it because we have good people, like these ladies right here, and the teaching staff in our buildings that believe in these kids. That’s why it works. And we’ve had this money and that’s helped us, no question.”

Summary of Findings

This study integrated data from multiple sources, including assessment results for all the rural SIG recipient schools across the state of Virginia included in the first cohort of funding, basic statistical and background information about the local economy and context in the case study school community, policy documents such as the Terry Canyon SIG application, interviews with the school and local officials charged with implementing the SIG program at the case study school, and observation notes from a visit to the Terry

Canyon school. The purpose of the study was to better understand the implementation of the federal School Improvement Grant program in a rural Virginia school and was guided by three research questions:

1. How has student achievement, as measured by the Virginia Standards of Learning assessments used for NCLB federal accountability reporting, changed (if at all) in rural, SIG-funded schools across the state since receipt of these grants in school year 2010-2011?
2. How is a selected rural Virginia school implementing the requirements of the SIG program?
3. What are the perceptions of school and district officials in a selected school district about the effectiveness of the policies required under the SIG program?

The test score analysis of all 23 of the rural SIG funded schools across the state provided a macro-level basic snapshot of student achievement in reading and mathematics as it is measured for state and federal accountability purposes. The case study of a rural SIG-recipient school, Terry Canyon, provided a micro-level glimpse at how the program requirements were carried out at the local level and the experiences and perceptions about the program from school personnel charged with SIG program implementation. The case study also provided more detail and context about the test score trends. As outlined in Chapter 2, the work of Datnow and Park (2009) about sense-making and co-construction provides a useful conceptual framework of how study participants understood the federal SIG program and its local implementation at the Terry Canyon school.

The test score analysis for the first research question showed most of the 23 rural SIG-funded schools in Virginia made gains on the SOLs in reading and mathematics over the longer timeframe, starting from the first year of test scores used to determine eligibility in 2007 through 2011 or 2012 (when comparable), according to both proficiency pass rates as well as mean scale scores. The overall mean change in reading was 1.76 percent according to proficiency pass rates and 2.30 using scaled scores for the 23 rural schools. However, these increases are likely due to statistical regression toward the mean, rather than the SIG funds, which were not distributed until the beginning of the 2010-2011 school year. Consistent with this interpretation, test scores showed declines in many rural SIG-recipient schools since receipt of the funding in the 2010-2011 school year, using 2009-2010 test scores as the baseline year before the grant. According to proficiency pass rates, 15 schools had gains on the reading SOL but eight schools had declines since receipt of the funds. Performance trends according to mean scale scores were even less promising, with only 11 schools showing gains and 12 schools showing declines, with an overall mean annual change of only .67 points. (Test scores showed similar declines in math across the shorter comparable timeframe using both measures, however, these changes should be interpreted with caution for reasons outlined earlier in this chapter.)

Findings from the case study of the Terry Canyon school offer important insight and possible explanations about these declines in test scores since receipt of the grants as well as context about the successes of the SIG program that were not apparent from the test score analysis. Just prior to receipt of the SIG funds, test scores at Terry Canyon

peaked in school year 2009-2010. Ms. Smith, a new principal at the school, had begun to change the school climate, and case study interviewees said the school was finally on a better path toward improvement after a history of low student achievement.

Nevertheless, the district officials said they could not turn down the opportunity to apply for the funds considering the depressed economy in the community and the fiscal needs at the school.

There may be multiple reasons for changes in student achievement test scores. However, from the perspective of interview participants, they explained that the grade configuration at the school changed from grades four through six in 2009-2010, the first year the school made AYP and the year prior to SIG, to housing prekindergarten through grade seven in 2010-2011, which was the first year of grant implementation. More students and grade levels were included in the all students category and the overall school level scores declined from the 2009-2010 peak. However, the 2010-2011 scores were still higher than the scores in the preceding two years, which were the test scores used for grant eligibility. Moreover, the interview participants at Terry Canyon attributed these lower reading scores to a decline in staff morale when the school was contracted with the lead turnaround partner, Paine Education, during that first year of the grant implementation. Finally, the new math teacher hired in the spring of 2009, is one reason case study participants think the students at Terry Canyon maintained the higher math scores during the first year of the SIG program.

As explained through the lens of sense-making by Datnow and Park (2009), district and school personnel considered their local context in their decision to apply for

the SIG funds. This local context and the study participants' ensuing interactions with the VDOE officials, Paine Education, as well as the teachers and students at Terry Canyon influenced how these officials made sense of the SIG program and its implementation at the school. Datnow and Park write "in other words, people socially construct their world as they interact with other and their environment" (p. 350).

The Terry Canyon case study also addressed the second and third research questions posed in this study. Again, data analysis showed the local school and community context, including the area's cultural and economic history, influenced why the district applied for the federal grant as well as how the SIG program requirements are being implemented by district and school officials leading the program. The economy in and around Ambrose is depressed and district and school officials said they felt the SIG funds offered some financial reprieve and opportunity to try new programs and initiatives at the Terry Canyon school.

Overall, the study participants reported positive experiences under the SIG program, most especially with the skills and knowledge gained through the professional development funded by SIG. Other aspects of the SIG program requirements, such as the school's partnership with an external lead turnaround provider were more challenging. Nevertheless, study participants learned from this experience and worked with VDOE to make the principal replacement requirement work to best meet the school and community's needs and context. Study participants said they are working to sustain the strong foundation they build just prior to and during the SIG program implementation

and hope to continue on an upward trajectory toward continuous school improvement at the Terry Canyon School.

The overall positive experience and “make it work” mentality were surprising findings from the case study data collection and analysis processes for this study. Drawing from my conceptual framework about the SIG program outlined in Chapter 2, much of the published literature and media coverage about the SIG program depicted a gaping mismatch between the federal SIG requirements and the needs of low-achieving rural schools. This informed—and somewhat fueled—my expectation that the administrators at the Terry Canyon case study school would report a laundry list of challenges under the federal SIG requirements for their rural context. Conversely, administrators interviewed for this study reported numerous positive aspects of the SIG program. Even the challenging aspects cited by participants were accompanied by lessons learned. The positive and collaborative relationship between the study participants and officials at the state education agency were similarly surprising findings from this study.

The Datnow and Park (2009) framework outlined in Chapter 2 provides a useful and applicable explanation of the SIG program implementation at the Terry Canyon school. They explain, “[t]he sense-making and co-construction perspectives build upon on the importance of context in the mutual adaptation view by elaborating on the interconnections between actors and explaining just exactly how context has shaped policy implementation” (2009, p. 350). The school context at the Terry Canyon school and the surrounding Ambrose community influence how the SIG program is

implemented by local administrators. The collaborative relationship between local school administrators and the state education official overseeing the SIG program helped to level the hierarchical power structure explained by Datnow and Park and illustrated in Figure 1 in Chapter 2. Further, both the sense-making and co-construction perspectives “show how actors [in this study, district officials and the school principal] mediate reform, and how their beliefs and experiences influence the implementation of reform” (p. 350).

CHAPTER FIVE: CONCLUSION

This study investigated and provided an in-depth analysis of the federal School Improvement Grant program in a rural context. The following research questions guided the study:

1. How has student achievement, as measured by the Virginia Standards of Learning assessments used for NCLB federal accountability reporting, changed (if at all) in the rural, SIG-funded schools across the state since receipt of these grants in school year 2010-2011?
2. How is a selected rural Virginia school implementing the requirements of the SIG program?
3. What are the perceptions of school and district officials in a selected school district about the effectiveness of the policies required under the SIG program?

This chapter includes implications, recommendations, limitations, and future research related to the study.

Implications

The federal School Improvement Grant (SIG) program was intended to spur dramatic reform and improvement in the nation's lowest achieving schools. These grants are provided by the federal government to the State Education Agencies, which distribute funds 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” (U.S. Department of Education, 2013, para 1). Preliminary test score data from SIG schools across the country released by the U.S. Department of Education indicated “positive momentum and progress in many schools” (2012d, para 3). Further, “some of the greatest gains have been in small towns and rural communities” (2012d, para 4).

Analysis of proficiency pass rates on the SOL reading examinations in the 23 rural SIG-recipient schools in Virginia for this study support the findings from the U.S. Department of Education (2012d); proficiency scores showed overall mean gains of 1.26 percent in reading since receipt of the grant in the 2010-2011 school year. The mean scale scores in reading, which are a more comprehensive measure of student achievement than proficiency pass rates (Center on Education Policy, 2011; Meyers et al., 2012), also showed an overall mean gain of 0.67, but there were more declines than gains during this same timeframe. In math, analyses of proficiency rates and mean scale scores for all students in these rural schools also showed overall declines of -1.01 percent and -2.97 respectively, since receipt of the grants. These findings do not corroborate the claim of positive progress, particularly the large gains in rural schools, announced by the U.S. Department of Education (2012d).

The analysis of these same assessment data under the longer timeframe, starting in school year 2007-2008 (the first year used by the state to determine grant eligibility) through the most recent year of comparable test data, however, show progress in the 23 rural SIG recipient schools in Virginia. A majority of these schools showed gains in

reading and math on the SOLs according to both the proficiency pass rates as well as the mean scale score measures. The overall mean gains in reading proficiency were 1.76 percent and scaled scores of 2.30. The overall mean gains in math proficiency were 3.25 percent and scaled scores of 6.16 points. The Terry Canyon case study school ranked third in reading and first in math among the schools showing gains since 2007-2008. Still, Terry Canyon showed some small declines since receipt of the SIG funds during the 2010-2011 school year.

As referenced in prior chapters, there are multiple explanations for these changes in test scores. First, the increases in scores since the 2007-2008 school year is in large part a regression artifact. Test scores across the rural SIG-funded schools in Virginia were low in 2007-2008 and 2008-2009, hence the schools' eligibility, but regressed toward the mean on subsequent tests even before receipt of the SIG funds in 2010-2011. At the Terry Canyon school, test scores in reading peaked in 2009-2010—the school year *preceding* the SIG funding.

Further, Nichols and Berliner (2005) warn that scores from high-stakes tests, such as the SOL examinations used in this study, cannot be trusted because they are corrupted and distorted (p. 170). They examined the principles of Campbell's (1975) law that "the more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor" in the educational context of high-stakes testing and accountability (p. 35). Nichols and Berliner found 10 categories of these corrupting effects on test scores in their study, including: (a) administrator and teacher

cheating; (b) student cheating; (c) exclusion of low-performance students from testing; (d) misrepresentation of student dropouts; (e) teaching to the test; (f) narrowing of the curriculum; (g) conflicting accountability ratings; (h) questions about the meaning of proficiency; (i) declining teacher morale; (j) scoring reporting errors (pp. ii-iii).

The U.S. Department of Education (2012d) also acknowledges there are numerous reasons for fluctuations in study proficiency rates. Drawing from the case study data for this research, there did not appear to be any administrator, teacher, or student cheating, exclusion of tested students, or other indicators that corrupted the test scores at the school, particularly considering the reading scores peaked at Terry Canyon in the year preceding the SIG funds. Nevertheless, the test scores at Terry Canyon may have been distorted and the declines since receipt of the SIG funding in 2010-2011 may be explained by the experiences illustrated by the case study participants. For example, the school grade configuration changed the first year of the grant, which study participants said impacted the total number of student tested and the school's overall proficiency rates and mean scale scores.

Moreover, district and school level administrators in the case study faced challenges implementing some of the SIG program requirements during the first year partnership with the lead turnaround partner, Paine education. Study interview participants said they thought the company did not fully understand the needs and context of the Terry Canyon school nor did they embrace the successful school improvement initiatives that were already underway just prior to SIG at the school. So, administrators worked with officials at the VDOE and they were ultimately permitted to sever ties with

the Paine education company. This understanding and collaborative relationship between the case study school leaders and state officials enabled change and fostered adaptation of the program requirements to the local context and needs at the Terry Canyon school.

District officials were also permitted by the VDOE to keep Ms. Smith as the school principal at Terry Canyon, even though the federal transformation model calls for the principal to be replaced. VDOE officials found an exception to the principal replacement requirement under the transformation model in guidance issued from the U.S. Department of Education about the SIG program (2012a). District officials overseeing the Terry Canyon school demonstrated in their application for SIG funding that Principal Smith was hired as a principal at the school as part of the school improvement plan preceding SIG and that she was and is a transformational leader at the school. District officials pointed to gains in student assessment scores in the 2009-2010 school year, which were the most recent scores available at the time of the grant application. According to study interview participants, keeping Principal Smith as the instruction leader was an essential piece of the overall school improvement plan at the Terry Canyon school.

Despite these initial challenges, the school and district leaders at Terry Canyon said the positive experiences under the SIG program were well-worth “all the hassle and the paperwork.” The depressed economy in the Ambrose community as well as state and local budget cuts meant that the Terry Canyon school had fewer resources over the years since the Ranger Mills closed in the 1980s. The SIG program provided the school, its staff, and the students with opportunities that would “never have been possible” without

the federal funding. The district and school officials made the program requirements work for their school's context and tried to invest the money in ways, such as professional development, that study participants said fosters sustainable progress.

The analysis of test score trends across the rural SIG-recipient schools in Virginia *alongside* the findings from the Terry Canyon case study presented in this study demonstrate the limited perspective gleaned about program success and/or failure based on student proficiency scores alone. Proficiency pass rates at Terry Canyon declined since receipt of the SIG funds in the 2010-2011 school year, similar to many other rural SIG-recipient schools in Virginia. Nevertheless, district and school officials said the funds provided opportunities for students and teachers at Terry Canyon that would not have been possible without the grant program funding. Case study participants spoke candidly about their challenges with the SIG program during the first year. But overall, the study participants felt the program was a success and they gained important professional development for the school leadership and teachers that they think will enable them to continue to improve student achievement. Test scores were lower after the first year of program implementation since their peak in 2009-2010, however, were still higher than the school test scores in the years preceding their own school improvement efforts. Again, these successes and challenges would not be apparent drawing solely from students' test scores since receipt of the grant in 2010-2011.

Further, the case study findings suggest that federal requirements accompanying the SIG funds may be less challenging for some rural schools to implement than was initially found by some prior research and media reports about the topic (Elliott & Klein,

2012; Klein, 2011; Maxwell, 2010; McMurrer et al., 2011; McMurrer & McIntosh, 2012; Scott et al., 2012). The principal replacement requirement under the federal transformation model was difficult for some rural SIG-funded schools in these earlier studies. But Mr. Hopper and Ms. Saunders, district officials at the case study school, explained how they were able to keep Principal Smith at the Terry Canyon school and simultaneously adhere to the federal program requirements and intent. This flexibility within the program provisions, allowing principal retention under certain circumstances, was an integral component of the overall school improvement strategy at Terry Canyon. Future research in this area should investigate whether other SIG-recipient schools were permitted to retain school principals and whether this was an important factor in SIG-recipient schools' improvement or continued decline.

The experiences gleaned from the Terry Canyon case study provide useful insight as to why one—and possible explanations about others—rural SIG school's scores show slight declines since receipt of the grant in 2010-2011 but overall gains starting from the two years preceding the grant up through the time of data collection for this study. School improvement efforts at Terry Canyon really began in the year preceding the grant with the new principal. In trying to make sense of the new federal program and the policy implementation requirements, study participants said the lead turnaround provider funded by SIG did not understand the context or the school improvement efforts already underway at Terry Canyon, so did not build upon the strengths of this foundation. These misunderstandings were resolved during the second year of the grant by way of a flexible, open, and collaborative relationship between school officials and state officials

at the VDOE. Terry Canyon severed ties with the lead turnaround provider at the start of the second year of the grant. Additional research is needed, however, it is reasonable to presume based on findings from this study that other SIG recipient schools across the state *may* have experienced similar challenges, successes, and/or changes since receipt of the funds in 2010-2011. Findings from this study also provide illustrative lessons about the importance of sense-making, local context, collaborative relationships between state and district officials, and adaptation that may be helpful for other schools awarded SIG funds or receiving federal and/or state assistance for school improvement.

Further, these study findings could inform future state and federal policy about rural school improvement programs. For example, in September of 2011, President Obama and Secretary of Education Arne Duncan announced a policy that allows state education agencies to request flexibility in complying with certain provisions of ESEA, as amended by NCLB, if states agree to implement particular reform measures (McMurrer & Yoshioka, 2013; U.S. Department of Education, 2012b). One of the reform measures calls for states to develop and implement differentiated recognition, accountability, and support systems for schools. More specifically, states must identify two groups of low-performing schools; “priority schools,” which are the lowest performing in the state, and “focus schools,” which are schools with the lowest level of performance for specific subgroups or with the largest gaps in achievement (2012b, p. 6). Priority schools may use federal funds under section 1003(g), or SIG funds, for school improvement efforts. Findings from this study provide helpful lessons for state education agencies about the limited insight gained from test scores by themselves and the

importance of flexibility, relationships, and school context as they implement new accountability structures under these most recent requirements of ESEA flexibility.

Recommendations

Findings from this study suggest school and community context, flexibility, collaboration, and adaptation were important components of the SIG program implementation at the Terry Canyon school. Mr. Hopper, Ms. Saunders, and Principal Smith said they felt supported by the Virginia Department of Education and that the lead state official who oversees the SIG program implementation understands the needs and context at the Terry Canyon school. This supportive, open, and collaborative relationship developed over the course of the grant and flourished after some initial challenges.

Policymakers as well as state and local officials charged with implementing school improvement programs should consider these elements, particularly the challenges school officials faced while working with the external lead turnaround provider, as they design and plan school improvement initiatives in the future. This is especially important for schools, like Terry Canyon, that have already experienced success by way of their own school improvement initiatives. A predesigned school improvement plan developed by a company outside of the school may not be successful for all schools in need of improvement. Further, policymakers should thoughtfully consider whether a blanket policy requiring schools to replace its principal is necessary for effective school improvement. District officials overseeing school improvement at Terry Canyon had already replaced the school's principal prior to the SIG grant and they said maintaining this leadership is an integral component of the school's long-term improvement plan.

Case study participants talked extensively about their efforts to sustain SIG program initiatives beyond the three-year grant period. They said some of the program benefits, such as the professional development experiences gained through the partnership with professors at William and Mary, “had been embedded with the [school] staff.” However, the reading and math coaches at Terry Canyon that were funded by SIG will likely have to be let go when the federal funding runs out in September of 2013. State policymakers and officials should consider offering incentives to local businesses and/or universities to help SIG schools maintain some of these school improvement initiatives beyond the federal grant period.

Analysis of the school-level SOL test scores for the all students category across the 23 rural SIG funded schools showed some declines in reading and math in several schools since receipt of the grants in 2010-2011. These same proficiency pass rate and mean scale score measures showed gains in both subjects beginning in 2007-2008, the first school year of data used for SIG eligibility by VDOE officials, up through the most recent year of comparable test data at the time of data collection for this study. But these test score increases since 2007-2008 are likely due to regression error. Further, the test score indicators may be corrupt or distorted due to factors associated with the perverse incentives of high-stakes testing and accountability cited by Nichols and Berliner (2005).

The findings from the test score analyses alongside the case study findings suggest qualitative investigations must be considered to properly evaluate school improvement initiatives. As shown in research by Maxwell (2012), qualitative approaches and methods are integral “to make valid and useful claims about what works”

(p. 655). This is particularly important considering the initial program implementation challenges study participants reported during the first year of the grant implementation, study participants processes to make sense of the grant requirements that were in line with their local context, as well as their plans to maintain school improvement efforts.

The findings from both the test score analysis and the case study also suggest a longer timeframe should be considered to evaluate the SIG program. A longer timeframe will be essential to evaluate sustainability of the SIG program initiatives beyond the three-year grant period ending in September of 2013. This recommendation supports prior research about school improvement and the importance of using multiple years of testing data for more trustworthy results, particularly in small schools and schools with changing populations (see for example, Linn & Haug, 2002). School improvement initiatives are often a complex, iterative, and evolving process where school and community context influence choices and implementation. Again, as explained in chapters 3 and 4, there may be statistical regression effects that are relevant to changes in test scores since receipt of the SIG funds. The changes in test scores across rural Virginia SIG-recipient schools may not represent changes the students' abilities, rather they may merely represent fluctuations in scores *about* ability, which could be expected (Smith & Smith, 2005). All of these elements are important explanatory factors that should be considered alongside changes in overall test scores for a more comprehensive understanding of school improvement.

Case study participants explained some initial challenges during the first year of the SIG program implementation but said the school, including the student test scores,

has made large improvements over the longer timeframe. Again, policymakers as well as state and local officials charged with implementing school improvement programs should consider these case study findings—including the important contextual details about the program implementation process and the school improvement initiatives that may already be underway prior to the grant—when evaluating the SIG program effectiveness. The document analysis, interviews, and school visit conducted for the case study portion of this study provided a more comprehensive picture of SIG program implementation process than the analysis of SOL assessment data by itself. This suggestion echoes the recommendations already made by others in the field (Darling-Hammond & Pecheone, 2009; Hamilton, 2003; Koretz, 2003; Koretz, 2008; Linn, 2000; Martineau, 2009; Maxwell, 2012; Perie, Marion, Gong, & Wurtzel, 2007; Popham, 2008a; Popham, 2008b; Rothstein, Jacobson, & Wilder, 2008).

Limitations

As outlined in Chapter 2, there are limitations associated with using the percentage scoring proficient on the state tests to identify and measure school improvement (CEP, 2011; Hansen, 2012; and Meyers et al, 2012). More specifically, this calculation does not account for students who showed gains or declines below or above the proficiency cut score (for example at either the basic or advanced achievement levels on the Virginia SOLs), which are reflected in the assessment mean scale scores. Nevertheless, proficiency rates are the measure of student achievement currently required under NCLB as well as one measure by which SIG-recipient schools will be evaluated. So, for the purpose of this study, proficiency rates for the all students reporting category

in rural SIG-recipient schools were analyzed alongside mean scale scores in these schools as well as data from the select case study school. Overall mean changes using both measures were also calculated for all 23 rural SIG-recipient schools in the state.

There are numerous other studies where scholars caution policy makers against linking single measures, such as assessment results, to broader inferences about student learning and achievement (Hamilton, 2003; Koretz, 2008; Linn, 2000; Nichols & Berliner, 2005; Popham, 2008a; Smith & Smith, 2005). Instead, many scholars emphasize the importance of multiple measures to assess student achievement and draw inferences about school improvement (Darling-Hammond & Pecheone, 2009; Hamilton, 2003; Koretz, 2003; Koretz, 2008; Linn, 2000; Martineau, 2009; Perie, Marion, Gong, & Wurtzel, 2007; Popham, 2008a; Popham, 2008b; Rothstein, Jacobson, & Wilder, 2008). Thus it is important to recognize the test scores analyses conducted for this study provide a single, limited measure of student achievement in mathematics and reading across the rural SIG-funded schools in Virginia.

Case study information about the SIG program experiences were gathered primarily from the perspectives of two district- and one school level-leader and the school resource officer rather than all the stakeholders—including teachers, students, other community members, and even state-level leaders—involved in the SIG program implementation. Nevertheless, findings drawn from case study interviews, school visit observation notes, and document analysis add to the existing literature about the SIG program implementation and experiences in other rural settings as well as inform future studies about school improvement and reform in rural contexts. This concept of theory

development by way of qualitative studies is support in texts by Becker (1991), Maxwell (2005), and Yin (2002). As Boyask argues "...interpretive and small-scale research can contribute to the concerns of macro-level policy-making by showing how personal problems have social implications and are themselves constructed through social change" (2012, p. 5).

Future Research

The U.S. Department of Education created and maintains a database with information about nearly every school that was awarded SIG funding since the 2010-2011 school year. This information is posted online and accessible to the public for downloading in various formats. This database may be used to collect general information and locate school sites for future studies about SIG program implementation in other rural schools across the United States. Additional studies in other states with large numbers of rural, SIG-funded schools such as Kentucky and Vermont, may be particularly illuminating to learn more about school improvement efforts under the federal program in these areas. The variables included in this database include school and district names, location, funding award amounts for various years, and the school improvement model selected by SIG recipients. These studies may be especially timely as the majority of states transition to new accountability and reporting systems under the Administration's ESEA flexibility, which requires differentiated support systems for persistently low-achieving schools (U.S. Department of Education, 2012b).

The case study portion of this study relied heavily upon interview data from district and school-level leaders charged with implementing the SIG program at the

school-level. Future research should be focused on the perceptions and implementation experiences of other stakeholders at rural-SIG recipient schools. For example, teachers, reading and math coaches, students, other members of the school community, as well as outside education companies like Paine Education, may provide additional helpful insights about school improvement and federal programs. For example, what do teachers think about the professional development and organization of their schools' under the SIG program? Do teachers believe the programs implemented with the SIG funds impacted their practice or the culture of their school? Further, future studies should focus on the perceptions and experiences of state level officials who work with all of the SIG-recipient schools as well as with officials at the U.S. Department of Education to implement the federal program.

Finally, funding under the federal SIG program ends after three years. What will happen to the school improvement initiatives in these schools without continue federal money? Will schools like Terry Canyon be able to sustain its school improvement programs as the participants described for this study? Will school or local officials find funding from other sources? Thus, future research should also focus on sustainability efforts in the SIG-funded schools.

APPENDIX A: DISTRICT OFFICIAL INTERVIEW GUIDE

1. What is your title and how long have you been in your position at this district?
2. Tell me about your role and responsibilities in your district.
3. Were you involved in the SIG application process? How so?
4. What do you see as the key elements of the SIG program for the recipient school?
[Read the SIG program application in advance and if not mentioned probe for specific strategies mentioned in document.]
5. How was the school improvement model(s) selected? Does the model seem to be right for the school? Were there other models not available under SIG that you think might work better? Why?
6. What role were external provider(s) intended to play in improving the school? How were these providers selected? How are external provider(s) fulfilling this role?
7. How, specifically, are SIG funds being used at the school? [Again, use items outlined in the SIG application if needed.]
8. How has the increased learning time requirement under SIG impacted the recipient school in your district (if at all)?
9. How were principal replacement decisions made? How has principal replacement impacted your school (if at all)? [Ask only if the school is implementing transformation.]
10. What state-level supports have you or the SIG school staff taken advantage of? Do you feel these are helpful? [If necessary, point to the supports mentioned in the state application.] Are there supports that are not available but that you would like the state to provide?
11. Has the school district and/or the SIG recipient school had any notable successes with implementing the SIG program thus far?

12. Has the school district and/or SIG recipient school encountered any challenges in implementing the SIG program thus far?
13. Do you think this funding and/or planned use of this funding is going to change the SIG school? If so, how? If not, why not? [Probe for sustained changes in student achievement]
14. Is there anything else that you would like to share about the SIG program in your district?

Note. Adapted from unpublished interview protocol used by Scott et al. (2012).

APPENDIX B: SCHOOL OFFICIAL INTERVIEW GUIDE

1. What is your title and how long have you been at this school?
2. Tell me about your role and responsibilities at your school.
3. Who made the decision that the school would apply for funds? Were you involved in the SIG application process? How so?
4. How was the school improvement model(s) selected? Does the model seem to be right for your school? Were there other models not available under SIG that you think might work better in your school?
5. What do you see as the key elements of the SIG program? [Read the SIG program application in advance and if not mentioned probe for specific strategies mentioned in document.]
6. How, specifically, are SIG funds being used at the school? [Again, use items outlined in the SIG application if needed.]
7. How has the increased learning time requirement under SIG impacted the recipient school in your district (if at all)?
8. What role were external provider(s) intended to play in improving your school? How were these providers selected? How are external provider(s) fulfilling this role?
9. What state- and district-level assistance have you taken advantage of? Do you feel these are helpful? [If necessary, point to the supports mentioned in the state application.] Are there supports that are not available but that you would like the state or district to provide?
10. Has the school had any notable successes with implementing the SIG program thus far?
11. Has the school encountered any challenges in implementing the SIG program thus far?

12. [If not addressed in 10 or 11]. What efforts have you made to communicate with parents/community about your school's turnaround efforts? How have parents/the community reacted to the school receiving the grant and the subsequent changes that were made as a result of the grant?
13. Do you think this funding and/or planned use of this funding is going to change your school? If so, how? If not, why not? [Probe for sustained changes in student achievement.]
14. Is there anything else that you would like to share about the SIG program in your school?

Note. Adapted from unpublished interview protocol used by Scott et al. (2012).

APPENDIX C: METHODS AND DATA INTEGRATION MATRIX

Research questions	Research goals	Data collection	Sampling	Analysis strategies	Validity	Data Integration
1. How has student achievement, as measured by the Virginia SOL assessments used for NCLB federal accountability reporting, changed (if at all) in rural, SIG-funded schools across the state since receipt of these grants in school year 2010-2011?	<p>The purpose of the SIG program is to “improve student achievement” in low-performing schools (USDE 2011, para 1).</p> <p>Analyzing student achievement in rural SIG-funded schools will indicate whether or not these schools are meeting the purpose defined by USDE.</p>	Test scored data (publically reported for NCLB accountability) in reading & math	<p>Look at test scores in rural schools across 1 state (VA)</p> <p>25 of the total 58 SIG-awarded schools in VA “rural”</p>	<p>Calculate changes in student achievement using NCLB’s percentages proficient (PP) & scaled sores for all students category</p> <p>Achievement trends since SIG award? Calculate overall mean change in scores across schools.</p>	<p>Difficult to isolate SIG program impact on student achievement from other school improvement initiatives, however, patterns from this type of analysis may emerge</p> <p>Use case-study data from school site to explore other possible explanations of changes in test scores.</p>	Consider state-level changes in test scores alongside interview data from 1 school-level case study

Research questions	Research goals	Data collection	Sampling	Analysis strategies	Validity	Data Integration
2. How is a selected rural Virginia school implementing the requirements of the SIG program?	<p>The ultimate goal of the study is to learn more about the implementation and impact of the federal SIG program in rural contexts.</p> <p>Prior research suggests program implementation challenges for rural schools with specific aspects of SIG program requirements (namely, the required improvement models)</p>	<p>Interview: structured and open ended questions</p> <p>Document analysis: e.g. review SIG application from district to inform interview guide</p>	Talk with school-level officials charged with implementing SIG program in 1 SIG-awarded school, categorized as “rural” by the CCD, in VA	<p>Code interview transcripts and field notes individually</p> <p>Group coding into themes (& conversely any inconsistencies) across interviews</p> <p>Develop matrix of these themes & inconsistencies, grouped by initial organizational categories</p>	<p>Study participants’ perceptions may not fully reflect program implementation.</p> <p>Try to collection any relevant documentation (school improvement plan and/or SIG application submitted to state) related to program implementation for additional evidence & triangulation.</p>	<p>Individual school-level student achievement data & SIG application will provide context for interviews</p> <p>Include questions related to these test data in interview guide—e.g. what are participants’ perceptions about their school’s test score changes in relation to SIG program implementation?</p>

Research questions	Research goals	Data collection	Sampling	Analysis strategies	Validity	Data Integration
3. What are the perceptions of school and district officials in a selected school district about the effectiveness of the policies required under the SIG program?	Goal is to collect recommendations for program improvement from school officials who are directly charged with implementing the SIG program in a rural school	Interview: Structured and open-ended questions Document analysis (maybe)	Both district & school-level officials are charged with implementing SIG program—so talk with these folks in case study school	Code interview transcripts & field notes individually Group coding into themes (& conversely any inconsistencies) across interview participants Consider any relevant documents that may support these perceptions	District and/or school-level officials may be reluctant to propose recommended changes for the SIG program Point to specific examples of recommendations cited in other research and ask whether these types of changes might improve program implantation in case study school	Data collected for this research question may or may not integrate well with the data collected for the 1 st research question (test scores) in this matrix Ask participants how challenges & positive aspects of program maybe impacting student achievement?

Adapted from Maxwell (2005), pp. 102-103 and an example matrix by Bonnie Sakallaris (unpublished)

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